

## Ramifications of Goods and Services Tax on the Share Returns of Automobile Companies in India

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### Abstract

The implementation of Goods and Services Tax in India was an important milestone in the history of India's economic reforms. The country had entered a new era of tax reforms and it was surging towards unification of the distorted indirect tax structure which was existent so far. The proponents of GST reiterated that it will end tax terrorism and bring in greater transparency and accountability for all the stakeholders concerned. The introduction of GST has resulted in far reaching impacts on every sector of the Indian Economy. The Automobile industry in India is one of the top and flourishing sectors in the economy. Before the introduction of GST, the automobile sector was reeling under the strain of multiple taxes and high tax rates. After GST, with its mantra of 'One nation, one tax, one market', the automobile sector is expected to benefit with the subsuming of many indirect taxes and cesses. The study is conducted to find out the implications of the implementation of GST on the share returns of selected automobile companies in India. For conducting the analysis, 3 month, 6 month and one year pre and post GST implementation share return data were taken and appropriate statistical tools were applied to find impact of GST on share price return. The study found that in case of the selected companies there was no significant difference in the share returns before and after the implementation of GST. The event analysis also found that GST had no impact even on the day of its implementation.

**Keywords:** GST, Automobile Companies, Share returns, Event Study, India

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### Introduction

After more than a decade of discussions and deliberations, a pioneer reform in taxation was introduced in India. Titled as Goods and Services Tax, this reform ushered in a complete transformation of the way in which indirect taxes were levied in India. The main agenda behind the initiation of this reform was to bring about an era of 'one nation, one market and one tax' and also to gel in with the international style of collecting taxes. The complexities and inefficiencies of previous tax regimes in India (Roychowdhury, 2012) compelled the authorities to convert the decade-long discussion into reality (Arun et al., 2022).

The erstwhile system of taxation was overladen with a number of defects. The shortcomings were primarily characterized by cascading turnover taxes between the centre and states in the federal structure, making the regime less comprehensive (Rao & Chakraborty, 2010). The major central taxes levied included central value added tax, service tax, central sales tax and the countervailing duties while the major state taxes were the state value added tax, entertainment tax and the luxury taxes. At each point of sale, additional taxes were applied to the tax value of the particular good and service (Leemput & Wienczek, 2017). The existence of countless exemptions, multiple rates and the disallowance of tax credit added to the mounting issues of administrative complexities and economic distortions (Kir, 2021).

Designing and implementing a major taxation reform like the goods and services tax in countries with federal constitutional structures is a daunting task (Due, 1990). In developing country federations like India the problems get even more complicated (Bird and Gendron, 2007). India had to wait for nearly more than a decade to roll out this reform primarily due to apprehensions from state governments as regards loss of autonomy with respect to levying taxes. While the union government was expected to compromise 35 percent of its gross tax revenue, the

states had to lose 44 per cent. In order to quell the uncertainty and concern of the state governments, after much deliberations an “Indianized” dual GST was introduced from 2017. It is an internationally proven revenue productive and growth accelerating indirect tax system that prevails in 160 countries (Kumar and Remya 2017). GST is conceived as a destination- based consumption taxation with the Centre and the States simultaneously levying it on a common base.

After having undergone liberalisation in 1991, the enactment of Goods and Service tax was a significant taxation turn around by the Indian Government (Jha,2019). Govinda Rao stated "There is no unique GST and there are different models covering a variety of activities in different countries depending on what is politically acceptable" (Rao 2011). The goods and services tax system seeks to eliminate the anomalies of the multilayered tax system and endeavours to establish cooperation and create a common and undivided Indian market (World Bank Group,2018). It has also ventured to make business processes more efficient by simplifying the tax structure and reducing the number of state and central levies (Nutman et al.,2021).

Stock markets give an inkling about an economy’s performance which is primarily the rationale behind investors, economists and industrialists always observing the stock prices vigilantly. It is also christened as a barometer of a country’s economy (Shafiq & Qureshi, 2022). As the stock market behaviour is highly uncertain, it is extremely difficult to predict its movements. When any news or information, is announced, it rocks the entire system, causing variation in the stock returns.

Announcement of the introduction of Goods and Services Tax was a major event as it attempted to overhaul the deeply flawed and outdated indirect tax system in India. As in the case of any major changes affecting the economic landscape of the country, this announcement was also expected to generate positive as well as negative responses impacting the stock prices of all major sectors in India including the automobile industry.

The Indian automobile industry is one of the largest sectors in the economy and it is the world’s fifth largest automobile market. It was also the seventh largest manufacturer of commercial vehicles in 2019. During the pre-liberalisation era, the number of vehicle manufacturers were very low in India. Post liberalisation, sensing the potential for an upcoming and growing market in India, almost all international car manufacturers have set up their plants in India. The current turnover of automobile sector is Rs. 7.5 Lakh Crores, which is nearly 7% of India’s GDP (Namdev Bandekar Krupa, 2023) . The industry specially caters to the requirements of the low- and middle-income population of the country thus distinguishing itself from automobile industries of other countries. Before the implementation of GST, a number of indirect taxes like excise duty, VAT, road tax, motor vehicle tax was applicable to the automobile sector. With the subsuming of most of these indirect taxes, it is expected that the cost of manufacturing would come down and the benefits thus accrued would be enjoyed by all stakeholders concerned.

It is a widely known that the goods and services tax was a half-baked cake introduced without considering all aspects associated with it (Joseph and Kumary 2021). Substantial changes have been made to it with over 650 notifications made till date. Frequent changes in the law and procedures have hampered the smooth functioning of the system. Technical snags and glitches in the goods and services tax network have added to the heap of problems faced by stakeholders.

