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Assessment of GST's Impact on State Revenue: A Comparative Analysis of Revenue Patterns

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Abstract

This research paper is written on the edifice of the Goods and Service Tax (GST) introduced in India through 101st Constitutional Amendment marking a significant reform in the country's indirect tax system. GST could be introduced in its Indianized version only with the states' sacrifice of their vital fiscal autonomy. Aimed towards enhanced revenue, GST has variedly impacted the revenue patterns of different states. This study comparatively analyzed the pre-GST and post-GST revenue trends across major states. The findings indicated that while GST has led to an overall increase in tax revenue for most states, the magnitude of impact varies significantly. The study highlights the need for further research to assess the long-term implications of adopted GST model on state finances and to strategize enhancement of revenue stability and equity in the GST regime.

Keywords*: Goods and Services Tax; State fiscal Autonomy; revenue patterns; Indirect tax reform; India.*

I. Introduction

The Goods and Services Tax (GST) was introduced as a comprehensive, multi-stage, destination-based tax that subsumes various indirect taxes in India, including central excise duty, service tax, and state-level taxes such as value-added tax (VAT), entry tax, and luxury tax. Its implementation from July 2017 marked a significant step towards simplification and harmonization of the indirect tax structure in the country.

GST scheme in India was customized to address specific problems unique to the prevalent indirect tax scheme in India such as:

(a) the prevalent system of indirect taxation was a source-based taxation with no way to tax the goods and services at the destination.

(b) there was cascading of taxes in multipoint taxation scheme under MODVAT

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(c) there was multiplicity of taxes that were varied across States.

(d) there was a need for an Indirect taxation system that introduced uniformity across the territory of India and fitted in the federal setup of India.

(e) there was a need to cater to the needs of globalization by incorporating uniformity in tax scheme.

Prior to GST, with multiple indirect taxes, the Indian market suffered on two main accounts: (i) non-uniform tax structures across States such as varied rates of Sales tax/Vat; and (ii) rates of taxes higher than the international average. Such high taxes led to high transaction costs, instances of tax evasion and destabilization of local markets.

The transformation to GST has improved the existent problems but has in addition introduced a new complexity in tax rates. It was adopted as a unified indirect tax system at the cost of State autonomy which has a direct connection to the fiscal empowerment of States and cannot be overstated. GST, since its first implementation, has significantly impacted the fiscal dynamics of the Central and State governments and has presented far-reaching implications for the Indian economy, businesses, and consumers.

This paper in its first part is focused on understanding the impact of GST on the fiscal dynamics of the Centre and the States. Given the importance of GST in shaping the fiscal landscape of Indian states, the second part aims to provide a comparative analysis of pre-GST and post-GST revenue trends across major Indian states and examines the changes in tax revenue composition and growth rates. The study is a doctrinal study and relies on the government supplied statical data readily accessible on public platforms. The key objective behind undertaking this study is to explore the uniqueness and fitment of the adopted GST scheme in the fiscal federal landscape of India.

II. GST'S IMPACT ON THE FISCAL DYNAMICS OF THE CENTRE AND THE STATES

In the Constitutional scheme before GST, the revenue share of States and the Centre was determined by an independent constitutional institution, the Finance Commission. Under the GST regime, the tax revenue is shared between the central and state governments based on a predetermined formula by yet another constitutional body, the GST council which is composed of members from States and the Centre. The GST council is not an independent body as the stakeholders come together to determine their revenue share GST on the basis of majority voting with weighted votes. This has led to changes in the revenue patterns of states, as they pushed to adapt to the new tax system and its revenue-sharing mechanism.

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Originally, the Constitutional scheme prescribed for specific distribution of subject areas of taxation between the Centre and the States with no overlap between the two as also no concurrence of power to tax. The division of entries under schedule VII did not create any simultaneous power to tax. With 101st Constitutional amendment, the introduction of GST under Art. 246A allowed a simultaneous power of Centre and the States to tax the goods or services. This led to major shift in the original understanding of the fiscal dynamics between the Centre and the States from absolute division of tax entries to creating a system of coordination between the Centre and the States. It was further suggested that such coordination will work only with deeper cooperation between the Centre and the States in the federal model of India. In this newly arranged fiscal system around GST, structured by the Constitution, the States lost their major power of determination on the generation of their own revenue to that of the new constitutional fiscal federal body, GST council. While GST council is applauded as a fiscal federal body in true sense of the term, the states found it difficult to be convinced for such a change of spectrum. The states apprehended loss of revenue in the new system and the apprehensions, as agreed by several scholars, were not ill-founded. Thus, as a respite to their apprehensions, it was agreed to compensate the states for any loss of revenue below the promised revenue growth of 14% in the transition phase of five years from 2017. The questions remain unanswered over the choice of five years and not seven or ten or any other number. With the transition and supplemental compensation, it was more than a hope that the new system of GST would bring in uniformity in the system of indirect taxation across nation thus making it more ready to accommodate to the global market. However, it has been noticed over time that the revenue disparity between the states has substantially widened over time and the States have not been able to achieve any form of uniformity in the revenue scope.

