THE EFFECTS OF GROSS DOMESTIC PRODUCT AND BALANCE OF PAYMENTS AS MACROECONOMIC INDICATORS ON STOCK MARKET-AN INDIAN PERSPECTIVE

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Abstract

Macroeconomics is the analysis of the nation's economy as a whole. It scrutinizes the cyclical movements and trends exists in economy such as Gross Domestic Production and Balance of Payments etc. Stock Markets always encouraging the investments. This study has been undertaken to investigate and explore the effect of Gross Domestic Production and Balance of Payments on Bombay Stock Exchange by using different statistical tools. This study will be beneficial for the investors who might be able to identify some selected economic factors that they should focus while investing in stock market as they results in fewer returns. Impact of selected rates is the part of study analysis from investment perspective. Researcher selected the period of study from the year October 2015 to September 2016. The implications of the research are carried out to identify the investors' interest while making investment whether they consider the above select macroeconomic variable for their investment.

***Keywords**: Macroeconomic Variables, BSE SENSEX, Stock Prices, Individual Investors, Descriptive Statistics.*

INTRODUCTION:-

Volatility is the main worry for any investor in the stock market as their returns depend on various functions in the economy system. We know that the fundamental analysis it the part of any investment decision and in that the main part is economy analysis. More often the stock market performance reflects the economy of that country

and other countries economy that it is associated with. The present study mainly covers prominent indicators of Indian economy and their influence on the stock market performance. It helps the most while taking part in the stock market that whether the investment analysis should really include the analysis of economy of that particular country and to what extent it matters on the stock market performance.

GDP Growth = Stock Market Returns?

In a theoretical environment stock price increases should exactly match real GDP growth. The underlying economy of a country translates into a company's profits, thus into Earnings per Share (EPS), which eventually determines the price of a company's stock. However, this only works if a country's economy is closed, valuations remain constant and if only domestic companies are listed on a country's stock market. As we know the world economy isn't 'theoretical', hence this example may not be an appropriate comparison, however understanding the basic principles of stock market returns is crucial for this experiment.

Theoretical versus Real Economy

Studies have shown that in many countries there is somewhat of a correlation between GDP growth and stock market returns. In theory, and over the long-term, aggregate corporate earnings rise when the economy grows or vice versa. However, there are plenty of examples where the stock market was clearly disconnected from the real economy. Looking at shorter timeframes, we note dramatic variations of the two key variables, especially in times of significant volatility. During the 2008 Financial Crisis ('GFC'), stock markets around the world plummeted approximately 40-60%, but of course, the real economy did not shrink ~50% within a few months. The following bull market saw the S&P 500 nearly triple in just 6 years, which is also not reflective of real GDP growth. However if we are looking at a longer timeframe we note a more 'moderate correlation', albeit still not perfect. Over the past 50 years the US economy expanded at an average compound rate of between 3%-3.5%, however the past 10 years have been significantly slower with average GDP growth less than 1.5% according to data provided by the World Bank. Between December 2006 and December 2014, the US benchmark index S&P 500 gained 45%, an average simple growth rate of 5.6%, four times higher than the average growth rate of ~1.5%. So why are there still such discrepancies between the two key variables GDP growth and stock market returns?

Balance of Payments

The balance of payments, also known as balance of international payments of a country is the record of all economic transactions between the residents of the country and the rest of the world in a particular period (over a quarter of a year or more commonly over a year). These transactions are made by individuals, firms and government bodies. Thus the balance of payments includes all external visible and non-visible transactions of a country. It is an important issue to be studied, especially in international financial management field, for a few reasons. First, the balance of payments provides detailed information concerning the demand and supply of a

country's currency. For example, if the United States imports more than it exports, then this means that the supply of dollars is likely to exceed the demand in the foreign exchanging market.

