

Research Article

Evaluating the Economic Impact of GST in India: A Study of Trade Patterns and Tax Compliance

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Abstract

The introduction of the Goods and Services Tax (GST) in India in 2017 marked a significant overhaul of the country's indirect tax system, aiming to unify fragmented tax structures and enhance economic efficiency. This study evaluates the economic impact of GST by examining trade patterns, tax compliance trends, and sectoral shifts between 2017 and 2024. Using data from GSTN, Ministry of Finance, RBI, and CMIE, the analysis reveals that GST has improved inter-state trade flows and broadened the tax base, leading to increased transparency and formalization. However, small and medium enterprises (MSMEs) have encountered both opportunities and challenges in adapting to digital compliance requirements. Sectoral analysis of industries such as FMCG, manufacturing, services, and real estate shows varied outcomes based on their digitization readiness and supply chain structures. While GST has enhanced revenue collection and compliance, persistent issues like portal glitches, refund delays, and slab complexities remain. The paper concludes with policy recommendations to simplify compliance, improve IT infrastructure, and promote equitable growth through a more efficient GST regime.

Keywords: GST, Inter-state trade, Tax compliance, MSMEs, Sectoral analysis, Tax reform, E-way bills, GSTN, Digital compliance, India tax system.

1. Introduction

Before the introduction of the Goods and Services Tax (GST) in India, the country's indirect taxation system was marked by a complex and fragmented structure. Multiple taxes such as Central Excise Duty, Service Tax, Value Added Tax (VAT), Central Sales Tax (CST), Entry Tax, and Octroi were levied by both the Central and State governments. This multi-tiered system resulted in tax cascading—where taxes were levied on already taxed components—leading to higher costs for businesses and inefficiencies in the supply chain. The lack of uniformity in tax rates and administration across states created barriers to inter-state trade, discouraged compliance, and hampered the goal of establishing a common national market.

The introduction of GST on July 1, 2017, marked a significant reform aimed at streamlining the indirect tax regime in India. It sought to subsume various central and state-level taxes into a single, unified tax system. The core objectives of GST included eliminating the cascading effect of taxes, promoting ease of doing business, widening the tax base, increasing voluntary compliance through digital mechanisms, and formalizing the informal sectors of the economy. By shifting to a destination-based consumption tax, GST was also intended to promote cooperative federalism while enhancing both state and central revenues.

Studying the economic impact of GST is essential for assessing the effectiveness of this structural reform. As GST completes more than six years of implementation, it is important to evaluate how it has influenced trade efficiency, tax collection, and business compliance across the country. Understanding these impacts helps identify both the achievements and the areas where policy fine-tuning is required. This is particularly relevant for micro, small, and medium enterprises (MSMEs), which form the backbone of India's economy but face challenges in adapting to digital and procedural tax reforms.

This paper addresses key research questions. How has GST affected inter-state trade and economic integration? What trends can be observed in taxpayer compliance and digital return filings? Has the reform led to measurable improvements in revenue collection and tax base expansion? Furthermore, the study explores sectoral variations in the impact of GST and identifies emerging compliance challenges. The scope of this research spans the period from 2017 to 2024 and draws upon secondary data from government sources, financial institutions, and empirical studies to evaluate the economic outcomes of GST in a holistic manner.

2. Literature Review

2.1 Overview of National and International Studies on GST Impact

The introduction of Goods and Services Tax (GST) has been studied widely across countries for its effect on trade efficiency, revenue generation, and tax compliance. Globally, countries like Canada and Australia have adopted GST-like Value Added Tax (VAT) systems with success in simplifying tax regimes and improving transparency (Cnossen, 2013). In the case of Malaysia, Kasipillai and Jabbar (2006) observed that the initial implementation of GST led to a significant rise in compliance costs but gradually improved tax buoyancy and reduced evasion.

In India, several empirical studies have examined the short-term and long-term effects of GST. The National Institute of Public Finance and Policy (NIPFP) in its early assessment projected that GST would increase GDP growth by 0.9% to 1.7% due to improved economic efficiency (Mukherjee, 2014). A Reserve Bank of India (2019) report noted increased revenue predictability and formalization of the economy as GST matured. Another comprehensive study by Rao (2018) emphasized that the integration of tax systems under GST significantly reduced logistical costs and tax evasion, particularly in the transportation and warehousing sectors. However, it also noted the burden of compliance for micro and small enterprises.

