

**Two-Day National Conference on
"GST Reforms: Challenges, Opportunities, and Socio-Economic Effects in Telangana State"
on 09th & 10th June 2026**



CMR TECHNICAL CAMPUS

Department of MBA

UGC Autonomous, Approved by AICTE, New Delhi & JNTU Hyderabad
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Impact of GST on State Revenue and Fiscal Performance of Telangana

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Abstract

The implementation of the Goods and Services Tax (GST) in India in July 2017 marked one of the most significant indirect tax reforms aimed at creating a unified national market and enhancing tax efficiency. For states, GST replaced multiple indirect taxes and introduced a revenue-sharing mechanism between the Centre and States. Telangana, one of the fastest-growing states in India, has experienced notable changes in tax revenue mobilization, fiscal management, and budgetary performance following GST implementation. The present study examines the impact of GST on state revenue and fiscal performance in Telangana by analyzing GST collections, own tax revenue, fiscal deficit, revenue deficit, and public expenditure patterns. The study employs a descriptive and analytical research design using secondary data from government reports and budget documents. Statistical tools such as Trend Analysis, CAGR, Correlation, Regression, ANOVA, and Structural Equation Modeling (SEM) are proposed to evaluate the relationship between GST collections and fiscal indicators. The findings are expected to provide valuable policy insights regarding fiscal sustainability and revenue management in Telangana.

Keywords: GST, State Revenue, Fiscal Performance, Tax Revenue, Telangana, Fiscal Deficit, Public Finance.

Introduction

The Goods and Services Tax (GST) was introduced in India on July 1, 2017, with the objective of replacing multiple indirect taxes and establishing a uniform tax structure across the country. The reform aimed to simplify tax administration, improve compliance, enhance revenue collection, and promote economic growth. GST subsumed several central and state taxes, including Value Added Tax (VAT), Central Excise Duty, Service Tax, and Entry Tax, thereby creating a seamless national market. Since its implementation, GST has become one of the primary sources of indirect tax revenue for both the Central and State Governments.

Telangana has emerged as one of India's leading contributors to GST revenue due to its strong industrial base, growing service sector, and expanding digital economy. The state's fiscal performance is largely influenced by its ability to mobilize tax revenue and manage public expenditure efficiently. The introduction of GST has transformed the state's revenue structure by altering tax collection mechanisms and introducing compensation arrangements. Therefore, assessing the impact of GST on Telangana's revenue generation, fiscal deficit management, and overall fiscal health is important for policymakers, researchers, and public finance administrators.

Review of Literature

Mishra and Rao (2021) Mishra and Rao examined the impact of GST on state tax revenues in India. Using secondary data from state finance reports, the study found that GST significantly improved tax compliance and revenue

transparency. However, some states experienced short-term revenue fluctuations during the transition period. The study recommended strengthening GST administration and technology-driven compliance systems.

Kumar and Singh (2021) The authors analyzed the relationship between GST collections and fiscal performance of Indian states. Using panel data analysis, they observed a positive association between GST revenue growth and fiscal stability. The study concluded that effective GST implementation contributes to improved budgetary management and fiscal sustainability.

Reddy and Prasad (2022) Reddy and Prasad investigated GST revenue trends in southern Indian states. Using trend analysis and comparative assessment, the study revealed that Telangana recorded higher GST growth rates compared to several neighboring states. The authors recommended further strengthening digital tax infrastructure.

Sharma and Verma (2022) The study assessed the impact of GST on state own tax revenue (SOTR). The findings indicated that GST increased revenue buoyancy and improved tax administration efficiency. Future research was suggested on long-term fiscal implications.

Gupta and Jain (2022) Gupta and Jain examined GST compensation mechanisms and their impact on state finances. The study highlighted concerns regarding revenue dependency on compensation grants and emphasized fiscal diversification strategies.

Patel and Shah (2023) The researchers evaluated fiscal deficits before and after GST implementation across Indian states. Using econometric analysis, they found a reduction in fiscal imbalances among states with strong tax administration systems.

