

## **A STUDY ON MOVEMENT OF MACROECONOMIC INDICATORS AND SHARE PRICE OF SELECTED AUTOMOBILE COMPANIES**

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### **ABSTRACT**

The study focuses on the movement automobile industry's stock price and the investor's investment towards the automobile sector in India. The linkage of stock market with macroeconomic variables has always been an area of interest among investors and policy makers. The Indian stock marketplace is prone to the macroeconomic uncertainty in the country. The automobile industry is a well-known part of the manufacturing sector and considered to be an indicator of economic development of any country. The industry has a strong multiplier effect and is capable of being the driver of economic growth. This study also focuses on performance of selected automobile company's stock. The study includes the effect of macroeconomic indicators on the selected companies listed in Bombay Stock Exchange. The study also shows a significant relationship between macroeconomic indicators and the share price of selected automobile companies. Analysis are made based on the inflation rate, Gross Domestic Product, Gold Rate, Bank rate, Unemployment rate, Dollar rate and trends are shown accordingly.

**Keywords:** Investment, Automobile industry, macroeconomic indicators, Bombay Stock Exchange, Multiplier effect, Share price.

### **INTRODUCTION**

A place where buyers and vendors exchange securities at a price in a secondary market is referred to as Stock Exchange. There are two Stock Exchanges namely Bombay Stock Exchange (BSE) and National Stock Exchange (NSE). Stock exchanges play a vital function in the pooling of capital in emerging countries, leading to the increase of business of the country,

because of liberalized and globalised policies adopted by Indian Government after 1991, New Economic Policy.

The Indian Auto Industry became the 4<sup>th</sup> largest in the world with sales increasing 9.5% every year to 4.02 million units in 2017. It was the 7<sup>th</sup> largest manufacturer of commercial vehicles in 2017. Indian Auto Industry showed excellent growth in FY 2018. The industry is going through major changes in last 3 years in terms of Technology, Regulation, and Customer buying preference, Digital Platform, Electric Vehicle and new product range. The industry registered 11 percent CAGR between FY 2009 to FY 2018. Two wheeler Industry which is having about 80% segment share registered highest Compound annual growth of 11.7%, Passenger vehicle 8.7%, Commercial Vehicle 9.3%, and the Three Wheeler segment registered around 6.9% between FY 2009 to FY 2018.

## **STATEMENT OF PROBLEM**

The performance of the stocks of automobile industry being an important indicator in the functioning of economic system has high impact on the Indian stock market indices. The market prices of the automobile industry's stock are not stagnant and they are affected by various factors. Macroeconomic indicators have significant effect on the stock prices of automobile industry. Investors attempt to forecast the stock price of automobile industry in order to maximize their investment worth, but, are less aware of the economic structure and the indicators influencing the share price of the stocks. An attempt made by the researcher to analyze the impact of macroeconomic indicators on the selected automobile companies listed in the Bombay Stock Exchange.

## **LITERATURE REVIEW**

Fidlizan Muhammad, Mohad Yahya Mohadhussin & Azila Ab Razak (2012)<sup>1</sup> made their study on 'Automobile Sales and Macroeconomic Variables: A Pooled Mean Group Analysis for ASEAN Countries', the objective of this paper is to analyze the impact of economic variables on automobile sales in five ASEAN countries. The long term and short term correlation between these variables are implemented using the panel error-correction model. Result from the test shows that GDP, inflation, unemployment rate and loan rate have significant long term

correlation with automobile sales in these ASEAN countries. On the other hand, each country is influenced by different variables in the short term period.

Kapil jain (2014)<sup>2</sup> made a study on 'Impact of selected macro-economic indicators on sensex'. The study was aimed to analyze the impact of macroeconomic variables on the performance of stock market over the period of time from 2008 to 2013. Performance of stock market has significant relationship with macroeconomic variables like Interest Rate, Inflation Exchange Rate etc. The purpose of the study is to know the relationship of SENSEX with exchange rate, inflation and FII in India and understand its behavior. The coefficient results of Pearson correlation and regression analysis provide a strong positive significant relationship between SENSEX and FII and strong negative relationship between SENSEX and Exchange rate.

