Macroeconomic Factors Make Influence Aggregate Stock Returns of BSE SENSEX

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Abstract: The main objective of this study is to analyse the impact of macroeconomic factors on performance of Indian stock market. The study period covers ten years from 2010 to 2019. For the purpose of the study, predominant macroeconomic factors have been selected based on the literature review. The sample macroeconomic factors are gross domestic products, exchange rate, inflation, interest rate, foreign direct investment and unemployment rate chosen for the study. The data analysis was done using correlation and multiple regression analysis. The findings also reveal that the macroeconomic indicators significantly affect the stock market performance. Therefore, the study concludes that the Further to have better returns on the stock market and to retain the Indian investors and foreign investors, government and other policy makers are needed to make policies in complement to the macroeconomic variables. This will help to enable to overall growth of economy and bring trust among the investors across the globe.

Key Words: Sensex, Macroeconomic Factors, Stock Market, Correlation and Multiple Regression analysis.

Introduction

The Indian securities exchange had seen different up-down since 1991, after the legislature actualized the Liberalization, Privatization and Globalization Model in India. This model has associated each nation with different nations and therefore a single market is made and in this manner from the economic perspective the significance of securities exchange is developing as it helps in development of capital in rising and created countries, provoking the advancement of industry and business of the nation. There is a huge job of Indian capital market in the Indian economy development. A little development in the financial exchange influences the presentation of economy. Investors of Indians or outsiders can contribute or take the benefits for capital gratefulness in the capital market. A investor considers Primary and secondary market both are inter-related to each other as primary market creates secondary market. These different components may incorporate past performance of an organization, return on index or by organization, return on assets or equity, free cash flow, internal management, various macroeconomic factors like gross domestic products, exchange rate, inflation, interest rate, foreign direct investment and unemployment rate. It is accepted that arrival on financial exchange is changed as change or variances in the macroeconomic components. Some macroeconomic elements are essentially influencing the arrival on stock while some have gentle effect. The market can be ordered into two for example Primary market and secondary market. Primary and secondary market both are inter-related to each other as primary market creates secondary market. In the primary market different organizations just as government sell the securities first time in the market and when these securities further sold in the market that market called as secondary market. The SENSEX, impelled in 1986 is contained 30 of the most successfully traded stocks in the market. In all honesty, they speak to a huge part of the BSE's market capitalisation. They address 13 territories of the economy and are pioneers in their individual undertakings. The SENSEX is one of the benchmark in India. The SENSEX is viewed as a fundamental marker of the Indian securities exchanges in light of the fact that the BSE is the primary exchange of the Indian resold market. It is the most as often as possible utilized indicator while giving an account of the condition of the market. The significant role of a record is to get the adjustment in the cost. Thusly, a stock record will reflect the adjustment in the cost of stock, though list of bond gets

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the manner by which bond costs go up or down. If the SENSEX rises, it shows the market is doing commendably. Since stocks ought to reflect what organizations hope to earn later on, a rising index demonstrates that investor expect better profit from organizations. Besides, it is moreover a proportion of the state of the Indian economy.

Trends in Indian Stock Market

The stock market of India has a significant spot in Asia as well an in the world. Over the world the Bombay Stock Exchange (Sensex) is probably the most punctual trade though in the event that the National Stock Exchange is viewed as best regarding progression and complexity of innovation. After the globalization Indian securities exchange pace expanded excessively quick and subsequently it turns into a focal point of fascination for speculators over the world. The whole of nineties were used to examination and change a profitable and effective system, and from the hour of globalization, the stock market started to work capably and showed its new heights, at different times of its progression. Indian stock market has seen different good and bad times there were times when the stock market achieves new heights, breaking its previous records and there is time in like manner when securities exchange jumps up to its incredible. As stock market index is an essential piece of the economy, these ups and downs cannot be ignored as an economy is affected by the several policies and other unavoidable situations created in an economy.

BSE SENSEX

The BSE SENSEX (also known as the S&P Bombay Stock Exchange Sensitive Index or simply the SENSEX) is a free-float market-weighted stock market index of 30 well-established and financially sound companies listed on Bombay Stock Exchange. The 30 component companies which are some of the largest and most actively traded stocks, are representative of various industrial sectors of the Indian economy. Published since 1 January 1986, the S&P BSE SENSEX is regarded as the pulse of the domestic stock markets in India. The base value of the SENSEX was taken as 100 on 1 April 1979 and its base year as 1978–79. On 25 July 2001 BSE launched DOLLEX-30, a dollar-linked version of the SENSEX.

Review of Literature

Wong et al. (2005) analyzed a study to know whether macroeconomic factors affect the stock prices of Singapore and United States. They analyze the long run equilibrium relationships between the macroeconomics factors and the two countries. Menike (2006) analysed a study on how macroeconomic factors affect stock prices in developing Sri Lankan Stock Market. Secondary data was used from 1991 to 2002. Multivariate regression was used by them on all factors for each stock. The study too discovers that there is a relationship between stock market in the Colombo Stock Exchange and macroeconomic factors. Sharma (2009) has taken monthly data over the period of 2001 to 2008 to analyze the relationship between Vietnamese stock prices and macroeconomic factor that is interest rate. Vihari Guptha. (2014) have been taken quarterly data over the period of 1991 to 2013 to analyse the relationship between the macroeconomic factors and the stock market of Turkey named as Istanbul Stock Exchange. Singh (2017) conducted a study that aim to analyze the effect of various macroeconomic variables like inflation rate, exchange rate, and interest rate on the stock price of two gulf countries i.e. Kingdom of Saudi Arabia and United Arab Emirates.

