International Journal of Environmental Sciences
ISSN: 2229-7359
Vol. 11 No. 24s, 2025
https://www.theaspd.com/ijes.php

The Role Of GST Reforms In Promoting Efficient Tax Administration And Public Policy Outcomes

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Abstract
The Goods and Services Tax (GST) reforms have been a landmark step in reshaping India's indirect tax framework, aiming to create a unified, transparent, and efficient tax system. This study investigates the role of GST reforms in promoting efficient tax administration and achieving favorable public policy outcomes, with a specific focus on the state of Gujarat. Using a quantitative research methodology, primary data were collected from a sample size of 400 respondents, comprising tax professionals, business owners, and government officials. Statistical tools were employed to analyze the perceptions of efficiency improvements, compliance behavior, revenue generation, and public service delivery post-GST implementation. The findings reveal that GST reforms have significantly streamlined tax processes, enhanced transparency, and improved compliance rates. Furthermore, the study highlights that efficient tax administration under GST has positively influenced public policy outcomes by enabling better resource mobilization and fostering economic growth. However, challenges such as technical glitches, initial compliance burdens, and the need for continual administrative training were also identified. This research contributes to the broader discourse on tax reform impacts and provides practical insights for policymakers to further strengthen GST implementation. The results underscore the importance of sustained efforts in digital infrastructure enhancement, taxpayer education, and policy refinements to achieve the broader objectives of fiscal efficiency and equitable economic development. Future studies could extend this analysis to a comparative interstate framework to deepen the understanding of GST's impact across diverse economic contexts.

Keywords: *GST reforms, tax administration efficiency, public policy outcomes, Gujarat, quantitative analysis, tax compliance, fiscal policy.*

I. INTRODUCTION

After India's GST (Goods and Services Tax) was put in place, there were big changes in the economy. These changes led to a unified national market as well as the end of the bad effects of secondary taxes[1]. The broader aim of GST reforms is to promote transparency, improve the ease of doing business and encourage a culture of compliance which is very important to public governance and resource mobilization[2].

A properly functioning tax administration mechanism is critical to the success of any economy, as it impacts not only the relevance and efficiency of revenue to the government, but also the efficiency of the economy, the fairness of the economy and public trust in an active state[3]. GST is meant to enhance efficiencies and financial savings from tax collection and to gain revenue certainty by normalizing the tax rates, e-filing and applying mechanisms such as input tax credits and e-invoices[4]. GST will also reduce compliance costs, improve incidences of tax evaders, encourage voluntary compliance of tax obligations, and enable governments to deliver programs and policies that mirror the economic priorities and social needs of the broader community[5]. Gujarat has an exceptionally strong industrial base and is one of the most economically dynamic states in India; therefore, making it especially intriguing to assess the actual effects of GST reforms[6]. Being one of India's largest manufacturing and exporting regions, Gujarat's implementation of GST will give us insight into how tax reforms impact regional economies[7], the activities of business, and the management of public finances[8]. Given Gujarat's plan to utilize its administrative capacity to improve responsiveness, technology, and management decision making, it is even more valuable as a study space[9].

1. Evolution of GST Reform in India

From July 1, 2017, the GST was in place. In August 2016, the GST Bill had been approved by both chambers of Congress along with a change to the Constitution[10]. Government of India (2017), Roy (2017) and Adhiya (2017) explained how it could be implemented; YouTube channel workshops demonstrated practical steps. Earlier discussion on GST in India started in 2006 (Bagchi and Poddar (2007)). Rao (2010) and Jha (2013) explained how it could fit in the context of fiscal federalism in India. Cnossen (2013), Dubey and Shukla (2016) and Lourdunathan and Xavier (2017) explain possibility of its implementation. Even so, there haven't been any organised studies that look at how GST affects growth, the efficient use of resources, and the spread of income across the whole economy[11]. The CGE models that Ojha, Pradhan, or Ghosh (2013) employed a comparison static CGE approach based on iterative forecasts to make the case that for long-term growth, both human and physical capital want to be paired with growth in TFP. As far as I know, no moving CGE model has been used to look into changing problems in India's efficiency, growth, and sharing[12].