Effects of Balance of Payments

Balance of payment is an indicator that enables an economy to detect the net inflows and outflows of money from a country. These both flows should be in equilibrium in order to result a balancing situation. It has direct impact over all sectors of the economy. For proving the economic theory of balance of payments, the net effect should be equal to zero. But in real scenario, the perfect situation may seldom be seen. In less developed countries, it is crucial to carry the critical limit of outflows of currency. Illegal means of outflows/ inflows of currency result in severe economic downturn. These illegal means are usually known as money laundering. It has adverse effects on stock market as observed in several money laundering scandals in past .Few impacts are such as Concentration of Funds**,** Current Account Deficit, Stock Market Efficiency**.**

REVIEW OF LITERATURE:

Studies have shown that as a result of financial deregulation, the stock market becomes more receptive to domestic and external factors. It is evident from literature that the relationship between stocks returns and economic variables have received great attention over recent years in particular countries and economic conditions. The level of return achieved or expected from an investment is dependent on a variety of factors. The internal factors can be a type of investment vehicle, quality of management, type of financing etc., whereas those of external could include war, price controls, political events, interest rate, exchange rate and inflation among others.

Geske and Roll (1983) found the linkage between macroeconomic variables and stock prices in USA but found it negative relationship between stock prices and gross domestic product & balance of payments.

Chen, Roll and Ross (1986)- found that the economic variables like industrial production index, change in risk premium and inflation have a systematic influence on stock return and showed the existence of a long run equilibrium relationship. However, they also found that oil prices and consumption did not have significant effect on stock prices.

Luthra and Mahajan (2014), studied the impact of macroeconomic factors on BSE Bankex. Macroeconomic variables involved GDP growth rate, inflation, gold prices and exchange rate. Bombay Stock Exchange Limited launched "BSE BANKEX Index". This index includes major public and private sector banks listed on BSE. The BSE BANKEX Index is displayed online on the BOLT trading terminals nationwide. The results conclude that inflation, exchange rate and GDP growth rate affect the Bankex positively. However Gold Prices affect BSE Bankex negatively but none of these variables have a significant impact on the stock prices of banks.

OBJECTIVES OF THE STUDY

The plan of the paper was to establish, investigate and assess the impact of gross domestic product and balance of payments on stock price indices of BSE (SENSEX). In this way, this paper would attempt to attain the only objective.

SCOPE OF THE STUDY

This study enlight and helps individual investors to understand the effect and impact of macroeconomic indicator such as gross domestic product and balance of payments on stock indices. This also helps and assist the investors in terms of managing their portfolios by considering the uncontrollable fluctuations of such type of economic variable such as Inflation rate from returns point of view. The study reveals and helps investors from buying and selling of stock. The study will also helps the companies to know their share prices fluctuations.

LIMITATION OF THE STUDY

1. The stock market performance is measured only through BSE Sensex.
2. The time period of study is only 1 year and only two indicators considered for the study.

RESEARCH METHODOLOGY

Type of Research

• Exploratory and Descriptive in nature

Sampling Technique

Convenience sampling technique used to pick sample

Dependent Variable	Independent Variable (02)
BSE Sensex	Gross Domestic Product (GDP) Balance of Payments (BOP)

Data Used-

Secondary Data:

To study the relationship between the Stock market performance and selected economic indicator we collected secondary data from different sources. BSE Sensex data collected from bseindia.com

Time period – One year – period October 2015 to September 2016.

This study is mainly based on Desk Research i.e. secondary data that have been collected from the database on Indian economy maintained by Reserve Bank of India and Bombay Bullion Association. The study analyses the monthly data on gross domestic product and stock market returns in India for the aforesaid period. Wherever data were missing, the averages of the data of the previous month and next month have been taken.

HYPOTHESIS:-

"The macroeconomic variables affect the Indian Stock Market",

F-Test Two-Sample for Variances is applied for deciding to support or reject hypothesis.

Interpretation:

It was found from the above analysis F-value **0.886230369 & 0.864476386** is higher than table value **0.052631579 & 0.052631579 respectively**, based on these responses of respondents collected from the investor's questionnaire and from the broker's questionnaire, we accept the hypothesis, "The macroeconomic variables affect the Indian Stock Market", which further means that, the variables mentioned in both questionnaire are equally important for both the respondents from Akola and Amravati city. The researcher further conducted two tailed F test, to know if the variances are equal or not equal to each other on the basis of the above analysis data.

Conducted a two tailed F Test on the following samples: Sample Akola: Variance 1 = 26149.33333, sample size = 400.

Sample Amravati: Variance 2 = 23174.33333, sample size = 400.

