Impact of GST on Seven Selected Sectorial Indices of BSE

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Abstract: Abstract: *From its very inception, GST has been a matter of much debate throughout the world. The term "Goods and Services tax" was first introduced in France in the year 1954 and since then it has spread its wings to about 160 countries and has now knocked on the taxation system of India.*
Objective: *This paper discusses the event Goods and Service Tax enforcement in the Indian economy and how it has an impact on the stock indices of the automobile, banking, FMCG, healthcare and manufacturing sector, stock indices are pertaining to Bombay Stock Exchange.*
Findings: *There was a significant impact on only two sectoral indices, i.e., automobile and banking and rest of the five sectors included in the paper does not see any significant impact of goods and service tax.*

Key Words: *GST, Sectorial Indices, Event Study, Stock returns.*

1. INTRODUCTION

Goods and Services Tax replaces the whole lot of Indirect Taxes into one uniform indirect taxation system. In India, GST was first announced in the year 1991, the GST bill was passed and implemented in India from 1st July 2017. GST is imposed on Manufacturing, Selling, and Consumption of Goods and Services across the country. Working of GST is regulated under the supervision of Union Finance Ministry, and the Chairman of GST Council is the Union Finance Minister for the period.

GST is a significant move towards the Indian Indirect Taxes amalgamating several other Central and State indirect taxes into a unified tax cascading the scenario of double taxation and provides a common national market. The main benefit to consumers after the implementation of GST is the reduction in tax payment which amounted to 25% to 30% before implementation of GST and less time and money spent on payment of taxes. From the point of view of Manufacturers, the benefit is free movement of Goods and Services across the state borders without going through additional taxes and paper work.

2. REVIEW OF LITERATURE

Implementing GST is a big leap in the Indian Taxation System and possibilities of a positive impact was debatable. However, in most of the countries where GST has been introduced and practiced it has proved out to be of a great positive impact (Vasanthagopal, 2011) Originally, GST was supposed to be implemented in April 2010, but it was not considered to be an appropriate attempt at that time. Decisions on GST components are to be made, as the factors of dual or uniform GST all around the states in India and similar such factors yet to be decided upon (Rao G. , 2009).Globalization is one of the reasons leading to tax reforms in India. With increasing wind in the corporate sector, taxation policies like GST need to be worked upon to benefit the corporate sector to the greatest potential. Taxation policies play a vital role in the working of any business in and outside India as it affects the revenue of any business. Moreover, hence, GST being a recent event to be researched upon (S. & Math, 2014). One requirement which was suggested by researchers was the maintenance of uniformity of GST rates across the states in the country. The reason being that it lightens the complication of tax calculation and improve efficiency. It made easier for the tax payers as well as the tax authorities of state governments and central government of the country to understand the whole concept and application of GST (Rao K. , 2010).

Issues like Compensation to States on Revenue Losses if there are any; the acceptable rate of GST in all the states; the uniform GST or the Dual GST system; need to be worked upon before implementing the final model of the proposed GST mechanism.

In countries like Australia, GST was introduced in the year 2000 with a view to replacing the Wholesale Sales Tax (WST) so as to include services under the bar of taxation. This was done due to the fact that there had been an increase in the number of services over the past years and Goods and Services Tax would have turned out to be an apt mechanism to catch hold of service sector for taxation policy. Which further turned out to be major source of revenue for the Government of Australia (Belle & Freudenber, 2015). Whereas in countries like Pakistan, GST has turned out to be not aligning to the term 'public welfare.' It has deeply impacted the poor households in Pakistan in a negative way especially during the period (1990-2001). Therefore, India being similar to Pakistan regarding economy and culture may have a similar impact. According to research, taxation of items like sugar, fuel, and ghee is impacting the poor greatly (Refaqat & Mohsin, 2005).

The task of planning the whole GST model for India should be carried out by a specific authority specialized in taxation policies and their working and have an idea about GST and its impact on other countries around the globe. That authority is the GST Council of India (Purohit, 2010).