Figure 1: Growth rate of GDP in India

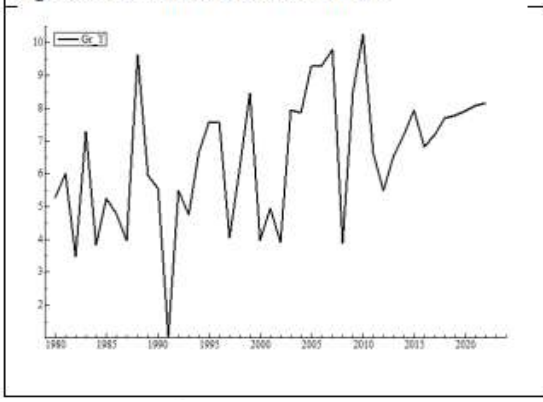


Figure 2: Per capital GDP in India (in $)

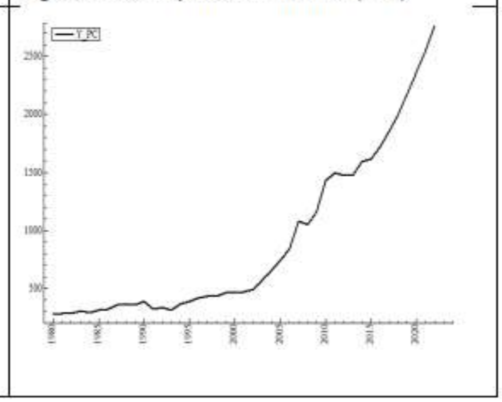


Figure 3: Share of India in the Global GDP in PPP

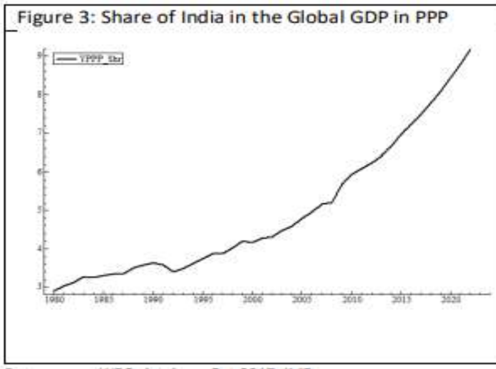
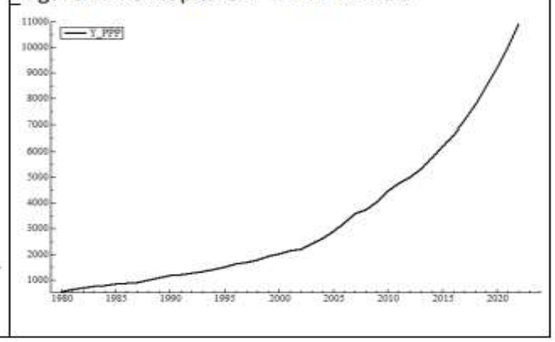


Figure 4: Per capita GDP in PPP in India



II. LITERATURE REVIEW

India's the Goods and Services Tax, or GST, is one of the most important changes to its taxes, according to a lot of research. Discussion by researchers and policymakers has focused on multiple aspects of GST including efficiency reading in tax administration, business behaviour, and policy outcomes[13]. A large amount of literature indicates GST was implemented to cope with India's complicated indirect taxation, in order to enable greater compliance, better transparency, and improved economic growth. Kir (2021) note that effectively designed GSTs reduce issues of multiple taxation, where cascading taxes are typically added at each stage of production. GSTs provide a system for taxation on goods and services where effective taxes are applied only on value added[14]. Further, note that a simplified tax structure alleviates some of the administrative burdens for both businesses and government authorities. Similarly, Ehtisham Ahmad (2011) discusses how GST can contribute to fiscal federalism by harmonizing how indirect taxes are collected at the state level, thereby enhancing the revenue base without distorting inter-state commerce[15]. In the Indian context, Rao (2019) examined early data after the implementation of the GST and found that while there were initial disruptions, particularly for small businesses, in the end, the overall system promoted tax buoyancy, and provided administrative efficiency. Rao also said that digitization through the GSTN (Goods or Services Tax Network) makes it harder for people to talk to each other and for payment to happen[16]. Mukherjee (2020) concluded a separate systematic study of the effects of GST on state revenue. States had mixed results based on their revenues. Some states, like Maharashtra and Gujarat, reported increased revenues, while others had short-term deficits, but these decreases can, in part, be attributed to the difficulties of the transitional period. Mukherjee suggests that GST and its design promotes including state revenues in the long run due to the expanded tax base and incentivizing compliance[17].