The implementation of GST was met with mixed responses with a section of the stakeholders stating that it will bring an era of unprecedented prosperity while the other section voiced opinions contrary to this view point. (Bhattacharjee & Bhattacharya, 2018).

The study therefore tries to explore the impact on share returns of selected automobile companies in India following the aftermath of the introduction of GST.

## **Literature Review and Hypothesis Development**

### *Event Studies*

Event studies have been done to determine the impact of a given event on security prices. They also represent an increasingly popular method to evaluate the welfare effects of economic policy decisions (Beigi & Budzinski, 2013).

### *Studies Based in India*

Event studies done on exploring the impact on stock market returns in the aftermath of GST in India is sparse. However, there are theoretical studies pointing out the impact of GST on various sectors in India. Francis et. al (2024) found that the GST had been a support element for car companies as the rates in taxes were lower than the

previous tax regimes. However, Lapalika et.al (2024) in their study found that many industries were finding it challenging to adhere and cope with the complex GST regulations. Verma et.al (2020) stated that GST created many uncertainties as regards filing of returns and pricing of products as far as various industries were concerned. Khera and Gautam (2019) studied the impact of GST on Indian manufacturing industries and found that it had accentuated the efficacy of supply chains and reduced the tax burden. Krishnan (2018) stated that the biggest advantage of GST to businesses in India is the prospect of stable tax regime. Individual states will not have the power to raise tax rates except through consensus in GST council which in turn would require three-fourth majority. The stable tax regime would also make India an attractive destination for foreign investment. Sury (2017) stated that GST would mitigate the ill effects of cascading and pave the way for a common national market. Lourunathan (2016) in his study forecasted that GST will give huge relief to the producers and consumers by providing input tax credit set off and the subsuming of taxes. He stated that the Governments at the Central and State level will enjoy resource and revenue gain through the widening of tax base and improvement in tax compliance.

#### ***Studies Based outside India***

A few studies have been conducted to evaluate the consequences of the impact of GST implementation on the stock market prices or the stock market Index. Haron & Ayojimi (2019) examined the impact on the Malaysian stock market index in the wake of the introduction of GST. The study revealed that the stock markets were highly volatile post the announcement of GST throwing light on the fact that the educative initiatives taken by the government were not successful. Lee et.al (2018) investigated the repercussions in Bursa Malaysia and Australian Securities Exchange after the imposition of GST on fee based financial services. The study revealed that informational efficiency was significantly reduced in Bursa Malaysia but it remained intact for Australian Securities Exchange.

Therefore the study aims at finding out the impact of an event, in this case, the introduction of GST on the stock returns of automobile companies in India. The research design of the study is exploratory in nature.

#### **Objective of the Study**

To analyse the impact of GST on the share returns of selected automobile companies of NSE.

#### **Hypothesis of the Study**

There is no significant difference in the share returns of selected automobile companies of NSE during pre and post GST implementation.

#### **Method**

The present study is based on secondary data. Top five automobile companies based on the market capitalization were selected to constitute the sample. The data required for the study were collected from official websites like nseindia.com. Paired sample T-test was used to study the impact of pre and post GST implementation on share returns of selected automobile companies. GST was implemented in India on 01/07/2017. The analysis period taken for the study is presented below

| Analysis Period   | Pre GST Implementation | Post GST Implementation |
|-------------------|------------------------|-------------------------|
| 3 Months Analysis | April to June 2017     | July to September 2017  |
| 6 Months Analysis | January to June 2017   | July to December 2017   |
| 1 Year analysis   | July 2016 to June 2017 | July 2017 to June 2018  |

**Data Analysis** An event study was undertaken to analyse the impact of GST implementation on selected automobile companies in India.

#### **Bajaj Auto Ltd**

**TABLE 1 : Event Study Analysis of Bajaj Auto Ltd**

| MONTHS | ACTUAL RETURNS | EXPECTED RETURN | ABNORMAL RETURN (AR) | T value AR |
|--------|----------------|-----------------|----------------------|------------|
| -12    | 0.584          | -0.033          | 0.617                | 0.1012     |
| -11    | 9.824          | 3.123           | 6.701                | 1.09833    |
| -10    | -5.120         | 0.178           | -5.299               | -0.8685    |
| -9     | 0.870          | -2.323          | 3.193                | 0.5234     |
| -8     | -6.252         | -2.363          | -3.888               | -0.6373    |

|    |         |        |         |          |
|----|---------|--------|---------|----------|
| -7 | -1.876  | -1.817 | -0.059  | -0.00977 |
| -6 | 7.456   | -0.536 | 7.992   | 1.3101   |
| -5 | -2.841  | -2.477 | -0.364  | -0.0596  |
| -4 | 1.769   | 0.571  | 1.198   | 0.1964   |
| -3 | 2.261   | -3.122 | 5.383   | 0.8824   |
| -2 | -0.971  | 1.676  | -2.647  | -0.4339  |
| -1 | -1.897  | 1.018  | -2.915  | -0.4778  |
| 0  | 0.611   | 3.586  | -2.975  | -0.4876  |
| 1  | 0.030   | -0.088 | 0.118   | 0.01938  |
| 2  | 10.139  | 1.632  | 8.506   | 1.3942   |
| 3  | 4.769   | 3.269  | 1.501   | 0.2459   |
| 4  | 1.573   | -2.994 | 4.568   | 0.7487   |
| 5  | 0.346   | -2.127 | 2.473   | 0.4054   |
| 6  | 0.468   | 3.854  | -3.386  | -0.5550  |
| 7  | -10.075 | 0.299  | -10.374 | -1.7004  |
| 8  | -9.365  | 0.196  | -9.561  | -1.5672  |
| 9  | 16.517  | 3.583  | 12.934  | 2.1199   |
| 10 | -4.384  | 1.646  | -6.030  | -0.9884  |
| 11 | -0.017  | -3.817 | 3.799   | 0.6227   |
| 12 | -5.053  | -2.219 | -2.833  | -0.4644  |