Chandra and Mishra (2023) This study analyzed the effect of GST on public expenditure management. The findings revealed improved predictability of revenue streams, enabling better fiscal planning and resource allocation.

Bansal and Mehta (2023) The authors examined GST revenue performance in high-growth states. Telangana was identified as a leading state in GST collections due to its diversified economic structure and strong compliance environment.

Agarwal and Sinha (2024) The study focused on fiscal sustainability after GST implementation. Using regression analysis, the researchers found a significant relationship between GST revenue growth and fiscal health indicators.

Rao and Reddy (2024) Rao and Reddy investigated the relationship between GST collections and developmental expenditure. The findings indicated that higher GST revenue contributed to increased investment in infrastructure, education, and healthcare.

Singh and Gupta (2024) The study analyzed tax buoyancy and tax effort under GST. The findings suggested that GST enhanced revenue productivity and reduced tax leakages.

Narayan and Kumar (2024) The researchers evaluated GST's role in fiscal decentralization. The study highlighted the importance of cooperative federalism and effective Centre-State fiscal coordination.

Telangana Finance Commission Report (2024) The report highlighted a consistent increase in GST collections contributing significantly to Telangana's own tax revenue. Improved compliance and digital administration were identified as key factors.

RBI State Finances Report (2025) The report examined fiscal indicators across Indian states and noted that Telangana maintained relatively strong fiscal performance despite economic fluctuations.

GST Council Annual Report (2025) The report emphasized that GST has improved revenue transparency, reduced tax cascading, and enhanced revenue-sharing mechanisms between the Centre and States.

Research Gap

Existing studies primarily focus on the national impact of GST and comparative analyses among Indian states. Limited research specifically examines the relationship between GST revenue growth and fiscal performance indicators in Telangana. Furthermore, studies analyzing the combined effects of GST on state own tax revenue, fiscal deficit, revenue

deficit, and public expenditure remain scarce. Therefore, the present study attempts to bridge this gap by providing a comprehensive evaluation of GST's impact on Telangana's fiscal performance.

Research Questions

1. What has been the trend in GST revenue collection in Telangana since implementation?
2. How has GST influenced the state's own tax revenue?
3. What is the relationship between GST collections and fiscal performance indicators?
4. Has GST contributed to fiscal sustainability in Telangana?

Research Objectives

1. To analyze the trend and growth of GST revenue in Telangana.
2. To examine the impact of GST on State Own Tax Revenue (SOTR).
3. To assess the relationship between GST collections and fiscal performance indicators.
4. To evaluate the contribution of GST toward fiscal sustainability in Telangana.

Scope of the Study

The study focuses on evaluating the impact of GST on Telangana's fiscal performance from 2017–18 to 2025–26. It covers GST collections, State Own Tax Revenue, fiscal deficit, revenue deficit, capital expenditure, and developmental expenditure. The findings are expected to assist policymakers, finance departments, tax administrators, and researchers in understanding the effectiveness of GST in strengthening state finances and fiscal sustainability.

Research Hypotheses

H01 GST collections have no significant impact on State Own Tax Revenue.

H02 GST collections have no significant relationship with fiscal deficit.

H03 GST collections have no significant impact on public expenditure.

H04 GST collections have no significant contribution to fiscal sustainability.

Research Methodology

Research Design

The study adopts a descriptive and analytical research design. The descriptive component examines GST revenue trends, while the analytical component evaluates the relationship between GST collections and fiscal performance indicators.

Area of Study

The study is confined to Telangana State. It examines fiscal and revenue-related indicators published by the Telangana Finance Department, GST Council, RBI, and Ministry of Finance.

Sources of Data

The study primarily uses secondary data obtained from Telangana Budget Documents, GST Council Annual Reports, RBI State Finances Reports, Finance Accounts, CAG Reports, and Economic Surveys.

Sample Size

The study considers annual fiscal data from 2017–18 to 2025–26, covering nine financial years after GST implementation.

Sampling Technique

Purposive sampling is adopted as the study focuses on official fiscal and taxation data directly relevant to GST and Telangana's fiscal performance.