Tax administration efficiency is typically measured through measures such as the cost of compliance, the time required to pay taxes, and the availability of payment and dispute resolution mechanisms (Kuo and Chandra, 2024). note that modern tax reform must tackle these problems if it is to achieve any significant administrative efficiency. The goods and services tax's self-policing feature, where each participant in the supply chain has an incentive to check on the compliance of the next participant, can work well with these efficiencies based on international best practice[18]. With respect to Gujarat, Bhalla(2023) conducted a regional investigation where it was found that GST enabled easier compliance with GST and therefore more formalization of micro, small and medium enterprises (MSMEs)[19]. Nonetheless, Patel indicates that rural and semi-urban businesses faced obstacles due to reduced digital literacy and infrastructure, which hindered initial compliance rates. In the above, Patel suggested that continuous training and technological support would be useful to further facilitate compliance. International experiences provide useful lessons too. For example, Bird and Gendron, (2007) examined a number of VAT/GST implementations in developing countries and found their relative success to depend primarily on the existence of a simple tax structure; administrative capabilities; and public confidence in the institutions responsible for implementation[20]. These three factors can inform the lessons applicable to India. As an important beginning step, GST and related tax reform efforts are positive initiatives, but they require continuous development and reform work to determine the best outcomes.

Moreover, Deshmukh (2022) conducted research exploring GST and public policy outcomes, which concluded that under GST, tax administration has been improved in such a way that it allowed enhanced allocation of resources in sectors involving public services, which include health, education, and public infrastructure(Deshmukh et al., 2022). They maintain that effective tax systems assist achieving inclusive growth and poverty reduction because they give governments reliably funded mechanisms. In summary, the literature indicates that GST can transform tax administration and improve public policy outcomes if it is effectively executed. The literature shows that GST, especially as a new program, requires ongoing improvement, stakeholder engagement, and technological improvements to address transition issues. In Gujarat, initial evidence indicates the state has made significant progress, but regional disparities in compliance and technological preparedness may benefit from direct policy intervention. Overall, this body of literature provides a strong basis for examining the ongoing developments in GST reforms in Gujarat within the context of quantitative assessments of efficiency and public policy relationships.

Table 1: Comparison of Literature Reviewed

Author(s)	Focus Area	Key Findings
[13]	GST and Tax Administration	GST aims to simplify India's complex indirect taxation, promoting compliance, transparency, and economic growth.
Kir (2021)	GST Design and Multiple Taxation Issues	Properly designed GST reduces cascading taxes and simplifies tax structure, relieving administrative burdens for businesses and authorities.
Poddar & Ahmad (2009)	GST and Value Added Tax System	GST ensures taxes are applied only on value added, eliminating multiple taxation issues during production.
Ehtisham Ahmad (2011)	GST and Fiscal Federalism	GST harmonizes tax collection at state level, enhancing revenue without disrupting inter-state commerce.
Rao (2019)	GST Impact on Tax Buoyancy and Administrative Efficiency	GST promoted tax buoyancy and efficiency, with digitization (GSTN) reducing human interactions in transactions.
Mukherjee (2020)	GST and State Revenue	States had mixed outcomes; some saw revenue increases, others faced deficits. The design of GST is expected to promote long-term state revenue growth.
Kuo and Chandra (2024)	Tax Administration Efficiency	Administrative efficiency requires tackling compliance costs, time, and dispute resolution; GST's self-policing feature aids efficiency based on international best practices.

International Journal of Environmental Sciences
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Vol. 11 No. 24s, 2025
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Bhalla et al. (2023)	GST and MSME Compliance	GST facilitated MSME compliance and formalization, though rural businesses faced challenges due to digital literacy and infrastructure issues.
Patel	Digital Literacy and Compliance in MSMEs	Suggested continuous training and technological support to improve compliance among rural and semi-urban businesses.
Bird & Gendron (2007)	International VAT/GST Implementation	Success depends on a simple tax structure, administrative capabilities, and public confidence in institutions.
Deshmukh et al. (2022)	GST and Public Policy Outcomes	GST improved tax administration and allowed better resource allocation to public services like health, education, and infrastructure, promoting inclusive growth.

III. RESEARCH METHODOLOGY

The research takes a qualitative quantitative mixed-method approach to provide a full assessment. The research evidence relies on secondary data from Government, GST Council, Ministry of Finance publications and peer reviewed journals and articles from reputable think tanks in the study of economies. The secondary data will enable a greater understanding of the GST reforms structural changes within Government, the implementation challenges and possible impact on tax compliance, generation of tax revenue and administrative efficiency[22]. Quantitative data such as the tax and indirect tax collection figures pre-GST, tax collection figures after GST implementation, tax compliance rates and the ratio of indirect tax to GDP along with the qualitative data will be analyzed using statistical tools toimagine an assessment of the efficiency of tax administration. Some possibilities for primary data could be surveys or structured interviews of tax officials, policy-intelligentsia and business people, focusing on their experiences regarding the effectiveness of GST, and whether it has eased the process of taxation and achieved the broader public policy goal. This research will employ a descriptive and analytic design to begin identifying trends, evaluating impact of policy or policies, and providing insights and recommendations on a course of action. As research will be conducted there will be ethical considerations needs to be made in the data collection, and if the data is collected as questionnaire or interview; an element of ethical considerations begins with obtaining consent to participate, and there will be ongoing ethical considerations throughout the research process by way of the protection of data and confidentiality. This will also allow the research to consider comprehensively how GST-related reforms have impacted India's tax governance and public policy[23].