Source: Computed by the researcher. (T-table value @ 5% =1.96)

### Finding and Interpretation

Table 1 shows the event study analysis of Bajaj Auto Ltd one year before and one year after the implementation of GST. On the day of the event 'T', value of abnormal return is -0.487 which is less than the 'T' table value 1.96. Hence, the null hypothesis is not rejected and it can be concluded that there is no abnormal return for Bajaj Auto Ltd. on the date of the event.

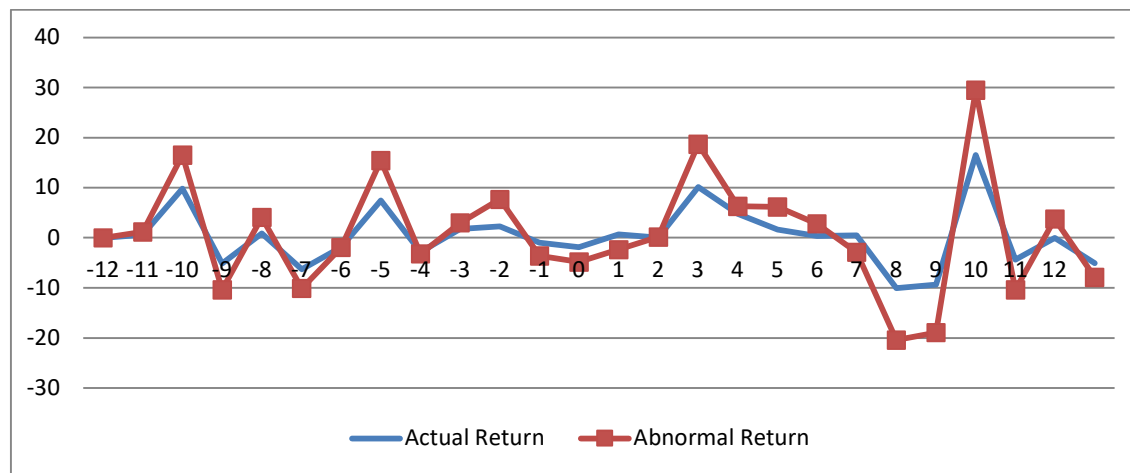


Chart 1: Bajaj Auto Ltd

Chart 1 represents the actual return and the abnormal return of Bajaj Auto Ltd during twelve months before and 12 months after the implementation of GST. There are twelve positive, eleven negative and two zeros during the event study. Hence it can be concluded that during the event study window, the abnormal return showed fluctuating trends.

|                                                           |    |                     |                     |
|-----------------------------------------------------------|----|---------------------|---------------------|
| Table 2 : Bajaj Auto (t-Test Paired Two Sample for Means) | Df | P(T<=t)<br>Two tail | Result              |
|                                                           | 2  | 0.22275             | H0 failed to reject |
|                                                           | 5  | 0.04463             | H0 rejected         |
|                                                           | 11 | 0.972016            | H0 failed to reject |

| t-Test Paired<br>Two Sample for Means | Mean                           | Variance | Observations | Pearson<br>Correlation |
|---------------------------------------|--------------------------------|----------|--------------|------------------------|
| 3 months pre and post<br>GST analysis | Change in return before<br>GST |          |              | -0.39839               |
|                                       | -0.752                         | 1.608    | 3            |                        |
|                                       | Change in return<br>after GST  |          |              |                        |
| 6 months pre and post<br>GST analysis | Change in return before<br>GST |          |              | 0.73468                |
|                                       | 4.979                          | 25.582   | 3            |                        |
|                                       | Change in return<br>after GST  |          |              |                        |
|                                       | -0.1780                        | 4.208    | 6            |                        |
| 1 year pre and post<br>GST analysis   | Change in return before<br>GST |          |              | -0.01392               |
|                                       | 2.880                          | 15.666   | 12           |                        |
|                                       | Change in return<br>after GST  |          |              |                        |
|                                       | 0.3194                         | 21.975   | 12           |                        |
|                                       | Change in return<br>after GST  |          |              |                        |
|                                       | 0.412                          | 57.559   |              |                        |

From table 2, it is seen that, the p value of share return for three months pre and post implementation of GST is 0.2275. Hence the null hypothesis is not rejected and it is concluded that there is no significant difference in the share returns of Bajaj auto Ltd. during the three months of pre and post GST implementation periods. The p value of share return for six months pre and post implementation of GST is 0.04463. The null hypothesis is rejected in this case and it is concluded that there is a significant difference in the share returns of Bajaj auto Ltd. during the six months of pre and post GST implementation periods. For the one year analysis, the p value is 0.972016 and hence it is concluded that there is no significant difference in the share returns of Bajaj auto Ltd. during one year of pre and post GST implementation.

