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Post-GST shifts in working capital metrics of FMCG Companies

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Abstract
This study examines the shifts in working capital metrics of India's Fast Moving Consumer Goods sector following the implementation of the Goods and Services Tax. It compares changes in working capital and related metrics for the 5 years of pre-(2012-13 to 2016-17) and post-GST periods (2017-18 to 2021-22) of 10 FMCG companies. The current ratio, net working capital, and working capital to sales ratio have been computed and compared for two designated time frames. The results show a preliminary rise in the current ratio and working capital levels, suggesting the need for improved liquidity to navigate the transition and comply with new regulatory requirements. However, organizations showed enhanced operational efficiencies and financial stability, as evidenced by a decreasing working capital to sales ratio. The study recommends improved inventory management and supply chain optimization.

Keywords: GST, FMCG, Working Capital, Input Tax Credit.

1. Introduction

Working capital serves as the lifeblood of FMCG (Fast Moving Consumer Goods) companies, enabling them to operate efficiently, adapt to market dynamics, and capitalize on growth opportunities. Effective cash flow management is crucial since FMCG businesses handle high volumes of low-margin goods. Working capital ensures sufficient liquidity to cover supply costs and manage logistics effectively. Additionally, the FMCG sector experiences seasonal fluctuations in demand; having adequate working capital allows companies to increase production and stockpile inventory in anticipation of peak seasons.

The FMCG industry was subject to numerous taxes under the previous indirect tax regime, including excise duty, entry tax, various state VAT (Value Added Tax), and CST (Central Sales Tax) on interstate transactions. The previous system had a cascading effect on taxation. Most notably, service tax was not allowed to be set off against VAT and CST and it was previously documented in books as a write-off or an expense. Costs that were formerly to be expensed out in books, like the service tax on the outsourced services, have decreased as a result of GST (Goods and Services Tax).

The working capital of an FMCG company is composed of several key components. These components are essential for the day-to-day operations and smooth functioning of the business. The primary components of working capital are Current Assets and Current Liabilities. Effective working capital management involves balancing these components to ensure that the company has enough liquidity to meet its short-term obligations while maximizing profitability. Hence, the present study is an attempt to know the impact of GST on the working capital of the FMCG sector in India, as it affects both the current assets and current liabilities.

1.1 Literature Review

Many studies have focused on the impact of GST on different sectors of the Indian economy and also on businesses. The introduction of GST as a progressive tax system in India, has positive impacts, including tax reduction, system transparency and corruption elimination. However, the negative impacts, such as increased tax rates for services, higher compliance costs, and the exclusion of petroleum products from GST should also be considered (Nabendu Basak, 2017) [1]. The evolution and mechanism of GST in India posed challenges like federal cooperation and technological issues.

Opportunities highlighted include cost reduction, a unified tax, and decreased corruption (Alok Kumar, 2017) [6].

GST should be simplified for the FMCG sector, with anticipated effects on pricing, working capital, contracts, ERP systems, and the opportunity to optimize supply chains based on business needs. GST led to reduced product prices and lower logistics and transportation costs for companies, benefiting consumers through reduced tax rates. GST significantly affects supply chain management and, consequently, productivity (Kuldeep Kumar Dhar, 2021) [3].

The GST's initial impact on the FMCG sector is mixed. In the long run, it would reduce costs, enhance operational efficiency, and benefit consumers (White Paper By, RSM Astute Consulting Pvt. Ltd., 2020). Amendments to the GST Act are needed to improve the business environment. Key areas for improvement include input tax credit provisions, timely refunds, seamless goods movement, and resolving technical issues on the GST portal.

The Current Ratio, Liquid Ratio and average gross profit ratios in selected dairy industries increased post-GST, indicating a positive impact. However, decreases in the average working capital, net profit, stock turnover, operating profit, and return on capital employed highlighted a negative impact, attributed to factors like increased operational costs, diverse tax rates and compliance requirements.

