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"Analysis of Impact of Gross Domestic Products (GDP) on Stock Market Movement in India"

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Abstract- This paper covers the financial system with two main components GDP and Stock Exchange. It Means this two variables one is study (Independent) variable (GDP) and Stock Market Dependent Variable. Researcher has collected Data from the secondary source like website and Stock Market because study based on secondary information which available on online source. Financial system is very important to control the economy of any country so every country has to focus on it. Researcher has main objective is to know; To know the impact of GDP on stock market as a macroeconomic variable, To find out the relationship between gross domestic products (GDP) and stock market movement in India, To know the impact of gross domestic products (GDP) on the stock market movement in India. Researcher has used Statistical tools for testing hypothesis like Descriptive statistics, Co-relation and simple Regression analysis. Through this study researcher has concluded strong relationship between GDP and SENSEX because co-relation result is 0.965768 and co-relation between GDP and NIFTY 50 is 0.970837.

Keywords: GDP, financial system, co-relation, regression, sensex and nifty 50.

GJMBR-B Classification: JEL Code: R53

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Keywords: GDP, financial system, co-relation, regression, sensex and nifty 50.

I. Introduction

Gross Domestic Product (GDP) is the total monetary or market value of all the finished goods and services produced within a country's borders in a specific time period. As a broad measure of overall domestic production, it functions as a comprehensive scorecard of the country's economic health. (Chappelow, Gross Domestic Product-GDP, 2019). An IMF publication states that, "GDP measures the monetary value of final goods and services that are bought by the final user produced in a country in a given period of time (say a quarter or a year)." (Chappelow, J., 2019). A financial system plays a vital role in the economic growth of the country. It intermediate between the flow of funds belonging to those who save a part of their income and those who invest in productive assets. It mobilizes and usefully allocates scare resources of a country. A financial system is a complex, well-integrated set of sub systems of financial institution, market, instrument, and services which facilitate the transfer and allocation of funds, efficiently and effectively. The Indian financial system can also be broadly classified into the formal (organized) financial system and informal (unorganized) financial system. The formal financial system comes under the preview of the Ministry of Finance (MoF), the Reserve Bank of India (RBI), the Securities and Exchange Board of India (SEBI), and other regulatory bodies. (Chen, J., 2019) Though GDP is usually calculated on an annual basis, it can be calculated on a quarterly basis as well. In India, for example, the government releases an annualized GDP estimate for each quarter and also for an entire year. Most of the individual data sets will also be given in real terms, meaning that the data is adjusted for price changes, and is, therefore, net of inflation. (CHAPPELOW, Gross Domestic Product-GDP, 2019) (Chappelow, J., 2019)

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(Sources: https://www.investopedia.com/terms/f/financial-system.asp)

Figure 1.1: Financial System

II. Review of Literature

Attahir, B. A. (2016) has analyzed Economic Growth Impact of Indian Stock Market: An Econometric Investigation. Data on the variables were sourced from the Handbook of Statistics on Indian Economy, 2014 and World Bank Indicators. The data are in annual series and were collected for the period 1982 to 2013. The objective of the study is to examine the short run and long run impacts of stock market development on economic growth of India. The study adopted the Vector Error Correction Model (VECM) methodology in estimating the long run and short run relationship among the Variables. The study started by testing for stationary of the data, and when variables were found to be stationary only after taking their first difference, the Johansen Co integration test was adopted to determine whether or not the variables have long run relationship. Having found the variables to be co integrated, the VECM model was run where the short run relationship among the variables and short run dynamics of the model were estimated. As a further tool of analysis, impulse response function (IRF) was also adopted by the study. Findings of the study showed stock market to have a negative effect on economic growth in the long run, while in the short run, it is found to have a positive effect on economic growth of India. The short run impact can be attributed to it being a source of finance to enterprises, but however, the long run negative impact of stock market development can be viewed from the angle of its high level of volatility and casino-like operation which entails a lot of speculative activities. (Attahir, 2016)