Pooja (2015)<sup>3</sup> made a study on 'Analysis on Indian Automobile industry & factors affecting demand of passengers vehicles in India', on the canvas of the Indian economy, auto industry occupies a prominent place. This paper studies relationship between various factors and demand of cars made by different automobile companies. Although there are number of factors that can affect demand of car units but price is most influential factor among them. This paper mainly focuses upon three factors namely-price of commodity, crude oil price, bank rate. Analysis has been done with the help of Karl Pearson's correlation coefficient.

Pooja Misra (2018)<sup>4</sup> undertook a study on 'An investigation of the macroeconomic factors affecting the Indian stock market'. The economic growth of India has positioned it as one of the rapidly growing economies the world over and it is expected to be one of the top three economies globally over the next decade. The objective of this research is to investigate the link that exists, of any, between BSE Sensex and macroeconomic variables such as Index of Industrial production, Inflation, the rate of interest, the price of gold, rate of exchange, FII and supply of money for the period April 1999-March 2017. The analysis through the Vector Error Correction Model confirms that there exists a long-run causality between the macroeconomic variables of IIP, interest rates, gold prices, exchange rate, FII, money supply and BSE sensdex. The results importantly show that BSE Sensex causes changes in the exchange rate and money supply, FII, gold prices and IIP.

## RESEARCH METHODOLOGY

Research Design: It is the combination of both descriptive and analytical method study.

Data collection: The study is completely based on the secondary data mainly collected from website of BSE, newspapers, magazines, research papers etc.

Period of Study: The study period is 5 years from 2013-2018.

Tools used for analysis:

- Trend Analysis
- Correlation

Objective of the study

1. To study the movement of selected macroeconomic indicators and share price of selected automobile companies.
2. To study the relationship between selected automobile companies and macroeconomic indicators.

## DATA ANALYSIS

### TREND ANALYSIS

Trend analysis is a technique used in technical analysis that attempts to predict the share price movements based on recently observed trend data. Trend analysis is based on the idea that what has happened in the past gives traders an idea of what will happen in the future. The trend of inflation rate, GDP, Gold rate, Bank rate, unemployment rate & Dollar rate are analyzed with the help trend analysis.

Table 1.1

Trend analysis of inflation rate from 2013-14 to 2017-18

	YEAR	2013 -14	2014- 15	2015- 16	2016- 17	2017- 18
1.INFLATION RATE	INFLATION RATE	8.24	5.25	4.82	3.89	4.28
	TREND	100	63.71	58.5	47.21	51.94
2.GDP	GDP	2039	2102. 4	2274. 2	2597. 49	2597.4 9
	TREND	100	103.1 1	111.5 4	127.3 9	127.39
3.GOLD RATE	GOLD RATE	2851	2622	2855	2851	3123
	TREND	100	91.97	100.1 4	100	109.54
4.BANK RATE	BANK RATE	10.2 5	10.25	9.7	9.65	9.45
	TREND	100	100	94.63	94.15	92.2
5.UNEMPLOYMENT RATE	UNEMPLOYMEN T RATE	3.41	3.49	3.51	3.52	3.52
	TREND	100	102.3 5	102.9 3	103.2 3	103.23
6. DOLLAR RATE	DOLLAR RATE	61.7 6	62.5	66.25	64.85	65.18
	TREND	100	101.2	107.2 7	105	105.54

## INTERPRETATION

The uptrend and downtrend of Inflation rate was found during the year 2014-15 & 2016-17 respectively with 63.71% & 47.2%. The uptrend and downtrend of GDP was found during the

year 2016-17 & 2014-15 respectively with 127.39% & 103.1%. The uptrend and downtrend of Gold rate was found during the year 2017-18 & 2014-15 respectively with 109.54% & 91.96%. The uptrend and downtrend of Bank rate was found during the year 2014-15 & 2017-18 respectively with 100% & 92.19%. The uptrend and downtrend of Unemployment rate was found during the year 2016-17 & 2014-15 respectively with 103.22% & 102.34%. The uptrend and downtrend of Dollar rate was found during the year 2017-18 & 2014-15 respectively with 105.53% & 101.19%.

