



Impact of GDP and Inflation on Indian Stock Market

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ABSTRACT

The movement of stock market depends on the rational well as the irrational behaviour of the investor. The returns in the stock market could because of the micro economic factors like profits, business growth, P/E, dividend announced and the like which are pertaining to a particular company. The interest rate should be made moderate so as to encourage investment and transactions in stock. The Statement of problem of research is "To study the impact of GDP and inflation on Indian Stock Markets". This study had used Descriptive research design to know the impact of inflation and GDP on Indian stock market and also helps to describe the research population. Secondary data are useful to know the previous study done on the impact of GDP and Inflation. The scope of study is it will help to know the impact of GDP and Inflation on Indian Stock Markets.

Keywords: Stock, Inflation, GDP, Data, Secondary, Researcher, Market

INTRODUCTION

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 returns in the stock market could because of the micro economic factors like profits, business growth (new orders), P/E, dividend announced and the like which are pertaining to a particular company. Macro economic factors like inflation, GDP would also affect the overall returns in the stock market.

The market reacts differently to various factors ranging from economic political, and socio-cultural. The stock prices of quoted companies are affected either positively or negatively by a number of factors occurring within or without the economic system. The impact of Real Gross Domestic Product (RGDP), Interest Rate (INT) and Inflation Rate (INF) on stock prices of quoted companies from 1997 – 2009.

Stock prices were represented by Stock Market Value Index in the model. A regression analysis showed that the explanatory variables accounted for 95.6% of the variation in stock prices. While a reduction in interest and inflation rate resulted in increased stock prices, increased RDGP has a positive impact. Government should therefore implement policies that will reduce inflation rate and improve the standard of living of its citizens. The interest rate should be made moderate so as to encourage investment and transactions in stock.

LITERATURE REVIEW

Prof. D. V. Lokeswar Reddy had written in his Research paper on "Impact Of Inflation And GDP On Stock Market Returns In India" (2009) in International Journal of Advanced Research in Management and Social Sciences. He uses various statistical methods (Regression Analysis) and Accounting tools for Analysing the impact of inflation, interest rates and GDP on Stock Market Returns in India. And finally he conclude that, there is significant relationship between stock market Returns in India and rate of interest. And also prove there is significant relationship between GDP and stock market Returns in India.

Daferighe, Emmanuel E, Charlie, Samuel Sunday, (2012) "investigated the impact of inflation on stock market performance" using time series data for twenty years from 1991- 2010. Regression analysis was used to evaluate the influence of inflation on various measures of stock market performance. Market capitalization, Total value traded ratio, Percentage change in all-share index and turnover ratio. It was found out that there is negative relationship exists between inflation and the stock market performance measures but inflation had a positive relationship with the turnover ratio. Low level of inflation revealed that stock market investment is a good hedge against inflation.

Mohammed Omran, John Pointon(2000) examine "the impact of the inflation rate on the performance of the stock market." Market activity and Market liquidity are considered as stock market performance variables. The study found out that there is short and long run relationship exists

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between the stock market performance variables and inflation rate that the most important influencing factors are: oil prices, national income, money supply, interest rates and inflation rates

Rafay, Abdul et al. (2013) investigated on “Causal Relationship between Macroeconomic Variables:” and found that importance of stock market in the economic development of a country cannot be denied, and macroeconomic variables are important indicators that affect stock market of a country. Present study provides a great contribution to understand the association of these variables with stock market. This paper was trying to check the causal relationship among interest rate, exchange rate, consumer price index, imports and exports and KSE 100 index. For this purpose nineteen years data has been collected from 1992 to 2010. Techniques of Augmented Dickey-Fuller test, regression analysis and Granger Causality test have been applied to examine the causal relationship of selected macroeconomic variables with KSE 100 index. Results of regression analysis indicate the presence of strong positive relation between IMP and KSEI.

Tripathy (2011) analysed the Indian stock market to study the market efficiency and causal relationship between selected Macroeconomic variables. The study suggested that there is an autocorrelation in the Indian stock market and macro economic variables which implies that the market fell into form of Efficient Market Hypothesis. It was found that there is bidirectional relationship between stock market and interest rate and exchange rate, international stock market and BSE volume, exchange rate and BSE volume with the help of Granger-causality test. Also the findings suggested unidirectional causality running from international stock market to domestic stock market, interest rate, exchange rate and inflation rate indicating sizeable influence in the stock market movement.

Singh, Dharmendra (2010) studied possible “Causal relations between stock market index i.e. BSE Sensex and three key macro economic.” variables by using correlation, unit root stationarity tests and Granger causality test. The findings showed that the stock market index, exchange rate, IIP and WPI contained a unit root and were integrated of order one. The Bilateral granger causality between IIP and Sensex while WPI showed strong correlation and unilateral causality with Sensex which suggested that the Indian stock market was tending towards informational efficiency at least on two macroeconomic variables, viz. exchange rate and inflation.

