International Journal of Business and Management Invention (IJBMI)
ISSN (Online): 2319 – 8028, ISSN (Print): 2319 – 801X
www.ijbmi.org || Volume 13 Issue 9 || September, 2024 || PP: 166-171

GST and Profitability in logistic industry: A Panel Data Analysis of Indian Companies Before and After Indirect Tax Reform

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Abstract
The introduction of the Goods and Services Tax (GST) in India represents a significant reform in taxation, particularly within the service sector. logistics companies have faced inefficiencies due to state-specific taxes and underutilized warehouse capacities. GST aims to address these challenges by unifying the market and enabling seamless inter-state movement of goods. This study analyzes the changes in profitability and operational costs for logistics companies post-GST implementation. Using secondary data from company annual reports and relevant government sources, the research employs paired t-tests, percentage analysis, and averages to assess the impact. The findings reveal a nuanced effect: while most companies saw improvements in profitability, operational costs also increased. However, this increase was counterbalanced by reductions in key expense areas such as employee benefits, finance costs, and depreciation.

Key Points: *Goods and services tax, Profitability, Cost of operation, Logistic industries*

Date of Submission: 09-09-2024 Date of acceptance: 25-09-2024

I. Introduction

The implementation of Goods and Services Tax (GST) in India marks a significant shift in the taxation of services, applying the tax at the point of consumption rather than production. This fundamental change is particularly impactful for the logistics sector. The logistics industry plays a pivotal role in economies, especially in developing countries like India, where rising consumption and persistent demand underscore its importance. A well-structured logistics system is essential for realizing the Government of India's "Make in India" initiative, which aims to boost domestic manufacturing and create a competitive business environment **(Sharma & Jhawar, 2023)**. logistics companies in India have operated multiple warehouses across different states to mitigate Central Sales Tax (CST) and state entry taxes. This approach often led to underutilized warehouse capacities and increased operational inefficiencies. With the introduction of GST, many of these challenges are poised to be addressed. GST aims to unify India's market, enabling the seamless inter-state movement of goods without the imposition of state-specific levies **(ClearTax, 2021).** One of the anticipated outcomes of GST is the optimization of warehousing and logistics operations. For instance, warehouse operators and e-commerce companies are now showing increased interest in establishing warehouses in strategically located areas such as Nagpur, known as the "Zero Mile City" due to its central location and excellent connectivity. This shift indicates a move towards more efficient logistics operations that are better aligned with the needs of a unified market.

The introduction of GST is expected to bring transformative changes to the logistics sector. By eliminating state-specific barriers and reducing the complexity of tax compliance, GST will likely lead to a more streamlined and competitive logistics ecosystem. For all stakeholders—including logistics operators, e-commerce businesses, and end consumers—GST represents an opportunity for enhanced efficiency and reduced costs. GST on transport services aims to streamline and unify tax treatment across different modes of transportation.