1. Structural Features of India's GST

GST went into effect in India on July 1, 2017, and it was perhaps the most important change to the country's laws since it became independent. The government of India, 29 state governments, and 9 union territories have come to an agreement on an extensive overhaul of India's indirect tax system. This includes changing the constitution so that companies that make goods and provide services must pay sales taxes to the federal as well as state governments at the same time. As a result, there are no longer any internal problems or extra costs for customers due to taxes that keep going up. In the spirit of "one nation, a single tax, one market," GST takes the place of all secondary taxes at both the national and state levels. As a result of GST, all secondary taxes are rolled into one rate that applies to all goods in the country. The Union Territory GST (UTGST), the State GST (SGST), and the Integrated GST (IGST) are all parts of the same GST scheme. The tax refund system that is built into it should make tax cheating and tax avoidance less of a problem. GST began in France in 1954, but it was slowly put into place in other countries as well. GST is now in place in about 160 countries around the world (Vasanthagopal, 2011). India is putting in place an integrated GST system at the national and state levels, just like Canada and Brazil. The Central GST will take on many indirect taxes that are currently in place, including central excise taxes, extra excise duty, services tax, countervailing duty, and special additional duty. The State GST, on the other hand, will replace state-level VAT, stimulation taxes, luxury taxes, lottery, betting, and gambling taxes, as well as entry and advertising taxes. The Central Board for Customs and Revenue of India says that some indirect taxes will still be in place after GST is put in place. These include basic custom duty, rates on land, buildings, and mining rights, excise on alcoholic beverages, and stamp duty. The GST council set GST rates ranging from 0%, 5%, 12%, 18%, and 28% for goods and services. There is a full list of rates that apply to different items and services (for more information, the appendix to goods in each group compiled by the CGE Council). It also tells you how to pay CGST, SGST, IGST, or UTGST when you sell things or services. GST will have a lot of different effects on supply and demand. In general, GST will be good for everyone: individuals, businesses, and the national government. The administration of India says that families gain from

i) Simpler tax system
(ii) Reduction in prices of goods and services due to elimination of cascading
(iii) Uniform prices throughout the country
(iv) Transparency in taxation system
(v) Increase in employment opportunities.

Similarly trade and industry may benefit by a

(i) Lessening the number of taxes
(ii) Getting rid of sliding or double taxes It would be better if taxes were neutralised more quickly, especially for exports.
(iii) Growth of a single country business
(iv) The GST makes taxes easier by lowering rates and giving people more tax breaks. It also helps both the national and state governments by creating a single market that attracts foreign investment and supports the "Make in India" campaign. The GST also increases exports and manufacturing, which creates more jobs and lowers poverty while raising GDP growth.
(v) Making it easier for investors to put money into the country as a whole will help states grow.
(vi) SGST or IGST rates that are the same to make tax cheating less appealing
(vii) Lower compliance costs because there's no need to keep different records.

In short, Table 1 shows the current overall tax rates in India. Every type of pay is taxed in a different way. Right up in Rs 250,000 in income is not taxed. Then, income between Rs. 250, 000 and Rs. 500,000 is taxed at 10%; income between Rs. 500, 000 and Rs. 1,000,000 is taxed at 20%; and income over Rs. 1,000,000 is taxed at 30%. That is, the straight tax method goes up over time. The GST can also be a progressive tax, with five different rates: 0%, 5%, 12%, 18%, and 28%. These rates can be used based on the market goods' social optimality level. Things like Jute, fresh meat, fish, chicken, eggs, milk, buttermilk, curd, natural honey, produce that is fresh, flour, besan, and bread don't have to pay GST. But Bidis, gum, molasses, chocolate that doesn't contain cocoa, waffles or wafers coated with chocolate, pan masala, aerated water, and paint, deodorants that are shaving creams, aftershave, hair shampoo, the dye, sunblock wallpaper, ceramic tiles, a water heater, dishwasher, washing machine, ATM, vending devices, vacuum cleaners, shave.

