

RESEARCH ARTICLE

SEQUEL OUTCOME OF AUTOMOBILE SECTOR ON ACCOUNT OF COVID – 19 THROUGH TECHNICAL ANALYSIS

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ABSTRACT

The COVID – 19 pandemic has deteriorated multiple facets of the stable functioning of economies of most countries. Social restrictions associated with the immediate response to the pandemic has curtailed dynamic functioning of many industries that buttress the economic development of countries. Performance of automotive industries was expected to nosedive following the travel restrictions. One of the major sources of profit for the automotive industries in India is their consumer base in countries like U. K, Germany, and China etc. Severity of the pandemic in these countries entailed trade regulations that propelled a negative trend in the market growth of Indian automotive industries. But the economy of automotive sector of India was saved from a free fall by the countering effect of the domestic demand in private transportation. This paper presents the technical analysis on the Maruti Suzuki Private Limited to measure the stock movement of the Automobile sector in the Indian Stock Market.

Keywords: COVID – 19 pandemic, Indian automotive industries, Maruti Suzuki Private Limited, NSE, Nifty Index, NIFTY 50.

1. INTRODUCTION

Stock Exchange is a place where stock brokers and traders trade stocks, bonds and other securities and often functions as continuous auction. It also facilitates issue and redemption of securities and other capital events including the payment of income and dividends.

Securities traded in a stock exchange include stocks issued by listed companies, unit trusts, derivative, pooled investment products and bonds. National Stock Exchange (NSE) of India is a fast growing stock exchange.

India is the fourth largest automobile market in the world after China, US and Japan. The automobile sector in India contributes to 7.1% of the National GDP. The two wheeler segment with 81% market share is the leader of the Indian Automobile market owing to a growing demand from the financial middle class and young populace. Moreover, the growing interest of companies in exploring the rural demand further aids the growth of the sector. The Passenger Vehicle (PV) segment has 13% market share. India is also a prominent auto exporter and has strong projections for growth in export. In April-March 2016, overall automobile exports grew by 1.91%. Passenger Vehicles, Commercial Vehicles and Two

Wheeler registered a growth of 5.24%, 16.97% & 0.97% respectively in April - March 2016. Government of India and Automobile Companies have taken various initiatives to transform India to be a leader in the Two Wheeler & Four Wheeler market of the world by 2020. But Covid-19 has reached India with a different plan, which scattered the hopes and dreams of Automobile Sector. Still the fear factor of the public towards Covid-19 and more caution towards social distancing kept away them from public transportation, which in turn gradually pushed the Automobile Sector upward after the liberalisation of lockdown. Hopefully, Indian Automobile sector may emerge as one of the leading segments in the stock market as they constitute lucrative and regularly traded stocks. In this paper, we perform technical analysis on the Maruti Suzuki Private Limited to measure the stock movement of the Automobile sector in the Indian Stock Market.

2. PRELIMINARIES

2.1. Intrinsic Value

Intrinsic value is the true value of an asset and is not similar to the current market price. It is the key of fundamental analysis for the investors to assess the stocks.

2.2. Simple Moving Average (SMA)

The Simple Moving Average is simply the average price of stocks over the specified period. A simple moving average (SMA) calculates the average of a selected range of prices, usually closing prices, by the number of periods in that range.

$$SMA = \frac{\sum N}{N}$$

2.3. Exponential Moving Average (EMA)

The Exponential Moving Average is a technical chart indicator that tracks the price of an investment (like a stock or commodity) over time. EMA is calculated as

$$EMA = (\text{Close price} - \text{Previous day EMA}) * (\text{WMA} + \text{Previous day EMA})$$

2.4. Moving Average Convergence and Divergence (MACD)

MACD is about the convergence and divergence of the two moving averages, they converge as they move towards each other and diverge as they move apart. Moving average convergence divergence (MACD) is a trend-following momentum indicator that shows the relationship between two moving averages of a security's price. The MACD is calculated by subtracting the 12-period exponential moving average (EMA) from the 26-period EMA.

$$MACD = 12D EMA - 26D EMA$$

3. TECHNICAL ANALYSIS

Technical analysis seeks to interpret the outcomes in price of stocks examining historical data. It helps traders and investors navigate the gap between intrinsic value and market price by leveraging techniques like statistical analysis and behavioural economics. Technical analysis helps to guide traders to actually find the future prediction of the stocks.