II. Literature Review

1. Monachan, S., et al. (2024, February). The implementation of Goods and Services Tax (GST) has introduced both opportunities and challenges for Micro, Small, and Medium Enterprises (MSMEs). While 31.4% of MSME owners who received training from government and third-party sources understood and adhered to GST requirements, significant challenges persist in registration (43.1%), return filing fees (46.1%), and payment procedures (32.4%). A majority of MSME owners (56.9%) reported negative effects on their sales and revenue due to GST, highlighting difficulties in adjusting to the new tax system. 36.3% of MSMEs experienced a decline in profits post-GST implementation, whereas only 2.9% saw increased profits. This suggests that few businesses have managed to leverage GST benefits effectively.
2. Kumar & Singh (2022), a study was conducted on the top 80 BSE-listed companies with the highest market capitalization to assess the impact of GST on their sales and profitability. The research utilized secondary data, specifically financial results from Q1 (ended 30 June) and Q2 (ended 30 September) of 2017, representing the periods before and after GST implementation. By applying paired sample t-tests and conducting comparative analyses, the study found that while GST did not significantly affect the revenue of these companies, it had a notable impact on after-tax profits, reflecting a shift in the profitability landscape due to this reform.
3. Ahmed, R. (2022), study analyzed thirty manufacturing companies from the broader NIFTY index, using data from 2014 to 2021. The period from 2014 to 2017 was categorized as pre-GST, while the years 2018 to 2021 were considered post-GST. The study aimed to determine whether the impact of GST varied based on company size. Panel data analyses revealed that, although profit margins for Indian manufacturing companies did not exhibit significant differences between the pre-GST and post-GST periods overall, the impact of GST was notably positive in the post-GST period. Additionally, while size and working capital individually did not significantly affect profit margins, both factors showed a significant positive impact during the post-GST period. This indicates that companies with increased size (sales) and higher working capital saw improved profit margins following GST implementation.
4. Vuković, B., et al. (2020), the study highlights the importance of effective logistics management and controlling the logistics system for enhancing profitability. It provides valuable insights for logistics companies to improve performance, emphasizing that logistics is a crucial element of competitiveness in the industry. Company size and asset tangibility negatively affect profitability, while liquidity and asset turnover ratio positively impact profitability. These findings are consistent whether profitability is measured by ROA or ROE. Other variables, including leverage and sales growth, did not show a statistically significant influence.
5. Frank, R. (2019), this paper examines the effects of GST implementation on profitability by comparing pre-GST and post-GST periods in a public sector manufacturing unit. It explores the relationship between GST and profitability, assessing whether the manufacturing unit has experienced any benefits from the tax reform. Through this comparative analysis, the paper aims to determine the impact of GST on financial performance within the manufacturing sector.

Research gap

While existing studies provide insights into the general impact of GST on large publicly listed companies and manufacturing units, there is limited research focusing specifically on the logistics sector. This sector's unique challenges and benefits under GST remain underexplored. Addressing these gaps will provide a more comprehensive understanding of GST's impact.

Significance of study

The findings will provide valuable insights into the sector-specific effects of GST, informing future tax policy adjustments and reforms. Understanding how GST influences the logistics sector, including operational costs and profitability. The study fills existing gaps in the literature by focusing specifically on the logistics sector and examining the nuanced relationship between GST, operational costs, and profitability. By understanding how GST impacts the efficiency of logistics operations, consumers and businesses can anticipate changes in service delivery and pricing, leading to better-informed decisions and expectations.

III. Research Methodology

The research methodology employed in this study involved a systematic approach to data selection, collection, and analysis. Companies were selected based on their market value and the availability of a comprehensive ten-year dataset. Data were primarily sourced from the annual reports of the selected companies, supplemented by information from relevant government websites. The study employed various analytical techniques to evaluate the data, including the paired t-test, which was used to assess the significance of differences in financial performance metrics before and after the implementation of GST. Additionally, percentage analysis and averages were applied to understand the relative changes in key financial indicators and to summarize the data effectively. Charts and tables were utilized to visually represent the data, facilitating a clearer understanding of the results and trends identified in the analysis.

Objective of study

1. To understand the role of GST in the financial performance of logistics companies.
2. To analyze the impact of GST implementation on the profitability of logistics companies.
3. To evaluate the relationship between operational costs and profitability.

Hypothesis

H0: There is not a significant difference in the profitability of logistics companies before and after the implementation of GST.

H1: There is a significant difference in the profitability of logistics companies before and after the implementation of GST.

IV. Findings of study

In this study, the analysis of profit percentage and operational cost percentage in the pre-GST and post-GST periods was conducted using statistical methods to understand the impact of GST implementation on logistics companies. The paired t-test was conducted to compare the means of the two paired samples (pre-GST and post-GST). This test evaluates whether the mean differences between the two periods are statistically significant. The t-test results provided insights into whether observed changes in profit margins and operational costs were statistically significant, thus indicating the impact of GST on these financial metrics.

