

# A STUDY ON INPUT TAX CREDIT UTILIZATION EFFICIENCY AMONG MSME'S UNDER GST

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*Abstract -This paper analyses the utilization efficiency of input tax credit by MSMEs under GST during the financial years 2017 to 2020. The study uses secondary data drawn from GSTR returns and related financial records. The findings indicate an average ITC utilization rate of 96.61 percent, with a positive correlation between ITC utilization and profitability ( $r = 0.548$ ). Regression analysis also suggests that ITC utilization is an important predictor of business profitability. The study concludes that GST reconciliation software can improve matching accuracy and support better credit utilization.*

## I. INTRODUCTION

GST, introduced in July 2017, unified India's indirect tax system through a common input tax credit framework. MSMEs benefit from the tax offset mechanism, but many face difficulty in reconciling GSTR-2A and GSTR-3B, which can block working capital and create cash flow pressure. This study evaluates the efficiency of ITC utilization among selected MSMEs and examines whether effective credit use contributes to profitability. It also highlights the operational challenges faced during reconciliation and the need for technological support to improve compliance.

## II. OBJECTIVES

- To analyses the extent and efficiency of ITC utilization by the chosen MSMEs under the GST regime.
- To analyses the trends and patterns in ITC utilization, compliance costs, and cash tax payments during FY2017 to FY2020.
- To explore the relationship between ITC utilization and the financial performance of MSMEs.
- To assess the impact of efficient ITC utilization on working capital and profitability using statistical tools.
- To identify roadblocks in ITC reconciliation and suggest improvements.

## III. BACKGROUND OF THE STUDY

Before GST, MSMEs faced cascading taxes through VAT, excise duty, and CST, increasing their tax burden significantly. GST promised seamless credit flow, but in practice many MSMEs experienced delays, rejections, compliance expenses, and higher working capital needs. Pondicherry-based

MSMEs particularly face issues such as supplier mismatches and practical portal difficulties. This study addresses that gap using multi-year ITC data from seven firms.

#### IV. JUSTIFICATION OF THE STUDY

This study is important because MSMEs may incur recurring GST compliance costs and ITC mismatches that directly affect working capital. At the same time, limited local research connects ITC trends with profitability and cash flow effects over a longer period. The study is expected to support policy understanding, business decision-making, and practical reconciliation improvements.

#### V. REVIEW OF LITERATURE

- Murugan (2025) observed that GST accounting challenges such as complex return filing and frequent rate changes increase compliance burden for MSMEs.
- Sharma (2022) linked GST procedural changes and reconciliation gaps with working capital compression and lower profitability.
- Kanrar (2019) reviewed the utilization rules under Section 16 of the CGST Act and noted weak awareness and documentation issues among MSMEs

#### VI. METHODOLOGY

- Research Design: Analytical research focused on the relationship between ITC utilization efficiency and financial performance.
- Sampling Technique: Stratified sampling based on turnover size and nature of business such as manufacturing, trading, and services.
- Data Sources: GSTR-3B returns, ITC registers, financial statements, GST portal records, and tax audit reports.
- Sample Size and Period: Seven MSMEs and 28 observations covering FY2017 to FY2020.

#### VII. DATA SOURCES

- GSTR-3B returns + ITC registers
- Financial Statements (P&L, balance sheet)
- GST Portal (ITC-01, ITC-04)
- audit reports for FY17 to FY20

#### VIII. SAMPLE SIZE & PERIOD

- 7 MSMEs – 28 observations (7 \* 4)
- FY17 to FY20 covers baseline, implementation year, stabilization

#### IX. DATA ANALYSIS AND INTERPRETATION

- Input tax credit allows a business to reduce the GST amount to be paid by claiming a credit for taxes paid on purchases.
- Businesses compute ITC efficiency as follows:
- **ITC efficiency = Utilized ITC ÷ available ITC × 100**

- Results from this study showed that the average utilization of ITC for 7 firms was 96.61%, implying that a business successfully claims all input tax credit despite the challenges of compliance.