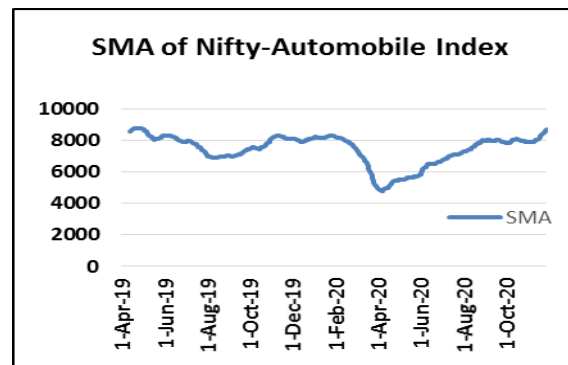
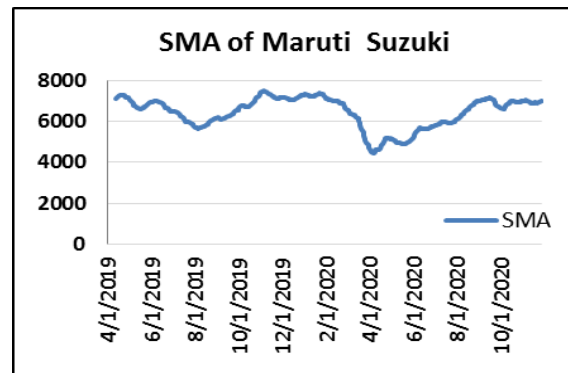
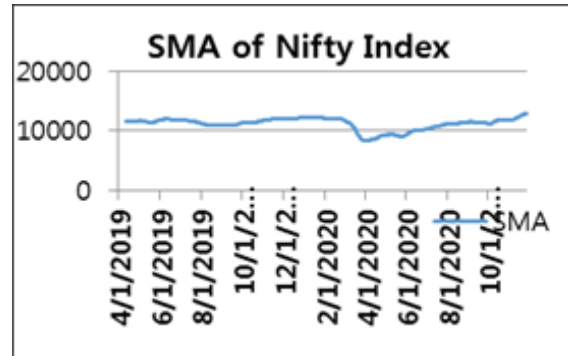
In this section, we will be considering the historical data of the Automobile sector for the current financial years. In particular, we are analyzing the movement of the stocks of the Maruti Suzuki Private Limited. The Nifty Index will hold the base and helps in better understanding the unwavering movement of the stocks, resulted by the Covid-19 pandemic. Frequency analysis, Simple Moving Average (SMA), Exponential Moving Average (EMA) are used to interpret the data and conclude.

3.1. GRAPHICAL REPRESENTATION

The data between 01.04.2019 and 30.12.2020, of the Nifty Index, NIFTY -Automobile Index and the Maruti Suzuki Limited in particular have been collected, and the SMA, EMA and MACD, is interpreted using these technical indicators.

