Relationship Between Stock Prices of Publicly Traded Construction Companies and GDP

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Abstract: - Many scholars from multiple professional and academic disciplines have investigated the various links between the construction industry and economic output. It contains the stock prices of select publicly traded construction and equipment companies can be used to predict GDP also the findings of this study could open opportunities for abandoning the notion of studying the construction industry solely using the health of residential and Infrastructure Development.

Key Words — GDP, Stocks Pries, economic growth.

I. INTRODUCTION

India's growth of real GDP has been high with average growth of 7.5 per cent in the last 5 years (2014-15 onwards). The Indian economy grew at 6.8 per cent in 2018-19, thereby experiencing some moderation in growth when compared to the previous year. This moderation in growth momentum is mainly on account of lower growth in Agriculture & allied, Trade, hotel, transport, storage, communication and services related to broadcasting and Public administration & defense' sectors. Acreage in 2018-19 for the rabbi crop was marginally lower than last year, which affected agricultural performance. The contraction in food prices may have contributed to inducing farmers to produce less. On the demand side, lower growth of GDP in 2018-19 was accounted for, by a decline in growth of government final consumption, change in stocks and contraction in valuables.

A. Gross Domestic Product (GDP)

per capita is the total market values of (final i.e. not intermediate) goods and services produced within nations divided by the total population. Size of Economy of any country is measured through Gross Domestic Products Now-a-days. Indian economy is 9th largest economy in the world by nominal GDP and 3rd largest by PPP (Purchasing Power parity). Construction sector growth is estimated using growth of production of cement and consumption of finished steel. Production of cement and consumption of finished steel grew at 13.3 per cent and 7.5 per cent respectively in 2018-19, higher than their growth rates in 2017-18 and this reflects in higher growth of construction sector in 2018-19.

B. Stock Market

A stock market is also known as a Equity market or share Market Stock market is one of the most important part of economy of the country. It is a one kind of centralized market place in which buyer buy the shares and seller sell the shares, price is determined on the basis of demand and supply of shares.

Bombay Stock Exchange (BSE):

The Indian Stock Market is regulated by SEBI. In India, BSE (Bombay Stock Exchange) is one of the oldest stock exchanges established in 1875. And today, more than 5000 companies are listed on BSE. The main centralized objective of share market is as follows.

- To establish and promote honorable and just practices in security transaction.

- To promote, develop and maintain the well-regulated market in the country.

- To guide, educate and protect the rights and interests of individual investors.

National Stock Exchange (NSE):

NSE was the first exchange in the country to provide a modern, fully automated screen-based electronic trading
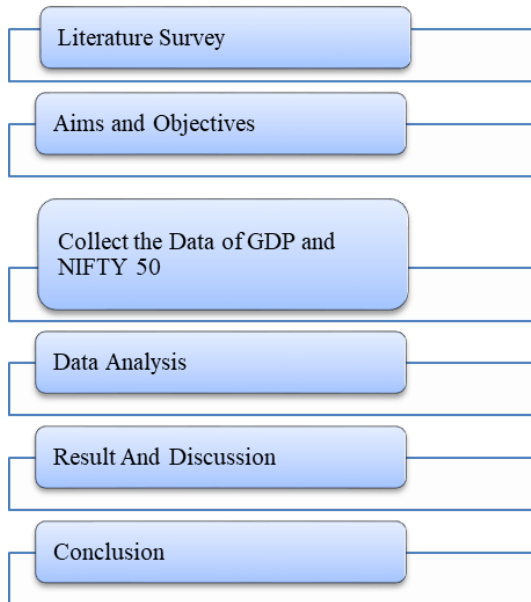
system which offered easy trading facility to the investors spread across the length and breadth of the country. Vikram Limaye is Managing Director & Chief Executive Officer of NSE. National Stock Exchange has a total market capitalization of more than US$2.27 trillion, making it the world's 11th-largest stock exchange as of April 2018. NSE's flagship index, the NIFTY 50, the 50 stock index is used extensively by investors in India and around the world as a barometer of the Indian capital markets. Nifty 50 indexes were launched in 1996 by the NSE.

However, Vaidya Nathan (2016) estimates that only about 4% of the Indian economy / GDP is actually derived from the stock exchanges in India.

II. OBJECTIVES OF STUDY

- To study the Gross Domestic Product (GDP).
- To Study the NIFTY 50.
- To study the Relationship between GDP and NIFTY 50.
- To Study its Effect on Publically traded construction companies.
- To study Correlation and Regression between Nifty 50 And GDP.

III. METHODOLOGY

Literature Survey

Aims and Objectives

Collect the Data of GDP and NIFTY 50

Data Analysis

Result And Discussion

Conclusion

IV. THEORETICAL ASPECT

A. Basics of GDP:

Gross Domestic Product (GDP) is the total monetary or market value of all the finished goods and services produced within 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

Calculation of GDP:

The formula of find out GDP is as under:

$$GDP = C + I + G + (X - M)$$

Where, C = Annual Consumption (Personal Consumer Expenditure)

I = Gross Private Domestic Investment

G = Government Spending

X = Total Amount of Exports

M = Total Amount of Imports (X-M) = Total Net exports (Total Net exports also May Be Negative
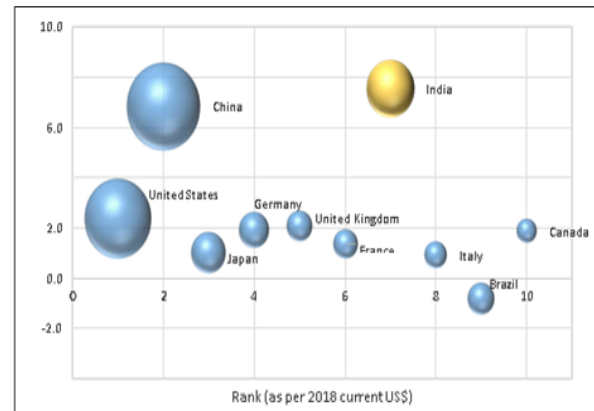

Fig.1. Current scenario of GDP

There are several types of GDP measurements:

- Nominal GDP is the measurement of the raw data.