It was important that the government came up with clarity in the Model of GST. As researchers have shown both bad and good impact of GST on economies, it was crucial for the Indian Government to prepare well before switching to GST form of taxation system (Rao G. , 2009). The central and the State Governments needed to harmonize when it comes to the dual GST system as it would have created chaotic consequences in the process of actually simplifying the whole taxation system (Bansal, 2010). Technically speaking, VAT was a rough version of GST. Moreover, as VAT was working quite well in the states of the country, it was the right time to introduce the actual version of GST into action. However, the matter of greatest worry is losses on Revenue on the State Governments on the implementation of Dual GST (Anushya & Karam, 2014).

3. OBJECTIVE:

The primary objective of this research paper is to see practical impact of event GST implementation on stock prices of the automobile, banking, FMCG, healthcare, and manufacturing sector stock prices pertaining to Bombay Stock Exchange.

1) To determine the impact of GST on selected sectoral indices.

4. HYPOTHESIS:

H_0: Null hypothesis states that GST has no significant impact on stock indices returns.

H_1: Alternate hypothesis states that GST has a significant impact on stock indices returns.

5. MATERIAL AND METHOD:

5.1 DATA COLLECTION

Stock indices prices of different sectors have been gathered from Bombay Stock Exchange, India official website. This data includes high low open and close prices of the different index used for study from each trading day from 9th June 2017 to 21st July 2017. A total of 30 trading days has been considered for the study, and only closing prices have been taken into consideration for analysis and interpretation.

5.2 METHODOLOGY

The average returns have been calculated with the help of DLOG.

Least Square has been used on average returns to determine the impact of GST on the stock prices of the automobile, banking, FMCG healthcare, and manufacturing sector to study the event.

The period of study has been divided into Pre event (15 trading days) and Post event (15 trading days) of GST implementation.

6. FINDINGS AND ANALYSIS:

6.1 Analysis and Interpretation

All table contains analysis results where C is constant which represent the pre-GST returns of different Sectorial Indices and "@date>@dateval("7/1/2017")" (dummy variable) represents the abnormal returns of sectorial indices post-GST implementation which is 1st July 2017.

Table 1. Automobile Sector

Dependent Variable: DLOG(CLOSE)
Method: Least Squares
Date: 08/29/17   Time: 15:41
Sample (adjusted): 6/12/2017 7/21/2017
Included observations: 29 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.003229	0.001312	-2.462096	0.0205
@DATE>@DATEVAL("7/1/2017")	0.005923	0.001824	3.247552	0.0031
R-squared	0.280893	Mean dependent var		-0.000166
Adjusted R-squared	0.254260	S.D. dependent var		0.005683
S.E. of regression	0.004908	Akaike info criterion		-7.729483
Sum squared resid	0.000650	Schwarz criterion		-7.635187
Log likelihood	114.0775	Hannan-Quinn criter.		-7.699951
F-statistic	10.54659	Durbin-Watson stat		2.221823
Prob(F-statistic)	0.003106			

From the table 1 of analysis, it can be observed that there were negative returns of automobile stocks before the implementation of GST as co-efficient of variable C is -0.003229. However, dummy variables suggest that there were significant positive returns 0.005923 in the automobile stocks p value 0.0031whuch is less than 0.05, so in that case, H_1 has been accepted.