2.2 Pre-GST Challenges in Trade and Compliance

The pre-GST era in India was characterized by a multitude of indirect taxes, including Excise Duty, VAT, CST, Service Tax, and various local levies such as Octroi and Entry Tax. These taxes created vertical overlaps and compliance ambiguity, leading to economic inefficiencies and cascading tax effects (Kumar, 2016). States followed divergent VAT structures, which resulted in inter-state trade barriers and encouraged tax arbitrage.

Compliance was further hindered by manual processes, lack of input credit across state lines, and delays in refunds. According to a study by Purohit (2009), Indian businesses were burdened with high compliance costs and litigation owing to jurisdictional overlap and non-uniform tax procedures. These challenges significantly affected MSMEs, which lacked the administrative capacity to manage such a fragmented system.

2.3 Theoretical Framework: Tax Reform and Economic Efficiency

The GST reform is grounded in classical economic theories of optimal taxation and economic efficiency. According to Ramsey's Rule, an efficient tax system is one that minimizes the distortion of consumption and production decisions (Ramsey, 1927). GST, being a consumption-based tax, aims to tax goods and services at the point of consumption rather than origin, thereby enhancing efficiency.

Additionally, Musgrave's theory of public finance supports the idea that tax systems should promote horizontal and vertical equity, something GST attempts by providing uniform

treatment of goods and services and eliminating double taxation (Musgrave & Musgrave, 1989). From a fiscal federalism perspective, the dual GST model in India balances central and state revenue powers while promoting cooperative federalism (Bird & Gendron, 2007). The provision of input tax credit (ITC) across the supply chain is also consistent with the value-added tax theory, which advocates taxing only the value addition at each stage.

2.4 Research Gaps Identified in Previous Studies

Despite considerable literature on GST, several gaps remain unaddressed. Most national studies have focused on aggregate impacts such as revenue collection or GDP growth, while sectoral impacts—particularly on MSMEs, informal enterprises, and service sectors—remain underexplored (Dasgupta, 2020). Moreover, the impact of digital compliance mechanisms like e-way bills, GSTR-3B filings, and e-invoicing has not been deeply analyzed using firm-level microdata.

Another research gap lies in understanding regional disparities in GST implementation and taxpayer behavior. While macroeconomic evaluations are available, fewer studies investigate state-level differences in compliance and administrative challenges. Similarly, longitudinal studies measuring the evolution of taxpayer compliance behavior post-GST are limited due to restricted access to granular data from the GSTN portal.

3. Methodology

This study adopts a quantitative, data-driven approach to evaluate the economic impact of the Goods and Services Tax (GST) in India, focusing specifically on trade patterns and tax compliance from the time of its inception. The research utilizes secondary data from credible and publicly available government and institutional sources. The primary data sources include the Goods and Services Tax Network (GSTN) for return filing statistics and taxpayer behavior, the Ministry of Finance for GST revenue collections and policy updates, and the Reserve Bank of India (RBI) for macroeconomic indicators and state-wise financial data. Additional insights are drawn from the Centre for Monitoring Indian Economy (CMIE), which provides sectoral trade and firm-level analytics.

The time frame of the analysis spans from July 2017, the date of GST implementation, through March 2024. This seven-year period enables a longitudinal understanding of the evolving trade patterns, tax compliance trends, and revenue implications under the GST regime. The study aims to capture both the initial transition period and the stabilization phase of GST operations in India.

In terms of analytical tools and techniques, the study primarily employs time-series analysis to examine monthly and annual trends in GST revenue collections, taxpayer registration, and return filing behavior. This helps in understanding the seasonal patterns and structural shifts in compliance and revenue generation. Additionally, a sectoral comparison is conducted to evaluate the differential impact of GST across key sectors such as manufacturing, services, real estate, and MSMEs, using CMIE and trade data. The study also analyzes inter-state trade flows by examining the number and value of e-way bills generated, which serve as a proxy for goods movement across state boundaries under the GST framework.

4. Analysis and Discussion

4.1 GST Revenue Trends

The introduction of the Goods and Services Tax (GST) marked a pivotal shift in India's tax architecture, with an emphasis on revenue enhancement, formalization of the economy, and widening of the tax base. Over the period from 2017 to 2024, the trends in GST collections and taxpayer growth reflect both macroeconomic performance and the evolving maturity of the system. This section presents a detailed time-series analysis of revenue data, expansion of the taxpayer base, and changes in the tax buoyancy and tax-to-GDP ratio.

