International Journal of Management, Public Policy and Research
International, Peer Reviewed journal
E-ISSN: 2583-3014

BUSTING THE GST IMPACT MYTH: PAIRED STUDY ON PRE AND POST DURATION KEY FINANCIAL PARAMETERS FOR PHARMACEUTICAL SECTOR

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ABSTRACT
Goods and Services Tax was introduced in Indian in the mid of the year 2017. It was a markedly major event for the economy as a whole and subsequently all business sectors and firms operating within them. Trying to understand the impact of this taxation overhaul on different industry is key to evaluating its outcomes and the road ahead. In this study a Pre and Post GST analysis of pharmaceutical industry is carried out. Four main financial metrics are taken as variables and paired test were run to check the alternative hypotheses. It was found by a huge margin that there is no significant effect of implementation of GST on the main business vitals of the selected top 5 companies. The trends in sales, operating profit, OPM and NPM seems to be clearly unaffected over those 10 years that included the pre and post duration.

Keywords: GST, Pharmaceutical Industry India, Financial Analysis

JEL Classification: L65, E32, H2, M41.

1. INTRODUCTION
GST is a value added tax introduced in India in the year 2017 to replace VAT, CST, Service tax and other major forms of indirect taxes prevalent in the country. India had to undergo a rigorous process of constitutional amendment to implement GST in the country. This was because of the fact that imposing taxes on goods and services was under various state and central list and to introduce GST, it was necessary to have harmony among the same. Finally, it became applicable to the whole country on 1st July 2017. India has adopted a dual GST model collecting SGST/UTGST and CGST for intrastate supplies and IGST for interstate supplies. Various rates prevalent under GST are 0.25%, 3%, 5%, 12%, 18% and 28%. Alcoholic products for human consumption are kept outside the umbrella of GST and petroleum products are yet to be notified under GST.
Indian pharmaceutical sector has evolved through times and has achieved a significant place in global market. Globally India is 3rd largest producer of pharma products in terms of volume and 14th in terms of value. India achieved an average growth rate of 9.47% from FY18 to FY22. The annual turnover in the fiscal year 2021-22 was $42.34 Bn and is targeted to reach $120 Bn by the year 2030. The Indian pharmaceutical industry has 5 important segments; contract research and manufacturing services (CRAMS), active pharmaceutical ingredients (APIs), formulations, biologics and biosimilars, and vaccines.
With GST in picture, the cascading effect on every sector including pharmaceutical industry has been removed. However most of the medicines which were taxed at 4% during the VAT regime are now taxed at 5% in GST regime. Tax rate on ayurvedic medicines have increased from 4% to 12%. In order to absorb the effect, adjustments are made in the MRP determined by considering the rules of DRDO. The medicines and medicinal products are being taxed at various rates including nil, 5%, 12% and 18%. Human blood and contraceptives attract nil rate while various lifesaving drugs, vaccines, wheel chairs and artificial limbs are subject to 5% rate. Similarly, ayurvedic products attract 12% rate and surgical instruments attract 18% rate.

2. RESEARCH METHODOLOGY
2.1. Research objectives
- To understand the impact of GST on Indian pharmaceutical industry.

- To make a comparative analysis of pre-GST and post-GST financial performance of selected pharmaceutical companies in India.
- To analyse operating profit margins variations in selected pharmaceutical companies for pre-GST and post-GST duration.
- To analyse net profit margins variations in selected pharmaceutical companies for pre-GST and post-GST duration.

2.2. Research gap

- Although there are various pre and post analysis of GST in various sector, no such study has been conducted in pharmaceutical sector.
- Most of the studies conducted analyses the effect of GST on various sector in brief only.
- There is absence of proper before and after paired test studies for the companies selected with the chosen financial parameters.

2.3. Data collection

Financial data is collected through Published Annual Reports of Companies. Data is collected from various official websites of NSE, Money Control, and BSE.

2.4 Sample Design

The study covers top 5 Indian pharmaceutical companies. The financial variables selected for pre and post comparison are: (1) sales growth, (2) operating profit growth, (3) operating profit margins (OPM), and (4) net profit margins (NPM).

2.5. Significance of the study

This study will be useful to understand the effects of GST on the financial and business dynamics of the selected pharmaceutical companies. It will showcase if there are wide differences in the given metrics due to the implementation of the GST policy by the government and execution of the same by the companies.
The results of the study will be useful for both the policy makers and the companies alike in so as to gauge the effects of the policy and propose remedial changes thereof.