Table 2. Banking Sector

Dependent Variable: DLOG(CLOSE)
Method: Least Squares
Date: 08/29/17   Time: 21:51
Sample (adjusted): 6/12/2017 7/21/2017
Included observations: 29 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.001459	0.001394	-1.047085	0.3043
@DATE>@DATEVAL("7/1/2017")	0.004480	0.001938	2.312168	0.0286
R-squared	0.165279	Mean dependent var		0.000858
Adjusted R-squared	0.134363	S.D. dependent var		0.005604
S.E. of regression	0.005214	Akaike info criterion		-7.608450
Sum squared resid	0.000734	Schwarz criterion		-7.514153
Log likelihood	112.3225	Hannan-Quinn criter.		-7.578917
F-statistic	5.346122	Durbin-Watson stat		2.118285
Prob(F-statistic)	0.028632			

From the table 2 of analysis, it can be observed that there were negative returns as the coefficient of C is -0.001459 which was not significant. After implementation of GST, Banking Sector Stocks started giving positive returns as it can be observed in the table that dummy variable coefficient is 0.004480 and that is significant as p value is 0.0286 which is less than 0.05. So, in that case, alternate hypothesis H_1 has been accepted.

Table 3. Fast Moving Consumer Goods Sector

Dependent Variable: DLOG(CLOSE)
Method: Least Squares
Date: 08/29/17   Time: 15:48
Sample (adjusted): 6/12/2017 7/21/2017
Included observations: 29 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.001961	0.004213	0.465527	0.6453
@DATE>@DATEVAL("7/1/2017")	-0.004076	0.005858	-0.695884	0.4924
R-squared	0.017619	Mean dependent var		-0.000147
Adjusted R-squared	-0.018765	S.D. dependent var		0.015618
S.E. of regression	0.015764	Akaike info criterion		-5.395743
Sum squared resid	0.006709	Schwarz criterion		-5.301446
Log likelihood	80.23827	Hannan-Quinn criter.		-5.366210
F-statistic	0.484254	Durbin-Watson stat		1.874394
Prob(F-statistic)	0.492449			

From the table 3 of analysis of FMCG Sectorial Index, it can be observed that there were insignificant positive returns as the coefficient of C is 0.001961 but p value is 0.6453. However, after implementation of GST, there were negative returns in which can be observed from the coefficient of the dummy variable is -0.004076 but that negative returns are not significant as p value is 0.4924 which is greater than 0.05 significance level. So, in this case, null hypothesis h_0 has been accepted.

Table 4. Healthcare Sector

Dependent Variable: DLOG(CLOSE)
Method: Least Squares
Date: 08/29/17   Time: 15:51
Sample (adjusted): 6/12/2017 7/21/2017
Included observations: 29 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.000188	0.001877	-0.099943	0.9211
@DATE>@DATEVAL("7/1/2017")	0.003160	0.002610	1.210742	0.2365
R-squared	0.051497	Mean dependent var		0.001447
Adjusted R-squared	0.016367	S.D. dependent var		0.007082
S.E. of regression	0.007024	Akaike info criterion		-7.012635
Sum squared resid	0.001332	Schwarz criterion		-6.918339
Log likelihood	103.6832	Hannan-Quinn criter.		-6.983103
F-statistic	1.465896	Durbin-Watson stat		2.329311
Prob(F-statistic)	0.236486			

From the table 4 of analysis, it can be observed that there were negative returns before the implementation of GST as the coefficient of C is -0.000188, but that negative return was insignificant. After the implementation of GST, dummy variable shows a positive coefficient value 0.003160 which means positive returns in healthcare stocks but that positive returns were not significant as p value is 0.2365 which is greater than 0.05 level of significance.

Table 5. Information Technology Sector

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Dependent Variable: DLOG(CLOSE)
Method: Least Squares
Date: 08/29/17   Time: 15:54
Sample (adjusted): 6/12/2017 7/21/2017
Included observations: 29 after adjustments
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Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.001915	0.002312	-0.827953	0.4150
@DATE>@DATEVAL("7/1/2017")	0.005148	0.003215	1.601120	0.1210
R-squared	0.086714	Mean dependent var		0.000748
Adjusted R-squared	0.052889	S.D. dependent var		0.008891
S.E. of regression	0.008652	Akaike info criterion		-6.595521
Sum squared resid	0.002021	Schwarz criterion		-6.501225
Log likelihood	97.63506	Hannan-Quinn criter.		-6.565989
F-statistic	2.563585	Durbin-Watson stat		2.259746
Prob(F-statistic)	0.120987			

From the table 5 of analysis, it can be observed that there were negative returns of information technology stocks before the implementation of GST as the coefficient of variable C is -0.001915 but it is not significant as p value is 0.4150. However, after implementation returns turned into positive returns as dummy variable shows the coefficient of 0.005148 but this return is not significant as p value of dummy variable is 0.1210 which is greater than the significance level of 0.05, and in that case, null hypothesis H_0 has been accepted.

