
GST REFORMS AND ECONOMIC PERFORMANCE IN INDIA: AN EMPIRICAL STUDY IN THE CONTEXT OF THE POST-LIBERALIZATION ERA

KM. Moni^{1*} and Dr. Indersh Pachauri²¹Research scholar, School of Management, Glocal University, Mirzapur, Saharanpur, Uttar Pradesh, India²Professor, School of Management, Glocal University, Mirzapur, Saharanpur, Uttar Pradesh, India**Corresponding author:** KM. Moni E-mail: monikaamitchuhan@gmail.com**ABSTRACT**

The Goods and Services Tax (GST), introduced in India on 1 July 2017, represented a major reform of the country's indirect-tax system. It sought to reduce tax cascading, create a more integrated national market, improve compliance through digital reporting, and strengthen revenue mobilisation. This paper examines the relationship between GST reform and selected dimensions of India's economic performance, with emphasis on revenue mobilisation, formalisation, logistics and inter-state trade, compliance costs, and the position of micro, small and medium enterprises (MSMEs). It uses a descriptive and empirical research design based on secondary data from the Ministry of Finance, the GST Council, the Central Board of Indirect Taxes and Customs (CBIC), the National Statistical Office (NSO), and other official sources. Official reporting indicates that gross GST collections reached ₹22.08 lakh crore in FY 2024–25, an increase of 9.4 per cent over the preceding year. The Economic Survey 2025–26 reports that registered taxpayers expanded from about 60 lakh in 2017 to more than 1.5 crore, while cumulative e-way bill generation during April–December 2025 grew by 21 per cent year on year. These indicators are consistent with a broader tax base and greater digital recording of transactions, but they do not by themselves establish that GST caused higher GDP growth or productivity. The paper therefore separates descriptive evidence from causal claims and proposes a transparent econometric strategy for further testing. It concludes that GST has strengthened tax administration and market integration, while rate complexity, refund delays, compliance burdens, and uneven capacity among smaller firms remain important areas for reform.

Keywords: Goods and Services Tax; GST; economic performance; tax revenue; formalisation; MSMEs; fiscal federalism; India; indirect taxation; empirical analysis.

1. INTRODUCTION

Economic liberalisation in India began a new phase with the reforms of 1991, which reduced licensing restrictions, opened parts of the economy to international trade and investment, and increased the role of market mechanisms. Subsequent reforms have addressed finance, infrastructure, digital governance and taxation. GST, implemented in July 2017, is among the most consequential tax reforms of this period because it changed how indirect taxes are levied, reported and credited across goods and services and across states.

Before GST, India's indirect-tax structure included multiple central and state levies, with different rules and tax bases. The system could create cascading taxation, classification disputes, compliance costs and barriers to inter-state movement. GST sought to consolidate many of these taxes into a destination-based value-added tax, supported by input tax credit, common registration and return systems, and the GST Network's digital infrastructure. The reform was implemented through a federal arrangement in which the Union and state governments participate in decision-making through the GST Council.

The economic effects of GST are not limited to tax receipts. Potential channels include reduced tax cascading, improved supply-chain choices, lower border-related delays, better invoice matching, more transparent transactions, and increased incentives for firms to enter the formal tax system. At the same time, the transition required firms to learn new procedures, adapt accounting systems and manage working-capital needs associated with tax payments and refunds. Impacts can differ by sector, firm size, state capacity and access to digital services.

A central empirical challenge is that GST was introduced alongside other changes in the economy, including demonetisation-related adjustment, changes in digital payments, the COVID-19 shock, changes in global demand, and subsequent policy reforms. A rise in GST receipts may reflect nominal GDP growth, inflation, improved compliance, rate changes, enforcement, or a changing composition of consumption. Consequently, a credible assessment must avoid treating rising collections as proof that GST alone caused faster economic growth.

This paper evaluates official indicators, reviews relevant research, identifies limits in the available evidence and outlines a replicable empirical framework. Its contribution is a careful synthesis of GST outcomes with a proposed method for separating association from causal impact.