Charles, T. C., Vasso, P. L., & Timothy, S. F. (2012) have analyzed Stock Prices and Output Growth: An Examination of the Credit Channel. The researcher's have collected data from U.S. Department of Commerce, Bureau of Economic Analysis; Board of Governors of the Federal Reserve System; and New York Stock Exchange. The main objective of the study is when stock market values fall; we know it means investors expect lower economic growth in the future. But can stock market declines actually affect future growth? There is some evidence that they can through the credit channel. The researchers conclude that This Economic Commentary has reviewed the reasons why stock prices and real GDP may be correlated. In doing so we have emphasized that firms' balance-sheet effects may be important in understanding output growth. To understand this channel we sometimes treated stock price changes as occurring for some exogenous reason, like the bursting of a stock market bubble, and examined why this would affect investment and output. Of course, stock price changes very rarely occur without a change in some fundamental economic variables. Reality is likely a synthesis of both scenarios: Future GDP growth affects current stock prices, and this change in stock prices affects future GDP growth. Most people view the credit channel as explaining how the feedback effects. (Charles, Vasso, & Timothy, 2002)

D. V. Lokeswar, R. (2012) has analyzed impact of inflation and GDP on stock market returns in India. The researcher's have collected Information regarding inflation, GDP, Stock market returns and interest rates from the websites of the Ministry of finance, economic survey of India, BSE India and RBI. Books will be referred to support the formation of certain conceptual definitions and depth knowledge of the subject. Journals, Magazines and newspapers will be used to accumulate the latest information about the variable under study in the research. Interviews with experts will be undertaken if necessary to tap the unknown facts and figures of what I think might have been missing in the data. The main objective of the study is to study the relationship between stock market returns with respect to inflation, GDP and interest rates and To find the strength of the relation between stock market returns with respect to inflation and GDP. The researcher will also use regression, correlation to find out the nature and strength of the relationship between the variables under study. An important finding is that the explanatory variables in the model result in 95.6% influence on the stock prices of quoted companies for the period 1997-2006. It also provides preliminary evidence regarding the relative importance of the explanatory variables on stock prices of quoted companies. Specifically, the findings suggest that RDGP was the most important variable influencing stock prices. Conclusively, government should implement policies that will reduce inflation rate and poverty level through infrastructural development and improved standard of living. Also, interest rates should be made moderate in order to encourage investment and transactions in the stock market. (D. V. Lokeswar, 2012)

Kishorsinh, N. C., & Mahendrakumar, T. S. (2018) have analyzed the Impact of Gross Domestic Products (GDP) on Stock Market Returns in India. The researcher's have collected data from the official website of BSE (Bombay Stock Exchange). Data of GDP growth rate is collected from World Bank Reports and other websites, World data bank etc. The main objective of the study is Analysis the impact of GDP Growth rate on Stock Market Returns. The researcher's have used GDP as an independent variable and stock market as a dependent variable. The researcher's have used Descriptive tools of statistics, Karl Pearson Correlation and Regression Analysis for the test of the hypothesis. The Study on Impact of BSE SENSEX Index on GDP growth rate shows that, SENSEX Index of BSE is significantly affected on growth rate of GDP. BSE SENSEX Index is increased, and then growth rate in GDP is also increased. Correlation between both variable is significant i.e. 0.0937 shows the positive relationship. Specifically, the findings suggest that role of stock market (BSE SENSEX Index) is one of the most important influencing factors of GDP and vice a versa. So, the GDP is predictable variables for Indian stock market returns. Conclusively, the government should try to maintain the growth rates of GDP and liquidity in the primary, secondary and derivatives market of stock market. (Kishorsinh & Mahendrakumar, 2018)

III. Problem of the Study

The stock market is a general term used to refer to an organized exchange where shares of stock are traded. The movement of stock market depends on the rational well as the irrational behaviour of the investor. The most imposing role of stock market is to work as a relationship between savers and borrowers. This helpful for the generation of saving form the huge group of small savers and these saving can be investment in profitable means. The investor and creditor liking together with stock market operation. The stock market engaged the reallocation of money from the different firm of the economy. Investors consider macroeconomic variables when they value stocks. Interest rates, exchange rate, inflation, GDP are very important among these macroeconomic variables which affect the performance of the stock market. A number of studies have been conducted to determine the relationship between the macroeconomic variable and stock prices in the past. The findings of these studies show that there is a strong relationship between macroeconomic variable and stock prices. Some studies showed no relationship between the economies and the financial markets of less developed countries, like Asian markets, Fung and Lie (1990) explained this by saying that "macroeconomic factors can't be reliable indicators for stock market price movements in the Asian markets because of the inability of stock markets to fully capture information about the change in macroeconomic fundamentals."

