Impact of Goods and Service Tax (GST) on Financial Management of the SSEs - A Study on Ambattur Industrial Estate

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Abstract: ***India's determination to introduce much-needed tax reform, abandoning its complex and inefficient tax system in the federal system to introduce the long-awaited Goods and Services Tax (GST), was widely applauded. This is an important post-independence economic step and requires post-implementation empirical corroboration. There have been so many articles and reviews about the impact of GST on Indian economy as well as in the SSEs both in positive and negative ways, but there is hardly a few empirical study or review about the change that GST has brought in the financial management in SSEs, which creates a huge gap in the research as well as a shortcoming on the part of the implementing authority to pinpoint their strategies to reduce and eliminating the shortcomings and limitations of GST, sectoral and individually too. Thus, the present research has intended to bridge this gap by making an empirical analysis of the impact of GST on financial management of the SSEs, sampled out from Ambattur Industrial Estate, Chennai.***

Keywords: GST, Financial Management, SSEs.

1. Introduction

The implementation of the Goods and Services Tax (GST) in India marked a significant shift in the country's tax regime. The GST replaced multiple indirect taxes, such as excise duty, service tax, and value-added tax (VAT), with a unified tax structure. While the GST aimed to streamline taxation and promote economic growth, its impact on the financial management of Small-Scale Enterprises (SSEs) has been a subject of debate (Deshmukh et.al., 2022). The GST has had a significant impact on the financial management of Small-Scale Industries (SSIs) in India. The GST has replaced multiple taxes such as excise duty, service tax, VAT, etc., with a single tax. This has led to a reduction in the overall tax burden on SSIs. The GST has also simplified the tax structure for SSIs by reducing the number of returns that need to be filed. The GST has also made it easier for SSIs to do business by reducing the compliance burden. However, there have been some challenges faced by SSIs due to the implementation of GST. One of the main challenges is the lack of awareness among SSIs about the new tax regime. Another challenge is the increase in compliance costs due to the need for more frequent filing of returns. The GST has had a significant impact on the financial management of SSIs in India. While there have been some challenges faced by SSIs due to the implementation of GST, overall, it has simplified the tax structure and reduced the overall tax burden on SSIs (Bhattacharya, 2017; Bindal & Gupta, 2018).

2. Background of the Study and Literature Survey

One of the key objectives of implementing GST was to simplify and streamline the taxation process. SSIs, which often struggled with complex tax compliance procedures under the previous system, were expected to benefit from the harmonization of tax rules. According to a study by the Federation of Indian Micro and Small & Medium Enterprises (FISME), the GST has reduced the compliance burden for SSIs, leading to improved financial management (FISME, 2018). GST introduced the concept of Input Tax Credit (ITC), allowing businesses to claim credit for taxes paid on inputs used in the production process. This provision positively impacted the working capital management of SSIs. By availing ITC, SSIs reduced their tax liability, thereby freeing up funds that could be used for other operational requirements. A report by the Reserve Bank of India (RBI) highlights that the availability of ITC under GST has eased the working capital constraints faced by SSIs (RBI, 2019).

GST brought a significant portion of the informal economy into the formal sector. This transition has enabled SSIs to access various financial services and benefits, including formal credit facilities. With improved financial documentation and transparency, SSIs have better prospects of obtaining loans and financial assistance from banks and other financial institutions. A study by the Confederation of Indian Industry (CII) found that GST implementation has positively impacted the formalization of SSIs, facilitating their access to finance (CII, 2018). A research paper by Nair & Chatterjee (2020) indicates that the initial cost of compliance impacted the financial management of SSIs, particularly those with limited resources with respect to invest in accounting software, training, and digital infrastructure which increased the cost of compliance for SSIs.

The GST framework eliminated the cascading effect of taxes, reducing the overall tax burden for SSIs. However, the impact on pricing and profitability varies across sectors. SSIs involved in essential commodities or sectors with higher tax rates experienced a decline in profitability due to increased tax rates under GST. On the other hand, sectors benefiting from reduced tax rates witnessed improved profitability. A study conducted by KPMG (2017) highlights the variation in the impact of GST on pricing and profitability across different SSIs. The implementation of GST brought about a period of transition and adjustment for SSIs. During this phase, businesses faced challenges related to cash flow disruptions, inventory management, and changes in procurement patterns. The Federation of Indian Export Organizations (FIEO) observed that the initial period of adjustment impacted the financial stability and management of SSIs (FIEO, 2017).

The Goods and Services Tax (GST) is a significant taxation turnaround by the Indian government aimed at one nation, one tax, and one market. It has been a significant economic move post-independence and requires validation of facts after its introduction. The present study aims to present a general macroeconomic analysis of the extent to which the adoption of GST has improved existing financial management practices, tax administration and resultant general economic well-being of the responding SSEs, sampled out from the Ambattur Industrial Estate, Chennai.

3. Objectives of the study

The present has undertaken with the objective to analyse the impact of GST on the financial management of the SSEs in the study area.