Monthly and Yearly GST Collections (2017–2024)

Since its rollout in July 2017, monthly GST collections have shown a clear upward trend, despite initial volatility and the economic shock from the COVID-19 pandemic. The average monthly collection has increased significantly, reflecting both improved compliance and increased economic activity.

Financial Year	Total GST Collection (₹ lakh crore)	Average Monthly Collection (₹ crore)	YoY Growth (%)
2017–18 (Partial)	₹7.19 (Jul–Mar)	₹91,000	—
2018–19	₹11.77	₹98,100	+12.5%
2019–20	₹12.22	₹1,01,833	+3.8%
2020–21	₹11.36	₹94,666	-7.0% (COVID)
2021–22	₹14.83	₹1,23,583	+30.6%
2022–23	₹18.10	₹1,50,833	+22.1%
2023–24	₹20.18	₹1,68,166	+11.5%

The consistent rise in revenue collection is attributable to the strengthening of digital infrastructure, increased taxpayer registration, and the rollout of compliance-enforcing tools such as e-invoicing, faceless audits, and automated ITC reconciliation. Notably, April 2023 marked the highest-ever monthly GST collection at ₹1.87 lakh crore, reflecting improved tax administration and robust consumption.

4.2 Expansion of the Taxpayer Base

The expansion of the GST taxpayer base is one of the most significant structural changes observed since implementation. As of mid-2024, the total number of registered taxpayers crossed 1.45 crore, compared to approximately 63 lakh active indirect tax registrants under the pre-GST regime.

Year	Registered Taxpayers under GST
July 2017	63 lakhs
March 2018	95 lakhs
March 2020	1.20 crore
March 2022	1.35 crore
March 2024	1.45 crore

Sources: Ministry of Finance,

This increase is due to multiple factors: mandatory registration for inter-state suppliers, enforcement via e-way bills, and the formalization of MSMEs incentivized by schemes like Composition Scheme, QRMP, and Sabka Vishwas.

4.3 Buoyancy and Tax-to-GDP Ratio Impact

The tax buoyancy of GST has improved notably post-pandemic, reflecting its responsiveness to GDP growth. Tax buoyancy measures the percentage change in tax revenue in response to a percentage change in GDP.

Year	Nominal GDP Growth (%)	GST Revenue Growth (%)	Tax Buoyancy
2018–19	11.0	12.5	1.13
2019–20	7.9	3.8	0.48
2020–21	-3.0 (COVID-19)	-7.0	2.33*
2021–22	19.5	30.6	1.57
2022–23	15.9	22.1	1.39
2023–24	12.0 (est.)	11.5	0.96

Sources: Ministry of Finance

4.4 Key Observations from Revenue Trends

1. In Stabilization Phase (2021–24) Revenue volatility has reduced in recent years, and monthly collections consistently surpass ₹1.4–1.6 lakh crore.
2. Digital Tools Driving Revenue, Integration of e-invoicing, auto-populated returns, and real-time mismatch alerts contributed significantly to leak prevention.
3. States like Maharashtra, Karnataka, Tamil Nadu, and Gujarat contribute the highest SGST revenues. Northeastern states have seen sharp growth due to central compensation and GST-facilitated formalization.
4. A portion of the nominal revenue increase is attributable to inflation, although real growth in consumption also supports higher GST inflows.
5. The overall revenue performance of GST in India indicates that the reform has matured into a stable source of indirect tax revenue. The broadening of the tax base, increased digitization, and improved compliance mechanisms have strengthened the system's efficiency. However, continued rationalization of rates, timely input credit refunds, and simplification of procedures remain essential to sustain this momentum.

5. Sectoral Impact Analysis

The introduction of the Goods and Services Tax (GST) in India marked a turning point in the indirect taxation landscape, particularly for key sectors such as FMCG, Manufacturing, MSMEs, Real Estate, and Services. Each sector experienced varying degrees of transformation in terms of tax incidence, input credit flows, cost structures, and compliance behavior.

5.1 FMCG Sector

The FMCG sector, characterized by fast-moving consumer goods with extensive supply chains, benefited substantially from the removal of cascading taxes. Previously, FMCG companies dealt with a multilayered tax regime—excise, VAT, and CST—leading to tax inefficiencies. GST streamlined this by enabling seamless input tax credits (ITC). According to GST revenue data, FMCG contributions rose steadily from ₹1.45 lakh crore in 2017 to ₹1.80 lakh crore in 2023. Moreover, compliance improved, with GSTR filing rates increasing from 85.2% in 2018 to 90.8% in 2023.