#### Eicher Motor Ltd.

**Table 3: Event Study of Eicher Motor Ltd.**

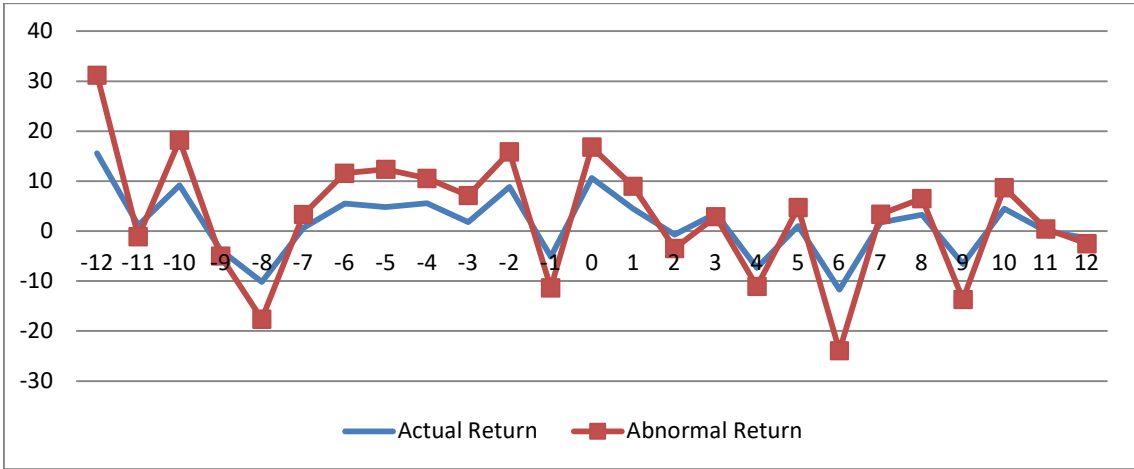
| MONTHS | ACTUAL RETURNS | EXPECTED RETURN | ABNORMAL<br>(AR) | RETURN | T value<br>AR |
|--------|----------------|-----------------|------------------|--------|---------------|
| -12    | 15.585         | -0.045          | 15.631           |        | 2.3717        |
| -11    | 1.181          | 3.480           | -2.299           |        | -0.3489       |
| -10    | 9.176          | 0.191           | 8.985            |        | 1.3633        |
| -9     | -3.792         | -2.602          | -1.190           |        | -0.1806       |
| -8     | -10.146        | -2.647          | -7.498           |        | -1.1377       |
| -7     | 0.628          | -2.037          | 2.666            |        | 0.4045        |
| -6     | 5.465          | -0.606          | 6.072            |        | 0.9213        |
| -5     | 4.795          | -2.774          | 7.569            |        | 1.1486        |
| -4     | 5.572          | 0.630           | 4.942            |        | 0.7499        |
| -3     | 1.815          | -3.494          | 5.309            |        | 0.8056        |

|    |         |        |         |         |
|----|---------|--------|---------|---------|
| -2 | 8.854   | 1.864  | 6.989   | 1.0605  |
| -1 | -5.114  | 1.129  | -6.243  | -0.9474 |
| 0  | 10.621  | 4.465  | 6.155   | 0.9340  |
| 1  | 4.439   | -0.126 | 4.565   | 0.6927  |
| 2  | -0.716  | 2.024  | -2.741  | -0.4159 |
| 3  | 3.491   | 4.068  | -0.578  | -0.0877 |
| 4  | -7.411  | -3.758 | -3.652  | -0.5542 |
| 5  | 1.027   | -2.674 | 3.701   | 0.5616  |
| 6  | -11.689 | 0.537  | -12.227 | -1.8553 |
| 7  | 1.7381  | 0.0934 | 1.644   | 0.2495  |
| 8  | 3.284   | 0.0804 | 3.203   | 0.4861  |
| 9  | -6.608  | 0.5037 | -7.112  | -1.0791 |
| 10 | 4.475   | 0.261  | 4.213   | 0.6392  |
| 11 | 0.015   | -0.421 | 0.436   | 0.0662  |
| 12 | -1.426  | -0.316 | -1.111  | -0.1684 |

Source: Computed by the researcher. (T-table value @ 5% =1.96)

Finding and Interpretation

Table 3 shows the event study analysis of Eicher Motor Ltd one year before and one year after the implementation of GST. On the day of the event ‘T’, value of abnormal return is 0.934 which is less than the ‘T’ table value 1.96. Hence, the null hypothesis is not rejected and it can be concluded that there is no abnormal return for Eicher Motor Ltd.on the date of the event.



**Chart 2: Eicher Motor Ltd**Chart 2 represents the actual return and the abnormal return of Eicher Motor Ltd twelve months before and 12 months after the implementation of GST. There are fifteen positive, eight negative and two zero abnormal returns during the event study window. Hence it can be concluded that the abnormal return showed fluctuating trend during the event window.

| Table 4 : Eicher Motors Ltd. (t-Test Paired Two Sample for Means ) |    |                  |                     |  |  |
|--------------------------------------------------------------------|----|------------------|---------------------|--|--|
| Pearson Correlation                                                | Df | P(T<=t) Two tail | Result              |  |  |
| 0.96205                                                            | 2  | 0.56423          | H0 failed to reject |  |  |
| -0.68632                                                           | 5  | 0.225166         | H0 failed to reject |  |  |
| 0.16396                                                            | 11 | 0.166358         | H0 failed to reject |  |  |

| t-Test Paired<br>Two Sample for Means | Mean                           | Variance | Observations |
|---------------------------------------|--------------------------------|----------|--------------|
| 3 months pre and post<br>GST analysis | Change in return before<br>GST | 74.302   | 3            |
|                                       | Change in return<br>after GST  |          |              |
| 6 months pre and post<br>GST analysis | Change in return before<br>GST | 7.5310   | 3            |
|                                       |                                |          | 6            |
|                                       | Change in return<br>after GST  | 31.452   | 6            |
|                                       |                                |          |              |
| 1 year pre and post<br>GST analysis   | Change in return before<br>GST | 41.074   | 12           |
|                                       | Change in return<br>after GST  | 39.7748  | 12           |
|                                       |                                |          |              |
|                                       |                                | 27.0206  |              |