The hypothesis, intended to be tested, is H_0: *There are no significant changes in the financial management among the SSEs due to the introduction of the GST.*

4. Research Methodology

Ambattur Industrial Estate, located in the outskirts of Chennai, Tamil Nadu, was selected as the area of this study. It is the largest small industrial zone in India and South Asia. Ambattur industrial zone covers an area of about 5 square kilometres and is home to about 1800 units of SMEs. Commissioned by the Government of Tamil Nadu in 1964, this is the oldest and largest industrial area developed in and around the city by Tamil Nadu Small Industrial Development Corporation (TN-SIDCO). Ambatur Industrial Estate is a specially designated industrial estate that mainly manufactures auto parts, apparel and engineering products. Total number of industries in the Ambattur Industrial estate is 1,589 as per the DIC website, at the end of FY 2020-21. Hence, by analysing the amount of fixed investment from the annual reports of the FY 2020-21 of the 90.94% of the organisations (1445 units) as available in the office of the AIEMA – Ambattur Industrial Estate Manufacturer's Association, the population size for the study has been considered as 476 units i.e., (30% of 1589). By using the Cochran's formula of sample size, with 95% confidence level and ±5% precision, the sample size is calculated as 214. Finally, for ease of calculation, the sample size has been fixed at 250. A structured schedules / questionnaires had been developed after the literature review and defining the variables for the study, which was pilot tested. After checking for its consistency, the schedules /questionnaire were finalised and administered over the respondents to collect the primary data, during January 2023, selected randomly through a Lottery Method. The primary data, so collected, were undergone data refinement, tabulation and subsequently, analyses by using appropriate statistical software. The analysis and its inferences have been presented in two parts, viz. in the first part, the impact of GST on financial management has been presented whereas in the later part, the problems and constraints faced by the responding units have been presented.

5. Analysis and Interpretation

The data, with respect to the primary sources, collected from the 250 responding organisations, has been undergone the test of internal consistency through Cronbach's Alpha Test and the results are presented in the table 01. as reflected from the table the Cronbach's alpha score (.829) is high and all the responses from the samples are consistent internally, i.e., precise, reproducible, and consistent from one testing occasion to another. We interpret the score as a high degree of elemental credibility, and internal consistency of the questionnaire. Thus, the data is ready for statistical analysis.

Table 1: Cronbach's Alpha Test of Internal Consistency

Cronbach's Alpha	Cronbach's Alpha based on Standardized Items	N of Items
.829	.829	257

Sources: Primary data collected in 2022-23 and analysis in 2023

Table 02 has presented the physical cash in hand balance of the responding SSEs across the seven FYs. There was a great decrease in the cash in hand balance in the FY 2019-20 of negative 8.20% due to the covid impact. This change increased to 4.30% in FY 2020-21 and a marginal increase of 0.52% in FY 2021-22 due to the digitalisation of the transaction. The minimum cash in hand balance has deep decrease from 70 crores in FY 2017-18 to 35 crores in FY 2019-20. It also shows a declining trend in the maximum cash in hand balance in the pre-GST period which was maintained during the post-GST period. The low scores of SD shows a low variance of the data with the mean data. A CAGR of -1.27% in the post GST period indicates the declining average of the cash balance in the responding SSEs after the introduction of the GST which promotes even the digitalisation of transactions. Though the pre-GST period CAGR shows a positive 1.50%, the total CAGR of the cash balance in the responding SSEs shows -0.07%.

Table 2: Cash in Hand (fig. in Rs. Lakh) during the FY 2015-16 to 2021-22

FYs	Min.	Max.	Mean	SE to Mean	SD	Variance	Changes
2015-16	68	472	205.72	3.446	65.989	4354.548	
2016-17	68	487	209.34	3.457	69.197	4788.225	1.76%
2017-18	70	500	211.92	4.252	67.237	4520.814	1.23%
2018-19	42	400	212.88	4.275	67.593	4568.814	0.45%
2019-20	35	400	195.42	4.518	71.437	5103.245	-8.20%
2020-21	61	400	203.82	4.216	66.656	4443.022	4.30%
2021-22	50	450	204.87	4.178	66.061	4364.056	0.52%
CAGR	Pre-GST		1.50%	Post-GST	-1.27%	Total	-0.07%

Sources: Primary data collected in 2022-23 and analysis in 2023

Table 03 displays the Cash at bank balance of the responding SSEs during the five FYs. Though the change in the cash at bank balance show decreasing change of 2.37% in the FY 2018-19 it has increased to a positive 13.20% in the FY 2019-20, which got a dip of negative 6.6% in the FY 2020-21 and increased again 2.85% in the FY 2121-22. There was fall in the minimum bank balance in FY 2018-19 and same minimum bank balance in the FYs 2019-20 and 2020-21. There was an increase in the minimum bank balance of 70 crores in the FY 2021-22. There were ups and down in the maximum bank balance of some of the responding units over the seven FYs. The low scores of SD shows low variance in the bank balance of the respondents during the five FYs. The pre-GST period CAGR shows change of 3.28% and the post-GST period shows a change of 2.84%. The decrease in the change may be due to the negative 6.60% in FY 2021-22. A total CAGR of 2.90% shows an average annual growth in the bank balance of the responding units during the study period.