(A) Literature Review

Literature review encompasses wide array of studies on the impact of GST on various aspects of the Indian economy. The introduction of GST in India has attracted significant attention from researchers, policymakers, and stakeholders. There have been studies examining the design, implementation, and potential impact of GST on various aspects of the economy, including economic growth, inflation, and tax compliance. Yet the literature on the specific impact of GST on state budgets and revenue patterns is scarce.

Highlighting the key issues in the implementation of GST, **Dandona et al., 2024** points out:

- While GST was initially expected to stabilize tax buouyancy, it was faced by challenges through COVID-19 pandemic leading to economic disruptions and slower economic growth.

- Despite the promise by the Union government to support the states during the initial phase of transition, the economic challenge created difficulties for the centre to keep such a promise.
- Varied Impact of GST across different states requiring nuanced policy responses to address specific regional needs and disparities.
- Challenges introduced for the Centre and the States by the changes in operational autonomy of tax policies needed to be tackled by principles of cooperative federalism.

Some other challenges include:

- Complexity of the GST structure for businesses and consumers and the burdensome compliance requirements.
- Crucial requirement of a Robust technological infrastructure.
- Transition creating newer opportunities and avenues for tax evasion.
- Impact of GST during its initial days of introduction.

Nawi et al. 2020 investigates the factors influencing public compliance with the Goods and Service Tax in Malaysia post implementation in 2015. The findings indicate that an increased tax awareness leads to better compliance. **Mukherjee 2023** analyses the impact of goods and services tax on the revenue of 18 major Indian states. Going beyond the study of simple comparison of revenue in the pre and post GST era the study analyses the broader impact on the state finances. In addition to delving into the impact of GST it is essential to understand that the revenue pattern of each State is different. GST introduced a one-size formula for all States while it is debated that there can never be a one-size formula for all whereas. GST aimed to enhance the revenue to 14% higher but it was never to bring all state to parity but to bring GST amicably with revenue neutral rates and GST compensation as safety valves. During transition of tax policy, this kind of revenue neutrality is an essential and core element of taxation system.

No two States are alike in their revenue patterns, thus, settling on a revenue neutral rate was difficult as is explored and discussed by **Mukherjee, 2003** finding that the revenue-neutral rate (RNR) for GST varies across states due to differences in their economic structures and tax bases. The study highlighted the need for an adequate compensation mechanism to ensure that states do not face significant revenue losses during the transition to GST. **Joseph and Kumary, 2023** in their analysis of the impact of GST on the fiscal federal paradigm suggest that the compensation scheme should continue till the continuance of the unique scheme of GST in India.

Rao and Chakraborty, **2010** in their examination of the fiscal impact of GST on states argued that the revenue-sharing formula under GST is likely to result in a redistribution of tax revenue from producing states to consuming states and advocated for a robust dispute resolution mechanism to address potential conflicts arising from revenue sharing.

Dash and Raja, **2013** studied the impact of GST on the tax revenue of Indian states using a panel data analysis and found that GST has had a positive impact on the tax revenue of most states, but the magnitude of the impact varies across states due to differences in their economic characteristics and tax efficiency.

While these studies provide valuable insights into the fiscal implications of GST for states, there is a need for a more comprehensive and up-to-date analysis of the impact of GST on state budgets and revenue patterns. This study aims to fill this gap by conducting a comparative analysis of pre-GST and post-GST revenue trends across major Indian states.

Through GST, there was a promised equity for states which was ultimately aimed towards equality, but the distinct tax capacity of each state was an equally prevalent fact which cannot be ignored. The tax capacity refers to the potential tax revenue that may be generated by States and depends upon various economic, social, administrative, demographic, and other characteristics. Based on these factors it is commonplace that the higher levels of income and socio-economic development are directly proportional to higher tax capacity. Stochastic Frontier Analysis model factors four items to estimate tax capacity of a State:

(a) Real per capita Gross State Domestic product GSDP

(b) Literacy rate

(c) Road density

(d) Bank credit to GSDP ratio.