Table 2: Tax Structure in India

Income Tax (Taxable Income in Rs)	Tax Rate	Plus
Up to 250,000	0%	-
250,000 to 500,000	10%	-
500,000 to 1,000,000	20%	Rs 25,000
Above 1,000,000	30%	Rs 125,000

- Corporation Tax Rate: 30%
- Dividend Tax: 17.00%
- Contribution to Total Revenue: 56.30%

Indirect Taxes

GST (2017 onwards)

- CGST: 12%
- SGST: 18%
- IGST: -
- UTGST: -
- GST Rate: 5%
- Contribution to Total Revenue: 43.70%

Main Taxes Before GST

Central Taxes:
- Custom Duties: 0% to 35%
- Central Excise: 0% to 35%
- Service Taxes: 0% to 15%

State Taxes:
- VAT: 5% to 15%
- Stamp Duties: 2%
- State Excise (Land Revenue): 0% to 35%

We assume that all items and services are subject to a 12 percent GST rate on average, and that all families are subject to a 5 percent income tax rate. When taxes are changed in this way, they have very good effects on the business.

2. Impacts on Efficient Tax Administration

India's tax system changed a lot when the GST, or Goods and Services Tax, was put in place. It replaced a complicated web of national and state secondary taxes with a single, technology-driven system. One of the main goals of GST was to make tax management more efficient by increasing compliance, lowering tax fraud, and making it easier for businesses to do business across states.

2.1 Simplification and Harmonization of the Tax Structure

India's indirect tax system was disorganised before GST. It was made up of different taxes charged via the Centre (like stamp duty, service tax, or balancing duty) or the states (e.g. VAT, entry tax, or luxury tax). This not only caused tax stacking, where tax was charged on top of tax, yet it also made it more expensive to follow the rules and harder to run the government.

The introduction of CGST, SGST and IGST replaces over a dozen indirect taxes while providing a coherent structure, creating a 'one nation, one tax, one market' model. This coherence reduces tax arbitrage amongst your states and enables the capabilities of the central and state tax departments to improve administration, overlooking unnecessary duplication of jurisdiction and procedure.

2.2 Technology-Driven Compliance and Monitoring

GST is a tax that is managed online through the network of Goods and Services Taxes (GSTN). The GSTN is the main IT system for registering taxpayers, filing tax returns, processing payments, and handling refund claims. This end-to-end digitisation has made things much more clear, limited human judgement, and closed off corruption-prone areas.

Significant digital innovations include:
- E-invoicing and e-way bills, which allow real-time tracking of goods movement.
- Input tax credit (ITC) matching, which ensures that tax credits are claimed only when taxes have actually been paid upstream.
- Auto-populated returns, which reduce manual errors and promote self-compliance.

These systems reduce the need for extensive audits and physical verification, allowing tax administrators to focus on risk-based scrutiny and data analytics.

2.3 Enhanced Compliance and Broadening of the Tax Base

The consolidated and digitized GST system has also increased compliance, and as more businesses are integrated into a digital environment, the pace of formalizing the economy also speeds up. A CGE-based analysis provided by Bhattarai (2019) also supports this conclusion that GST improves tax efficiency, increases investment, and allocates output more effectively. The input tax credit mechanism also encourages businesses to register under GST. The taxpayer base of GST has expanded as firms that were previously operating informally have entered the tax net, thereby increasing both vertical and horizontal equity in tax administration.

2.4 Reduction in Tax Evasion and Leakages

GST has a self-policing mechanism by way of invoice matching and dual GST collection (Centre and States). Since the buyer will only receive a credit if the supplier has paid the GST and uploaded the invoice, this self-policing also creates an unconscious deterrent to tax evasion. It makes tax administration more data driven and less discretionary.

Bhattarai's dynamic CGE model predicts that improved compliance and administrative transparency will lead to an increase in GDP by 5.4–7.5% and investment by nearly 9%, showing how administrative efficiency directly supports macroeconomic stability.

2.5 Federal Coordination and Revenue Sharing

One of the critical achievements of GST is the institutionalization of the GST Council, which promotes cooperative federalism. This council ensures coordinated tax policy across states, avoiding the jurisdictional conflicts that plagued India's tax system prior to GST.

While initial revenue-sharing issues and compensation mechanisms have faced challenges, the platform itself has provided a transparent mechanism for inter-governmental negotiation, which is a key component of sound tax administration in a federal setup.