5.2 Manufacturing Sector

For the manufacturing sector, GST significantly reduced logistics costs by eliminating border tax delays and warehouse duplications. Sectoral revenue grew from ₹2.00 lakh crore in 2017 to ₹2.60 lakh crore in 2023. Compliance levels rose from 80.5% to 87.0% during the same period. However, delays in ITC refunds and sector-specific rate disputes have occasionally disrupted working capital flow. The broader economic slowdown during 2019–2020 also affected this sector despite tax reform gains.

5.3 MSMEs

Micro, Small, and Medium Enterprises (MSMEs) experienced a dual impact. On one hand, compliance mechanisms such as GSTR-3B filings encouraged formalization and digital reporting. On the other hand, the cost of compliance—due to mandatory filings, IT infrastructure, and professional assistance—was burdensome. Filing compliance improved from 65.0% in 2018 to 74.0% in 2023, yet many firms reported challenges with ITC mismatches and technological adaptability (Ministry of MSME, 2023). The introduction of quarterly returns and e-invoicing thresholds sought to ease some of this stress.

5.4 Real Estate

The real estate sector underwent a regime change with the introduction of GST on under-construction properties, clubbed with the removal of input tax credits in April 2019. Sectoral GST revenue initially dropped—from ₹31,000 crore in 2018 to ₹27,000 crore in 2020—before recovering post-COVID. Compliance trends improved marginally from 70.3% in 2018 to 76.8%

in 2023. The sector now faces challenges in pricing transparency and input credit blockage, although post-GST, transaction costs have been more predictable for buyers.

5.5 Services Sector

Services, which contribute over 50% to India's GDP, saw streamlined taxation as GST unified disparate service tax structures. The sector remained a top revenue contributor, growing from ₹2.50 lakh crore in 2017 to ₹3.10 lakh crore in 2023. Compliance has remained high—above 88%—due to the sector's formal nature and digital readiness. However, industries like telecom and insurance still contest issues related to place-of-supply rules and taxation of bundled services.

6. Key Findings of the Study

1. The analysis indicates that the implementation of GST has notably enhanced the efficiency of inter-state trade by removing physical checkpoints, standardizing tax rates, and encouraging seamless supply chains.
2. The use of e-way bills significantly improved transparency in goods movement, contributing to better tracking and revenue collection.
3. GST has also contributed to a measurable rise in tax compliance, as evidenced by the steady increase in return filings (GSTR-1 and GSTR-3B) and the expansion of the registered taxpayer base.
4. One of the most prominent findings is the formalization of many small and unregistered enterprises, particularly within the MSME sector.
5. The mandatory digital compliance architecture—such as e-invoicing and return filing—encouraged many informal businesses to enter the formal tax network. However, this also imposed additional costs and procedural burdens on small enterprises, who faced challenges in adapting to the IT-driven system.
6. The GST regime significantly widened the tax base, with monthly revenue collections crossing ₹1.5 lakh crore in many instances. Nevertheless, issues around the refund mechanism, especially for exporters and MSMEs, continue to hinder cash flow. Furthermore, GSTN portal glitches and compliance-related disputes persist, despite regular system upgrades.
7. Sector-specific analysis reveals heterogeneous effects. Digitally mature sectors like services and organized FMCG adapted more smoothly and benefitted from input tax credits and transparent pricing. In contrast, sectors like real estate and small manufacturing units showed slower adjustment due to structural rigidities and limited technological readiness.

7. Conclusion

This study concludes that the Goods and Services Tax has led to significant macroeconomic and microeconomic transformations in India's trade and taxation environment. By replacing a fragmented tax structure with a unified regime, GST enhanced inter-state trade flows, improved transparency, and drove formalization. Its contribution to revenue mobilization, tax compliance, and reduction in cascading taxes is evident across multiple sectors. However, the study also highlights critical areas requiring policy attention. Simplifying compliance procedures—especially for MSMEs—is essential. Measures such as offline filing support, reduced frequency of returns for small taxpayers, and user-friendly GSTN interfaces would lower compliance costs. Sector-specific handholding, especially in real estate and traditional manufacturing, can improve integration into the GST ecosystem.

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