Table no-1, Significance value of Paired T test & average value of Profit percentage and cost of operation percentage against sale of services

Company Name	**Profit**			**Cost of operations**		
	P Value		Mean	P Value		Mean
Blue Dart Express Limited		Pre	6.0466		Pre	52.0667
	0.133	Post	10.0609	0.026	Post	61.2057
Container Corporation of India Limited		Pre	19.4075		Pre	68.1835
	0.042	Post	22.9436	0.038	Post	70.6273
North Eastern Carrying Corporation Ltd.						
		Pre	1.7442		Pre	85.6689
	0.707	Post	1.606	0.001	Post	92.1632
Allcargo Logistics Ltd						
		Pre	3.9966		Pre	61.925
	0.123	Post	5.5018	0.646	Post	68.7896
Sical Logistics Ltd						
		Pre	17.3825		Pre	79.1438
	0.132	Post	2.8376	0.831	Post	78.2327

Sources - Summary of SPSS output

The study focused on analyzing the percentage change in profit and cost of operations for five logistics companies before (2012-13 to 2016-17) and after (2017-18 to 2021-22) the implementation of GST. A paired t-test was conducted to determine the statistical significance of the changes in profit and cost.

1. **Blue Dart Express Limited:**

o **Profit**: The average profit increased from 6.0466% in the pre-GST period to 10.0609% in the post-GST period. However, the increase was not statistically significant ($p = 0.133$). Therefore, the null hypothesis is accepted.

- **Cost of Operations**: The cost of operations increased significantly from 52.0667% to 61.2057% post-GST, with a statistically significant p-value of 0.026.

2. **Container Corporation of India Limited:**

- **Profit**: The profit improved from 19.4075% in the pre-GST period to 22.9436% post-GST, with a statistically significant p-value of 0.042. Therefore, the alternative hypothesis is accepted.
- **Cost of Operations**: The cost increased slightly from 68.1835% to 70.6273%, and this change was statistically significant (p = 0.038).

3. **North Eastern Carrying Corporation Ltd:**

- **Profit**: The average profit decreased slightly from 1.7442% to 1.606% post-GST, but this change was not statistically significant (p = 0.707). Therefore, the null hypothesis is accepted.
- **Cost of Operations**: The cost of operations increased significantly from 85.6689% to 92.1632%, with a highly significant p-value of 0.001.

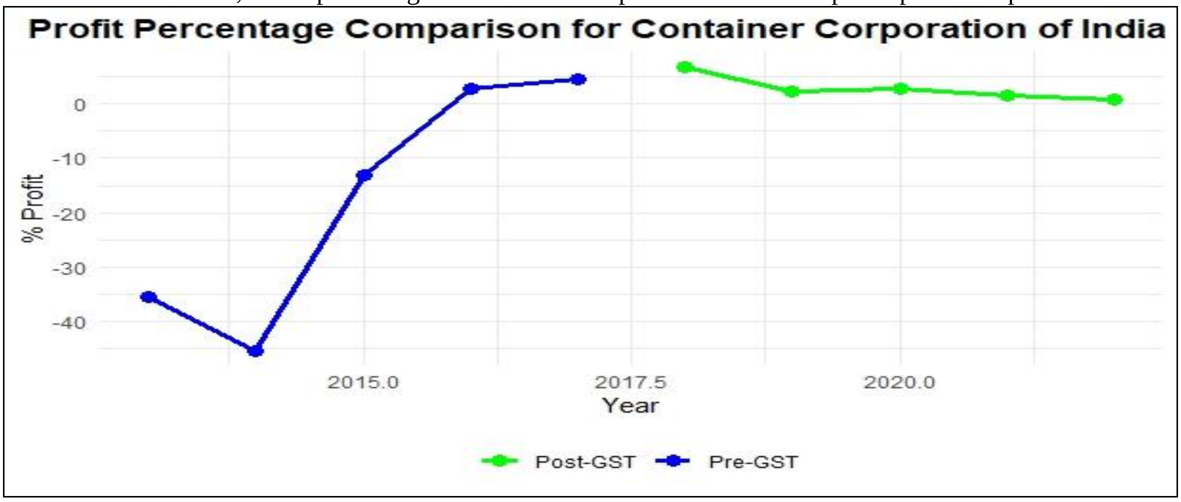
4. **Allcargo Logistics Ltd:**

- **Profit**: The profit rose from 3.9966% to 5.5018% post-GST, although the change was not statistically significant (p = 0.123). Therefore, the null hypothesis is accepted.
- **Cost of Operations**: The cost of operations increased from 61.925% to 68.7896%, but this change was not statistically significant (p = 0.646).