There are many debatable opinions on the relationship between the GDP and stock market movement. Hence a study will be undertaken to observe the impact of GDP on stock market movement and the relationship between GDP and stock market movement. Therefore, the statement of problem for this research is..

IV. Objectives of the Study

a) *Specifically these are the main objectives of the study*

1. To find out the relationship between gross domestic products (GDP) and stock market movement in India.
2. To know the impact of gross domestic products (GDP) on the stock market movement in India.
3. To know the impact GDP on stock market as a macroeconomic variable.

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V. Hypothesis of the Study

1. Alternative Hypothesis (H_1)
2. Null Hypothesis (H_0)

Hypotheses are as under;

Table 1.1: Hypothesis of the study

H_1	There is a significant relationship between GDP and Stock market movement.
H_0	There is no significant relationship between GDP and Stock market movement.
H_1	There is a significant relationship between GDP and SENSEX.
H_0	There is no significant relationship between GDP and SENSEX.
H_1	There is a significant relationship between GDP and NIFTY 50.
H_0	There is no significant relationship between GDP and NIFTY 50.
H_1	There is an Impact of GDP on SENSEX.
H_0	There is no impact of GDP on SENSEX.
H_1	There is an Impact of GDP on NIFTY 50.
H_0	There is no impact of GDP on NIFTY 50.

VI. Methodology Used by the Researcher & Research Design

a) Title of the study

Analysis of Impact of Gross Domestic Products (GDP) on Stock Market Movement in India Period of the study In this study used the quarterly data of GDP, BSE SENSEX and NSE NIFTY 50 index from the first quarter of 2011-2012 to second quarter of 2019-2020.

Researcher has used in the study probability sampling method, data collected from the website of Reserve Bank of India, Bombay Stock Exchange and National stock Exchange and statistical tools used by the researcher like descriptive tools of statistics, Karl Pear son's Simple Co-rrelation and Simple linear regression model to analyzed secondary data which was collected from various website. (Priti & P.K., 2017) (Deepak & Neena, 2011)

VII. Data Analysis

Table 1.2: Data of GDP and SENSEX for Correlation

YEARS	QUARTERS	GDP	SENSEX	YEARS	QUARTERS	GDP	SENSEX
2011-12	Q1	1969132	18845.87		Q3	2637004	26117.54
	Q2	1913207	16453.76		Q4	2716448	25341.86
	Q3	2073896	15454.92	2016-17	Q1	2797534	26999.72
	Q4	2150712	17404.2		Q2	2791258	27865.96
2012-13	Q1	2074589	17429.98		Q3	2832025	26626.46
	Q2	2047909	18762.74		Q4	2898152	29620.5
	Q3	2177528	19426.71	2017-18	Q1	2962815	30921.61
	Q4	2246251	18835.77		Q2	2974645	31283.72
2013-14	Q1	2206230	19395.81		Q3	3039403	34056.83
	Q2	2193897	19379.77		Q4	3127303	32968.68
	Q3	2314941	21170.68	2018-19	Q1	3190452	35423.48
	Q4	2348579	22386.27		Q2	3178747	36227.14
2014-15	Q1	2377154	25413.78		Q3	3231406	36068.33
	Q2	2379356	26630.51		Q4	3306332	38672.91
	Q3	2457010	27499.42	2019-20	Q1	3348005	39394.64
	Q4	2498612	27957.49		Q2	3316377	38667.33
2015-16	Q1	2560191	27780.83				
	Q2	2578225	26154.83				

(Sources: Wikipedia, Invest opedia, Websites of NSE and BSE etc)