3.1.1. 10D - SMA

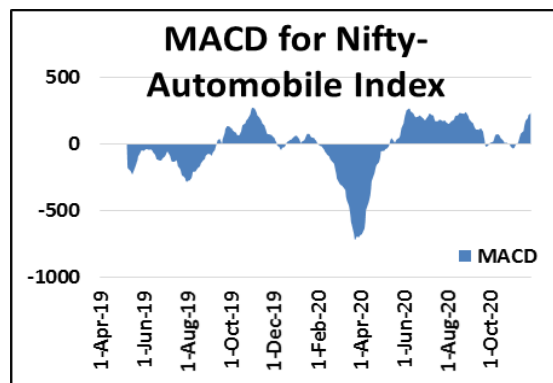
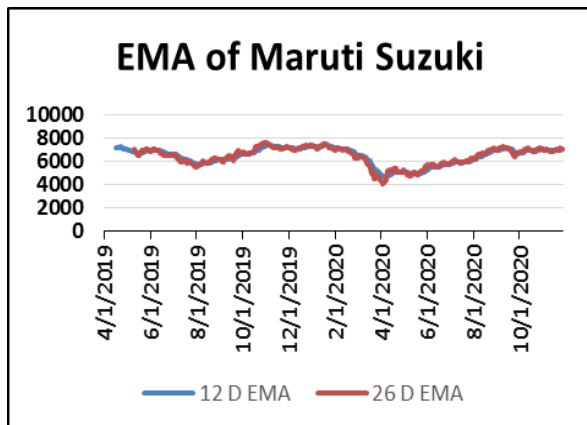
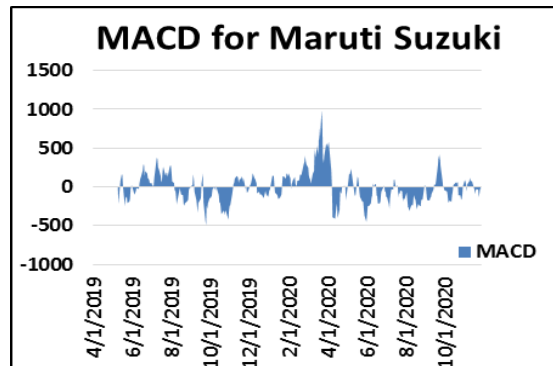
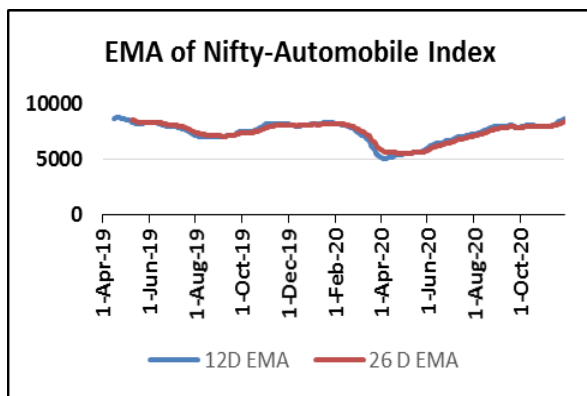
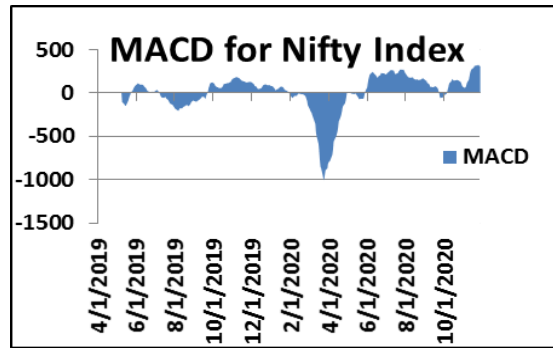
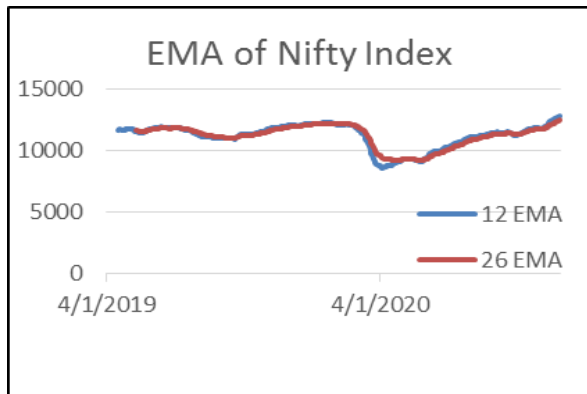
The Simple Moving Average of the NIFTY-Automobile Index, Nifty index and the Maruti Suzuki Limited are depicted below.



3.1.2. 12D EMA & 26D EMA

The Exponential Moving Average of the NIFTY-AUTO, NSE index and the Maruti Suzuki Industries Limited are depicted below.

$$\text{EMA} = (C - \text{YEMA}) * \text{W.M.} + \text{YEMA}$$



3.1.3. MACD

The Moving Average Convergence Divergence of the NIFTY-Automobile Index, Nifty index and the Maruti Suzuki Private Limited are
 $\text{MACD} = 12\text{D EMA} - 26\text{D EMA}$

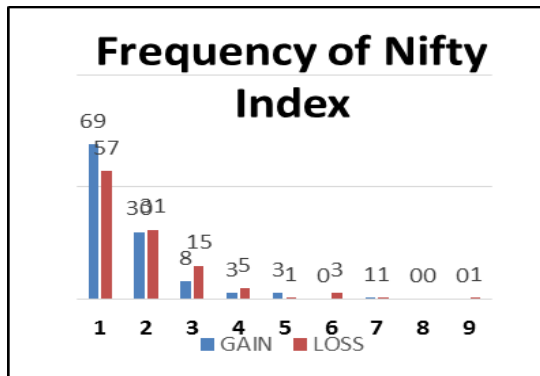
The graphs of MACD for all the three data has been interpreted and hence the result of the behaviour of the stocks is in a more bearish trend particularly in the month of April 2020 for the NIFTY-Automobile Index and Nifty Index, whereas Maruti Suzuki has experienced a bullish trend set during the same time. The pattern holds similar for both NIFTY-Automobile Index and Nifty Index, but it has upward trend set during January 2020- April 2020 for Maruti Suzuki. The reason behind due to the downtrend in Nifty Index and NIFTY-Automobile Index majority is contributed as the immediate impact of the imposition of lockdown and thus the market underwent a downward movement.

We also find that the stocks of both the indices of Nifty Index and NIFTY-Automobile Index show a gradual bullish trend gradually after June 2020, which implicates the cause due to the unavail of the public transport and the Maruti Suzuki were being traded in a bearish trend towards December 2020.