At last we compared calculated value (Step 1) to table value (Step 4), we found out that the F calculated value **1.128375** is higher than the F table value**1.00000,** in simple words **1.128375 > 1.00000**, hence we accept the hypothesis, "The macroeconomic variables affect the Indian Stock Market".

Statistical Tools Used:

• Mean

• Standard Deviation

• Correlation

• Coefficient of Determination and

• Multiple Regression

RESULTS AND DISCUSSION

Year & Month	BSE SENSEX	GDP Rate (%)
Oct 2015	27,214.60	7.2 %
Nov 2015	25,868.49	7.2 %
Dec 2015	25,519.22	7.2 %
Jan 2016	24,831.83	7.2 %
Feb 2016	22,951.83	7.9 %
Mar 2016	24,804.28	7.9 %
Apr 2016	25,816.36	7.1%
May 2016	25773.61	7.1%
Jun 2016	26525.46	7.1%
Jul 2016	27836.50	7.1%
Aug 2016	28,123.44	7.1%
Sep 2016	28634.50	7.1%

Figure 1: Chart Showing Yearly Fluctuation of BSE Sensex and Economic Indicator (Gross Domestic Product Rate) from Oct 2015 to Sep 2016.

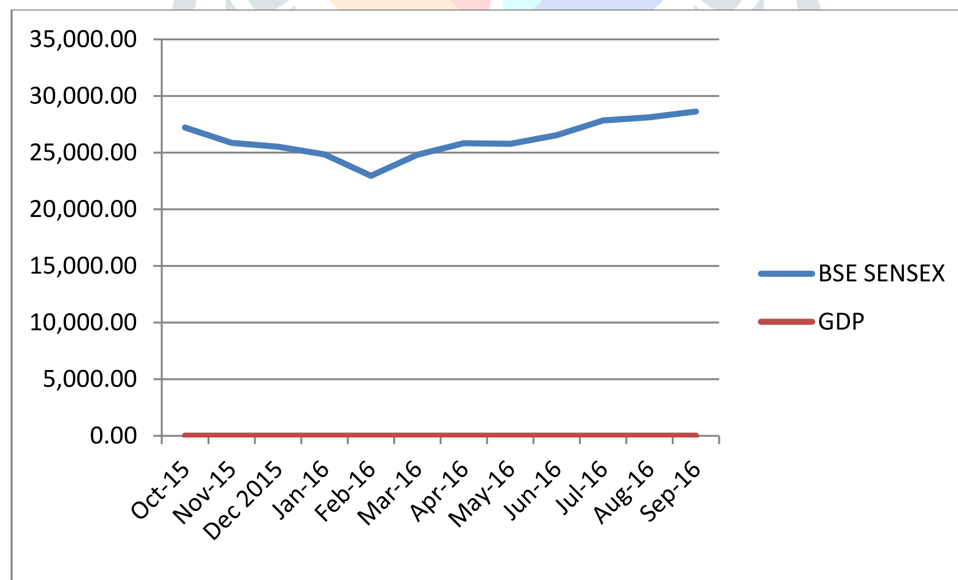

Fig.2- Chart shows the graphical representation of BSE SENSEX and GDP Rate

FINDINGS:-

India's gross domestic product advanced 7.3 percent year-on-year in the third quarter of 2016, following 7.1 percent expansion in the previous period and missing market expectations of 7.5 percent growth. Private consumption expanded at a faster pace while government spending slowed down and fixed investment dropped further. GDP Annual Growth Rate in India averaged 6.08 percent from 1951 until 2016, reaching an all time high of 11.40 percent in the first quarter of 2010 and a record low of -5.20 percent in the fourth quarter of 1979.

CONCLUSIONS, SUGGESTIONS:-

The study examines the relationship between various economic indicators and the Indian stock market represented by BSE SENSEX. During the past 16 years there is down in the Indian stock market and Foreign portfolio investment patterns, consequent upon several changes affecting the Indian economy, like the technology slowdown, common wealth scam and political instability to name a few. By using yearly data, the researchers tried to capture the cause effect relationship between main economic indicators and Indian Stock Market.

Few impacts on Balance of Payments are such as Concentration of Funds, Current Account Deficit, and Stock Market Efficiency.

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