The major common factors found in the above studies are cost reduction due to reduced cost of operations, availability of ITC, and improved logistic and supply chain management. These factors influence the business's working capital. Hence, the present study attempts to determine the impact of GST on the working capital of the FMCG sector.

1.2 Research Objective
The specific objective of the study is to compare the working capital of the FMCG Sector during the pre-GST period and post-GST period.

1.3 Hypothesis of the study
Main Hypothesis

- **H_0:** There is a significant difference between the Pre-GST and post-GST working capital of FMCG Sector.
- **H_1:** There is no significant difference between the Pre-GST and post-GST working capital of FMCG Sector.

Sub Hypothesis A

- **H_0A:** The difference between the mean current ratios for the pre-and post-GST period is equal to 0.
- **H_1A:** The difference between the mean current ratios for the pre-and post-GST period is not equal to 0.

Sub Hypothesis B:

- **H_0B:** The difference between the mean Net Working Capital for the pre-and post-GST period is equal to 0.
- **H_1B:** The difference between the mean net working Capital for the pre-and post-GST period is not equal to 0.

Sub Hypothesis C

- **H_0C:** The difference between the mean working Capital turnover ratio for the pre-and post-GST period is equal to 0.
- **H_1C:** The difference between the mean working capital turnover ratio for the pre-and post-GST period is not equal to 0.

2. Research Methodology
The present study is an analytical research as it uses both quantitative and qualitative data to answer the research questions and the study is undertaken by formulating the hypothesis. The study also makes the comparison of quantitative data for two time periods called Pre-GST and Post-GST of 5 years each.

2.1 Scope of the study
- The study included 10 FMCG companies which are listed in both BSE and NSE FMCG Index.
- The FMCG Companies are Indian as well as MNC's. Hence, to study the impact of GST on their financial performance in India only the Standalone Financial Statements Consisting of Indian Business is considered.

2.2 Period of the study
For the analysis of the financial performance of sample FMCG companies, 10 years of financial data are collected from the annual reports of the respective companies. 2012-2017 is considered as the Pre-GST period of study and 2017-2022 as the post-GST period.

2.3 Sampling Method and Samples
The companies listed in the BSE FMCG Index and NSE FMCG Index are the sampling frame for the current study**.** 77 FMCG companies are the constituents of the BSE FMCG Index and the 15 companies comprise in NSE FMCG Index (As of 10/06/2023).

The researcher selected FMCG companies that are constituents of the BSE and NSE FMCG Index as the sample for this study. Out of the 15 companies that are constituents of both indices, 10 companies were chosen for the study which are taxed under GST and excluded remaining 5 which are taxed under GST as well as Excise Duty. Table No. 1 gives the list of sampling units for the present study.

Table 1: List of the Sample Companies

Britannia Industries Limited	Hindustan Unilever Limited
Colgate Pamolive India Limited	Marico Limited
Dabur India Limited	Nestle India Limited
Emami Limited	Procter & Gamble Hygiene and Health Care Limited
Godrej Consumer Products Limited	Tata Consumer Products Limited

2.4 Data Source
Information needed to provide the solution to the problem mentioned in the study is originated through secondary sources. The major sources of secondary data for the present study are:

- Goods & Service Tax Act-CGST Act, SGST Act, IGST Act, UT GST Act
- Annual reports of the Sample companies
- Research Journals and Publications, Thesis, Reference books, Websites, etc.

2.5 Tools and Techniques for analysis
The impact of GST on the working capital of the FMCG has been analyzed by examining the financial metrics *viz*., current assets, current liabilities, net working capital, and working capital turnover ratio of 10 sample FMCG

companies. Ratios for the 10 sample companies were calculated for a period of 10 years, from 2012-13 to 2021-22, and categorized as 5 years of pre-GST and post-GST periods. The mean ratio for each year for the 10 companies was calculated, and a comparison was made using paired sample t-tests.