## X. STATISTICAL FINDINGS

### 1. RATIO ANALYSIS

- PROFITABILITY RATIO:** It measures 7 MSMEs' success in converting revenue into profit after GST implementation.
- Gross profit ratio (82-91%) is stable despite ITC compliance costs, whereas net profit ratio (4-12%) reflects differences in operational efficiencies of the firm

#### a) GROSS PROFIT RATIO

| YEAR | FIRM 1 | FIRM 2 | FIRM 3 | FIRM 4 | FIRM 5 | FIRM 6 | FIRM 7 |
|------|--------|--------|--------|--------|--------|--------|--------|
| 2017 | 91.67% | 82.26% | 91.67% | 87.43% | 84.88% | 85.00% | 86.09% |
| 2018 | 91.39% | 82.29% | 91.94% | 86.84% | 84.44% | 85.14% | 86.30% |
| 2019 | 91.20% | 83.33% | 91.18% | 86.67% | 84.00% | 85.32% | 86.37% |
| 2020 | 91.33% | 82.47% | 90.77% | 86.38% | 83.33% | 85.47% | 86.43% |

**INTERPRETATION:** Gross Profit Ratio reveals a declining trend from (41-59%) to (37-59%), implying that input costs are increasing. Net Profit Ratio for better performers remains stable, i.e., for Firm 5, it is 21%, but for weak performers, the ratio deteriorates

#### b) NET PROFIT RATIO

| YEAR | FIRM 1 | FIRM 2 | FIRM 3 | FIRM 4 | FIRM 5 | FIRM 6 | FIRM 7 |
|------|--------|--------|--------|--------|--------|--------|--------|
| 2017 | 4.44%  | 11.29% | 5.00%  | 8.57%  | 10.27% | 8.33%  | 7.14%  |
| 2018 | 4.31%  | 12.00% | 6.04%  | 9.47%  | 11.11% | 8.22%  | 6.00%  |
| 2019 | 4.80%  | 11.90% | 5.88%  | 9.05%  | 12.00% | 8.11%  | 6.44%  |
| 2020 | 5.00%  | 12.37% | 6.15%  | 9.36%  | 12.04% | 8.00%  | 6.86%  |

**INTREPRETATION:** Net Profit Ratio has shown a declining trend in most firms (Firm 1: 16.39% to 12.02%, Firm 4: 8.48% to 6.62%). This shows that operating cost pressures are increasing. Firm 6 has retained its lead

#### c) OPERATING PROFIT RATIO

| YEAR | FIRM 1 | FIRM 2 | FIRM 3 | FIRM 4 | FIRM 5 | FIRM 6 | FIRM 7 |
|------|--------|--------|--------|--------|--------|--------|--------|
| 2017 | 8.33%  | 17.74% | 8.33%  | 12.57% | 15.12% | 15.00% | 13.92% |
| 2018 | 8.61%  | 17.14% | 8.05%  | 13.16% | 15.56% | 14.75% | 13.70% |
| 2019 | 8.80%  | 16.67% | 8.82%  | 13.33% | 16.00% | 14.73% | 13.63% |
| 2020 | 9.33%  | 17.53% | 9.23%  | 13.62% | 16.67% | 14.53% | 13.57% |

**INTREPRETATION:** Operating Profit Ratio shows declining trend in almost all companies (Firm 1: 21.85% - 16.03%) signifying an increase in operating costs. Firm 6 retains top spot (31.33%-31.23%) due to superior operating efficiencies

## 2. LIQUIDITY RATIO

### a) CURRENT RATIO

Current ratio (1.8-2.4) of 7 MSMEs reflects adequate solvency after GST implementation. Stable liquidity positions (0.9-1.3) of firm confirm adequate working.

| CURRENT RATIO |      |      |      |      |
|---------------|------|------|------|------|
| FIRMS         | 2017 | 2018 | 2019 | 2020 |
| FIRMS1        | 2.86 | 2.9  | 2.95 | 3    |
| FIRMS2        | 3.25 | 3.1  | 3.3  | 3.45 |
| FIRMS3        | 2.4  | 2.45 | 2.5  | 2.5  |
| FIRMS4        | 2.6  | 2.67 | 2.72 | 2.74 |
| FIRMS5        | 3.8  | 3.84 | 3.87 | 3.89 |
| FIRMS6        | 2.51 | 2.47 | 2.52 | 2.55 |
| FIRMS7        | 2.7  | 2.75 | 2.77 | 2.8  |

**INTREPRETATION:** All the companies have a healthy liquidity position as indicated by the Current Ratio, which is above 2.0. Firm 5 leads in this area, increasing from (1.9 to 3.0), followed by Firm 6, which improves from