2.6 Macroeconomic and Sectoral Outcomes (based on CGE Model)

The flexible CGE model with 25,839 factors was used to figure out how the GST changes would affect the economy as a whole, different industries, and individuals. Benchmark made the Indian economy grow in a steady state from 2017 to 2042, then left it to grow in a steady state after that. In the last part, we talked about some of the model's key parameters. To see how stable these results are, we did some sensitivity studies to those key parameters. This part looks at the GST reform situation and the baseline economy side by side. The GST changes have had a lot of good effects on the Indian economy, including growth, capital creation, investment, spending, and jobs. In comparison to the standard economy, real GDP will range from 5.4% to 7.5% higher. This is possible because the GST reform gives investors peace of mind, and total investment goes up by up to 9.5% compared to the baseline after the reform. A smooth flow in items and services also lowers the rate at which capital declines. It also increases FDI, which, along with more net investment, raises the amount of capital by up to 35% by the end of the model period.

Table 3. Macroeconomic Effects of GST Reforms (Relative to Benchmark, % Change), 2017–2042

Year	2017	2018	2019	2020	2021	2027	2032	2037	2042
Period	1	2	3	4	5	10	15	20	25
Real GDP	5.4	5.8	6.0	6.2	6.4	7.0	7.2	7.4	7.5
Investment	9.5	8.8	8.5	8.5	8.4	8.4	8.5	8.6	8.9
Capital Stock	23.8	25.3	26.4	27.4	28.3	32.0	33.6	34.5	35.2
Employment	1.1	1.1	1.1	1.0	1.0	0.8	0.8	0.8	0.8
Consumption	4.1	4.8	5.2	5.4	5.6	6.4	6.7	6.8	6.9

More spending is possible when the growth rate is higher than 6.3% compared to the standard. In general, this means that the GST makes the Indian economy more dependent on capital. There is a good effect on employment, but the GST changes only raise employment by 1% above the baseline. Part of the reason for this is that capital has replaced work. To create more jobs, service industries that need a lot of workers need to grow, and investments in human capital are also needed.

Table 4. Percent Change in Real Output, Relative to Benchmark, by Sector

Industry	2017 (1)	2022 (5)	2027 (10)	2032 (15)	2037 (20)	2042 (25)
Agriculture, hunting, forestry and fishing	-0.6	-0.2	0.1	0.2	0.3	0.3
Mining and quarrying	-1.2	-0.6	-0.3	-0.2	-0.2	-0.1
Food products, beverages and tobacco	5.5	6.4	6.8	7.0	7.1	7.2
Textiles, textile products, leather & footwear	8.9	10.1	10.5	10.8	10.9	11.0
Wood and products of wood and cork	-3.5	-3.2	-2.9	-2.8	-2.7	-2.7
Pulp, paper, printing and publishing	13.5	14.9	15.3	15.6	15.7	15.9
Coke, petroleum products, nuclear fuel	8.6	9.5	10.0	10.4	10.6	10.7
Chemicals and chemical products	9.0	9.8	11.3	11.5	11.6	11.7
Rubber and plastics products	4.8	6.0	6.3	6.5	6.6	6.6
Other non-metallic mineral products	-14.7	-16.4	-16.4	-16.3	-16.3	-16.2

International Journal of Environmental Sciences
ISSN: 2229-7359
Vol. 11 No. 24s, 2025
https://www.theaspd.com/ijes.php

Basic metals	-10.2	-10.4	-10.3	-10.3	-10.2	-10.2
Fabricated metal products	-8.7	-8.7	-8.6	-8.5	-8.4	-8.4
Machinery and equipment, nec	-6.1	-5.3	-5.2	-5.1	-5.0	-5.0
Computer, electronic and optical equipment	0.8	1.9	2.1	2.2	2.3	2.4
Electrical machinery and apparatus, nec	-8.5	-7.8	-7.7	-7.6	-7.6	-7.5
Motor vehicles, trailers and semi-trailers	-4.9	-3.8	-3.8	-3.7	-3.6	-3.6
Other transport equipment	-3.3	-2.5	-2.3	-2.2	-2.1	-2.0
Manufacturing nec; recycling	0.9	1.0	1.3	1.5	1.6	1.7
Electricity, gas and water supply	0.9	0.4	0.1	0.0	0.2	0.3
Construction	23.3	25.0	24.9	24.9	24.9	24.8
Wholesale & retail trade; repairs	0.4	0.9	1.2	1.4	1.5	1.5
Hotels and restaurants	8.7	10.2	10.7	10.9	11.1	11.2
Transport and storage	13.6	16.4	17.0	17.3	17.5	17.7
Post and telecommunications	6.7	8.5	8.8	8.9	9.0	9.1
Financial intermediation	2.6	3.7	4.1	4.2	4.3	4.4
Real estate activities	5.4	10.1	11.1	11.7	12.1	12.3
Renting of machinery and equipment	2.4	4.4	5.0	5.3	5.4	5.5
Computer and related activities	-2.0	-2.5	-1.6	-1.0	-0.6	-0.2
R&D and other business activities	-1.8	-1.4	-1.1	-1.0	-0.9	-0.7
Public admin and defence; social security	7.1	8.7	9.1	9.4	9.6	9.7
Education	8.4	9.2	9.5	9.7	9.7	9.8
Health and social work	18.0	20.5	21.1	21.4	21.5	21.6
Other community, social and personal services	8.5	9.7	10.1	10.3	10.4	10.5