3. DATA ANALYSIS

For the purpose of derivation of legitimate results so as to land an optimum conclusion, following hypotheses were framed. Likewise, null hypotheses for each were tested and significant values were extracted.
Below are the statistical hypotheses.
H1a: There is significant difference between pre GST and post GST sales growth for selected pharmaceutical companies.
H1b: There is significant difference between pre GST and post GST operating profit growth for selected pharmaceutical companies.
H1c: There is significant difference between pre GST and post GST operating profit margins for selected pharmaceutical companies.
H1d: There is significant difference between pre GST and post GST net profit margins for selected pharmaceutical companies.
Below is the data analysis and the interpretation. Table 1 pans out the mean, standard deviation and standard error of mean; while Table 2 and Table 3 lays down the more important confidence interval and significant value numbers.

Table – 1. Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Before GST Sales Growth	15.22%	25	41.85%	8.37%
	After GST Sales Growth	11.92%	25	17.13%	3.43%
Pair 2	Before GST Operating Profit Growth	-41.47%	30	198.60%	36.26%

	After GST Operating Profit Growth	17.96%	30	41.35%	7.55%
Pair 3	Before GST - OPM	24.14%	30	42.26%	7.72%
	After GST- OPM	25.65%	30	24.18%	4.41%
Pair 4	Before GST- NPM	10.16%	25	25.60%	5.12%
	After GST- NPM	15.10%	25	6.60%	1.32%

Table- 2. Paired Samples Test - Paired Differences					
		Mean	Std. Deviation	Std. Error Mean	95% CI Lower
Pair 1	Before GST Sales Growth - After GST Sales Growth	3.30%	42.86%	8.57%	14.39%
Pair 2	Before GST Operating Profit Growth - After GST Operating Profit Growth	59.43%	199.69%	36.46%	133.99%
Pair 3	Before GST - OPM - After GST- OPM	-1.51%	39.75%	7.25%	16.35%
Pair 4	Before GST- NPM - After GST- NPM	-4.94%	25.31%	5.06%	-15.39%

Table-3. Paired Samples Test					
		95% CI Upper	t	df	Sig. (2-tailed)
Pair 1	Before GST Sales Growth - After GST Sales Growth	20.99%	.39	24	.70
Pair 2	Before GST Operating Profit Growth - After GST Operating Profit Growth	15.13%	-1.63	29	.11
Pair 3	Before GST - OPM - After GST- OPM	13.33%	-.21	29	.84
Pair 4	Before GST- NPM - After GST- NPM	5.51%	-.98	24	.34

Below is the interpretation along with each alternative hypotheses as per the significant value derived through paired t test.

H1b: There is significant difference between pre GST and post GST sales growth for selected pharmaceutical companies.

We can see that the significant value for the paired test for Before GST Sales Growth - After GST Sales Growth is 0.703 which is higher than 0.05. Hence, the null hypothesis is not rejected.

This demonstrates that there is no significant distinction between the 5 years sales growth figures of before and after implementation of GST.

H1b: There is significant difference between pre GST and post GST operating profit growth for selected pharmaceutical companies.

We can see that the significant value for the paired test for Before GST Operating Profit Growth - After GST Operating Profit Growth is 0.114 which is higher than 0.05. Hence, the null hypothesis is not rejected.

This demonstrates that there is no significant distinction between the 5 years operating profit growth figures of before and after implementation of GST.

H1c: There is significant difference between pre GST and post GST operating profit margins for selected pharmaceutical companies.

We can see that the significant value for the paired test for Before GST Operating Profit Margins - After GST Operating Profit Margins is 0.837 which is higher than 0.05. Hence, the null hypothesis is not rejected.

This demonstrates that there is no significant distinction between the 5 years operating profit margins figures of before and after implementation of GST.

H1d: There is significant difference between pre GST and post GST net profit margins for selected pharmaceutical companies.

We can see that the significant value for the paired test for Before GST Net Profit Margins - After GST Net Profit Margins is 0.339 which is higher than 0.05. Hence, the null hypothesis is not rejected.

This demonstrates that there is no significant distinction between the 5 years net profit margins figures of before and after implementation of GST.

4. CONCLUSION

This study safely concludes that there is no distinct differentiation between the key financial parameters of the top pharmaceutical companies of implementation of the Goods & Services Tax. The study encompassed a total of 10 years of before and after GST data and ran paired tests to reach to the conclusion. It was seen that the sales growth and operating profit growth were largely unaffected because of the introduction of GST. On the profit margin front, the operating profit margins and net profit margins as well did not show variations that could be captured by the significant value in the paired tests. Hence, the overall conclusion of the study maintain that the advent of new and major tax overhaul had no significant impact on the pharmaceutical industry.

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