Table 6. Manufacturing Sector

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Dependent Variable: DLOG(CLOSE)
Method: Least Squares
Date: 08/29/17   Time: 15:55
Sample (adjusted): 6/12/2017 7/21/2017
Included observations: 29 after adjustments
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Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.000600	0.001485	-0.404148	0.6893
@DATE>@DATEVAL("7/1/2017")	0.003311	0.002064	1.603812	0.1204
R-squared	0.086981	Mean dependent var		0.001112
Adjusted R-squared	0.053165	S.D. dependent var		0.005709
S.E. of regression	0.005555	Akaike info criterion		-7.481721
Sum squared resid	0.000833	Schwarz criterion		-7.387425
Log likelihood	110.4850	Hannan-Quinn criter.		-7.452189
F-statistic	2.572214	Durbin-Watson stat		2.091893
Prob(F-statistic)	0.120391			

From the table 6 of analysis, it can be observed that there were negative returns on manufacturing as the coefficient of variable C is -0.0006 but this return is not significant as p value is 0.6893. However, there were positive returns on these stocks as dummy variable coefficient shows positive value of 0.003311 and is not significant as p value of dummy variable is 0.1204 which is greater than the significance level of 0.05.So, in that case, null hypothesis H_0 has been accepted.

Table 7. Real Estate

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Dependent Variable: DLOG(CLOSE)
Method: Least Squares
Date: 08/29/17   Time: 15:57
Sample (adjusted): 6/12/2017 7/21/2017
Included observations: 29 after adjustments
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Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.001500	0.002955	0.507524	0.6159
@DATE>@DATEVAL("7/1/2017")	0.002219	0.004109	0.540049	0.5936
R-squared	0.010687	Mean dependent var		0.002648
Adjusted R-squared	-0.025955	S.D. dependent var		0.010918
S.E. of regression	0.011058	Akaike info criterion		-6.104774
Sum squared resid	0.003302	Schwarz criterion		-6.010477
Log likelihood	90.51922	Hannan-Quinn criter.		-6.075241
F-statistic	0.291653	Durbin-Watson stat		1.839335
Prob(F-statistic)	0.593590			

From the table 7, it can be observed that there were positive returns on real estate stocks before implementation of GST as the coefficient of variable C is 0.0015 but it is not significant as p value is 0.6159. After implementation of GST also there were positive returns on stocks but that return was more than pre implementation, but that increase in returns after implementation is also not significant as p value is 0.5936 which is higher than the significance level of 0.05. So, in this case, null hypothesis H_0 has been accepted.

7. CONCLUSION:

The study ascertained the impact of GST in India on sectoral indices of BSE. Data for 15 pre-implementation and 15 post-implementation trading day and over seven stock indices have been considered. The hypothesis test at significance level of 0.05 has given some interesting conclusion. Except Automobile and Banking sectoral indices has seen the significant impact of GST on the stock returns and rest of the sectoral indices saw some impact but all those impacts are not significant. Attention can also be drawn to the fact that except real estate sectoral indices all the indices have seen opposite returns in pre and post implementation of GST and only real estate sector was giving positive returns throughout the study.

8. FURTHER SCOPE OF RESEARCH:

While paper factually shows the impact of GST on seven stock exchanges, there is some scope available to research related topic. A related area of the research could be a comparative study of the impact of GST on two economies or countries.

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