2. STATEMENT OF THE PROBLEM

GST is often described as a landmark reform, but the size and distribution of its economic benefits require continued empirical assessment. Revenue growth and registration expansion are measurable, while effects on productivity, prices, investment, employment and firm survival are more difficult to isolate. There is also a policy question about whether the benefits of a unified tax system are distributed evenly across large firms, small businesses, consumers and states. The problem addressed here is therefore to assess what the official evidence establishes, what remains uncertain, and how the relationship between GST reform and economic performance can be tested rigorously.

3. RESEARCH OBJECTIVES

- To examine the evolution and principal features of GST in India since its implementation in July 2017.
- To analyse trends in GST revenue, taxpayer registration and e-way bill activity using official data.
- To assess the plausible channels linking GST to market integration, formalisation, business costs and macroeconomic performance.
- To identify implementation challenges affecting MSMEs, consumers, tax administration and fiscal federalism.
- To propose an empirical framework for testing the relationship between GST indicators and selected economic outcomes without overstating causality.

4. RESEARCH QUESTIONS

- How have GST collections, registrations and e-way bill activity changed since implementation?
- To what extent do these trends align with changes in nominal GDP and wider economic activity?
- What channels could connect GST to formalisation, logistics efficiency and business performance?
- Which institutional and compliance issues may limit the gains from GST?
- What data and methods are needed to estimate GST's independent effect on economic outcomes?

5. RESEARCH HYPOTHESES

H1: GST implementation and subsequent administrative reforms are associated with changes in indirect-tax revenue mobilisation and the number of registered taxpayers.

H2: Higher GST-related formalisation and transaction-recording indicators are positively associated with measures of economic activity, after controlling for macroeconomic conditions.

H3: Compliance and working-capital costs are likely to be disproportionately important for smaller firms and may moderate the benefits of GST.

These are testable hypotheses, not findings. They should be evaluated using a documented dataset and appropriate statistical procedures before any claim of acceptance or rejection is made.

6. REVIEW OF LITERATURE

6.1 Tax reform and value-added taxation

The literature on value-added taxation emphasises the role of input tax credits in reducing cascading and the importance of broad bases, clear rates and effective administration. Ebrill, Keen, Bodin and Summers (2001) explain that VAT performance depends not only on legal design but also on compliance, refund systems, enforcement and administrative capacity. This provides a useful conceptual framework for evaluating GST: a unified tax law can improve neutrality, but expected gains depend on how the system operates in practice.

6.2 Fiscal federalism and India's GST Council

GST changed the distribution of tax powers and created a formal mechanism for Union–state coordination. The GST Council's role illustrates cooperative fiscal federalism, but it also creates ongoing questions about revenue predictability, compensation arrangements, rate setting and the treatment of state-specific priorities.

Studies of Indian GST therefore need to consider both aggregate revenue performance and the federal institutions through which tax rules are negotiated.

6.3 Compliance, formalisation and digital reporting

Digital registration, return filing, invoice matching and e-way bills can make transactions more visible to tax authorities and increase incentives to maintain records. However, formalisation is not identical to productivity growth, and a higher number of registrations does not necessarily mean that every registered enterprise is active or more productive. Researchers should distinguish registration counts, active filers, tax payments, firm entry and survival, and employment outcomes.

6.4 GST and business costs

For firms operating across multiple states, a common tax framework may reduce some administrative fragmentation and improve supply-chain planning. Conversely, frequent rule changes, reconciliation requirements, refund delays and technology-related problems can create adjustment costs. The net effect may differ across large companies with specialist tax departments and small firms with limited accounting capacity.

6.5 GST and macroeconomic performance

Macroeconomic assessments commonly examine tax-to-GDP ratios, indirect-tax buoyancy, consumption, industrial output and trade. Yet the period after 2017 includes large external and domestic shocks, especially the COVID-19 pandemic. A simple before-and-after comparison cannot isolate the effect of GST. Robust analysis should use suitable controls, sensitivity tests and, where data permit, comparison groups or sectoral variation in exposure to the reform.