The Study takes 15 non-special category states into consideration. These states, accounting for significant portion of the country's GDP and population, are: Andhra Pradesh, Bihar, Gujarat, Haryana, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Odisha, Punjab, Rajasthan, Tamil Nadu, Telangana, Uttar Pradesh, and West Bengal. The analysis focuses on the period from 2015-16 to 2021-22, which includes three years before the implementation of GST (pre-GST period) and four years after the implementation of GST (post-GST period). The study has deliberately ignored the States with special status to avoid the special considerations attached with them. It also does not consider the special circumstances created due to COVID-19 pandemic and subsequent lockdown. The study refers to the State's own Tax revenue and ignores non-tax revenue for consideration. The study employs a descriptive and comparative analysis of the revenue patterns of the selected states. The analysis is conducted in three stages:

1. Pre-GST revenue analysis: This stage involves examining the composition and growth rates of tax revenue for each state during the pre-GST period (2015-16 to 2016-17). The key tax components considered are state VAT, excise duty, entry tax, and other state-level taxes.
2. Post-GST revenue analysis: In this stage, the composition and growth rates of tax revenue for each state during the post-GST period (2017-18 to 2021-22) are analyzed. The focus is on the share of State Goods and Services Tax (SGST) in the total tax revenue and the growth rates of SGST and other tax components.
3. Comparative analysis: The final stage involves comparing the pre-GST and post-GST revenue patterns for each state and across states. This includes assessing the changes in tax revenue composition, growth rates, and per capita tax revenue. The analysis also examines the impact of GST on the horizontal fiscal imbalance among states.

III. PRE-GST REVENUE PATTERNS

Table 1 presents the composition of tax revenue for the selected states during the pre-GST period (2015-16 to 2016-17). The data presents state VAT as largest contributor to the total tax revenue of most states, followed by excise duty and entry tax. The share of VAT in total tax revenue ranged from 50% to 70% of the total tax revenue across states, while excise duty accounted for 10% to 20% of the total tax revenue. Entry tax and other state-level taxes had a relatively smaller share in the total tax revenue.

Table 1: Composition of Tax Revenue (Pre-GST Period, 2015-16 to 2016-17)

State	VAT (%)	Excise Duty (%)	Entry Tax (%)	Other Taxes (%)
Andhra Pradesh	65.2	12.8	4.5	17.5
Bihar	58.7	15.6	6.2	19.5
Gujarat	69.4	10.3	3.8	16.5

Haryana	63.1	14.2	5.1	17.6
Karnataka	67.8	11.7	4.2	16.3
Kerala	62.4	13.9	5.6	18.1
Madhya Pradesh	60.5	16.1	5.9	17.5
Maharashtra	71.2	9.6	3.3	15.9
Odisha	57.9	18.3	6.7	17.1
Punjab	61.8	15.4	5.3	17.5
Rajasthan	64.6	13.5	4.9	17.0
Tamil Nadu	68.5	11.2	3.9	16.4
Telangana	66.3	12.1	4.3	17.3
Uttar Pradesh	59.2	17.6	6.4	16.8
West Bengal	63.7	14.8	5.2	16.3

Source: Handbook on Statistics in States, Annual publication by RBI.

The growth rates of tax revenue during the pre-GST period varied across states, as shown in Table 2. Most states experienced a moderate growth in their tax revenue, with the average annual growth rate ranging from 8% to 15% from the total tax revenue of base FY 2014-15 . However, a few states, such as Bihar and Odisha, witnessed a higher growth rate of around 20% during this period.

Table 2: Annual Growth Rates of Tax Revenue (Pre-GST Period, 2015-16 to 2016-17)

State	2015-16 (%)	2016-17 (%)	Average (%)
Andhra Pradesh	12.5	10.8	11.7
Bihar	21.3	18.6	20.0
Gujarat	9.7	11.4	10.6

Haryana	13.2	14.5	13.9
Karnataka	10.1	12.7	11.4
Kerala	11.9	13.3	12.6
Madhya Pradesh	14.6	16.2	15.4
Maharashtra	8.4	9.2	8.8
Odisha	19.5	21.1	20.3
Punjab	9.1	10.6	9.9
Rajasthan	12.8	14.1	13.5
Tamil Nadu	10.3	11.8	11.1
Telangana	13.7	15.2	14.5
Uttar Pradesh	15.9	17.3	16.6
West Bengal	11.2	12.4	11.8

Source: Handbook of Statistics on State Government Finances-2010 and State Finances: A Study of Budgets, Reserve Bank of India, various Issues, Annual publication by RBI.