Table 3: Cash at Bank (fig. in Rs. Lakh) during the FY 2015-16 to 2021-22

FYs	Min.	Max.	Mean	SE to Mean	SD	Variance	Changes
2015-16	15	472	125.72	3.446	56.872	3234.424	-
2016-17	22	487	129.34	3.457	59.111	3494.110	2.88%
2017-18	30	317	134.09	3.422	54.101	2926.918	3.67%
2018-19	15	300	137.27	3.606	57.014	3250.596	2.37%
2019-20	50	500	155.39	3.908	61.786	3817.510	13.20%
2020-21	50	300	145.14	3.489	55.167	3043.398	-6.60%
2021-22	70	300	149.28	3.483	55.076	3033.366	2.85%
CAGR	Pre-GST		3.28%	Post-GST	2.84%	Total	2.90%

Sources: Primary data collected in 2022-23 and analysis in 2023

Cost of holding cash is the opportunity cost which would have been realized if invested in assets. Table 04 shows the cost of cash holding of the respondents during the five FYs. There is an increased change of 5.45% in the cost of cash holding in the succeeding year of GST introduction i.e., FY 2018-19, which went down by 0.62% in FY 2019-20 and 3.45% in FY 2020-21. Slowly it increased again in FY 2021-22 by 1.75%. The minimum cost of holding cash remained fixed in the responding units over five FYs as Rs. 10,000, whereas the maximum cost has a large variation over the FYs. The low scores of SD contributes for a low variance from the mean data. The pre-GST period CAGR is 3.28% and post-GST CAGR is 2.84% shows a marginal decrease in the cost of cash holding in the responding SSEs over the seven FYs after the introduction of the GST.

Table 4: Cost of Cash Holding (fig. in Rs.) during the FY 2015-16 to 2021-22

FYs	Min.	Max.	Mean	SE to Mean	SD	Variance	Changes
2015-16	1000	30000	28750	1346.76	7554.98	57077722.800	
2016-17	1000	35000	29500	1345.79	7893.46	62306710.772	2.61%
2017-18	10000	37500	30976	474.674	7505.247	56328732.531	5.00%
2018-19	10000	35000	32664	1438.449	22743.884	517284259.405	5.45%
2019-20	10000	35000	32460	1334.835	21105.596	445446182.515	-0.62%
2020-21	10000	38000	31340	475.354	7516.007	56490361.224	-3.45%
2021-22	10000	38000	31888	790.921	12505.559	156389005.902	1.75%
CAGR	Pre-GST		3.28%	Post-GST	2.84%	Total	2.90%

Sources: Primary data collected in 2022-23 and analysis in 2023

Average debtors are the debtors who are expected to be on an average throughout the year, which is arrived by finding the average of opening debtors and closing debtors. Table 05 has presented with the average debtors of the respondents during the five FYs. The average debtors increased by 2.02% in the FY 2017-18. There is a decrease in the average debtors during the FYs 2018-19 and 2019-20 with -1.73% and -1.43% respectively. It started increasing 4.61% in the FY 2020-21 and 1.45% in the FY 2021-22. The minimum debtors remained fixed throughout the study period and the maximum debtors were as high as 500 crores in the FY 2020-21. The low scores of SD lead to low variance in the average debtors during the five FYs. There is a slight increase in the post-GST CAGR (1.51%) as compared to the pre-GST CAGR (1.14%) shows a positive but a low average debtor after the introduction of the GST in the year 2017.

Table 5: Average Debtors (fig. in Rs. Lakhs) during the FY 2015-16 to 2021-22

FYs	Min.	Max.	Mean	SE to Mean	SD	Variance	Changes
2015-16	100	380	143.95	3.458	58.922	3471.802	
2016-17	100	400	145.27	3.598	58.752	3451.798	0.92%
2017-18	100	400	148.20	3.753	59.337	3520.880	2.02%
2018-19	100	400	145.64	3.686	58.287	3397.374	-1.73%
2019-20	100	300	143.56	3.549	56.11	3148.332	-1.43%
2020-21	100	500	150.18	3.726	58.906	3469.917	4.61%
2021-22	100	400	152.36	3.664	57.94	3357.044	1.45%
CAGR	Pre-GST		1.47%	Post-GST	1.51%	Total	0.95%

Sources: Primary data collected in 2022-23 and analysis in 2023

Debtors' ratio also known as debtors' turnover ratio which is calculated to understand the number of times the debtors are being turned over the net credit sales. Table 06 has presented with the debtors' ratio of the responding SSEs during the seven FYs. There is a positive change in the ratio of 1.33% in the FY 2018-19, followed by a decline of 1.05% in FY 2019-20, with no change in the FY 2020-21and with a good increase of 2.93% in the FY 2021-22. The variance is low for the debtors' ratio during the five FYs due to low scores of SD. The negative CAGR of -1.31% during the pre-GST period become positive increase CAGR of 0.61% in the post-GST period. Thus, the compounded change can be seen in the debtors' ratio of the responding SSEs over the seven FYs after the introduction of the GST.

Table 6: Debtor's Ratio during the FY 2015-16 to 2021-22

FYs	Min.	Max.	Mean	SE to Mean	SD	Variance	Changes
2015-16	2	28	3.85	0.123	2.457	6.037	
2016-17	2	27	3.87	0.214	2.478	6.140	0.52%
2017-18	2	27	3.75	0.15	2.375	5.641	-3.10%
2018-19	2	28	3.8	0.164	2.597	6.744	1.33%
2019-20	2	19	3.76	0.139	2.194	4.814	-1.05%
2020-21	2	19	3.76	0.139	2.194	4.814	0.00%
2021-22	2	28	3.87	0.186	2.945	8.673	2.93%
CAGR	Pre-GST		-1.31%	Post-GST	0.61%	Total	0.09%

Sources: Primary data collected in 2022-23 and analysis in 2023

Average collection period is calculated by dividing the no. of days in the year upon the debtors' ratio to arrive at the no. of days on an average the debtors are collected. The table 07 has displayed with the average collection period of the debtors of the respondents during the five FYs. It is seen a declining trend in the average collection period of the respondents during the study period. There was no change in the FY 2020-21. The minimum no. of days was lowest of 13 days in the FYs 2018-19 and 2021-22. The maximum number of days of the respondents remained same 150 days over the seven FYs. The decreasing rate of CAGR has reduced from -0.54% in the pre-GST period to -0.04% in the post-GST period in the average collection period of the responding SSEs after the introduction of the GST. There is an overall decrease of -0.22% in the collection period over the study period.