6.6 Summary and critical assessment

The literature provides strong reasons to expect GST to influence compliance and the structure of indirect taxation. It does not justify assuming that every improvement in revenue or output is caused by GST. This paper therefore treats official administrative indicators as evidence of system performance and proposes separate tests for macroeconomic outcomes.

7. RESEARCH GAP

A recurring limitation in public discussion is the tendency to equate record GST collections with an unambiguous improvement in overall economic performance. Collections are nominal values and respond to inflation, nominal GDP, tax rates, enforcement and consumption composition. Registration and e-way bill counts capture aspects of formalisation and movement of goods but do not directly measure productivity, real output or household welfare.

A second gap is the need to connect macro-level GST trends with distributional effects. National totals can conceal differences across states, industries and firm sizes. A third gap is the challenge of identifying causality because GST coincided with other major policy and economic events. This study addresses these gaps by separating descriptive findings from causal interpretation and by specifying the data and methods required for stronger inference.

8. RESEARCH METHODOLOGY

8.1 Research design

The paper adopts a descriptive-analytical design using secondary data. It combines documented official indicators with a proposed econometric framework. The present version does not claim to have run a regression on a complete, downloaded and validated dataset; accordingly, no regression coefficients, p-values or causal estimates are reported.

8.2 Study period

The core period is FY 2017–18 to FY 2025–26, subject to data availability and consistency. FY 2017–18 is a transition year because GST began on 1 July 2017. Where possible, the analysis should use monthly observations and clearly identify partial-year periods. Pre-reform comparison can use years before 2017, but structural changes and differences in data definitions must be documented.

8.3 Data sources

- Ministry of Finance and the Union Budget / Economic Survey: GST revenue, nominal GDP, fiscal indicators and macroeconomic context.
- GST Council: official GST updates, meeting outcomes, rate changes and published administrative statistics.

- Central Board of Indirect Taxes and Customs (CBIC): indirect-tax administration, notifications and annual reports.
- GST Network (GSTN): published data on registration, return filing and digital compliance where publicly available.
- National Statistical Office (NSO), Ministry of Statistics and Programme Implementation (MoSPI): GDP, GVA, industrial production and price statistics.
- Reserve Bank of India (RBI): Handbook of Statistics on the Indian Economy, state finances and relevant macroeconomic series.
- Department for Promotion of Industry and Internal Trade (DPIIT): FDI and industrial-policy indicators where relevant.
- World Bank and IMF publications: contextual comparisons and tax-policy literature, not substitutes for Indian administrative data.

8.4 Variables and measurement

Variable type	Indicator	Measurement / source
Outcome	GST revenue	Monthly or annual gross GST collections; Ministry of Finance / GST Council
Outcome	Economic activity	Real GDP or real GVA growth; NSO / Economic Survey
Outcome	Industrial activity	Index of Industrial Production (IIP); MoSPI
Explanatory	GST formalisation	Registered taxpayers, active filers where available; GSTN / Economic Survey
Explanatory	Transaction activity	E-way bill volumes; official GST statistics
Controls	Prices and macro conditions	CPI/WPI inflation, nominal GDP growth, pandemic period, policy changes

8.5 Analytical techniques

- Descriptive statistics: annual totals, monthly averages, year-on-year growth and trend charts.
- Tax buoyancy: compare percentage change in GST revenue with percentage change in nominal GDP, while explaining that buoyancy is not a causal estimate.
- Correlation analysis: examine co-movement between GST indicators and economic activity; correlation must not be interpreted as causation.
- Interrupted time-series analysis: estimate level and trend changes after July 2017, accounting for seasonality, pandemic disruption, rate changes and autocorrelation.
- Difference-in-differences or sectoral comparisons: use only if a defensible treatment/control comparison and consistent data can be constructed.
- Robustness checks: use alternative time windows, real versus nominal measures, and sensitivity tests excluding the pandemic period.

8.6 Proposed baseline model

A possible monthly model is: $Y_t = \alpha + \beta \cdot \text{GST}_t + \gamma \cdot X_t + \delta \cdot \text{PostGST}_t + \eta \cdot \text{Trend}_t + \epsilon_t$, where Y_t is a selected economic outcome, GST_t is a carefully defined GST indicator, X_t is a vector of controls, and PostGST_t identifies the post-implementation period. This expression is only a research proposal. The final specification must avoid mechanical correlations (for example, using GST revenue to explain a nominal GDP-linked outcome without adequate controls), account for serial correlation and structural breaks, and be chosen after inspecting the data.