## CORRELATION

Correlation is a statistical measure that indicates the extent to which 2 or more variables fluctuate together. The variables are said to correlate when the movement of one variable is accompanied by the movement of another variable. A positive correlation indicates the extent to which those variables increase or decrease in parallel where as a negative correlation indicates the extent to which one variable increases as the other decreases.

## MACROECONOMIC INDICATORS AND SHARE PRICE OF SELECTED COMPANIES

$H_0$ : There is no significant relationship between macroeconomic indicators and share price of selected companies

Table 2.1

Correlation analysis- Macroeconomic indicators and share price of selected companies

Variables	Particulars	Inflation rate	Gross Domestic Product	Gold Rate	Bank Rate	Unemployment Rate	Dollar Rate
1.Bajaj Auto Ltd.	Pearson Correlation	-0.727	0.863	0.314	-0.507	0.640	0.564
	Sig (2 tailed)	0.000	0.000	0.000	0.000	0.000	0.000
2.Hero	Pearson	-0.792	0.892	0.340	-0.464	0.591	0.535

Moto Corp Ltd	correlation						
	Sig (2 tailed)	0.000	0.000	0.000	0.000	0.000	0.000
3.Mahindra & Mahindra Ltd	Pearson correlation	-0.262	0.193	-0.058	0.130	-0.233	-0.075
	Sig (2- tailed)	0.043	0.139	0.658	0.321	0.073	0.571

## INTERPRETATION

1. The Pearson 's correlation result reveals that GDP has high level of positive relationship with Bajaj Auto ltd at 5% level of significance. There is a high level of negative relationship between Bajaj Auto ltd and inflation rate at 5% level of significance.
2. The Pearson's correlation result reveals that there is high level of positive relationship with Hero Motocorp Ltd and GDP at 5% level of significance. There is high level of negative relationship between Hero motocorp and inflation rate at 5% level of significance.
3. The Pearson's correlation result revels that GDP & Bank rate has low level of positive relationship with Mahindra & Mahindra Ltd at 5% level of significance. The inflation rate, unemployment rate, Dollar rate & Gold rate has low level of negative relationship with Mahindra & Mahindra at 5% level of significance.

## FINDINGS

### Trend Analysis

The trend analysis of inflation rate, GDP, Gold rate, Bank rate, Unemployment rate, Dollar rate has shown an uptrend and downtrend within the period of 5 years i.e. from 2013-14 to 2017-18. Gross domestic product had the highest trend of 127.39% during the year 2016-17. In the first quarter of 2018-19 it has grew 8.2% by strong core performance and a healthy base. This is the highest growth in two years and strongest since the first quarter of 2016.

## Correlation

There is significant positive relationship between the selected macroeconomic indicators and the share price of Bajaj Auto Ltd and Hero Motocorp Ltd. Mahindra & Mahindra Ltd shows an negative relationship among the selected macroeconomic indicators and share price.

## SUGGESTIONS

- Investors should analyze the above mentioned macroeconomic indicators before making investment in automobile sector in India. They should evaluate the performance of the automobile companies regularly as the study revealed that the selected macroeconomic indicators have significant effect on the automobile sector.
- Investors should build a diversified portfolio so that the risk is distributed among the selected securities.
- Government should protect investors by maintaining fair, orderly & efficient functioning of the securities market. It should monitor & take necessary decisions in controlling the macroeconomic indicators which influences the share prices of the company.
- Automobile companies should disclose their risk & return analysis clearly in order to make easy for the investors & depositories to analyze and take better investment decisions.

## CONCLUSION

Automobile companies stock ensures its risk on the basis of economic indicators. There may be fluctuations in the share price of automobile companies at times as it is subject to market risk. Therefore, investors should regularly monitor and analyze the economic indicators as well as the company's potential risk & return in the market before making an investment. Automobile companies formulates new policies to protect the interest of investors and acts against the fraudulent activities with respect to stock market..



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### **WEBSITES**

- [www.bseindia.com](http://www.bseindia.com)
- [www.moneycontrol.com](http://www.moneycontrol.com)
- [www.investment.com](http://www.investment.com)
- [www.economictimes.com](http://www.economictimes.com)