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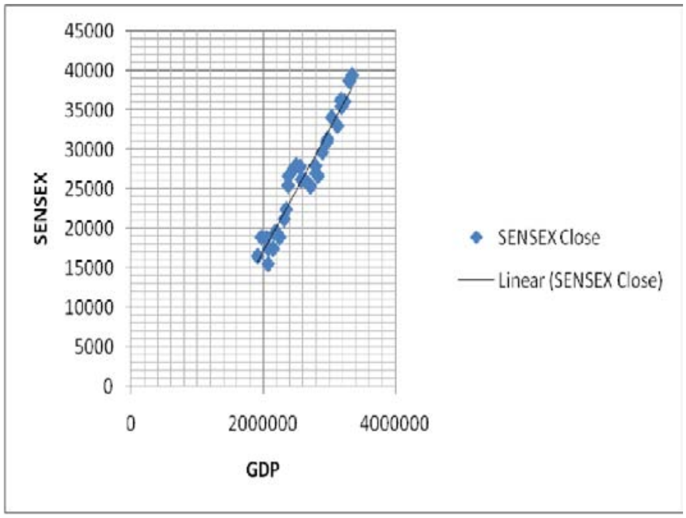
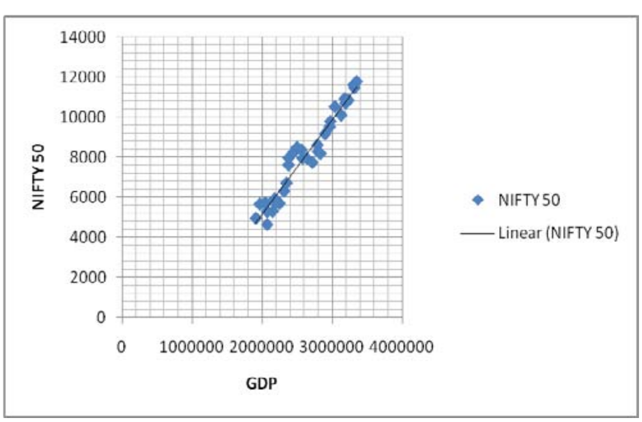


Figure 1.2: Co-relation chart and Interpretation

Table 1.3: CO-relation Between GDP and NIFTY 50

YEARS	QUARTERS	GDP	NIFTY50	YEARS	QUARTERS	GDP	NIFTY50
2011-12	Q1	1969132	5647.4		Q3	2637004	7946.35
	Q2	1913207	4943.25		Q4	2716448	7738.4
	Q3	2073896	4624.3	2016-17	Q1	2797534	8287.77
	Q4	2150712	5295.55		Q2	2791258	8611.15
2012-13	Q1	2074589	5278.9		Q3	2832025	8185.8
	Q2	2047909	5703.3		Q4	2898152	9173.75
	Q3	2177528	5905.1	2017-18	Q1	2962815	9520.9
	Q4	2246251	5682.55		Q2	2974645	9788.6
2013-14	Q1	2206230	5842.2		Q3	3039403	10530.7
	Q2	2193897	5735.3		Q4	3127303	10113.7
	Q3	2314941	6304	2018-19	Q1	3190452	10714.3
	Q4	2348579	6704.2		Q2	3178747	10930.45
2014-15	Q1	2377154	7611.35		Q3	3231406	10862.55
	Q2	2379356	7964.8		Q4	3306332	11623.9
	Q3	2457010	8282.7	2019-20	Q1	3348005	11788.85
	Q4	2498612	8491		Q2	3316377	11474.45
2015-16	Q1	2560191	8368.5				
	Q2	2578225	7948.9				

(Sources: Wikipedia, Invest opedia, Websites of NSE and BSE etc)



Interpretation

Calculated value of co-relation between GDP and NIFTY 50 is 0.970837, so we can interpret that there is strong positive relationship between these two variables. Here we can say if GDP increase in that case our NIFTY 50 is also increase because of that result of correlation.