8.7 Reliability, ethics and limitations

Only verifiable published data should be entered into the final dataset. Units, revisions, fiscal-year definitions and reporting dates must be recorded. The researcher should retain a source log and reproducible calculations. This paper uses aggregate public information and does not involve human participants. Its principal limitations are the short post-reform time span, policy changes occurring at the same time, revisions to macroeconomic data, differences between gross and net GST revenue, and limited public access to firm-level microdata.

9. GST REFORM: INSTITUTIONAL AND ECONOMIC CONTEXT

9.1 Core design

GST is a destination-based indirect tax applied to supplies of goods and services, with input tax credit intended to prevent tax-on-tax effects where credit is legally available. Intra-state supplies generally involve Central GST and State GST, while inter-state supplies are generally subject to Integrated GST. The GST Council recommends rates, exemptions and major design changes. The actual rate structure and exemptions have evolved over time, so any study should use rates applicable in each period rather than assume an unchanged system.

9.2 Digital compliance infrastructure

Online registration, return filing, e-invoicing for covered taxpayers and e-way bills support digital administration and traceability. These systems can improve data matching and make some forms of non-compliance more detectable. Their effectiveness depends on platform reliability, the quality of taxpayer data, timely refunds, clear rules and the ability of firms to comply.

9.3 Revenue and federal relations

GST revenue is shared through the statutory framework, and its administration depends on cooperation between the Union and states. Revenue performance matters for public expenditure and fiscal stability, but revenue adequacy must be considered alongside tax rates, compliance costs, the distribution of consumption and the predictability of transfers. State-level comparisons should account for economic size and differences in industrial structure.

10. DESCRIPTIVE EVIDENCE AND ANALYSIS

10.1 GST revenue trend

The Government of India reported gross GST collections of ₹22.08 lakh crore in FY 2024–25, 9.4 per cent higher than the previous financial year. This is a documented nominal revenue indicator and demonstrates that GST has become a major source of indirect-tax receipts. It should not be read as a direct measure of real economic growth: prices, consumption, rates, enforcement and compliance can all affect collections.

Financial year	Gross GST collections (₹ lakh crore)	Interpretation
2017–18	7.19	Partial implementation year; July 2017 onward
2018–19	11.77	Full-year GST collection period
2019–20	12.22	Pre-pandemic annual period
2020–21	11.36	Pandemic-affected year
2021–22	14.83	Recovery period
2022–23	18.10	Strong nominal collection growth
2023–24	20.18	Further increase
2024–25	22.08	Record annual gross collections reported by government

Source: Government of India, Press Information Bureau, “Eight Years of GST” (30 June 2025), and GST Council newsletter. Figures are rounded and should be checked against the relevant official statistical series before formal submission.

10.2 Taxpayer base and formalisation

The Economic Survey 2025–26 reports that registered taxpayers increased from about 60 lakh in 2017 to more than 1.5 crore. This expansion is consistent with a broader recorded tax base and deeper integration of businesses into the GST system. Nevertheless, registration growth alone does not prove that all registered businesses are active, that informal employment has declined, or that productivity has risen. A more complete study would combine registration data with active return filing, firm entry and exit, employment, and enterprise survey evidence.

10.3 E-way bills and movement of goods

The Economic Survey 2025–26 reports that cumulative e-way bill generation during April–December 2025 grew by 21 per cent year on year. E-way bills can provide a useful high-frequency indicator of recorded goods movement. However, growth in e-way bills may also reflect changes in reporting, enforcement, the value and composition of shipments, or economic recovery. To infer logistics efficiency, the researcher would need additional measures such as transit time, freight cost, inventory costs or firm-level supply-chain data.