3. GST and Working Capital of the FMCG Sector

The FMCG companies are engaged in a broad spectrum of activities, encompassing the entire lifecycle of manufacturing, marketing, distribution, and sale of everyday consumer products. From developing and producing new products to managing intricate supply chains, FMCG companies are involved in various critical operations where working capital plays a crucial role. GST can impact the working capital of FMCG companies in many ways. Here's a detailed overview of some of the most significant effects of GST on working capital requirements:

- **Early Tax Responsibility:** Under GST, tax responsibility occurs at the point of supply, meaning that FMCG businesses are required to pay taxes at the time that goods are shipped from the factory or warehouse. Working capital needs may rise as a result, especially for companies with long credit terms or supplier networks.
- **Compliance and Administrative Costs:** The obligation to regularly file GST returns, maintain precise records, and adhere to GST standards has resulted in an increase in the administrative costs and working capital requirements for FMCG companies. Simultaneously, the GST simplified the tax system by replacing several State and Union levies. This simplified processes by improving compliance and lowering the complexity of handling different tax payments.
- **Input Tax Credit (ITC):** FMCG companies can claim the GST paid on inputs, raw materials, and services utilized for various processes. As a result, cash flow has improved, and the overall tax burden has decreased. The presence of ITC can boost a company's cash flow and drastically lower its tax burden. As a result, working capital management becomes more effective. The ITC will be documented in the financial records under current assets as “Other current assets” until utilized.
- **Efficient Supply Chain:** The GST removed the necessity for several warehouses spread across several states to avoid interstate taxes. Businesses can now save money and improve inventory management by streamlining their warehouse and logistics plans. MCG companies have derived considerable advantages from this. Previously making up 2% to 7% of overall expenses, distribution expenditures now only make up 1.5%. This tax benefit in logistics and transportation has helped customers.
- **The Accounting Principle for GST:** GST paid on inventory purchases should not be included in the cost of inventories, Cost of Materials Consumed, Purchase of Stock in Trade, or changes in Inventories of Finished Goods and Stock in Trade (SIT) since it qualifies for ITC. Unlike previous regimes where excise duty was treated as a cost, this approach minimizes variations in working capital.

4. Impact of GST on the working capital of the FMCG Companies

4.1 Impact on Current Ratio

Businesses must maintain liquidity for their survival. Therefore, it is important to assess the liquidity position of sample companies and compare it between pre-GST and post-GST periods in order to understand the impact of GST on various current assets and liabilities. The comparison of the current ratio and its statistical test results are given in the following Tables 2 and 3.

Table 2: Comparison of current ratio of the FMCG Sector during the Pre-and Post-GST Period

	Year	Current Ratio	Mean	Difference
Pre-GST	2012-13	1.34	1.48	Increase
	2013-14	1.60		
	2014-15	1.51		
	2015-16	1.47		
	2016-17	1.49		
Post-GST	2017-18	1.81	1.72	
	2018-19	1.90		
	2019-20	1.77		
	2020-21	1.55		
	2021-22	1.56		

The current ratio increased significantly in the immediate post-GST year (2017-18) to 1.81 and reached a peak of 1.90 in 2018-19. After that, it showed a decreasing trend, reaching 1.55 in 2020-21 and slightly increasing to 1.56 in 2021-22.

The mean current ratio of 1.72 during the post-GST period indicates improved liquidity compared to the pre-GST period. The initial increase post-GST suggests that FMCG companies might have experienced an improvement in their financial health and operational efficiencies due to the new tax regime. However, the subsequent decrease from 2018-19 onwards indicates that other factors might have impacted their liquidity, such as market conditions, economic slowdowns, or operational adjustments to the new tax system.

Table 3: Result of Paired sample t-test for H_0A & H_1A

Variable	Observations	Obs. with missing data	Obs. without missing data	Minimum	Maximum	Mean	Std. deviation
Pre GST	5	0	5	1.338	1.605	1.483	0.096
Post GST	5	0	5	1.548	1.904	1.719	0.157

95% confidence interval on the difference between the means	[-0.444,-0.028]
Difference	-0.236
t (Observed value)	-3.147
|t| (Critical value)	2.776
DF	4
p-value (Two-tailed)	**0.035**
alpha	0.05

Since the p-value (0.035) is less than the significance level (Alpha=0.05), rejected the null hypothesis (H0). This indicates a statistically significant difference between the means of the two paired samples.
The 95% confidence interval for the difference between the means ranges from-0.444 to-0.028. Since this interval does not include 0, it further supports the conclusion that there is a significant difference between the two means.