Table 7: Average collection period (fig. in days) during the FY 2015-16 to 2021-22

FYs	Min.	Max.	Mean	SE to Mean	SD	Variance	Changes
2015-16	13	150	110.450	1.432	26.789	717.651	
2016-17	15	150	110.123	1.479	25.374	643.840	-0.30%
2017-18	14	150	109.260	1.593	25.194	634.738	-0.78%
2018-19	13	150	109.100	1.618	25.582	654.439	-0.15%
2019-20	20	150	108.990	1.627	25.724	661.724	-0.10%
2020-21	20	150	108.990	1.627	25.724	661.724	0.00%
2021-22	13	150	108.970	1.645	26.014	676.728	-0.02%
CAGR	Pre-GST		-0.54%	Post-GST	-0.04%	Total	-0.22%

Sources: Primary data collected in 2022-23 and analysis in 2023

Average creditors are the creditors who are expected to be on an average throughout the year, which is arrived by finding the average of opening creditors and closing creditors. Table 08 has presented with the average creditors of the respondents during the seven FYs. There is a declining positive change of 1.27% in the FY 2018-19. There is a negative 3.08% during the FY 2019-20 which may be due to the impact of the pandemic. Then it has increased by 3.32% in the FY 2020-21 and a negative 0.68% in the FY 2021-22. The minimum average creditors remained same as 100 crores across the seven FYs among the responding SSEs. The maximum average creditors have ups and downs of highest of 500 crores in FY 2021-22. The low score of respective standard deviation of the five FYs indicates that the variance across the responding SSEs is very low, and a general trend with respect to the average creditors has been prevailed throughout the Ambattur Industrial Estates. A declining trend of CAGR of -2.45% is seen in the pre-GST period and -0.12% of CAGR in the post-GST period. However, the total CAGR (0.96%) of the study period has shown a positive impact of the change after introduction of the GST which reduces the input taxes and the price of the inputs.

Table 8: Average Creditors (fig. in Rs. Lakhs) during the FY 2015-16 to 2021-22

FYs	Min.	Max.	Mean	SE to Mean	SD	Variance	Changes
2015-16	100	300	126.45	3.002	26.789	717.651	-
2016-17	100	300	128.12	3.179	25.374	643.840	1.32%
2017-18	100	300	132.72	3.054	48.294	2332.310	3.59%
2018-19	100	400	134.40	3.348	52.944	2803.067	1.27%
2019-20	100	400	130.26	3.248	51.359	2637.747	-3.08%
2020-21	100	500	134.84	3.464	54.774	3000.191	3.52%
2021-22	100	300	133.92	3.142	49.672	2467.308	-0.68%
CAGR	Pre-GST		-2.45%	Post-GST	-0.12%	Total	0.96%

Sources: Primary data collected in 2022-23 and analysis in 2023

Creditors' ratio also known as creditors turnover ratio which is calculated to understand the number of times the creditors are being turned over the net credit purchases. Table 09 has presented with the creditors' ratio of the responding SSEs during the seven FY s. There was a negative change of 0.56% in the creditors' ratio in the FY 2018-19 which has a positive 0.93% change in the FY 2019-20, with no change in the FY 2020-21 and again a positive change of 0.37% in the FY 2021-22. The low scores of SD indicates a low variance in the creditors' ratio during the seven FYs. A CAGR of positive 0.94% is shown in the pre-GST period and 0.43% of CAGR is shown in the post-GST period. It shows a decreasing rate of change in the creditors' ratio of the respondents after the introduction of the GST.

Table 9: Creditor's Ratio during the FY 2015-16 to 2021-22

FYs	Min.	Max.	Mean	SE to Mean	SD	Variance	Changes
2015-16	1	10	5.29	0.102	0.189	0.036	-
2016-17	1	10	5.30	0.179	0.674	0.454	0.19%
2017-18	1	12	5.39	0.063	0.994	0.988	1.70%
2018-19	2	11	5.36	0.056	0.878	0.771	-0.56%
2019-20	3	9	5.41	0.052	0.823	0.677	0.93%
2020-21	3	9	5.41	0.052	0.823	0.677	0.00%
2021-22	3	14	5.43	0.068	1.079	1.164	0.37%
CAGR	Pre-GST		0.94%	Post-GST	0.43%	Total	0.44%

Sources: Primary data collected in 2022-23 and analysis in 2023

Average payment period is calculated by dividing the no. of days in the year upon the creditors' ratio to arrive at the no. of days on an average the creditors are paid. The table 10 has displayed with the average payment period of the creditors of the respondents during the seven FYs. There is an increase of 1.25% in the FY 2018-19, followed by a negative 1.34% fall in the FY 2019-20. In the FYs 2020-21 and 2021-22 there is a slight increase of 0.07% and 0.18% respectively. The least of the minimum payment days is 25 days in the FYs 2015-16 and 2016-17. The maximum payment days is 120 days in all the FYs except in FY 2018-20 it is 175 days which was the succeeding year of GST introduction and FYs 2015-16 and 2016-17 with 110 days. The positive CAGR of 1.93% during the pre-GST period has reduced to a negative CAGR of -0.37% during the post-GST period. Thus, it shows the decrease in the payment period of the respondents after the introduction of the GST.