5. **Sical Logistics Ltd:**

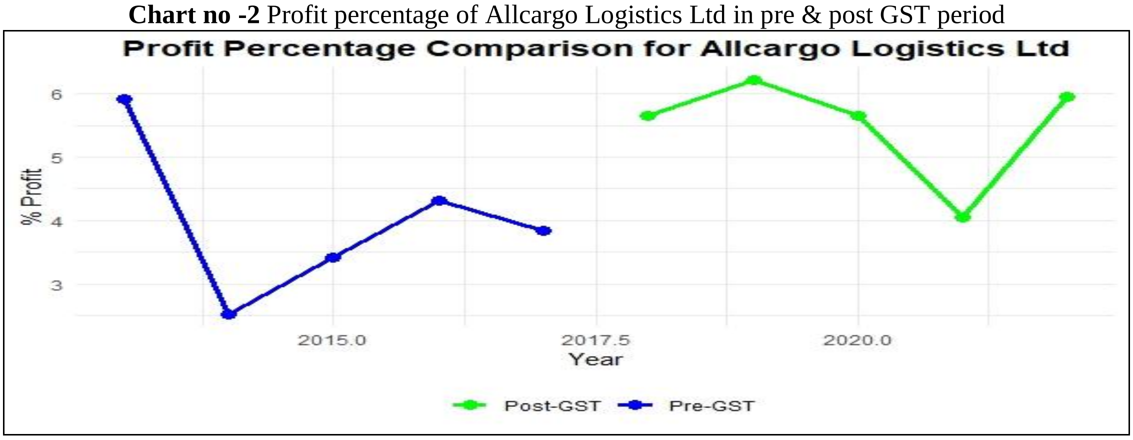
- **Profit**: The company experienced a sharp decline in profit from 17.3825% in the pre-GST period to 2.8376% post-GST. However, the change was not statistically significant (p = 0.132). Therefore, the null hypothesis is accepted.
- **Cost of Operations**: The cost of operations decreased slightly from 79.1438% to 78.2327%, with no statistically significant difference (p = 0.831).

Chart no -1, Profit percentage of Container Corporation of India in pre & post GST period



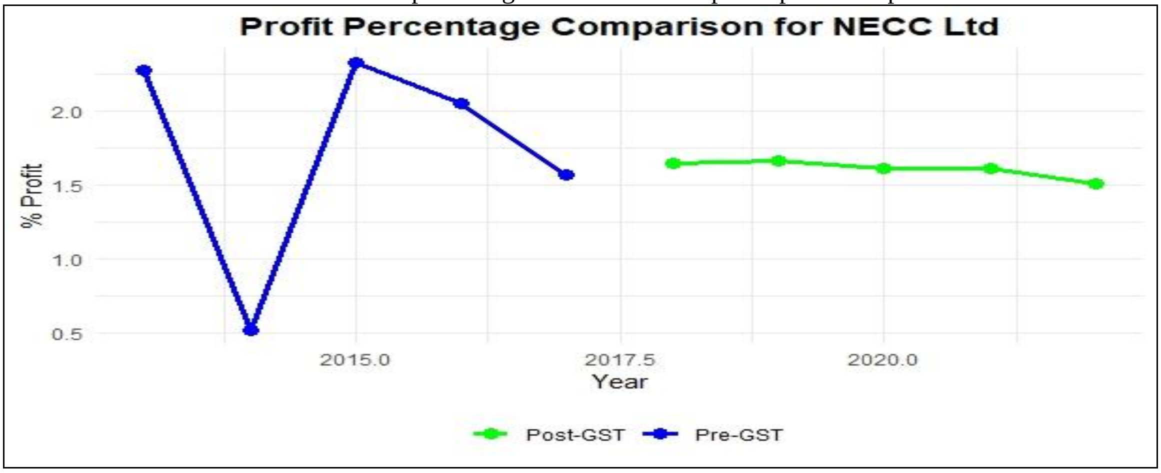
Sources - SPSS output of percentage profit of secondary data from authorized annual report