- Real GDP takes into account the impact of inflation and allows the comparison economic output from one year to the next and other comparisons over time.

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- GDP growth rate is the increase in GDP from quarter to quarter.

- GDP per capita measures GDP per person in the national populace; it is a useful way to compare GDP data between various countries.

B. Basics of NIFTY 50

A stock market is also known as an Equity market or share Market Stock market is one of the most important Part of economy of the country. It is a one kind of centralized market place in which buyer buy the shares and seller sell the shares, price is determined on the basis of demand and supply of shares. The Indian Stock Market is regulated by SEBI. NSE (National Stock Exchange) The main centralized objective of share market is as follows.

- To promote growth and development of industry in a country by way of mobilization of resources and providing liquidity to the country

- To encourage the people to invest their Money in various corporate securities like share, Debentures, Bonds etc.

- To provide efficient communication network.

- To establish and promote honorable and just practices in security transaction.

- To promote, develop and maintain the well-regulated market in the country.

- To guide, educate and protect the rights and interests of individual investors.

V. STATICAL ANALYSIS AND DATA COLLECTION

A. Correlation Analysis

We make use of the linear product-moment correlation coefficient, also known as Pearson's correlation coefficient, to express the strength of the relationship. This coefficient is generally used when variables are of quantitative nature, that is, ratio or interval scale variables.

$$r = \frac{n\sum xy - \sum x \sum y}{\sqrt{\{n\sum x^2 - (\sum x)^2\}\{n\sum y^2 - (\sum y)^2\}}}$$

Where,

n=Number of Values or element
x=first score

y=second score
$\sum xy$=sum of product of first and second score
$\sum x$=sum of first score
$\sum y$=sum of second score
$\sum x^2$=sum of square of first score
$\sum y^2$=sum of square of second score

B. Regression Analysis

In order to make good use of multiple regressions, you must have a basic understanding of the regression model. The basic regression model is

$$y = \beta 0+ \beta 1 x + \beta 2 x +\beta p x p +\varepsilon 1$$

This expression represents the relationship between the dependent variable (DV) and the independent variables (IV's) as a weighted average in which the regression coefficients (β's) are the weights. Unlike the usual weights in a weighted average, it is possible for the regression coefficients to be negative.

C. Construction and Allied sector GDP

The data is collected from RBI for previous 10 years.

Table.1. Construction and Allied sector GDP

Sector	year	Growth rate in %	Share % in GDP	GDP in (Billion)
Construction and Allied sector	2009-10	7	7.9	1884.29
	2010-11	8.1	7.9	1826.46
	2011-12	5.3	7.8	1943
	2012-13	4.3	7.8	1949.86
	2013-14	1.6	7.4	2001.92
	2014-15	4.8	8.1	2087.7
	2015-16	3.9	8.5	2163.33
	2016-17	1.7	8	2191.11
	2017-18	5.7	7.8	2405.05
	2018-19	8.7	8.2	2554.55
	2019-20	4.2	7	2582.75

D. Past NIFTY 50 Records

Table. 2. Past NIFTY 50 Yearly Records

Year	Yearly Open	Yearly High	Yearly Low	Yearly Close
2010	5392.55	5629.01	5217.60	5462.09
2011	5468.14	5609.73	5082.80	5312.67
2012	5305.76	5540.75	5113.06	5410.56
2013	5888.26	6119.99	5674.04	5908.08
2014	7293.62	7589.04	7123.39	7453.50
2015	8331.30	8549.21	7967.10	8292.18
2016	8133.04	8336.94	7825.15	8139.23
2017	9501.90	9788.29	9350.02	9661.41
2018	10818.6	11101.2	10423.1	10826.4
2019	11442.2	11749	11101.5	11534.4

This data is collected on monthly basis for last 10 years and it is converted into yearly because of GDP data is yearly.
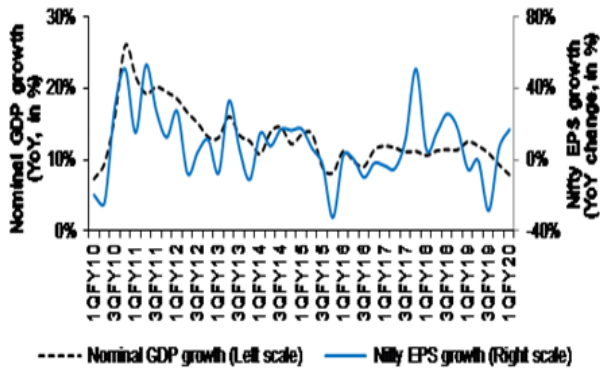

Fig.2. Graphical presentation of GDP vs. NIFTY 50

VI. CONCLUSIONS

From Past 10 years' data for GDP and NIFTY 50 following conclusions are given out:

- From past data we understand and investigate growth rate in GDP, percentage of share in GDP in construction and allied industry.
- From past data we understand about Indian stock market and NSE index.

- Economic performance is measured by GDP of any country and that performance helps in forecasting GDP.
- There are different types of statistical tools used for analysis of data and interpret for the proper analysis of objectives.

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