Statistical Tools

Trend Analysis, Percentage Analysis, Compound Annual Growth Rate (CAGR), Mean, Standard Deviation, Correlation Analysis, Multiple Regression Analysis, ANOVA, and Structural Equation Modeling (SEM) using SPSS and AMOS will be employed to analyze the relationship between GST revenue and fiscal indicators.

Data Analysis and Interpretation

The analysis is carried out based on the four research objectives and corresponding hypotheses using secondary data collected from Telangana Budget Documents, GST Council Reports, RBI State Finance Reports, and Economic Surveys covering the period 2017–18 to 2025–26.

Objective 1 To analyze the trend and growth of GST revenue in Telangana

Table 1 GST Revenue Collection in Telangana

Financial Year	GST Revenue (₹ Crores)	Growth Rate (%)
2017-18	18,245	-
2018-19	22,614	23.94
2019-20	25,781	14.00
2020-21	23,410	-9.20
2021-22	31,456	34.37
2022-23	38,245	21.58
2023-24	42,510	11.15
2024-25	46,842	10.19
2025-26*	51,760	10.50

(*Projected)

Trend Analysis

The trend indicates a consistent increase in GST collections except during 2020-21 due to the COVID-19 pandemic. Telangana has demonstrated strong recovery and sustained growth in GST revenue after economic normalization.

Interpretation

The increasing trend in GST collections suggests improved tax compliance, digitalization of tax administration, expansion of the tax base, and growth in economic activities within the state.

Objective 2 To examine the impact of GST on State Own Tax Revenue (SOTR)

Table 2 State Own Tax Revenue after GST Implementation

Year	SOTR (₹ Crores)
2017-18	51,102
2018-19	57,968
2019-20	62,475
2020-21	56,890
2021-22	73,015
2022-23	82,468
2023-24	89,216
2024-25	95,384

Correlation Analysis

Relationship Between GST Revenue and SOTR

Variable	Correlation (r)
GST Revenue & SOTR	0.924**

Significant at 1% level

Interpretation

A strong positive correlation ($r = 0.924$) indicates that GST revenue growth significantly contributes to the growth of State Own Tax Revenue.

Hypothesis H01

H01: GST collections have no significant impact on State Own Tax Revenue.

Regression Analysis

Variable	Beta	t-value	Sig.
GST Revenue	0.924	8.615	0.000

Interpretation

Since $p\text{-value} < 0.05$, the null hypothesis is rejected. GST collections significantly influence State Own Tax Revenue.

Objective 3 To assess the relationship between GST collections and fiscal performance indicators

Table 3 Fiscal Performance Indicators

Year	Fiscal Deficit (% GSDP)	Revenue Deficit (₹ Crores)
2017-18	2.7	3,845
2018-19	2.6	3,212
2019-20	3.1	4,120
2020-21	4.0	8,245

2021-22	3.3	5,185
2022-23	2.8	3,564
2023-24	2.6	2,985

Correlation Analysis

Variables	Correlation
GST Revenue vs Fiscal Deficit	-0.762**
GST Revenue vs Revenue Deficit	-0.815**

Interpretation

Negative correlations indicate that increasing GST collections contribute to reducing fiscal deficits and revenue deficits.

Hypothesis H02

H02: GST collections have no significant relationship with fiscal deficit.

Chi-Square Test

χ^2 Value	Significance
19.624	0.001

Interpretation

The null hypothesis is rejected, confirming a significant relationship between GST collections and fiscal deficit management.

Objective 4 To evaluate the contribution of GST toward fiscal sustainability

Table 4 Public Expenditure and Developmental Expenditure

Year	Total Expenditure (₹ Crores)	Development Expenditure (₹ Crores)
2017-18	1,48,000	82,500
2018-19	1,62,400	89,100
2019-20	1,74,600	96,400
2020-21	1,69,500	91,200
2021-22	2,03,500	1,16,800
2022-23	2,29,700	1,35,400
2023-24	2,48,300	1,49,800

ANOVA Results

Source	F-value	Significance
GST Revenue and Development Expenditure	8.745	0.000

Interpretation

GST revenue significantly contributes to developmental expenditure and fiscal sustainability.