Chart no -2 Profit percentage of Allcargo Logistics Ltd in pre & post GST period



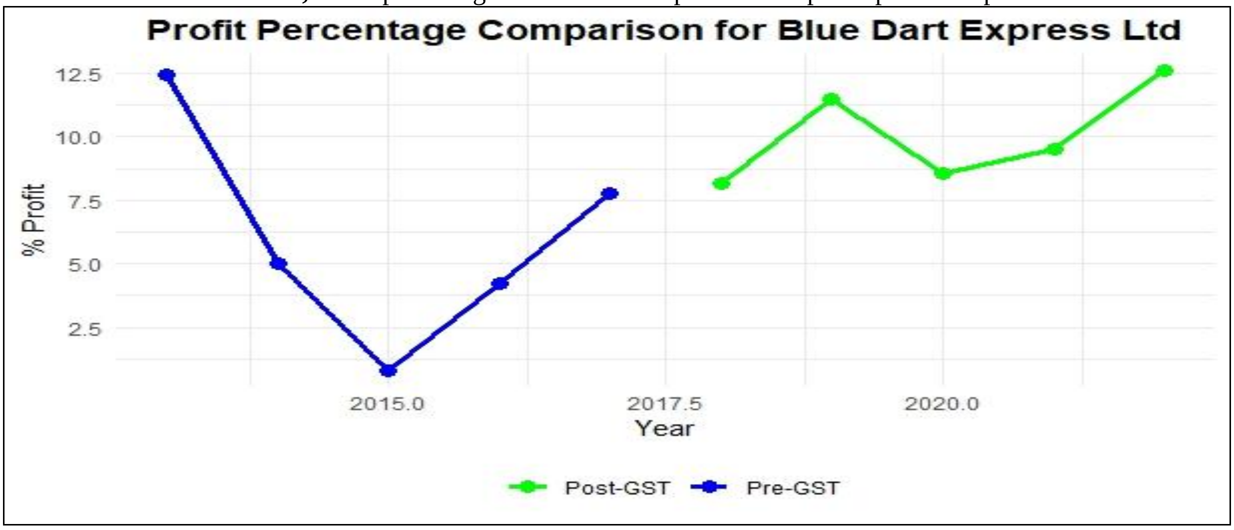
Sources - SPSS output of percentage profit of secondary data from authorized annual report

Chart no -3 Profit percentage of NECC Ltd in pre & post GST period



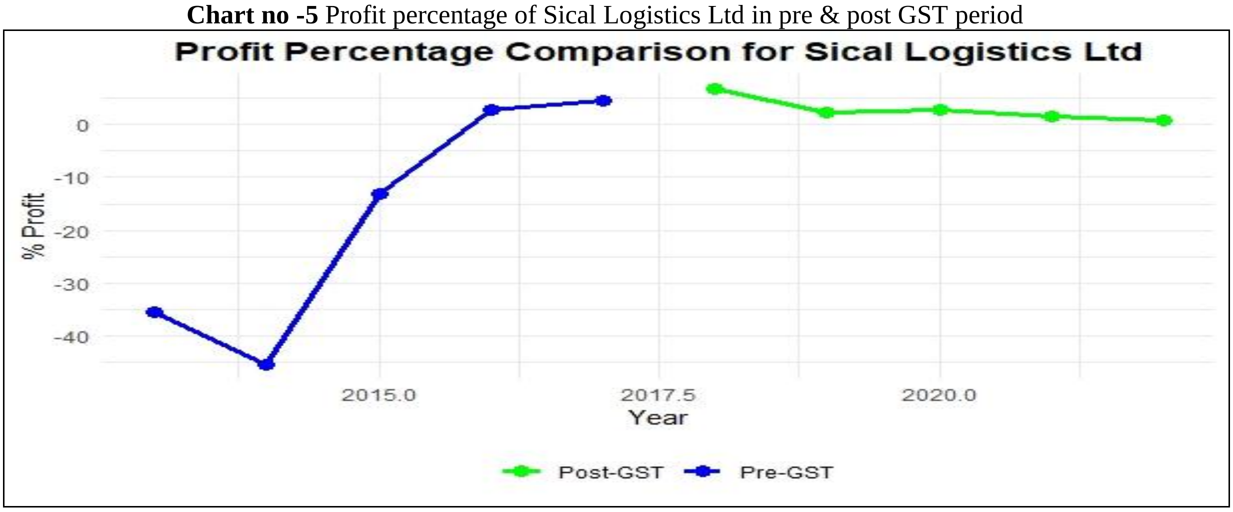
Sources - SPSS output of percentage profit of secondary data from authorized annual report