4.2 Impact on the Net Working Capital: Net Working Capital is a vital indicator of a company's short-term financial health, operational efficiency, and overall stability. Regular monitoring and management of NWC are essential for sustaining business operations and supporting long-term growth. The comparison of the net working capital for pre and post-GST period and the paired t-test of the same has been given in the following table no. 4 and 5.

Table 4: Comparison of net working capital of the FMCG Sector during the Pre-and Post-GST Period, (Rs. In Crores)

	Year	Net Working Capital	Mean	Difference
Pre-GST	2012-13	198.02	473.48	Increase
	2013-14	413.56		
	2014-15	357.80		
	2015-16	701.91		
	2016-17	696.12		
Post-GST	2017-18	1056.12	1091.23	
	2018-19	1162.83		
	2019-20	1176.96		
	2020-21	1050.43		
	2021-22	1009.80		

The mean Net Working Capital in the post-GST period is Rs.1091.23 Crores and the pre-GST period is Rs.473.48 Crores, and the difference is Rs. 617.75 Crores. This shows that, on average, the FMCG companies had made a provision for significantly higher working capital in the post-GST period.

Table 5: Result of Paired sample t-test for H_0B & H_1B

Variable	Observations	Obs. with missing data	Obs. without missing data	Minimum	Maximum	Mean	Std. deviation
Pre-GST	5	0	5	198.020	701.912	473.483	220.569
Post-GST	5	0	5	1009.801	1176.964	1091.229	74.169

95% confidence interval on the difference between the means	[-946.599, 288.894]
Difference	-617.747
t (Observed value)	-5.216
|t| (Critical value)	2.776
DF	4
p-value (Two-tailed)	0.006
alpha	0.05

The observed t-value (-5.216) is much greater in magnitude than the critical value (2.776), leading to the rejection of the null hypothesis that the means of the pre-GST and post-GST periods are equal. The p-value of 0.006 is well below the alpha level of 0.05, indicating that the difference in mean Net Working Capital between the two periods is statistically significant.

4.3 Working Capital to Sales Ratio

It is important to consider changes in net working capital in the context of sales figures. The ups and downs in working capital are directly connected to the total sales volume. Consequently, it has been calculated and compared the working capital to sales ratio for a more in-depth examination. This financial measure assesses a company's working capital in relation to its net sales, giving a better understanding of how much of a company's sales are tied up in working capital. This insight helps in determining the working capital required to generate sales. Hence, the table 6 and 7 are essential in this regard.

Table 6: Comparison of Working Capital to Sales Ratio of the FMCG Sector during the Pre-and Post-GST Period

	Year	Working Capital to Sales Ratio	Mean	Difference
Pre-GST	2012-13	0.08	0.09	Increase
	2013-14	0.11		
	2014-15	0.10		
	2015-16	0.10		
	2016-17	0.08		
Post-GST	2017-18	0.15	0.13	
	2018-19	0.15		
	2019-20	0.15		
	2020-21	0.11		
	2021-22	0.10		

The mean ratio of working capital to sales (0.13) for the post-GST period suggests that, on average, 13% of sales were tied up in working capital during this period, which is higher than the pre-GST mean working capital to sales ratio of 0.09. The decrease in the ratio during 2020-21 and 2021-22 to 0.11 and 0.10, respectively, indicates that the company might have taken steps to optimize its working capital relative to sales after the initial adjustment period post-GST.