### b) QUICK RATIO

| FIRMS  | 2017 | 2018 | 2019 | 2020 |
|--------|------|------|------|------|
| FIRMS1 | 2.29 | 2.32 | 2.38 | 2.42 |
| FIRMS2 | 1.78 | 2.7  | 2.86 | 2.89 |
| FIRMS3 | 1.96 | 1.98 | 2    | 2.05 |
| FIRMS4 | 1.39 | 2.15 | 2.22 | 2.25 |
| FIRMS5 | 1.17 | 2.85 | 2.86 | 2.89 |
| FIRMS6 | 2    | 1.97 | 2.04 | 2.07 |
| FIRMS7 | 2.22 | 2.75 | 2.77 | 2.8  |

**INTREPRETATION:** Quick Ratio indicates that all firms have a satisfactory liquidity position with the range of 0.7-2.9. However, Firm 4 has the highest quick ratio, increasing from 1.39 to 2.95. This indicates better inventory management. All firms have

### 3. SOLVENCY RATIO

#### a) DEBIT – EQUITY RATIO

| FIRMS  | 2017 | 2018 | 2019 | 2020 |
|--------|------|------|------|------|
| FIRMS1 | 0.45 | 0.42 | 0.38 | 0.35 |
| FIRMS2 | 0.32 | 0.3  | 0.28 | 0.25 |
| FIRMS3 | 0.55 | 0.52 | 0.48 | 0.45 |
| FIRMS4 | 0.4  | 0.38 | 0.35 | 0.32 |
| FIRMS5 | 0.65 | 0.62 | 0.58 | 0.55 |
| FIRMS6 | 0.5  | 0.48 | 0.45 | 0.42 |
| FIRMS7 | 0.35 | 0.33 | 0.3  | 0.28 |

**INTREPRETATION:** Debt Equity Ratio shows all firms are conservatively levered, i.e., <1.5. The lowest debt dependence of Firm 3, i.e., from 0.88 to 0.31, shows that this firm highly depends on equity financing, whereas all other firms are maintaining a balanced capital structure

#### b) DEBIT RATIO

| FIRMS  | 2017 | 2018 | 2019 | 2020 |
|--------|------|------|------|------|
| FIRMS1 | 0.31 | 0.29 | 0.27 | 0.25 |
| FIRMS2 | 0.24 | 0.23 | 0.22 | 0.2  |
| FIRMS3 | 0.35 | 0.34 | 0.32 | 0.31 |
| FIRMS4 | 0.29 | 0.28 | 0.26 | 0.24 |
| FIRMS5 | 0.39 | 0.38 | 0.36 | 0.35 |
| FIRMS6 | 0.33 | 0.32 | 0.3  | 0.29 |
| FIRMS7 | 0.26 | 0.25 | 0.23 | 0.22 |

**INTREPRETATION:** The debt ratios, such as TRMS1: 0.51→0.28 dip→0.57; TRMS4: stable at 0.54-0.62; and TRMS7: increasing to 0.68, all less than 1.0 and indicate strong solvency. The fluctuations in the values of TRMS1 indicate that the debt was reduced in 2018 and then rebuilt.

### 4. TREND ANALYSIS

#### a) ITC – Utilization

| Years | firm 1 | firm 2 | firm 3 | firm 4 | firm 5 | firm 6 | firm 7 |
|-------|--------|--------|--------|--------|--------|--------|--------|
| FY17  | 97.96% | 95.11% | 92.26% | 94.55% | 96.90% | 93.68% | 91.07% |
| FY18  | 98.84% | 96.80% | 94.29% | 95.83% | 97.62% | 95.12% | 93.87% |
| FY19  | 99.26% | 98.04% | 96.00% | 97.36% | 98.55% | 97.14% | 95.43% |
| FY20  | 99.65% | 98.71% | 97.83% | 98.64% | 99.07% | 98.40% | 97.18% |

**INTERPRETATION:** The utilization rate of ITC continued to increase steadily from 91-98% (FY20) for all 7 MSMEs, indicating higher maturity in GST compliance. Both firms 1 and 5 have reported almost perfect utilization at 99% by FY20.

### b) ITC BALANCE

| Years | firm 1 | firm 2 | firm 3 | firm 4 | firm 5 | firm 6 | firm 7 |
|-------|--------|--------|--------|--------|--------|--------|--------|
| FY17  | 0.5    | 2.2    | 1.2    | 1.2    | 1.8    | 2.4    | 2.5    |
| FY18  | 0.3    | 1.6    | 1      | 1      | 1.5    | 2      | 1.9    |
| FY19  | 0.2    | 1.1    | 0.8    | 0.7    | 1      | 1.3    | 1.6    |
| FY20  | 0.1    | 0.8    | 0.5    | 0.4    | 0.7    | 0.8    | 1.1    |

**INTERPRETATION:** The trend in carry forward ITC balances shows a decrease in amounts from 3-7 lakhs (FY19) to 2-4 lakhs (FY20) for all 7 MSMEs. This shows that there is an improvement in input tax matching. Optimal results were recorded by firm 4 with least amount of 2 lakh in FY20, whereas firm 7 recorded high amounts of 4 lakh.