Chart no – 4, Profit percentage of Blue Dart Express Ltd in pre & post GST period



Sources - SPSS output of percentage profit of secondary data from authorized annual report

Chart no -5 Profit percentage of Sical Logistics Ltd in pre & post GST period



Sources - SPSS output of percentage profit of secondary data from authorized annual report

The analysis reveals that for **Blue Dart Express Limited**, **Container Corporation of India Limited**, and **Allcargo Logistics Ltd.**, there was an increase in both profit and cost of operations post-GST. This indicates a reduction in fixed costs, as the rise in operational costs did not negatively impact profitability.

In contrast, the remaining companies, such as **North Eastern Carrying Corporation Ltd.** and **Sical Logistics Ltd.**, experienced a decline in profitability, which did not correspond with changes in their cost of operations.

V. Conclusion

The study reveals that the implementation of Goods and Services Tax (GST) has had a nuanced impact on the financial performance of logistics companies. A majority of the logistics companies analyzed experienced an improvement in profitability after the introduction of GST. This positive change can be attributed to the streamlining of tax regulations and the reduction in cascading taxes, which likely led to more efficient financial management and better overall profit margins. Despite the improvement in profitability, the study found a concurrent rise in operational costs for these companies. This increase can be linked to factors such as adjustments in tax compliance costs, logistical adjustments to new regulatory requirements, and potential increases in input costs. this increase in costs was mitigated by reductions in several key areas, including employee benefits, finance costs, depreciation and amortization expenses, and other overheads. which could be due to restructuring or cost-cutting measures implemented by companies in response to GST-related financial adjustments.

Limitation

1. **Data Availability**: The study relied on financial data from annual reports and government websites, which may not have captured all relevant operational details or external factors influencing the financial performance of logistics companies.
2. **Scope of Analysis**: The research focused exclusively on logistics companies, potentially limiting the generalizability of the findings to other sectors affected by GST.
3. **Time Frame**: The study's analysis was constrained to a five years pre- and post-GST period.
4. **External Factors**: The analysis did not account for external economic conditions or industry-specific factors that may have influenced the financial performance of the companies studied.
5. **Methodological Constraints**: The use of paired t-tests, percentage analysis, and averages, while effective for certain analyses, may not capture more complex relationships or interactions between variables.

References

[1]. Kumar, P., Walia, J. S., & Singh, G. (2022). Before-after effect of GST on the sales and profitability-a study of top BSE companies in India. International Journal of Business and Globalisation, 32(4), 337-362.

[2]. Frank, R. (2019). A study on pre-GST and post-GST effect on profitability in a public sector manufacturing organization. Journal of Commerce and Management Thought, 10(2), 217-233.

[3]. Ahmed, R. (2022). Impact of GST on Indian companies-A panel data analyses. Korea Review a International Studies, 15(36), 82-89.

[4]. Monachan, S., Hameed, A., Babu, T., Nair, R. R., Sharma, R., Chinnaiyan, R., & Sungheetha, A. (2024, February). Challenges and Opportunities: Assessing the Impact of GST on MSMEs and the Need for Ongoing Support. In 2024 4th International Conference on Innovative Practices in Technology and Management (ICIPTM) (pp. 1-7). IEEE.

[5]. Sharma, S., & Jhawar, R. (2023). Driving synergy: Leveraging GST to achieve the objectives of National Logistics Policy. Grant Thornton Bharat. Retrieved from Grant Thornton Bharat, https://www.grantthornton.in/insights/blogs/driving-synergy-leveraging-gst-to-achieve-the-objectives-of-national-logistics-policy.

[6]. Vuković, B., Milutinović, S., Mirović, V., & Milićević, N. (2020). The profitability analysis of the logistics industry companies in the Balkan countries. Promet-Traffic&Transportation, 32(4), 497-511.

[7]. ClearTax. (2021, July 6). Impact of GST on Logistics Industry. ClearTax. https://cleartax.in/s/impact-gst-logistics-industry