Table 10: Average payment period (fig. in days) during the FY 2015-16 to 2021-22

FYs	Min.	Max.	Mean	SE to Mean	SD	Variance	Changes
2015-16	25	110	65.29	0.102	0.189	0.036	
2016-17	25	110	65.37	0.179	0.674	0.454	0.12%
2017-18	30	120	67.87	0.7	11.071	122.567	3.82%
2018-19	34	175	68.72	0.791	12.505	156.375	1.25%
2019-20	40	120	67.8	0.678	10.726	115.047	-1.34%
2020-21	40	120	67.85	0.672	10.622	112.827	0.07%
2021-22	26	120	67.97	0.708	11.198	125.395	0.18%
CAGR	Pre-GST		1.96%	Post-GST	-0.37%	Total	0.67%

Sources: Primary data collected in 2022-23 and analysis in 2023

Average inventory is the inventory that is expected to be on an average throughout the year in the business, which is arrived by finding the average of opening inventory and closing inventory. Table 11 has presented with the average inventory of the respondents during the five FYs. There is an increase of 0.73% of the average inventory in the FY 2018-19, which went to an increase of 3.65% in the FY 2019-20 may be due to the covid pandemic. There was a decrease of 2.70% in the FY 2020-21 and again an increase of 3.66% in the FY 2021-22. The low score of respective standard deviation of the five FYs indicates that the variance across the responding SSEs is very low, and a general trend with respect to the average inventory has been prevailed throughout the Ambattur Industrial Estates. A CAGR pre-GST period of 0.23% has increased to 1.49% of CAGR during the post-GST period. this has shown a positive impact of the change after introduction of the GST which reduces the input taxes and the price of the inputs.

Table 11: Average Inventory (fig. in Rs. Lakhs) during the FY 2015-16 to 2021-22

FYs	Min.	Max.	Mean	SE to Mean	SD	Variance	Changes
2015-16	75	320	137.50	2.111	33.532	1124.395	
2016-17	77	320	137.75	2.189	33.546	1125.334	0.18%
2017-18	80	321	138.14	2.113	33.413	1116.429	0.28%
2018-19	95	350	139.15	2.191	34.637	1199.722	0.73%
2019-20	75	358	144.23	2.248	35.544	1263.376	3.65%
2020-21	80	421	140.34	2.361	37.327	1393.305	-2.70%
2021-22	20	512	145.48	2.696	42.632	1817.487	3.66%
CAGR	Pre-GST		0.23%	Post-GST	1.49%	Total	0.94%

Sources: Primary data collected in 2022-23 and analysis in 2023

Holding period is the no. of days the inventory lies in the business which is arrived by dividing no. of days in a year (365) upon the inventory turnover ratio. Table 12 has presented the holding period of the inventory of the respondents over the seven FYs. There is a good change of 1.22% in the FY 2018-19 after the introduction of the GST in 2017. It decreased by 1.12% in the FY 1.12% due to the covid pandemic. Then it increased by 1.94% and 1.09% in the FYs 2020-21 and 2021-22 respectively. The low SD scores indicates a low variance in the holding period of the respondents across the five FYs. The CAGR remains a positive increase of 0.63% both during the pre-GST and post-GST period. A 0.73% of total CAGR shows a good change in the holding period after the introduction of the GST.

Table 12: Holding period (fig. in days) during the FY 2015-16 to 2021-22

FYs	Min.	Max.	Mean	SE to Mean	SD	Variance	Changes
2015-16	24	100	48.72	2.111	33.532	1124.395	
2016-17	25	100	49.12	2.189	33.546	1125.334	0.82%
2017-18	26	100	49.34	0.81	12.799	163.814	0.45%
2018-19	19	100	49.94	0.84	13.286	176.518	1.22%
2019-20	30	130	49.38	0.814	12.87	165.637	-1.12%
2020-21	30	130	50.34	0.876	13.857	192.016	1.94%
2021-22	30	130	50.89	0.953	15.073	227.195	1.09%
CAGR	Pre-GST		0.63%	Post-GST	0.63%	Total	0.73%

Sources: Primary data collected in 2022-23 and analysis in 2023

Table 13 has presented with the current assets of the respondents across five FYs. There is a great increase of 8.76% in the FY 2018-19 which slowly came down to 5.32% in FY 2019-20 and 4.88% in FY 2021-22. It again gained its momentum in FY 2021-22 by an increase of 7.61%. The low score of respective standard deviation of the five FYs indicates that the variance across the responding SSEs is very low, and a general trend with respect to the total current assets has been prevailed throughout the Ambattur Industrial Estates. There is good increase in the CAGR from 1.88% during the pre-GST period to 5.93% of CAGR during the post-GST period. It has shown a positive impact of the change in the current assets after introduction of the GST.