Statement of the problem

Recent research has therefore begun to focus on the linkages between the stock markets and macroeconomic development. New theoretical work shows how stock market development might boost long-run economic growth, and new empirical evidence supports this view. The stock market development plays an important role in predicting future economic growth. The World Bank Economic Review also dedicates its May 1996 issue to the role of the stock markets in economic growth. It is by now widely recognized that a well functioning stock market is crucial to economic growth. As part of the stock market development, the macroeconomic indicators play important role in stock market development. Then, the question of how the macroeconomic determinants help to stock market development becomes important.

Objective of the Study

- To examine the relationship between macroeconomic factors and BSE SENSEX.
- To analyse the effect of macroeconomic determinants on performance of Indian stock market.

Hypothesis of the Study

- There is no significant difference between macroeconomic determinants and BSE SENSEX.

Research Methodology

The present study is based on analytical in nature

Sources of Data

The present study is mainly based on secondary data. The data for this study have been collected from Bombay stock exchange database and also from World Bank database.

Period of the Study

The study period covers ten years from 2009 to 2019.

Tools for Analysis

The data analysis was done using correlation and multiple regression analysis.

Analysis and Interpretation

Table 1

Relationship between macroeconomic factors and BSE Sensex

Correlations

		SENSEX	GDP	Exchange Rate	Inflation	Interest Rate	FDI	Unemployment Rate
SENSEX	Pearson Correlation	1						
GDP	Pearson Correlation	.007	1					
Exchange Rate	Pearson Correlation	.875**	.017	1				
Inflation	Pearson Correlation	-.618	-.212	-.646*	1			
Interest Rate	Pearson Correlation	.802**	.295	.912**	-.565	1		
FDI	Pearson Correlation	.208	-.291	.552	-.405	.446	1	
Unemployment Rate	Pearson Correlation	-.892**	.179	-.750*	.648*	-.536	-.250	1

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

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

The above table exhibits the correlation analysis between BSE Sensex and Macroeconomic determinants is fond of, gross domestic products, exchange rate, inflation, interest rate, foreign direct investment and unemployment rate. The exchange rate and interest rate shows the positive correlation with sensex at 1 percent significant level and interest rate correlated with exchange rate at one percent level followed by unemployment rate correlated with inflation at 5 percent significant level. All the other variables are shows the no correlation or negative correlation with the variables.

Table 2

Impact of macroeconomic determinants on performance of Indian stock market

H_0 = There is no significant relationship between macroeconomic factors and BSE Sensex

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.997[a]	.993	.979	.01917	.993	72.108	6	3	.002*

a. Predictors: (Constant), GDP, Exchange Rate, Inflation, Interest Rate, FDI, Unemployment Rate

b. Dependent Variable : BSE Sensex

*Indicates statistical significance at 5 per cent level

The table 2 it is observed that while analysing the regression analyses between sensex and macroeconomic variables. The macro economic variables like, gross domestic products, exchange rate, inflation, interest rate, foreign direct investment and unemployment rate which are statistically significant at 5 per cent level and the adjusted R squire value of these variables describes the more than 97 per cent influences the dependent variable. Therefore, the null hypothesis is rejected. It is concluded that there is a significant differences between sensex and macroeconomic variables.

Table 3

Coefficients analysis of macroeconomic variables and Indian stock market

Coefficients[a]

Model	Un standardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
(Constant)	11.12	1.700		6.543	.007*	5.712	16.53
GDP	-.364	.132	-.230	-2.760	.070	-.784	.056
Exchange Rate	-.423	.467	-.214	-.907	.431	-1.909	1.062
inflation	-.041	.054	-.063	-.758	.504	-.214	.132
Interest Rate	.430	.097	.843	4.454	.021*	.123	.738
FDI	-.252	.068	-.290	-3.695	.034*	-.470	-.035
Unemployment Rate	-7.863	1.501	-.592	-5.238	.014*	-12.64	-3.086

*Indicates statistical significance at 5 per cent level

The table 3 shows Coefficients analysis of macroeconomic variables and Indian stock market. The macro economic variables like, interest rate, foreign direct investment and unemployment rate which reveals the statistically significant at 5 per cent level in the coefficient analysis. Hence, it is concluded that these variables are significantly affect the BSE SENSEX.

Conclusion

The present study indicates that during the study period the macroeconomic indicators are most influencing factors of stock market performance. In this article, how macroeconomic factors affect the Indian stock market using the six factors i.e. gross domestic products, exchange rate, inflation, interest rate, foreign direct investment and unemployment rate. It can be concluded that all the macroeconomic factors have been taken for the study have the relationship with the BSE sensex and all the factors whether in positive and negative way affect the movement in the stock market prices. The Unemployment rate and inflation have inverse relationship with the sensex whereas all other factors show positive relationship. In the report it has also been founded the all the macroeconomic factors significantly affect the stock market performance. Further to have better returns on the stock market and to retain the Indian investors and foreign investors, government and other policy makers are needed to make policies in complement to the macroeconomic variables. This will help to enable to overall growth of economy and bring trust among the investors across the globe.

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