3.1.4. Frequency Table

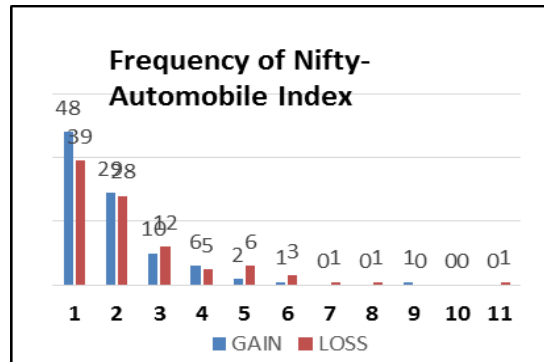
The Frequency Table of the NIFTY-Automobile Index, Nifty index and the Maruti Suzuki Limited are depicted below. The frequency graph for the consecutive Gain and Loss are drawn for the period of lockdown between 01.04.2019 and 30.12.2020.

Frequency Table of Nifty Index		
No. of Days	Gain	Loss
1	69	57
2	30	31
3	8	15
4	3	5
5	3	1
6	0	3
7	1	1
8	0	0
9	0	1
	187	223
	Total	410

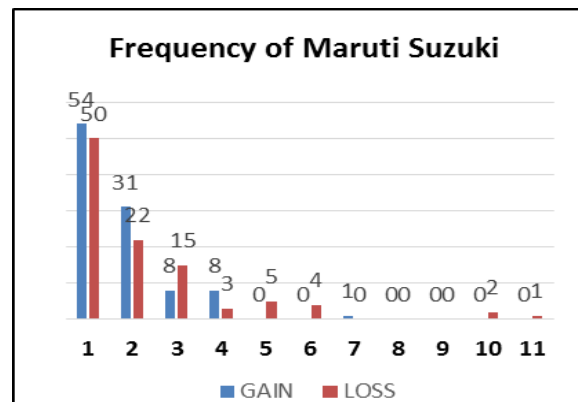


Frequency table of Nifty Automobile Index		
No. of Days	Gain	Loss
1	48	39
2	29	28
3	10	12
4	6	5
5	2	6

6	1	3
7	0	1
8	0	1
9	1	0
10	0	0
11	0	1
	185	225
	Total	410



Frequency Table of Maruti Suzuki		
No. of Days	Gain	Loss
1	54	50
2	31	22
3	8	15
4	8	3
5	0	5
6	0	4
7	1	0
8	0	0
9	0	0
10	0	2
11	0	1
	179	231
	Total	410



The frequency tables and the graph discussed above provide us with a clear understanding of the fluctuating nature of the stock markets. We can see that nearly 50 % of it has been as a to – fro movement between Gain and Loss. The wavering sign is the nature of stocks is usual and holds similar trend set.

The highest gain frequency was found at the rate of 7 consecutive days performed by the Maruti Suzuki during the month of January 2020 and the Nifty Index highest gain frequency of 7 consecutive days in the month of November 2020. The first frequency of the Gain could be due to the serious impact of lockdown regulations imposed and the second frequency of the Loss could be due to the unstandardized economy in the people's livelihood as a deteriorating part of COVID crisis. The frequency of NIFTY-Automobile Index in these months were seen fluctuating at the rate of 1 day and 2 days.

The highest loss frequency can be found at the rate of 11 consecutive days which has also been performed by the NIFTY-Automobile Index and the Maruti Suzuki Private Limited. These frequencies were marked at the months of June and November 2019. Eventually, the wavering of frequency supposed post COVID times, are interpreted as the consequences of lockdown regulations aiming the safety and the reach to private vehicles and the unstable economic regression. The frequency of Nifty Index in these months were seen fluctuating at the rate of 1 day and 2 days.

4. INTERPRETATION

The Covid-19 pandemic is believed to be one of major consequences experienced in the history of mankind, enforcing a step down in the economy across the globe.

The Gross Domestic Product (GDP) growth rate was at a downline edge which further took a steep down as a cause of Covid-19. This pandemic has terminated the growth of various arena due to the restrictions. In context of those suppressed by

this outbreak, the Automobile Index rose out to stand with a more stable performance with a positive sign of improvements. This lockdown has thus impacted the Automobile Index in optimistic line of backup, as a result of the increased demand for the private vehicles to hold safety during the pandemic times and also due to the unavail of public transport. The analysis reflects that the sector has been in an oscillatory movement at the initial stages of lockdown, during the month of April and May. While the Nifty Index has been performing in a current ground progress, the Automobile Index and in particular, the Maruti Suzuki Limited has performed really in an appreciative manner. This merely indicates that there is a relatively high demand for the automobiles during the lockdown.

According to our analysis, we have been at an interpretation that the sector has seen emergence of hike not only in the initial pandemic period, but in the subsequent continuation of days. In fact, we can clearly conclude that the Automobile Index experienced a highly significant volume around the month of April-June and the influential factor is highly due to the impact of regulations of COVID-19 pandemic.

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