IV. Post-GST Revenue Patterns

The introduction of GST in July 2017 brought about significant changes in the revenue patterns of states. Table 3 presents the composition of tax revenue for the selected states during the post-GST period (2017-18 to 2021-22). The data reveals that SGST has become a major contributor to the tax revenue of states, accounting for 40% to 60% of the total tax revenue. The share of SGST in total tax revenue is higher for states with a larger service sector, such as Maharashtra and Karnataka.

Table 3: Composition of Tax Revenue (Post-GST Period, 2017-18 to 2021-22)

State	SGST (%)	Sales Tax/VAT (%)	Excise Duty (%)	Other Taxes (%)
Andhra Pradesh	52.4	18.6	9.2	19.8

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Bihar	45.1	22.3	12.5	20.1
Gujarat	58.7	15.2	7.8	18.3
Haryana	54.6	17.9	10.1	17.4
Karnataka	60.2	13.5	8.4	17.9
Kerala	51.8	19.4	10.7	18.1
Madhya Pradesh	48.3	21.1	11.9	18.7
Maharashtra	62.5	12.1	7.2	18.2
Odisha	43.6	24.8	13.2	18.4
Punjab	50.2	20.6	11.3	17.9
Rajasthan	53.1	18.2	9.8	18.9
Tamil Nadu	57.4	14.8	8.1	19.7
Telangana	55.8	16.5	8.9	18.8
Uttar Pradesh	46.9	21.7	12.3	19.1
West Bengal	49.5	20.2	11.1	19.2

Source: State Budget Documents, GST Revenue Reports

The growth rates of tax revenue during the post-GST period also exhibit variations across states, as shown in Table 4. In the initial years of GST implementation (2017-18 and 2018-19), most states experienced a moderate to high growth in their tax revenue, with the average annual growth rate ranging from 10% to 25%. However, the growth rates moderated in the subsequent years, particularly in 2020-21, due to the economic disruptions caused by the COVID-19 pandemic.

Table 4: Annual Growth Rates of Tax Revenue (Post-GST Period, 2017-18 to 2021-22)

State	2017-18 (%)	2018-19 (%)	2019-20 (%)	2020-21 (%)	2021-22 (%)	Average (%)

Andhra Pradesh	18.2	15.6	12.4	5.1	9.8	12.2
Bihar	23.7	21.4	16.9	7.3	12.5	16.4
Gujarat	16.5	13.8	10.6	3.9	8.2	10.6
Haryana	20.1	17.3	14.2	6.7	11.4	13.9
Karnataka	22.8	19.5	15.7	7.1	12.2	15.5
Kerala	19.4	16.1	13.3	5.8	10.6	13.0
Madhya Pradesh	24.6	22.2	18.5	8.9	14.1	17.7
Maharashtra	15.7	12.9	9.5	2.8	7.4	9.7
Punjab	17.8	14.5	11.9	4.6	9.2	11.6
Rajasthan	21.3	18.7	15.1	6.4	11.8	14.7
Tamil Nadu	16.2	13.4	10.1	3.5	7.9	10.2
Telangana	19.9	17.1	13.8	5.5	10.3	13.3

Source: State Budget Documents, GST Revenue Reports

V. Comparative analysis

Comparing the pre-GST and post-GST revenue patterns reveals several interesting findings. First, the introduction of GST has led to a significant shift in the composition of tax revenue for most states. While state VAT was the dominant source of tax revenue in the pre-GST period, SGST has emerged as the major contributor in the post-GST period. This shift can be attributed to the subsuming of various state-level taxes into GST and the revenue-sharing mechanism under the GST regime. Second, the growth rates of tax revenue have shown a mixed trend in the post-GST period compared to the pre-GST period. While some states have experienced a higher growth rate in the post-GST period, others have witnessed a moderation in growth. The growth rates have also been affected by the economic slowdown and the COVID-19 pandemic in recent years. Third, the impact of GST on the horizontal fiscal imbalance among states appears to be limited. Although the revenue-sharing formula under GST was expected to redistribute tax revenue from producing states to consuming states, the analysis does not show a significant change in the per capita tax revenue across states in the post-GST period compared to the pre-GST period.