### c) CASH TAX PAID

| Years | firm 1 | firm 2 | firm 3 | firm 4 | firm 5 | firm 6 | firm 7 |
|-------|--------|--------|--------|--------|--------|--------|--------|
| FY17  | 8      | 7.2    | 5.7    | 7.2    | 8.8    | 9.4    | 9.5    |
| FY18  | 8      | 6.6    | 5.5    | 7      | 8.5    | 9      | 8.9    |
| FY19  | 8.2    | 5.1    | 5.8    | 6.2    | 7      | 7.8    | 8.6    |
| FY20  | 8.1    | 3.8    | 5.5    | 5.9    | 5.7    | 5.8    | 7.1    |

**INTERPRETATION:** cash tax payments decreased from 12-17 lakhs to 8-14 lakhs in FY 20, which shows the increasing reliance on ITC offsets post GST stabilization. Firm 1 and 3 showed maximum reduction in cash tax payments (30-35%)

## 5. DESCRIPTIVE STATISTICS

|                      | N  | Minimum | Maximum | Mean      | Std. Deviation |
|----------------------|----|---------|---------|-----------|----------------|
| GSTCOMPLIANCE COST   | 28 | 7.57    | 18.50   | 12.6425   | 2.83863        |
| TOTAL REVENUE LAKHS  | 28 | 704.28  | 1520.30 | 1099.0950 | 220.13779      |
| NET PROFIT AFTER TAX | 28 | 50.07   | 265.40  | 154.8471  | 65.59008       |
| CURRENT RATIO        | 28 | 2.40    | 3.89    | 2.9157    | .46690         |
| DEBT TO EQUITY RATIO | 28 | .25     | .65     | .4182     | .10917         |
| ITC UTILIZATION      | 28 | 91.07   | 99.65   | 96.6129   | 2.21633        |
| CASH TAX PAID        | 28 | 3.80    | 9.50    | 7.1393    | 1.47982        |
| Valid N (list wise)  | 28 |         |         |           |                |

**INTREPRETATION:** MSMEs enjoyed good liquidity (CR = 2.09) and moderate leverage (DTR = 0.45) along with high compliance levels (96.61%), which indicates good financial health despite the challenges posed by ITC

## 6. CORRELATION

This study revealed moderate positive correlation between ITC utilization rate and net profit margins, with correlation coefficient (r) of 0.584,  $p < 0.05$ , for 7 MSMEs. Negative correlation (r = -0.423) was revealed for current ratio and debt ratio as expected, whereas cash tax paid revealed strong positive correlation (r = 0.672,  $p < 0.01$ ) with total compliance costs

## 7. REGRESSION

The findings of the study revealed that the multiple regression model explained the variation of 31.2% ( $R^2 = 0.312$ ,  $F = 4.823$ ,  $P < 0.05$ ). ITC utilization was identified as the most significant predictor ( $\beta = 0.421$ ,  $P < 0.05$ )

## XI. CONCLUSION

The study concludes that the GST input tax credit mechanism has made a positive contribution to MSME profitability. The analysis of seven firms from FY2017 to FY2020 shows high and improving ITC utilization, moderate positive association with profitability, and reduced cash tax burden over time. Although compliance challenges continue, efficient ITC utilization emerges as a strategic advantage for MSMEs. Better reconciliation practices and software adoption can further strengthen financial performance

## XII. FINDINGS

- ITC utilization improved from 91 percent in FY2017 to nearly 99 percent in FY2020 for the selected MSMEs.
- Net profitability showed a moderate positive association with ITC utilization.
- Current ratios indicated robust liquidity across the sample firms.
- Regression results suggested that ITC utilization explained a meaningful share of profit variation.
- Carry-forward unmatched ITC balances declined over the study period.
- Cash tax payments reduced as reliance on ITC offsets increased after GST stabilization.

## XIII. SUGGESTIONS

MSMEs should adopt regular monthly GSTR-2A and GSTR-3B reconciliation practices to improve the accuracy of credit claims. They should also invest in GST-compliant software and staff training to reduce mismatches and documentation errors. Periodic ratio analysis can help firms monitor liquidity, profitability, and the broader financial effects of GST compliance. Future studies may extend this work to other sectors and wider regional samples

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