From table 4, it is seen that the p value of share return for all the three periods i.e three months, six months and one year pre and post implementation of GST is greater than 0.05. Hence it is concluded that there is no significant difference in the share return of Eicher Motor Ltd. pre and post implementation of GST.

#### Hero Motocorp Ltd.

**Table 5: Event Study of Hero Motocorp Ltd.**

| MONTHS | ACTUAL RETURNS | EXPECTED<br>RETURN | ABNORMAL<br>(AR) | RETURN | T value<br>AR |
|--------|----------------|--------------------|------------------|--------|---------------|
| -12    | 0.801          | -0.091             | 0.893            |        | 0.1916        |
| -11    | 10.107         | 4.855              | 5.252            |        | 1.1274        |
| -10    | -3.825         | 0.241              | -4.065           |        | -0.8726       |
| -9     | -1.943         | -3.680             | 1.737            |        | 0.3728        |
| -8     | -5.514         | -3.743             | -1.771           |        | -0.3801       |
| -7     | 3.477          | -2.886             | 6.364            |        | 1.3661        |
| -6     | -3.154         | -0.877             | -2.277           |        | -0.4888       |
| -5     | -1.401         | -3.918             | 2.517            |        | 0.5402        |
| -4     | 2.794          | 0.858              | 1.936            |        | 0.4156        |
| -3     | 3.239          | -4.929             | 8.169            |        | 1.7534        |
| -2     | 11.686         | 2.589              | 9.096            |        | 1.9524        |
| -1     | -1.239         | 1.558              | -2.797           |        | -0.6005       |
| 0      | -1.159         | 0.469              | -1.628           |        | -0.3496       |
| 1      | 8.996          | 0.0474             | 8.949            |        | 1.9209        |
| 2      | -5.577         | 0.245              | -5.823           |        | -1.2498       |
| 3      | 1.926          | 0.433              | 1.493            |        | 0.3204        |
| 4      | -5.669         | -0.286             | -5.382           |        | -1.1552       |
| 5      | 3.877          | -0.186             | 4.064            |        | 0.8723        |
| 6      | -2.532         | 0.499              | -3.032           |        | -0.6509       |
| 7      | -2.497         | 0.091              | -2.588           |        | -0.5555       |

|    |        |        |        |         |
|----|--------|--------|--------|---------|
| 8  | -1.541 | 0.079  | -1.619 | -0.3477 |
| 9  | 0.677  | 0.468  | 0.208  | 0.0448  |
| 10 | 1.503  | 0.245  | 1.256  | 0.2697  |
| 11 | -2.164 | -0.382 | -1.782 | -0.3826 |
| 12 | -1.504 | -0.285 | -1.218 | -0.2615 |

Source: Computed by the researcher. (T-table value @ 5% =1.96)

### Finding and Interpretation

Table 5 shows the event study analysis of Hero Motocorp Ltd one year before and one year after the implementation of GST. On the day of the event 'T', value of abnormal return is -0.349 which is less than the 'T' table value 1.96. Hence, the null hypothesis is not rejected and it can be concluded that there is no abnormal return for Hero Motocorp Ltd on the date of the event.

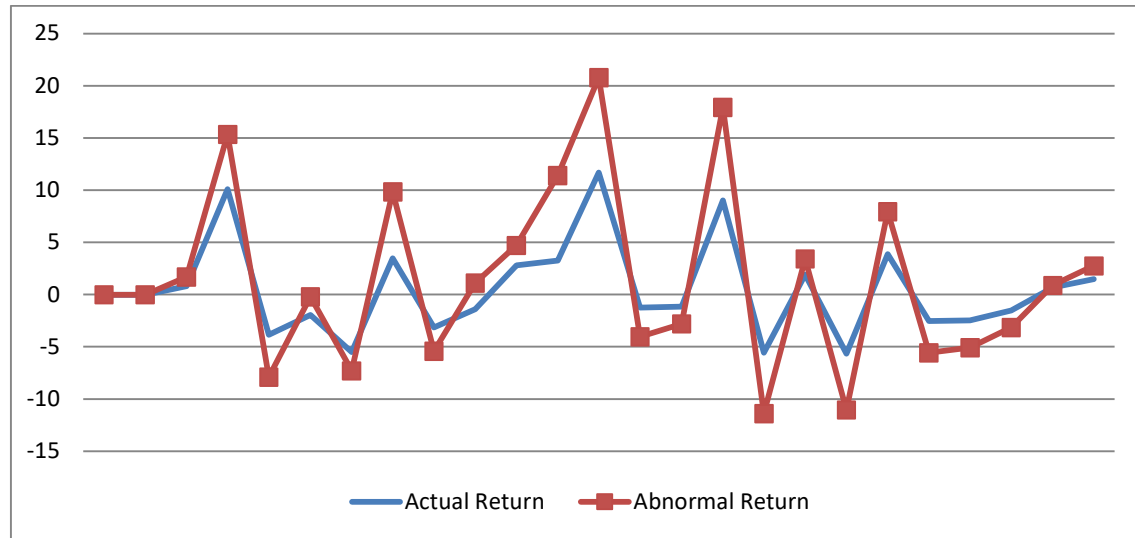


Chart 3: Hero Motocorp Ltd

Chart 3 represents the actual return and the abnormal return of Hero Motocorp Ltd twelve months before and 12 months after the implementation of GST. There are twelve positive, ten negative and three zero abnormal returns during the event window. Hence it can be concluded that the abnormal return showed fluctuating trend during the event window.