10.4 GST collections and nominal GDP

The Economic Survey 2025–26 notes that GST revenue growth has broadly tracked nominal GDP growth and presents a strong positive correlation in its analysis. This is economically plausible because GST is levied on taxable consumption and transactions. However, such co-movement is partly expected by construction and does not establish that GST reform caused GDP growth. A research paper should test whether GST indicators explain outcomes beyond nominal GDP, inflation, rate changes and other relevant factors.

10.5 Pandemic disruption and recovery

The decline in annual gross collections from ₹12.22 lakh crore in FY 2019–20 to ₹11.36 lakh crore in FY 2020–21 coincided with the COVID-19 shock and associated restrictions. The subsequent increase is consistent with the recovery of economic activity and improved tax administration, but these factors cannot be separated using annual totals alone. Monthly data, seasonal controls and explicit pandemic indicators are required.

10.6 MSMEs and compliance costs

Small enterprises may benefit from a common market and input tax credit, but they may also face fixed costs of registration, accounting, digital filing and professional assistance. The burden can be greater for firms with limited cash flow or unreliable internet access. A balanced assessment should compare firm size, sector and state, and should measure both benefits (such as credit availability and market reach) and costs (such as filing time, refund delays and penalties). National collection totals do not reveal these distributional effects.

10.7 Prices, consumers and sectoral differences

The effect of GST on consumer prices varies by product, the tax rate before and after reform, input credits, market competition and the extent to which tax changes are passed through to buyers. A uniform conclusion that GST reduced or increased prices would be too broad. Sector-specific price indices and tax-rate changes are needed to estimate pass-through. Exemptions and rate differentiation also influence the distribution of the tax burden.

10.8 Interpretation of the evidence

The official indicators support three descriptive observations: gross GST collections have risen substantially over time; the registered taxpayer base has expanded; and e-way bill activity has grown. These trends are consistent with stronger revenue mobilisation and greater digital recording of transactions. They do not, on their own, quantify GST's independent impact on real GDP, productivity, employment, prices or inequality. The distinction is central to the empirical credibility of this paper.

11. KEY FINDINGS

- GST has become a major component of India's indirect-tax system, with official gross collections reaching ₹22.08 lakh crore in FY 2024–25.
- The reported expansion from about 60 lakh registered taxpayers in 2017 to more than 1.5 crore indicates a substantial broadening of the GST registration base.
- E-way bill generation is a useful digital indicator of recorded goods movement; the reported 21 per cent year-on-year growth for April–December 2025 suggests increased transaction-recording activity.
- GST revenue and nominal GDP growth move together, but this relationship is not sufficient to infer causality because GST receipts are affected by nominal activity, prices, rates and compliance.
- The COVID-19 period creates a major structural break for before-and-after comparisons and must be handled explicitly in statistical analysis.
- The effects on MSMEs, consumers, employment and productivity remain distributional and outcome-specific questions that cannot be resolved from national revenue aggregates alone.
- A credible causal estimate requires a reproducible dataset, documented variables, suitable controls and robustness checks; this paper does not invent such estimates.

12. POLICY RECOMMENDATIONS

- Simplify rate structures and classification rules where feasible, while assessing revenue and distributional implications before changing rates.
- Improve the predictability and timeliness of refunds, especially for exporters and firms with significant input-tax-credit balances.

- Provide accessible digital support and proportionate compliance procedures for micro and small enterprises.
- Publish consistent, machine-readable monthly data with clear definitions for collections, refunds, registrations, active filers and e-way bills.
- Strengthen taxpayer grievance resolution and communicate rule changes in a timely, consolidated manner.
- Evaluate GST changes using independent evidence, including sectoral price pass-through, compliance costs and firm survival.
- Maintain cooperative federalism through transparent revenue information, consultation and predictable intergovernmental processes.
- Separate revenue targets from broader welfare objectives: a successful tax system should be judged by efficiency, fairness, compliance, stability and administrative cost, not collections alone.

13. CONCLUSION

GST is a major institutional reform in the evolution of India's post-liberalisation economy. It replaced many earlier indirect-tax arrangements with a more integrated framework, supported by input tax credit and digital compliance. Official data show substantial growth in gross collections, a larger registered taxpayer base and rising e-way bill activity. These developments are consistent with stronger tax administration, improved transaction visibility and a wider formal tax base.