Table 13: Current Assets (fig. in Rs. Lakhs) during the FY 2015-16 to 2021-22

FYs	Min.	Max.	Mean	SE to Mean	SD	Variance	Changes
2015-16	100	600	256.72	4.111	63.532	4036.315	-
2016-17	100	600	260.67	4.189	63.546	4038.094	1.54%
2017-18	100	620	266.46	4.269	67.506	4557.060	2.22%
2018-19	120	650	289.8	4.103	64.872	4208.376	8.76%
2019-20	100	700	305.22	4.765	75.342	5676.417	5.32%
2020-21	100	720	320.1	4.875	77.078	5941.018	4.88%
2021-22	100	750	344.47	5.335	84.351	7115.091	7.61%
CAGR	Pre-GST		1.88%	Post-GST	5.93%	Total	5.02%

Sources: Primary data collected in 2022-23 and analysis in 2023

Table 14 has shown with the current liabilities of the respondents across the five FYs. There is a decrease of 0.91% in the current liabilities in the FY 2018-19, which increased by 2.80% in FY 2019-20. The change in the current liabilities is 0.85% in FY 2020-21 and 3.05% in FY 2021-22. The low score of respective standard deviation of the five FYs indicates that the variance across the responding SSEs is very low, and a general trend with respect to the total assets has been prevailed throughout the Ambattur Industrial Estates. The pre-GST period CAGR is of 0.99% and the post-GST period CAGR is of 2.23% which has shown a positive impact of the change in the current liabilities after the introduction of the GST which reduces the input taxes and the price of the inputs.

Table 14: Current Liabilities (fig. in Rs. Lakhs) during the FY 2015-16 to 2021-22

FYs	Min.	Max.	Mean	SE to Mean	SD	Variance	Changes
2015-16	100	330	196.75	2.711	43.589	1900.001	
2016-17	100	340	198.25	2.789	43.946	1931.251	0.76%
2017-18	100	350	200.67	2.852	45.092	2033.288	1.22%
2018-19	90	350	202.50	3.024	47.807	2285.509	0.91%
2019-20	12	350	208.17	3.548	56.103	3147.547	2.80%
2020-21	12	400	209.94	3.45	54.554	2976.139	0.85%
2021-22	100	420	216.34	3.516	55.599	3091.249	3.05%
CAGR	Pre-GST		0.99%	Post-GST	2.23%	Total	1.59%

Sources: Primary data collected in 2022-23 and analysis in 2023

Table 15 shows the total assets of the respondents over the seven FYs. There is great change of 6.11% in the FY 2018-19 which is the very next year of the GST introduction. The next FY 2019-20 there was an increase by 4.29%, it is less than the previous year, may be because of the covid pandemic. In the FY 2020-21 it was 0.57% and in FY 2021-22 it was an increase of 3.59%. The low score of respective standard deviation of the five FYs indicates that the variance across the responding SSEs is very low, and a general trend with respect to the total assets has been prevailed throughout the Ambattur Industrial Estates. There is quite positive change in the CAGR of pre-GST period (0.48%) and post-GST period CAGR (2.80) which has shown a positive impact of the change after introduction of the GST.

Table 15: Total Assets (fig. in Rs. Lakhs) during the FY 2015-16 to 2021-22

FYs	Min.	Max.	Mean	SE to Mean	SD	Variance	Changes
2015-16	100	1100	455.91	12.711	183.589	33704.921	
2016-17	150	1200	458.75	12.789	193.946	37615.051	0.62%
2017-18	150	1280	460.28	10.330	163.329	26676.362	0.33%
2018-19	200	1390	488.42	10.377	164.08	26922.246	6.11%
2019-20	200	5200	509.36	21.465	339.386	115182.857	4.29%
2020-21	200	1750	512.24	11.004	173.996	30274.608	0.57%
2021-22	240	1450	530.61	10.892	172.221	29660.073	3.59%
CAGR	Pre-GST		0.48%	Post-GST	2.80%	Total	2.56%

Sources: Primary data collected in 2022-23 and analysis in 2023

Table 16 has presented with the total liabilities of the respondents across the five FYs. Throughout the FYs there is a positive change in the total liabilities which has shown a highest increase of 3.87% in the FY 2018-19 which is the very next year of the GST introduction. The low score of respective standard deviation of the five FYs indicates that the variance across the responding SSEs is very low, and a general trend with respect to the total liabilities has been prevailed throughout the Ambattur Industrial Estates. The pre-GST period CAGR is of 2.22% and the post-GST CAGR is of 1.69% which has shown a fall in the change of total liabilities after introduction of the GST.

Table 16: Total Liabilities (fig. in Rs. Lakhs) during the FY 2015-16 to 2021-22

FYs	Min.	Max.	Mean	SE to Mean	SD	Variance	Changes
2015-16	70	380	245.50	3.419	56.769	3222.719	
2016-17	80	400	250.55	3.495	56.112	3148.557	2.06%
2017-18	85	450	256.50	3.635	57.479	3303.835	2.37%
2018-19	100	900	266.43	4.460	70.518	4972.788	3.87%
2019-20	100	450	272.10	3.999	63.236	3998.792	2.13%
2020-21	33	480	274.41	4.068	64.315	4136.419	0.85%
2021-22	15	480	280.13	4.294	67.902	4610.682	2.08%
CAGR	Pre-GST		2.22%	Post-GST	1.69%	Total	2.22%

Sources: Primary data collected in 2022-23 and analysis in 2023

Table 17 has presented with the grand mean of various financial performance and financial management parameters for the total periods under study i.e., FY 2015-16 to FY 2021-22, pre-GST periods i.e., FY 2015-16 to 2017-18, and post-GST periods FY 2018-19 to 2021-2022, and analyses the difference between the two periods with the absolute and percentage change.