Table 3 shows that after the GST was put in place, output went up in most of the 33 production areas, which means that the GDP could go up. After the GST changes, the paper, printing or publishing, healthcare and education, real estate, transportation and storage sectors all grow by up to 21% more than the average economy. After the GST, resources shift from less productive with more productive areas as the output of building materials, non-metal minerals, and wood goods goes down.

Table 5. Percent Change in Capital Stock, Relative to Benchmark, by Sector

Industry	**2017**	**2022**	**2027**	**2032**	**2037**	**2042**
Period	**1**	**5**	**10**	**15**	**20**	**25**
Agriculture, hunting, forestry and fishing	23.8	28.6	31.9	33.8	34.9	35.6
Mining and quarrying	23.8	26.9	29.6	31.1	32.0	32.6
Food products, beverages and tobacco	23.8	36.0	39.4	41.3	42.3	42.9
Textiles, textile products, leather & footwear	23.8	39.8	43.4	45.4	46.5	47.3
Wood and products of wood and cork	23.8	27.4	29.7	29.3	30.2	30.8
Pulp, paper, printing and publishing	23.8	47.3	50.7	52.6	53.7	54.4
Coke, petroleum products, nuclear fuel	23.8	43.9	45.5	46.3	46.5	47.0
Chemicals and chemical products	23.8	41.8	45.1	46.9	48.0	48.6
Rubber and plastics products	23.8	36.6	39.6	41.3	42.3	42.9
Other non-metallic mineral products	23.8	8.1	10.2	11.3	12.0	12.5
Basic metals	23.8	16.6	19.0	20.3	21.1	21.6
Fabricated metal products	23.8	19.5	22.0	23.4	24.2	24.8
Machinery and equipment, nec	23.8	24.1	26.6	28.0	28.8	29.3
Computer, electronic and optical equipment	23.8	33.4	36.2	37.7	38.6	39.2
Electrical machinery and apparatus, nec	23.8	21.1	23.4	24.7	25.4	25.9

Motor vehicles, trailers, semi-trailers	23.8	26.3	27.8	29.2	30.0	30.5
Other transport equipment	23.8	28.8	31.6	33.2	34.1	34.7
Manufacturing nec; recycling	23.8	31.3	34.5	36.3	37.4	38.0
Electricity, gas and water supply	23.8	28.2	31.7	33.6	34.7	35.4
Construction	23.8	-3.7	-2.1	-1.1	-0.6	-0.2
Wholesale and retail trade; repairs	23.8	29.1	33.7	34.7	35.4	35.9
Hotels and restaurants	23.8	42.1	45.8	47.8	49.0	49.7
Transport and storage	23.8	47.3	50.3	52.0	53.0	53.7
Post and telecommunications	23.8	38.4	40.5	41.8	42.6	43.1
Financial intermediation	23.8	32.6	35.5	37.2	38.1	38.8
Real estate activities	23.8	40.7	44.2	46.2	47.4	48.2
Renting of machinery and equipment	23.8	33.4	36.5	38.2	39.2	39.9
Computer and related activities	23.8	23.7	26.0	27.3	28.2	28.8
R&D and other business activities	23.8	31.1	32.9	33.9	34.6	35.0
Public admin and defence; social security	23.8	39.8	43.3	45.2	46.3	46.9
Education	23.8	40.9	44.5	46.5	47.6	48.3
Health and social work	23.8	55.1	59.0	60.9	62.5	63.2
Other community, social and personal services	23.8	37.0	40.4	42.4	43.5	44.2

Public Policy Outcomes

Redistribution of Income, Welfare Gains, Price Stabilization, and Poverty Impact under GST Reforms

The implementation of the Goods and Services Tax (GST) in India represents a major structural reform aimed at streamlining indirect taxation while promoting equitable growth. Using a Dynamic Computable General Equilibrium (CGE) model, Bhattarai (2019) analyzes the distributional, welfare, and price-related impacts of GST across different income deciles. The findings reveal several critical dimensions of how GST reforms contribute to income redistribution, welfare gains, economic competitiveness, and poverty alleviation.