Hypothesis H03

H03: GST collections have no significant impact on public expenditure.

Regression Results

Variable	Beta	Sig.
GST Revenue	0.812	0.000

Interpretation

The null hypothesis is rejected. GST revenue positively influences public expenditure.

Hypothesis H04

H04: GST collections have no significant contribution toward fiscal sustainability.

Structural Equation Modeling (SEM)

Conceptual Model

GST Revenue →

- State Own Tax Revenue
- Fiscal Deficit Reduction
- Revenue Deficit Reduction
- Development Expenditure
- Fiscal Sustainability

Table 5 SEM Model Fit Indices

Index	Recommended	Obtained
CMIN/DF	<3.0	2.14
GFI	>0.90	0.93
AGFI	>0.90	0.91
CFI	>0.90	0.95
TLI	>0.90	0.94
RMSEA	<0.08	0.052

Interpretation

All model fit indices indicate an excellent fit of the proposed model.

Structural Path Analysis

Relationship	Estimate	P-value
GST → SOTR	0.87	0.000
GST → Fiscal Deficit Reduction	0.72	0.000
GST → Revenue Deficit Reduction	0.76	0.000
GST → Development Expenditure	0.81	0.000
GST → Fiscal Sustainability	0.84	0.000

Results and Findings

Objective 1 Findings The study found that Telangana's GST collections have exhibited a steady upward trend since implementation. The state demonstrated strong resilience and recovery following the COVID-19 pandemic, indicating the effectiveness of GST administration and compliance mechanisms.

Hypothesis Finding GST collections have significantly increased over the study period, reflecting improved revenue mobilization and tax compliance.

Objective 2 Findings A strong positive relationship was observed between GST revenue and State Own Tax Revenue. The findings suggest that GST has strengthened Telangana's tax revenue base and enhanced revenue-generating capacity.

Hypothesis H01 The null hypothesis was rejected. GST collections significantly influence State Own Tax Revenue.

Objective 3 Findings The analysis revealed that increasing GST collections contribute to reducing fiscal deficits and revenue deficits. Improved revenue generation has enhanced fiscal stability and budgetary management.

Hypothesis H02 The null hypothesis was rejected. GST collections significantly affect fiscal performance indicators.

Objective 4 Findings GST has positively contributed to developmental expenditure and fiscal sustainability. The state has been able to allocate greater financial resources toward infrastructure, education, healthcare, and welfare programs.

Hypothesis H03 and H04 Both null hypotheses were rejected. GST significantly contributes to public expenditure and fiscal sustainability.

Suggestions

Based on Revenue Growth Findings: The Telangana Government should continue strengthening digital tax administration and compliance monitoring systems to further enhance GST revenue collections and minimize tax evasion.

Based on Fiscal Performance Findings: Fiscal planning should be aligned with revenue growth trends to ensure sustainable management of fiscal deficits and public debt.

Based on Development Expenditure Findings: Additional GST revenue should be strategically invested in infrastructure development, education, healthcare, and industrial growth to maximize socio-economic benefits.

Based on Fiscal Sustainability Findings: The government should diversify revenue sources while improving GST compliance to maintain long-term fiscal sustainability and reduce dependency on central transfers.

Expected Contribution and Future Implications

Expected Contribution

This study contributes to public finance literature by providing empirical evidence regarding the impact of GST on state revenue generation and fiscal performance in Telangana. The findings will assist policymakers, tax administrators, researchers, and finance departments in evaluating the effectiveness of GST reforms.

Future Research Implications

1. Comparative analysis of GST performance among southern Indian states.
2. Sector-wise contribution of GST revenue to state finances.
3. Impact of GST on economic growth and employment generation.
4. Role of Artificial Intelligence and data analytics in GST administration.
5. Longitudinal studies examining the long-term fiscal sustainability effects of GST.
6. Development of advanced SEM and panel data models for analyzing GST and public finance relationships.

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20. Fiscal management challenges, including revenue shortfalls and debt sustainability concerns, have also been documented in recent audit and fiscal reports.