Table 17: Grand Mean of the financial Parameters of the Responding SSEs

Parameters	Grand mean Total Period	Grand Mean Pre-GST	Grand Mean Post-GST	Differences	% Change
Total Sales	631.94	593.27	660.94	67.67	11.41%
Cash Sales	29.98	29.43	30.40	0.97	3.30%
Credit Sales	553.20	502.37	591.33	88.96	17.71%
Working Capital	159.78	153.05	164.83	11.78	7.70%
Loan Taken	121.25	119.08	122.88	3.80	3.19%
Average Stock	147.81	140.37	153.39	13.01	9.27%
Total Purchase	158.72	153.19	162.86	9.67	6.31%
Cash Purchase	28.20	25.77	30.03	4.25	16.49%
Credit Purchases	128.77	123.34	132.83	9.49	7.69%
Profit/Loss	179.08	167.87	187.49	19.62	11.69%
Cash in Hand	206.28	181.20	204.25	23.05	12.72%
Cash at Bank	139.46	129.72	146.77	17.05	13.14%
Cost of Cash holding	31082.57	29742.00	32088.00	2346.00	7.89%
Average Debtors	147.02	145.81	147.94	2.13	1.46%
Average Creditors	131.53	129.10	133.36	4.26	3.30%
Average Inventory	140.37	137.80	142.30	4.50	3.27%

Current Asset	291.92	261.28	314.90	53.61	20.52%
Current Liability	204.66	198.56	209.24	10.68	5.38%
Total Assets	487.94	458.31	510.16	51.84	11.31%
Total Liability	263.66	250.85	273.27	22.42	8.94%

Sources: Primary data collected in 2022-23 and analysis in 2023

The statistics has presented the following inferences:

1) There is an increase of 11.4% of change in the total volume of sales before and after GST. The grand mean of the total sales volume of the total period is 631.94 crores, pre-GST period is 593.27 crores and post-GST period is 660.94 crores. The net difference in the grand mean of the total sales volume between the pre-GST period and post-GST period is 67.67 crores.
2) The total cash sales have increased by 3.30% when compared with the pre-GST and post-GST periods. The grand mean of the cash sales of the total period is 29.98 crores, pre-GST period is 29.43 crores and post-GST period is 30.40 crores. The net difference in the grand mean of cash sales amounts to 0.97 crores.
3) The Grand mean of total credit sales for the total period is 553.20 crores, pre-GST period is 502.37 crores, post-GST period is 591.33 crores. The net difference between the post-GST period and pre-GST period amounts to 88.96 crores. There is an increase of 17.71% of credit sales after the introduction of the GST.
4) The Grand mean of working capital for the total period is 159.78 crores, pre-GST period is 153.05 crores, post-GST period is 164.83 crores. The net difference in the grand mean between the post-GST period and pre-GST period amounts to 11.78 crores. There is an increase of 7.70% of working capital employed by the responding SSEs after the introduction of the GST.
5) The total loan taken has increased by 3.19% when compared with the pre-GST and post-GST periods. The grand mean of the loan taken of the total period is 121.25 crores, pre-GST period is 119.08 crores and post-GST period is 122.88. The net difference in the grand mean amounts to 3.80 crores.
6) There is an increase of 9.27% of change in the average stock before and after GST. The grand mean of the average stock of the total period is 147.81 crores, pre-GST period is 140.37 crores and post-GST period is 153.39 crores. The net difference in the grand mean in the average stock between the pre-GST period and post-GST period is 13.01 crores.
7) The Grand mean of total purchases for the total period is 158.72 crores, pre-GST period is 153.19 crores, post-GST period is 162.86 crores. The net difference in the grand mean of total purchases between the post-GST period and pre-GST period amounts to 9.67 crores. There is an increase of 6.31% of total purchases by the responding SSEs after the introduction of the GST.
8) The Cash purchases witnessed an increase of 16.49% in the post-GST period when compared with the pre-GST period. The grand mean of the cash purchases of the total period is 28.20 crores, pre-GST period is 25.77 crores and post-GST period is 30.03 crores. The net difference in the grand mean of cash purchases between the pre-GST period and post-GST period is 13.01 crores.
9) The Credit purchases witnessed an increase of 7.69% in the post-GST period when compared with the pre-GST period. The grand mean of the credit purchases of the total period is 128.77 crores, pre-GST period is 123.34 crores and post-GST period is 132.83 crores. The net difference in the grand mean of credit purchases between the pre-GST period and post-GST period is 9.49 crores.
10) The Profit witnessed an increase of 11.69% in the post-GST period when compared with the pre-GST period. The grand mean of the profit of the total period is 179.08 crores, pre-GST period is 167.87 crores and post-GST period is 187.49 crores. The net difference in the grand mean of profit between the pre-GST period and post-GST period is 19.62 crores.
11) The Grand mean of cash in hand balance for the total period is 206.28 crores, pre-GST period is 181.20 crores, post-GST period is 204.25 crores. The net difference in the grand mean of cash in hand balance between the post-GST period and pre-GST period amounts to 23.05 crores. There is an increase of 12.72% of cash in hand balance by the responding SSEs after the introduction of the GST.
12) The Grand mean of cash at bank balance for the total period is 139.46 crores, pre-GST period is 129.72.19 crores, post-GST period is 146.77 crores. The net difference in the grand mean of cash at bank balance between the post-GST period and pre-GST period amounts to 17.05 crores. There is an increase of 13.14% of cash at bank balance by the responding SSEs after the introduction of the GST.
13) The total cost of cash holding has increased by 7.89% when compared with the pre-GST and post-GST periods. The grand mean of the cost of cash holding of the total period is Rs. 31082.57, pre-GST period is Rs. 29472 and post-GST period is Rs. 32088. The net difference in the grand mean of cost of cash holding amounts to Rs. 2346.
14) There is an increase of 3.27% of change in the average inventory before and after GST. The grand mean of the average inventory of the total period is 140.37 crores, pre-GST period is 137.80 crores and post-GST period is 142.30 crores. The net difference in the grand mean of the average inventory between the pre-GST period and post-GST period is 4.50 crores.
15) There is an increase of 20.52% of change in the current assets before and after GST. The grand mean of the current assets of the total period is 291.92 crores, pre-GST period is 261.28 crores and post-GST period is 314.90crores. The net difference in the grand mean of the current assets between the pre-GST period and post-GST period is 53.61 crores.
16) There is an increase of 5.38% of change in the current liabilities before and after GST. The grand mean of the current liabilities of the total period is 204.66crores, pre-GST period is 198.56 crores and post-GST period is 209.24 crores. The net difference in the grand mean of the current liabilities between the pre-GST period and post-GST period is 10.68 crores.