| Table 6 : Hero MotoCorp (t-Test Paired Two Sample for Means ) |                     |    |                  |                     |  |
|---------------------------------------------------------------|---------------------|----|------------------|---------------------|--|
| Observations                                                  | Pearson Correlation | Df | P(T<=t) Two tail | Result              |  |
| 3                                                             | 0.86007             | 2  | 0.618407         | H0 failed to reject |  |
| 3                                                             |                     |    |                  |                     |  |
| 6                                                             | -0.62963            | 5  | 0.614522         | H0 failed to reject |  |
| 6                                                             |                     |    |                  |                     |  |
| 12                                                            | 0.77890             | 11 | 0.161015         | H0 failed to reject |  |
| 12                                                            |                     |    |                  |                     |  |



| t-Test Paired<br>Two Sample for Means | Mean                           | Variance |
|---------------------------------------|--------------------------------|----------|
| 3 months pre and post<br>GST analysis | Change in return before<br>GST | 55.3459  |
|                                       | Change in return<br>after GST  | 3.0959   |
| 6 months pre and post<br>GST analysis | Change in return before<br>GST | 53.1213  |
|                                       | Change in return<br>after GST  | 2.3201   |
| 1 year pre and post<br>GST analysis   | Change in return before<br>GST | 33.8365  |
|                                       | Change in return<br>after GST  | 1.0890   |
|                                       |                                | 28.9561  |
|                                       |                                | -0.3755  |
|                                       |                                | 16.9038  |

From table 6, it is seen that the p value of share return for all the three periods i.e. three months, six months and one year pre and post implementation

of GST is greater than 0.05. Hence it is concluded that there is no significant difference in the share return of Hero Motocorp Ltd. pre and post implementation of GST.

#### Mahindra and Mahindra Ltd

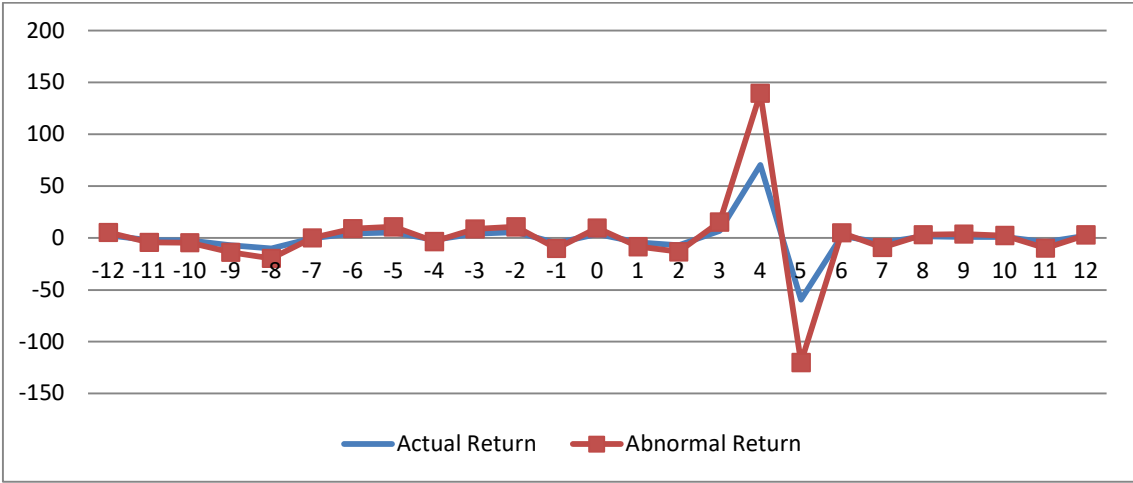
**Table 7: Event Study of Mahindra and Mahindra Ltd.**

| MONTHS | ACTUAL RETURNS | EXPECTED RETURN | ABNORMAL<br>(AR) | RETURN | T value<br>AR |
|--------|----------------|-----------------|------------------|--------|---------------|
| -12    | 2.621          | 0.057           | 2.564            |        | 0.129881      |
| -11    | -1.989         | 0.453           | -2.442           |        | -0.12374      |
| -10    | -2.254         | 0.083           | -2.337           |        | -0.11841      |
| -9     | -7.011         | -0.2302         | -6.781           |        | -0.34349      |
| -8     | -10.005        | -0.235          | -9.770           |        | -0.4949       |
| -7     | -0.126         | -0.1667         | 0.0401           |        | 0.0021        |
| -6     | 4.531          | -0.0104         | 4.5412           |        | 0.2300        |
| -5     | 5.311          | -0.2539         | 5.564            |        | 0.2818        |
| -4     | -1.717         | 0.1284          | -1.845           |        | -0.0934       |
| -3     | 4.199          | -0.3348         | 4.534            |        | 0.2296        |
| -2     | 5.556          | 0.2671          | 5.289            |        | 0.2679        |
| -1     | -4.972         | 0.1845          | -5.156           |        | -0.2612       |
| 0      | 3.953          | -1.645          | 5.599            |        | 0.2836        |
| 1      | -4.169         | 0.1393          | -4.308           |        | -0.2182       |
| 2      | -7.0069        | -0.6967         | -6.310           |        | -0.3196       |
| 3      | 7.0254         | -1.491          | 8.517            |        | 0.4314        |
| 4      | 70.534         | 1.551           | 68.982           |        | 3.4942        |
| 5      | -59.487        | 1.129           | -60.617          |        | -3.0705       |
| 6      | 1.637          | -1.777          | 3.415            |        | 0.1729        |
| 7      | -4.651         | -0.0503         | -4.6013          |        | -0.2330       |
| 8      | 1.558          | -0.0001         | 1.559            |        | 0.0789        |
| 9      | 1.0482         | -1.645          | 2.694            |        | 0.1364        |
| 10     | 0.825          | -0.704          | 1.530            |        | 0.0775        |
| 11     | -3.948         | 1.949           | -5.898           |        | -0.2987       |
| 12     | 2.182897       | 1.542           | 0.641            |        | 0.0324        |