Figure 1.3: Correlation Chart

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VIII. Simple Linear Regression Model

Regression analysis between GDP and SENSEX Hypothesis of the study

Table 1.4: Result of Impact of GDP on SENSEX

Variable	R^2	Equation	P. value	Seg^t 5%	H0(Accept/Reject)
SENSEX	0.93	Y=0.015-13852.9x	4.40084E-08	0.05	Rejected

a) *Interpretation*

Regression Analysis between GDP and BSE SENSEX Index shows there is positive significant correlation between these two Variables. From the above ANOVA table f cal- value (443.53) is more than the f tabulated value (2.55676E-20). So, we fail to accept the null hypothesis at 5% level of significance. We can say that, there is an impact of GDP on BSE SENSEX Index. As per the above table we observe that p-value (4.40084E-08) in ANOVA table is less than 0.05 at the level of 5% significance. Therefore the H0 (null hypothesis is) rejected. So we conclude that there is a significant impact of GDP on BSE SENSEX index.

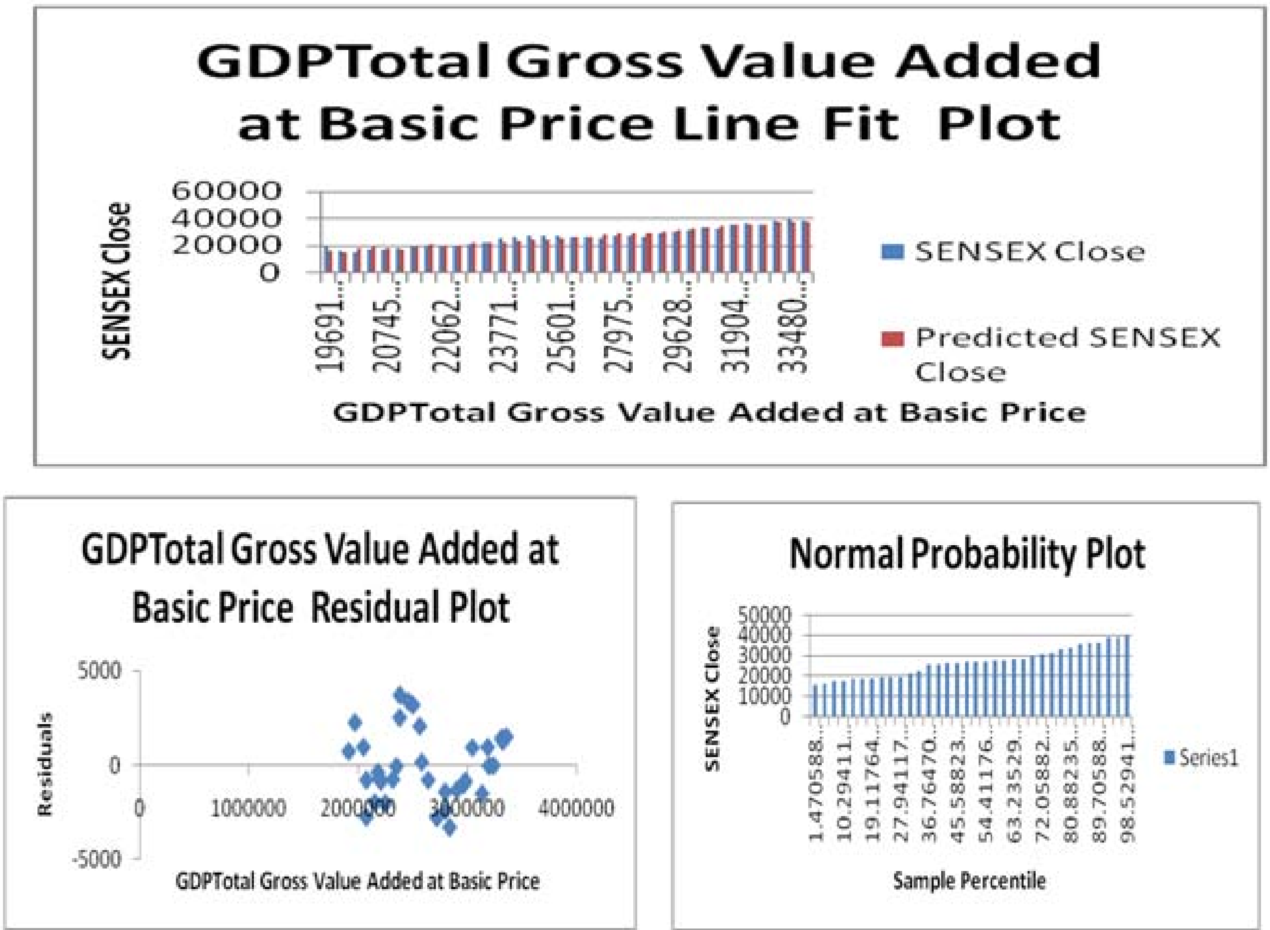

Figure 1.4: Regression Results

Table 1.5: Result of Impact of GDP on NIFTY 50

Variable	R^2	Equation	P. value	Seg^t 5%	H0(Accept/Reject)
NIFTY 50	0.94	*Y=0.004727-4314.2x*	*5.35E-09*	0.05	Rejected

b) *Interpretation*