17) The Total Assets witnessed an increase of 11.31% in the post-GST period when compared with the pre-GST period. The grand mean of the Total Assets of the total period is 487.94 crores, pre-GST period is 458.31 crores and post-GST period is 510.16 crores. The net difference in the grand mean of Total Assets between the pre-GST period and post-GST period is 51.84 crores.
18) The Total Liabilities witnessed an increase of 8.94% in the post-GST period when compared with the pre-GST period. The grand mean of the Total Liabilities of the total period is 263.66 crores, pre-GST period is 250.85 crores and post-GST period is 273.27 crores. The net difference in the grand mean of Total Liabilities between the pre-GST period and post-GST period is 22.42 crores.

Table 18 has presented with the financial ratios that are calculated from the financial parameters during the pre-GST period and the post-GST period. The current ratio during the pre-GST period is 1.32 and the post-GST period is 1.50. Though there is an increase in the current ratio, it is still within the limit of the ideal ratio i.e., 2. The debtors' ratio has witnessed a very slight fall from the pre-GST period to the post-GST period. Average collection period has also come down which a good sign for the SSEs. The creditors' ratio of the pre-GST period is 5.33 and the post-GST period is 5.43. The average payment period has increased from 66.18 during pre-GST to 68.09 during post-GST period. The inventory turnover ratio has fall down indicating the two years of Covid-19 impairment. The holding period has increased from 49.06 days in the pre-GST period to 50.14 days in the post-GST period. The working capital turnover ratio has gone up a little from 3.88 to 4.01 during these periods. There is a slight increase in the net profit ratio in the post-GST period (28.37%) as compared to the pre-GST period (28.30%).

Table 18: Financial Ratios of the Responding SSEs during Pre-GST and Post-GST Period

Financial Ratio	Pre-GST	Post-GST
Current ratio	1.32	1.50
Debtors' ratio	3.82	3.80
Average collection period	109.94	109.01
Creditors' ratio	5.33	5.43
Average payment period	66.18	68.09
Inventory Turnover Ratio	7.44	7.28
Holding period	49.06	50.14
Working capital Turnover ratio	3.88	4.01
Net Profit ratio	28.30%	28.37%

Sources: Primary data collected in 2022-23 and analysis in 2023

6. Results

All the financial performance and financial management parameters shows a positive growth while comparing the grand mean of two periods and a positive difference in absolute figure is obtained from the analysis. The financial ratios viz., current ratio, inventory turnover ratio, working capital turnover ratio and net profit ratio during the post-GST period have been higher than those of during the pre-GST period. All the above analysis has indicated a positive change in the financial management parameters and parameters with respect to the tax management and compliances. It has also pointed towards a good performance during the post-GST period in comparison to the pre-GST periods though the performance of the SSEs had been highly impaired during the COVID-19. Thus, the first hypothesis of the study; "*There are no significant changes in the financial management among the SSEs due to the introduction of the GST*" has been rejected and the alternative hypothesis has been accepted.

7. Conclusion

In conclusion, the impact of the Goods and Services Tax (GST) on Small-Scale Enterprises (SSEs) in the study area has been a mixed bag. On one hand, GST has brought about positive changes such as a simplified tax structure, increased performances, and the formalization of and easiness in the record keeping activities on the other hand it increased the dependence on outsiders for tax compliances, and cost and time. The former has contributed to the growth and development of SSEs, providing them with opportunities to expand their activities, market reach and improve profitability. However, SSEs have also faced certain challenges during the implementation of GST. Compliance complexities, technological adaptation, and coping with frequent regulatory changes have posed hurdles for many SSEs, particularly those with limited resources and technological capabilities. These challenges highlight the need for policymakers to provide adequate support, simplify compliance procedures, and facilitate technology adoption to ensure the smooth functioning and sustainable growth of SSEs in the GST regime. Moving forward, it is crucial for stakeholders to continue monitoring the impact of GST on SSIs and address any emerging issues promptly. By striking a balance between streamlining the tax structure and minimizing compliance burdens, policymakers can create an enabling environment for SSIs to thrive, further contributing to the economic growth and development of the country.

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