OBJECTIVES OF THE STUDY

- To study the relationship exist between independent variable and dependent variable.
- To study the impact between inflation and stock market.
- To study the impact between GDP and stock market

RESEARCH METHODOLOGY

The Statement of problem of research is “**To study the impact of GDP and inflation on Indian Stock Markets.**” Descriptive Research Design have been used as Researcher had try to describe the situation how Indian stock markets affected by “Inflation” and “GDP”. This study had used Descriptive research design to know the impact of inflation and GDP on Indian stock market and also helps to describe the research population. Researcher’s entire study is based on secondary data. The data collection of the research includes of secondary data. Secondary data are those data which are collected from past through websites, journals etc. Secondary data are useful to know the pervious study done on the impact of GDP and Inflation. Thus the secondary data are collected with the help of journals, research papers, etc. As a sampling frame Researcher had used two independent variable which are “Inflation” and “GDP” and two stock index which are “SENSEX” and “NIFTY”. There are two types of sampling method Probability and Non- Probability. In Non- Probability are four types of sampling method : Researcher has used “Judgemental Sampling Design” which is part of Non-Probability Sampling Design because Researcher has taken two stock index as per Researcher’s judgement. The scope of study is it will help to know the impact of GDP and Inflation on Indian Stock Markets. Also helpful for future researcher to know about the impact GDP and Inflation on stock markets. The research plan of researcher is to “The research has researched with the objective of the “To know impact of Inflation and GDP on Indian Stock Markets.” For fulfilling the objective researcher has collected secondary data source. After collecting the data that were coded and interpreted accordingly.

ANALYSIS

Correlation Analysis

	LGDP	LINFLATION	LNIFT	LSENSEX
LGDP	1			
LINFLATION	0.29121	1		
LNIFTY	0.9848	0.2745	1	
LSENSEX	0.9588	0.2404	0.9775	1

Interpretation:

From the above table it can be interpreted that, the relationship between the GDP and Inflation is positive while the relation between the GDP & NIFTY and GDP & SENSEX are highly positive. And the relation between the Inflation & NIFTY and Inflation & SENSEX are highly positive.

Regression Analysis**Analysis with SENSEX Variable****1. INFLATION**

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LSENSEX	0.123378	0.114271	1.079698	0.2938
C	0.539791	1.116573	0.483435	0.6343
R-squared	0.057808	Mean dependent var		1.741357
Adjusted R-squared	0.008219	S.D. dependent var		0.417937
S.E. of regression	0.416216	Akaike info criterion		1.175169
Sum squared resid	3.291484	Schwarz criterion		1.274648
Log likelihood	-10.33928	F-statistic		1.165747
Durbin-Watson stat	0.373408	Prob(F-statistic)		0.293793

2. GDP

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LSENSEX	0.703490	0.047844	14.70384	0.0000
C	8.879538	0.467495	18.99386	0.0000
R-squared	0.919219	Mean dependent var		15.73073
Adjusted R-squared	0.914967	S.D. dependent var		0.597606
S.E. of regression	0.174265	Akaike info criterion		-0.566092
Sum squared resid	0.576994	Schwarz criterion		-0.466613
Log likelihood	7.943964	F-statistic		216.2028
Durbin-Watson stat	1.597743	Prob(F-statistic)		0.000000

Interpretation:

From the above regression analysis between SENSEX and Inflation & SENSEX and GDP used to determine the relationship and influence between inflation and GDP on stock returns. Using single line regression techniques to determine the magnitude of the affect quantitative of a change (INFLATION) and (GDP) to other events (SENSEX). 1% change in inflation will lead to change in SENSEX by 12.33 % and 1% change in GDP will lead to change in SENSEX by 70.35%.

Analysis with NIFTY variable**1. INFLATION**

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LNIFT	0.142990	0.114920	1.244263	0.2285
C	0.531275	0.976682	0.543959	0.5928
R-squared	0.075344	Mean dependent var		1.741357
Adjusted R-squared	0.026678	S.D. dependent var		0.417937
S.E. of regression	0.412325	Akaike info criterion		1.156382
Sum squared resid	3.230222	Schwarz criterion		1.255860
Log likelihood	-10.14201	F-statistic		1.548191
Durbin-Watson stat	0.378826	Prob(F-statistic)		0.228534

2. GDP

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LNIFT	0.733579	0.029652	24.73937	0.0000
C	9.522688	0.252009	37.78703	0.0000
R-squared	0.969891	Mean dependent var		15.73073
Adjusted R-squared	0.968306	S.D. dependent var		0.597606
S.E. of regression	0.106391	Akaike info criterion		-1.553007
Sum squared resid	0.215060	Schwarz criterion		-1.453529
Log likelihood	18.30658	F-statistic		612.0365
Durbin-Watson stat	1.741223	Prob(F-statistic)		0.000000

Interpretation:

From the above regression analysis between NIFTY and Inflation & NIFTY and GDP used to determine the relationship and influence between inflation and GDP on stock returns. Using single line regression techniques to determine the magnitude of the affect quantitative of a change (INFLATION) and (GDP) to other events (NIFTY). 1% change in inflation will lead to change in NIFTY by 14.29 % and 1% change in GDP will lead to change in NIFTY by 73.36%.