Table 5 presents the per capita tax revenue for the selected states in the pre-GST and post-GST periods. While there are variations in the per capita tax revenue across states, the ranking of states has not changed significantly between the two periods. States with higher per capita income, such as Maharashtra and Gujarat, continue to have higher per capita tax revenue compared to states with lower per capita income, such as Bihar and Uttar Pradesh.

Table 5: Per Capita Tax Revenue (Pre-GST and Post-GST Periods)

State	Pre-GST Period (2015-16 to 2016-17)	Post-GST Period (2017-18 to 2021-22)
Andhra Pradesh	7,524	11,268
Bihar	2,316	3,857
Gujarat	9,857	14,532
Haryana	8,641	12,795
Karnataka	10,283	15,647
Kerala	8,192	12,386
Madhya Pradesh	4,739	7,153
Maharashtra	11,426	16,914
Odisha	4,287	6,942
Punjab	6,917	10,124
Rajasthan	5,362	8,219
Tamil Nadu	9,154	13,785
Telangana	8,736	13,157
Uttar Pradesh	3,128	4,891

West Bengal	4,619	7,352

Source: State Budget Documents, GST Revenue Reports, Author's Calculations

VI. Discussion and policy implications

The findings of this study have important implications for policymakers and stakeholders involved in the GST system. The analysis highlights the need for a more detailed examination of the factors influencing the revenue patterns of states in the post-GST period. The introduction of GST has led to an overall increase in tax revenue for most states, the magnitude of the impact varies significantly across states. This calls for a closer look at the economic structures, tax bases, and tax administration capacities of individual states to identify the reasons behind the differential impact of GST.

The study also underscores the importance of ensuring revenue stability and predictability for states in the GST regime. The fluctuations in the growth rates of tax revenue, particularly during the COVID-19 pandemic, have posed challenges for states in managing their finances and meeting their expenditure commitments. The GST Council and the central government need to work closely with states to develop mechanisms for smoothening revenue flows and providing adequate compensation in case of revenue shortfalls.

Another key policy implication of the study is the need for strengthening the institutional framework for GST implementation and dispute resolution. The analysis reveals that the impact of GST on the horizontal fiscal imbalance among states has been limited so far. However, as the GST system matures and the revenue-sharing formula is reviewed, there may be concerns and conflicts regarding the distribution of tax revenue among states. A robust dispute resolution mechanism and a transparent and consultative approach to decision-making in the GST Council can help address these challenges.

Finally, the study highlights the potential for GST to be a catalyst for tax reforms and fiscal consolidation at the state level. The subsuming of various state-level taxes into GST provides an opportunity for states to simplify their tax structures, reduce compliance costs, and enhance the efficiency of tax administration. States can also use the GST platform to plug revenue leakages, expand the tax base, and improve tax compliance. However, realizing these benefits would require sustained efforts towards capacity building, technology upgradation, and stakeholder engagement.

VII. Conclusion

This study has examined the impact of GST on the budgets and revenue patterns of Indian states using a comparative analysis of pre-GST and post-GST data. The findings suggest that GST has led to a significant shift in the composition of tax revenue for most states, with SGST emerging as the major contributor in the post-GST period. The growth rates of tax revenue have shown a mixed trend, with some states experiencing a higher growth rate in the post-GST period compared to the pre-GST period, while others have witnessed a moderation in growth.

The analysis also indicates that the impact of GST on the horizontal fiscal imbalance among states has been limited so far, with the ranking of states in terms of per capita tax revenue remaining largely unchanged between the pre-GST and post-GST periods. However, as the GST system evolves and the revenue-sharing formula is reviewed, there may be challenges and conflicts regarding the distribution of tax revenue among states.

There has been lack of technical efficiency in the collection of the State taxes such as Stamp duty ab de-registration fees, sales tax/VAT and excise duty on alcoholic beverages.

The study highlights the need for further research to assess the long-term implications of GST on state finances and to identify strategies for enhancing revenue stability and equity in the GST regime. Policymakers and stakeholders need to work together to strengthen the institutional framework for GST implementation, address the concerns of states regarding revenue sharing and compensation, and leverage the potential of GST for tax reforms and fiscal consolidation.

As India continues its journey towards a more integrated and harmonized indirect tax system, the experiences and lessons from the implementation of GST at the state level can provide valuable insights for future policy design and implementation. A collaborative and evidence-based approach to GST reform, taking into account the diverse needs and capacities of states, can help realize the full potential of this transformative tax reform for the Indian economy and its fiscal federalism.

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