Table 7: Result of Paired sample t-test for H_0C & H_1C

Variable	Observations	Obs. with missing data	Obs. without missing data	Minimum	Maximum	Mean	Std. deviation
Pre GST	5	0	5	0.076	0.114	0.092	0.016
Post GST	5	0	5	0.103	0.147	0.131	0.022

95% confidence interval on the difference between the means	[--0.066,-0.010]
Difference	-0.038
t (Observed value)	-3.774
|t| (Critical value)	2.776
DF	4
p-value (Two-tailed)	0.020
alpha	0.05

The t-value of-3.774 is greater in magnitude than the critical value of 2.776, leading to the rejection of the null hypothesis that there is no difference between the means. The p-value of 0.020 is less than the alpha level of 0.05, indicating that the increase in the Working Capital to Sales Ratio post-GST is statistically significant.

5. Findings of the study

- During post-GST, the current ratio initially increased, indicating improved operational efficiencies and financial health during 2017-18 (1.81) and 2018-19 (1.90). Although the ratio later declined, it remained above the pre-GST average. These positive trends are attributed to streamlined tax processes and more effective supply chain management.
- The companies had significantly higher (1091.23) net working capital in the post-GST period. The increase indicate that the companies needed to maintain higher working capital levels to manage the transition or meet new regulatory requirements. The increase could also reflect growth in the company's operations, requiring more working capital to support higher levels of inventory, receivables, or other current assets.
- The post-GST mean working capital to sales ratio is higher (0.13) than the pre-GST mean ratio. However, the decrease in later years indicates efforts taken by the companies to optimize working capital after the initial post-GST adjustment.
- As in all the 3 sub hypotheses, the null hypothesis (H_0A, H_0B & H_0C) has been rejected, it shows that, there is a significant difference between the Pre and post-GST working capital of the FMCG Sector and the study found that the pre and post-GST working capital of the FMCG sector has increased significantly.
- The reasons for the difference in working capital in two time periods vary across FMCG categories but generally include factors such as excess inventory held during the transition, increased working capital requirements (pre-GST mean WC was 473.48 Crore and post-GST mean WC was 1091.23 cr.), for the adjustments in cost structures due to ITC.

6. Suggestions

Based on the findings from this study, the following suggestions have been formulated to both the FMCG sector and the Government and GST Council to effectively manage the ongoing impact of GST.

6.1 Suggestions to the FMCG Sector

1. The study found that FMCG companies had significantly higher working capital (1091.23) in the post-GST period. To reduce this, the current ratio needs to be improved. FMCG companies need to ensure timely and accurate claims of input tax credits under GST to reduce the outflow of cash. Regularly review of GST compliance and claims will have to avoid any discrepancies or missed opportunities.
2. The study found that the pre and post-GST working capital of the FMCG sector has increased significantly. Hence, to reduce higher working capital requirements, FMCG companies need to implement advanced inventory management systems to reduce excess stock and improve turnover rates. This helps in freeing up cash that would otherwise be tied up in inventory.
3. FMCG companies should take this opportunity to thoroughly assess their supply chain. Look for inefficiencies, bottlenecks and areas where working capital gets tied up unnecessarily. With GST eliminating the need for multiple sales depots, consider consolidating warehouses. This can reduce logistics costs. Optimize transportation routes and modes to minimize costs and transit times.

6.2 Suggestions to GST Council

FMCG companies had significantly higher working capital (1091.23) in the post-GST period. Hence Study suggests that to reduce this, the current ratio needs to be improved and expand the scope of eligible ITC to include all business-related expenses, such as capital goods and process losses. Ensure timely processing of ITC refunds to improve cash flow for companies.

7. Conclusion

The study reveals that the FMCG sector experienced a significant increase in working capital post-GST, driven by the need to manage the transition and adapt to new regulatory requirements. While initial improvements in operational efficiencies and financial health were observed, companies have since taken steps to optimize their working capital. To further enhance financial management, the study suggests that FMCG companies should refine inventory and supply chain practices, while the GST Council should

consider expanding the scope of eligible input tax credits and adjusting timelines to better align with business cash flow needs.

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