**Source:** Computed by the researcher. (T-table value @ 5% =1.96)**inding and Interpretation**

Table 7 shows the event study analysis of Mahindra and Mahindra Ltd one year before and one year after the implementation of GST. On the day of the event 'T', value of abnormal return is 0.283 which is more than the 'T' table value 1.96. Hence, the null hypothesis is rejected and it can be concluded that there is an abnormal return

for Mahindra and Mahindra Ltd.on the date of the event.



**Chart 4: Mahindra and Mahindra Ltd**Chart 4 represents the actual return and the abnormal return of Mahindra and Mahindra Ltd twelve months before and 12 months after the implementation of GST. There are nine positive and eight negative and eight zero abnormal returns during the event window. Hence it can be concluded that the abnormal return neither showed a positive nor a negative trend.

| Table 8 : Mahindra & Mahindra Ltd. (t-Test Paired Two Sample for Means ) |           |              |                     |    |                  |                     |
|--------------------------------------------------------------------------|-----------|--------------|---------------------|----|------------------|---------------------|
| Mean                                                                     | Variance  | Observations | Pearson Correlation | Df | P(T<=t) Two tail | Result              |
| 1.5126                                                                   | 32.1807   | 3            | 0.54325             | 2  | 0.517662         | H0 failed to reject |
| -1.3835                                                                  | 55.0469   | 3            |                     |    |                  |                     |
| 2.0552                                                                   | 18.9345   | 6            | 0.77045             | 5  | 0.969255         | H0 failed to reject |
| 1.4223                                                                   | 1724.0264 | 6            |                     |    |                  |                     |
| -0.3771                                                                  | 27.0149   | 12           | -0.43844            | 11 | 0.926280         | H0 failed to reject |
| 0.4624                                                                   | 788.7190  | 12           |                     |    |                  |                     |

| t-Test Paired<br>Two Sample for Means | Change in return before<br>GST        | Change in return<br>after GST | Change in return before<br>GST        | Change in return<br>after GST | Change in return before<br>GST      | Change in return<br>after GST |
|---------------------------------------|---------------------------------------|-------------------------------|---------------------------------------|-------------------------------|-------------------------------------|-------------------------------|
|                                       | 3 months pre and post<br>GST analysis |                               | 6 months pre and post<br>GST analysis |                               | 1 year pre and post<br>GST analysis |                               |

From table 8, it is seen that the p value of share return for all the three periods i.e three months, six months and one year pre and post implementation of GST is greater than 0.05. Hence it is concluded that no significant difference in the share return of Mahindra and Mahindra Ltd. pre and post implementation of GST.

#### Maruthi Suzuki India Ltd.

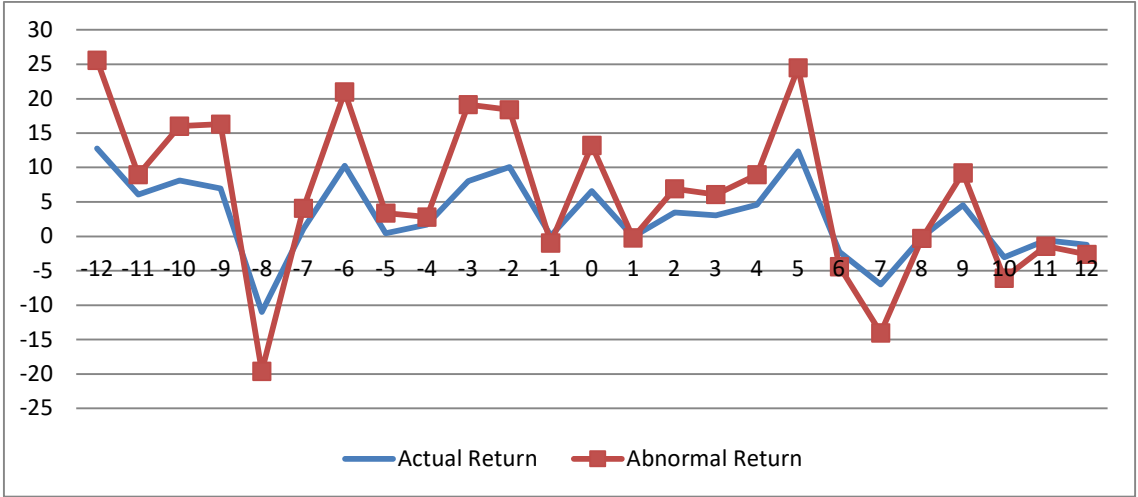
**Table 9: Event Study of Maruthi Suzuki India Ltd.**