Regression Analysis between GDP and NSE NIFTY 50 Index shows there is positive significant correlation between these two Variables. From the above ANOVA table f cal- value (524.7529) is more than the f tabulated value (2.04E-21). So, we fail to accept the null hypothesis at 5% level of significance. We can say that, there is an impact of GDP on NSE NIFTY 50 Index.

As per the above table we observe that p-value (5.35E-09) in ANOVA table is less than 0.05 at the level of 5% significance. Therefore the H0 (null hypothesis is) rejected. So we conclude that there is a significant impact of GDP on NSE NIFTY 50 index.

Table 1.5: Result of Impact of GDP on NIFTY 50

Variable	R^2	Equation	P. value	Seg^t 5%	H0(Accept/Reject)
NIFTY 50	0.94	*Y=0.004727-4314.2x*	*5.35E-09*	0.05	Rejected

c) *Interpretation*

Regression Analysis between GDP and NSE NIFTY 50 Index shows there is positive significant correlation between these two Variables. From the above ANOVA table f cal- value (524.7529) is more than the f tabulated value (2.04E-21). So, we fail to accept the null hypothesis at 5% level of significance. We can say that, there is an impact of GDP on NSE NIFTY 50 Index.

As per the above table we observe that p-value (5.35E-09) in ANOVA table is less than 0.05 at the level of 5% significance. Therefore the H0 (null hypothesis is) rejected. So we conclude that there is a significant impact of GDP on NSE NIFTY 50 index.