Unit Root Test

Unit root tests are tests for stationarity in a time series. A time series has stationarity if a shift in time doesn't cause a change in the shape of the distribution; unit roots are one cause for non-stationarity. The Dickey Fuller Test (sometimes called a Dickey Pantula test), which is based on linear regression. Serial correlation can be an issue, in which case the Augmented Dickey-Fuller (ADF) test can be used. The ADF handles bigger, more complex models. It does have the downside of a fairly high Type I error rate.

Variables	ADF Test Statistic	1% Critical Value	Lag length	DW
GDP	-18.65888	-4.6712	4	1.95
Inflation	-4.101377	-4.6712	4	2.51
Sensex	-4.055166	-4.6712	4	2.66
NIFTY	-6.539928	-4.6712	4	2.81

Interpretation:

The above table shows that ADF test run through the E-views-4 econometric software. Result suggested that null hypothesis is rejected and therefore it can be said that the all four variables GDP, Inflation, SENSEX and NIFTY are stationary with 1% significance level. The GDP, Inflation, SENSEX and NIFTY is stationary at log difference to level with 4 lag length in trend and intercept. It indicate that now researcher can be generalize the result for whole study data period. Now, research can apply for the regression analysis and Granger causality test.

Granger Causality

Null Hypothesis:	Observation	F-Statistic	Probability
LGDP does not Granger Cause INFLATION	17	0.45964	0.76392
LINFLATION does not Granger Cause LGDP		0.52006	0.72419
LNIFT does not Granger Cause INFLATION	17	0.82628	0.54401
LINFLATION does not Granger Cause LNIFT		1.54307	0.27841
LSENSEX does not Granger Cause INFLATION	17	1.17358	0.39105
LINFLATION does not Granger Cause SENSEX		1.85329	0.21220
LNIFT does not Granger Cause LGDP	17	4.73756	0.02960
LGDP does not Granger Cause LNIFT		1.10636	0.41664
LSENSEX does not Granger Cause LGDP	17	5.33629	0.02159
LGDP does not Granger Cause LSENSEX		5.95093	0.01599
LSENSEX does not Granger Cause LNIFT	17	1.80487	0.22119
LNIFT does not Granger Cause LSENSEX		0.22256	0.91834

Interpretation:

The above table reveals that the Granger Causality Test result which concerns with examining the impact of GDP and Inflation on Indian Stock Market. The reported F-value and P-Value suggest whether that causality between economic variable inflow of Inflation and GDP is their or not. Here, null hypotheses are accepted at 5% significance level for GDP and Inflation not cause for Indian Stock Market but null hypothesis is rejected at 5% significance level for Indian Stock Market is cause for Inflation and GDP, for the period after 2000 and whole period i.e. 2000 to 2021. But for the period before 2000 null hypothesis is accepted it means that neither inflow of GDP and Inflation and Indian Stock Market is not cause for each other, So, it indicate that GDP and Inflation is not help null for the increase in the growth of Indian Stock Market but due to growth of Indian Stock Market and business opportunity available in the Indian market flow of foreign fund came in India in the form of inflow of GDP and Inflation after liberalization of Indian Economy.

CONCLUSION

Market reacts differently to various factors ranging from economic political and socio-cultural. The SENSEX and NIFTY Index of “Bombay Stock Exchange” and “National Stock Exchange” respectively are affected either positively or negatively by a number of factors occurring within the economic system. The report examines the impact of inflation rate (INF) and Gross Domestic Product (GDP) on “SENSEX” and “NIFTY”.

From the data analysis and several test found that macro economic variables affect the stock market so by considering two macro economic variables such as inflation and GDP as a independent variable and SENSEX and NIFTY as a dependent variable found that inflation independent variable is negatively correlated with the both SENSEX and NIFTY index means market moves in same direction. An important findings is that the explanatory variables in the model result is influence on the “SENSEX” and influence on the “NIFTY”.

So conclusively government should implement policies that will reduce inflation rate and poverty level through infrastructure development and improve standard. Also the government should take some necessary step to increase GDP of our country.

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