At the same time, a sound empirical conclusion must distinguish administrative success from economy-wide causation. GST revenue is influenced by nominal GDP, inflation, tax rates, enforcement and the composition of consumption. The post-2017 period also includes the pandemic and other major changes. Therefore, the evidence presented here does not establish that GST independently caused a particular increase in real GDP, employment, productivity or welfare.

The next stage of research should build a monthly or quarterly dataset, verify all observations against official releases, estimate an appropriate time-series or quasi-experimental model, and test alternative specifications. Distributional analysis by state, sector and firm size is especially important. Overall, GST appears to have strengthened India's indirect-tax architecture and digital recording of economic transactions, while simplification, predictable refunds, MSME support and transparent evaluation remain important priorities.

14. SCOPE FOR FURTHER RESEARCH

Future work can extend this analysis in four directions. First, a monthly time-series study can estimate the relationship between GST revenue and nominal GDP while controlling for seasonality, inflation and rate changes. Second, state-level panel data can explore whether GST-related revenue performance differs with state economic structure and administrative capacity. Third, firm-level studies can measure compliance costs, productivity, investment and survival among MSMEs. Fourth, sector-level price data can test how GST rate changes pass through to consumers. Each extension should specify the identification strategy in advance and report uncertainty as well as point estimates.

REFERENCES

1. Central Board of Indirect Taxes and Customs (CBIC). (n.d.). Goods and Services Tax: Acts, rules, notifications and guidance. Government of India. <https://www.cbic-gst.gov.in/>
2. Ebrill, L., Keen, M., Bodin, J.-P., & Summers, V. (2001). The Modern VAT. International Monetary Fund.
3. Goods and Services Tax Council. (2025). Eight Years of GST: Record Gross GST Collection in 2024–25; Survey Finds 85% Industry Approval. GST Council Newsletter, June 2025. <https://gstcouncil.gov.in/>
4. Government of India, Ministry of Finance. (2025). Economic Survey 2024–25. <https://www.indiabudget.gov.in/economicsurvey/>
5. Government of India, Ministry of Finance. (2026). Economic Survey 2025–26. <https://www.indiabudget.gov.in/economicsurvey/>
6. Government of India, Press Information Bureau. (2025, June 30). Eight Years of GST. <https://www.pib.gov.in/>
7. Government of India, Press Information Bureau. (2026, January 29). Economic Survey 2025–

- 26: Fiscal developments and GST revenue indicators. <https://www.pib.gov.in/>
8. Goods and Services Tax Network (GSTN). (n.d.). GST portal and taxpayer services. <https://www.gst.gov.in/>
9. Ministry of Statistics and Programme Implementation (MoSPI). (n.d.). National accounts statistics and Index of Industrial Production. <https://www.mospi.gov.in/>
10. Reserve Bank of India. (n.d.). Handbook of Statistics on the Indian Economy. <https://www.rbi.org.in/>
11. World Bank. (n.d.). World Development Indicators. <https://databank.worldbank.org/source/world-development-indicators>

APPENDIX A: REPLICATION CHECKLIST

- Download monthly GST collection data from an official source and record the download date.
- Download matching monthly/quarterly nominal GDP or relevant economic indicators; document frequency conversion if required.
- Record policy changes, rate revisions, refunds, reporting changes and pandemic periods.
- Check missing values, revisions, units and fiscal-year alignment.
- Produce descriptive tables and charts before estimating any model.
- Test stationarity and serial correlation where relevant; choose model specification accordingly.
- Report coefficient estimates, standard errors, confidence intervals, diagnostics and sensitivity tests.
- Do not claim causal effects unless the identification strategy supports causal interpretation.

APPENDIX B: NOTES FOR ACADEMIC SUBMISSION

This document is a research-paper draft suitable for academic development, not a certified publication or a completed original econometric study. Before submission, verify all references and current data tables, add institution-specific author details, confirm the journal's referencing style, and complete the proposed empirical analysis using the official datasets. Any results added later should be reproducible and clearly distinguish descriptive statistics from estimates.