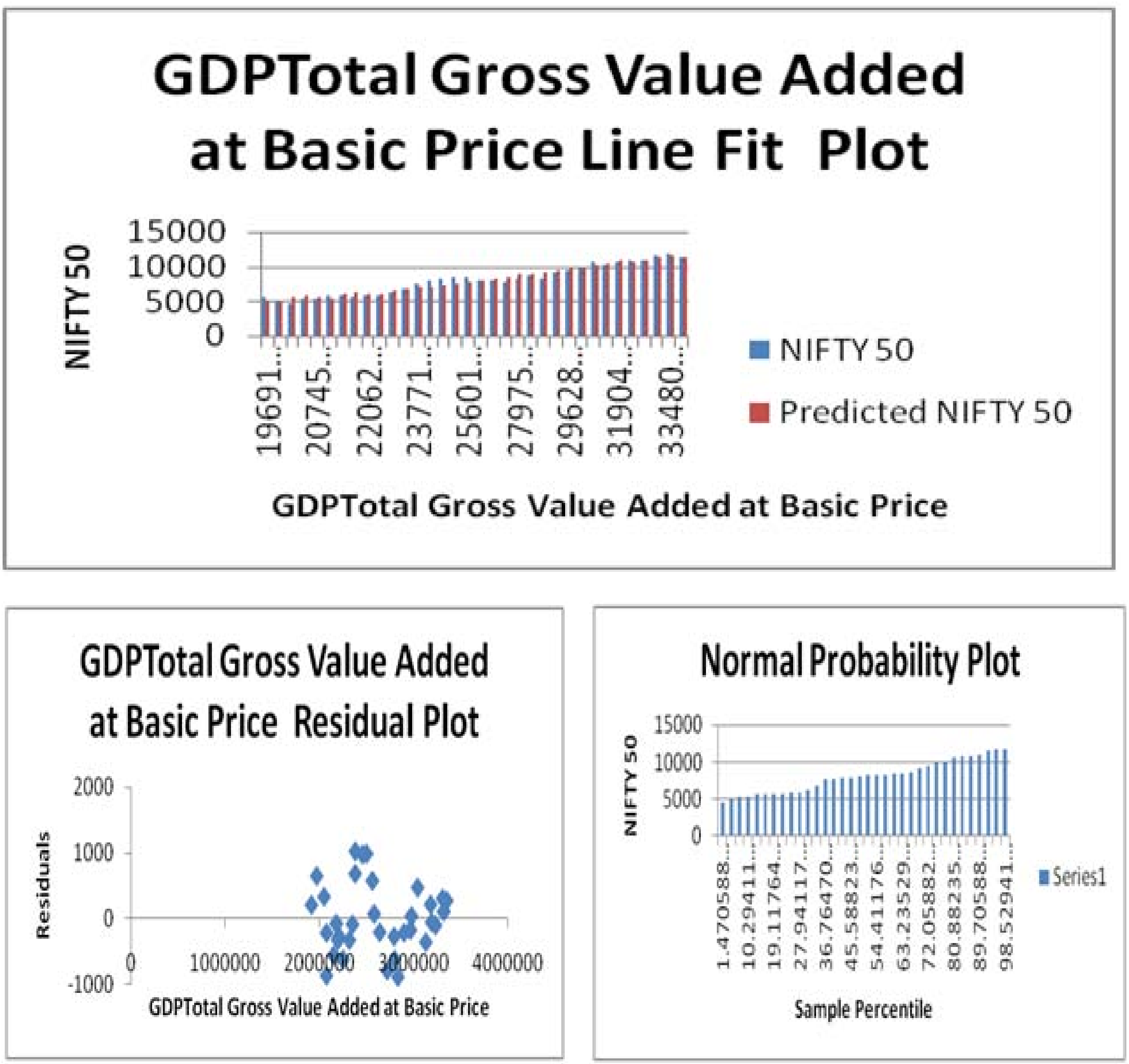

Figure 1.5: Regression Result

IX. Major Findings

a) *Correlation between GDP and SEXNSEX*

Calculated value of co-relation between GDP and SENSEX is 0.965768, so we can interpret that there is strong positive relationship between these two variables. Here we can say if GDP increase in that case our SENSEX is also increase because of that result of co-relation.

b) *Correlation between GDP and NIFTY 50*

Calculated value of co-relation between GDP and NIFTY 50 is 0.970837, so we can interpret that there is strong positive relationship between these two variables. Here we can say if GDP increase in that case our NIFTY 50 is also increase because of that result of correlation.

c) *Regression analysis between GDP and SENSEX*

Regression Analysis between GDP and BSE SENSEX Index shows there is positive significant correlation between these two Variables. From the ANOVA table f cal-value is more than the f tabulated value. So, we fail to accept the null hypothesis at 5% level of significance. We can say that, there is an impact of GDP on BSE SENSEX Index.

As per the regression analysis we observe that p-value in ANOVA table is less than 0.05 at the level of 5% significance. Therefore the H0 (null hypothesis is) rejected. So we conclude that there is a significant impact of GDP on BSE SENSEX index.

d) *Regression analysis between GDP and NIFTY 50*

Regression Analysis between GDP and NSE NIFTY 50 Index shows there is positive significant correlation between these two Variables. From the ANOVA table f cal-value is more than the f tabulated value. So, we fail to accept the null hypothesis at 5% level of significance. We can say that, there is an impact of GDP on NSE NIFTY 50 Index.

As per the regression analysis we observe that p-value in ANOVA table is less than 0.05 at the level of 5% significance. Therefore the H0 (null hypothesis is) rejected. So we conclude that there is a significant impact of GDP on NSE NIFTY 50 index.