| MONTHS | ACTUAL RETURNS | EXPECTED RETURN | ABNORMAL RETURN (AR) | T value AR |
|--------|----------------|-----------------|----------------------|------------|
| -12    | 12.769         | -0.034          | 12.803               | 2.1772     |
| -11    | 6.067          | 3.156           | 2.910                | 0.4949     |
| -10    | 8.104          | 0.179           | 7.924                | 1.3475     |
| -9     | 6.979          | -2.349          | 9.328                | 1.5863     |
| -8     | -10.997        | -2.389          | -8.607               | -1.4636    |
| -7     | 1.125          | -1.837          | 2.962                | 0.5037     |
| -6     | 10.232         | -0.542          | 10.775               | 1.8322     |
| -5     | 0.445          | -2.504          | 2.951                | 0.5017     |
| -4     | 1.698          | 0.576           | 1.1218               | 0.1907     |
| -3     | 7.991          | -3.156          | 11.148               | 1.8957     |
| -2     | 10.0431        | 1.693           | 8.349                | 1.4197     |
| -1     | 0.0415         | 1.0284          | -0.986               | -0.1678    |
| 0      | 6.568          | -0.0874         | 6.656                | 1.1318     |
| 1      | -0.0707        | 0.0716          | -0.1423              | -0.0242    |
| 2      | 3.453          | -0.0029         | 3.456                | 0.5877     |
| 3      | 3.0137         | -0.0737         | 3.0875               | 0.5250     |
| 4      | 4.581          | 0.1975          | 4.383                | 0.7454     |
| 5      | 12.332         | 0.159           | 12.172               | 2.0698     |
| 6      | -2.257         | -0.1002         | -2.157               | -0.3668    |
| 7      | -6.975         | 0.0538          | -7.028               | -1.1952    |
| 8      | -0.112         | 0.0582          | -0.171               | -0.0291    |
| 9      | 4.565          | -0.088          | 4.654                | 0.7914     |
| 10     | -3.0301        | -0.0045         | -3.025               | -0.5145    |
| 11     | -0.6001        | 0.2320          | -0.832               | -0.1415    |
| 12     | -1.196         | 0.196           | -1.392               | -0.2368    |

Source: Computed by the researcher. (T-table value @ 5% =1.96)

Finding and Interpretation

Table 9 shows the event study analysis of Maruthi Suzuki India Ltd one year before and one year after the implementation of GST. On the day of the event ‘T’, value of abnormal return is 1.131 which is less than the ‘T’ table value 1.96. Hence, the null hypothesis is not rejected and it can be concluded that there is no abnormal return for Maruthi Suzuki India Ltd.on the date of the event.



**Chart 5: Maruthi Suzuki India Ltd**Chart 5 represents the actual return and the abnormal return of Maruthi Suzuki India Ltd twelve months before and 12 months after the implementation of GST. There are sixteen positive and seven negative and two abnormal returns during the event window. Hence it can be concluded that the abnormal return showed fluctuating trend during the event window.

| Table 10 : Maruti Suzuki India Ltd. (t-Test Paired Two Sample for Means ) |          |              |                     |    |                  |                     |
|---------------------------------------------------------------------------|----------|--------------|---------------------|----|------------------|---------------------|
| Mean                                                                      | Variance | Observations | Pearson Correlation | Df | P(T<=t) Two tail | Result              |
| 5.5511                                                                    | 25.7842  | 3            | -0.83464            | 2  | 0.473624         | H0 failed to reject |
| 2.1321                                                                    | 3.6879   | 3            |                     |    |                  |                     |
| 4.4648                                                                    | 18.2705  | 6            | -0.30268            | 5  | 0.767520         | H0 failed to reject |
| 3.5087                                                                    | 25.0625  | 6            |                     |    |                  |                     |
| 4.0251                                                                    | 35.8781  | 12           | -0.22087            | 11 | 0.266645         | H0 failed to reject |
| 1.1419                                                                    | 24.0017  | 12           |                     |    |                  |                     |

| t-Test Paired<br>Two Sample for Means | 3 months pre and post<br>GST analysis |                               | 6 months pre and post<br>GST analysis |                               | 1 year pre and post<br>GST analysis |                               |
|---------------------------------------|---------------------------------------|-------------------------------|---------------------------------------|-------------------------------|-------------------------------------|-------------------------------|
|                                       | Change in return before<br>GST        | Change in return<br>after GST | Change in return before<br>GST        | Change in return<br>after GST | Change in return before<br>GST      | Change in return<br>after GST |

From table 10, it is seen that the p value of share return for all the three periods i.e three months, six months and one year pre and post implementation of GST is greater than 0.05. Hence it is concluded that there is no significant difference in the share return of Maruthi Suzuki India Ltd. pre and post implementation of GST.

### Discussion and Implications

The study was conducted to analyse whether the implementation of GST would impact the share returns of selected automobile companies in India. The study found that in case of the selected companies there was no significant difference in the share returns before and after the implementation of GST. The event analysis also found that GST had no impact even on the day of its implementation. Even though there was significant difference in the return of one of the selected companies for the pre and post period of six months of GST, it can be concluded that GST itself cannot be the reason since no other companies had shown a significant difference for the same window period. Thus GST can be said to be the “Game Changer of the Economy” as a whole but it is not so in the case of the selected companies in the Automobile Sector.

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