X. Conclusion and Utility

This study is conducted to "Analysis of Impact of Gross Domestic Products (GDP) on Stock Market Movement in India". The main objective of the study are to find out the relationship between gross domestic products (GDP) and stock market movement in India and To know the impact of gross domestic products (GDP) on the stock market movement in India. For the fulfillment of Research objective the data of GDP collected from the website of Reserve Bank of India (RBI) and data of SENSEX and NIFTY 50 collected from the websites of Bombay Stock Exchange (BSE) and National Stock Exchange (NSE).

So, final conclusion of the study on the basis result of co-relation we can say that there is strong relationship between GDP and Stock Market Movement in India and on the basis of result of regression we can say that there is an impact of GDP on Stock Market Movement in India. These result shows that any change in the GDP is reflect in the stock market of India. On the basis finding of this study we interpret that GDP as a macroeconomic variable impact on stock market of India.

So it is a broader scope for the other researcher to carry forward study by using other macro as well as micro economic factors.

XI. Significance of the Study

a) *The significance of the study is as follows:*

1. To improve in the knowledge of GDP and Indian stock market.
2. Through this study know about how to do analysis and interpretation.
3. The study helps to find out impact of GDP on stock market movement in India.
4. This study through know the relationship between GDP and stock market movement in India.

XII. Limitation of the Study

1. The study is limited to nine years.
2. The studies is restricted to only data between 2011-12 to 2019-20 as compare to population, the sample size is small. Hence, on the basis of this study, generalization cannot be made.
3. The study is mainly based on secondary data taken from published data on websites. The reliability and finding are contingent upon the published data.
4. There are many other factors also affected to the stock market movement.

References Références Referencias

1. Aldasoro, I. (2020, March 7). Effect of Covid-19 on the Banking Sector: Market's assessment. www.bis.org, 1-4.
2. Attahir, B. A. (2016). Econonic Growth Impact of Indian Stock Market: An Economic Investigation. Pacific Business Review International (Finance Section), 1 (1), 1-7.
3. Chappelow, J. (2019, November 8). www.investopedia.com:https://www.investopedia.com/terms/r/realgdp.asp. (Real Domestic Product (GDP)) Retrieved from https://www.investopedia.com/terms/r/realgdp.asp: www.investopedia.c om
4. Charles, T. C., Vasso, P. L., & Timothy, S. F. (2002, August 15). Stock Prices and Output Growth: An

Examination of the Credit Channel. Federal Reserve of Cleveland, 1-5.

5. Chen, J. (2019, July 8). www.investopedia.com: https://www.investopedia.com/terms/e/economicgrowthrate.asp. (Economic Growth Rate) Retrieved fromhttps://www.investopedia.com/terms/e/economicgrowthrate.asp: www.investopedia.com
6. D. V. Lokeswar, R. (2012). Impact of Inflation and GDP on Stock Market Returns in India. International Journal of Advanced Research in Management and Social science (IJARMSS), 1 (6), 1-17.
7. Deepak, C., & Neena, S. (2011). Research Methodology. Vikas Publication House.
8. Kishorsinh, N. C., & Mahendrakumar, T. S. (2018). Analysis Fross Domestic Product (GDP) on Stock Market Returns in India. IJRCM, 6 (2), 1-6.
9. Mittal, S. a. (2013). A Comparitive Analysis pf Promotional Tools and Techniques Adopted For retail Banking in Public Sector and Private Sector Banks. Jornal of Business Management & Social science Research, 43-53.
10. Priti, R., & P. K. (2017). Research Methodology. Mumbai: Himalaya BUlication House Pvt. Ltd.
11. Rohit B., M. A. (2013). A Study on Financial Performance of Commercial Banks in India: Application of CAMEL Model. Al-Barkaat Journal of Finance & Management, 21.
12. https://www.investopedia.com/articles/investing/082614/how-stock-market-works.asp National Stock Exchange of India. (2020, january 27). Retrieved january 27, 2020, from www.wikipedia.org: https://en.wikipedia.org/wiki/National_Stock_Exchange_of_India NIFTY 50. (2020, january 20). Retrieved january 29, 2020, from www.wikkipdia.org: https://en.wikipedia.org/wiki/NIFTY_50