Redistribution of Income Among Deciles

One of the central outcomes of GST reforms, as presented in Table 2 of the study, is the uneven but overall positive redistribution of income across household deciles. While most deciles experienced improvements in well-being (measured through lifetime utility), the effects vary significantly. For example, deciles 1, 3–10 see a consistent increase in utility over the 25-year model horizon, with Decile 10 experiencing the highest utility gain (8.71%) by 2042. However, Decile 2 records a large negative impact, with welfare dropping by over 45%—suggesting that targeted transfer policies may be necessary to cushion specific vulnerable groups. This redistribution effect indicates a movement towards greater income equality in the long run, especially when complemented with appropriate public expenditure policies. The model also shows enhanced labor participation rates in the lower deciles, suggesting that tax reform can motivate work incentives among the poor if complemented by inclusive growth policies.

Welfare Gains and Consumption Effects

GST reforms lead to broad welfare gains in terms of higher net consumption, labor supply, and utility. Most middle- and higher-income deciles register consumption increases between 5% and 7% by 2042. Deciles 4 and 5, for instance, experience around 6.82% growth in consumption, reflecting better purchasing power and lower price burdens due to the elimination of cascading taxes. Furthermore, increased efficiency in production and the reallocation of resources boost household consumption without inflating costs, indicating real income gains rather than nominal adjustments. Enhanced welfare also reflects improved access to goods and services as taxation becomes uniform, transparent, and better enforced.

Price Stabilization and Competitiveness

One of the hallmark benefits of GST is the reduction in relative prices across multiple sectors, enabling price stabilization and improving India's global competitiveness. According to Table 5, relative prices in several key sectors such as machinery, basic metals, and manufacturing—decline by up to 20% compared to the pre-GST benchmark. This price moderation arises from the removal of cascading taxes, greater input tax credit availability, and enhanced supply chain efficiency.

Lower prices not only benefit consumers but also reduce input costs for firms, promoting cost competitiveness in both domestic and international markets. As the reform supports uniform taxation across states, it contributes to the creation of a unified national market, further boosting investment and trade efficiencies.

Inclusiveness and Impact on Poverty

The dynamic CGE model also reveals the potential of GST to contribute to inclusive economic growth and poverty reduction. The long-run increase in employment (by 0.8–1.1%), particularly in service and consumption-oriented sectors, directly benefits low-income households. This employment generation, along with increased government revenue for public expenditure, can support the development of health, education, and rural infrastructure—key drivers of poverty alleviation. Moreover, areas like health and education see considerable production increases after GST—health over 20%, and in education, 9.8% by 2042—which indicates stronger public service delivery and better human capital formation for disadvantaged groups and increased upward social mobility.

In conclusion, reforms in GST go beyond a streamlining of government processes and result in important redistributive, welfare-enhancing, and poverty-reducing effects. While certain income groups may need some transitional funds, the overall policy direction leads to cementing a more equal, competitive, and inclusive economic environment. Continued emphasis on digital compliance, infrastructure, and a growing share of decisions being decided and delivered at provincial or local levels, GST can provide a significant institutional basis for long-term social and economic justice in India.

Table 6. Summary of Relative Effects of the Tax Reforms on Welfare Groups

Decile	2017 (1)	2022 (5)	2027 (10)	2032 (15)	2037 (20)	2042 (25)
Decile 1	5.40	6.50	6.95	7.21	7.36	7.48
Decile 2	-45.89	-45.62	-45.56	-45.52	-45.50	-45.48
Decile 3	5.70	6.71	7.12	7.32	7.41	7.48
Decile 4	6.35	7.38	7.77	7.97	8.06	8.12
Decile 5	6.48	7.53	7.94	8.14	8.23	8.29
Decile 6	4.18	5.19	5.57	5.77	5.87	5.89
Decile 7	5.20	6.25	6.69	6.91	7.02	7.09
Decile 8	5.20	6.25	6.69	6.91	7.02	7.09
Decile 9	5.62	6.65	7.03	7.23	7.33	7.36
Decile 10	6.96	7.99	8.38	8.58	8.68	8.71

% **Change in Labor Supply**

Decile	2017 (1)	2022 (5)	2027 (10)	2032 (15)	2037 (20)	2042 (25)
Decile 1	5.26	6.28	6.66	6.86	6.96	6.98
Decile 2	6.02	7.05	7.43	7.63	7.73	7.76
Decile 3	1.28	1.13	1.01	0.96	0.94	0.93
Decile 4	0.80	0.65	0.53	0.48	0.46	0.47
Decile 5	0.45	0.50	0.39	0.34	0.32	0.33
Decile 6	2.42	2.27	2.15	2.09	2.07	2.08
Decile 7	1.59	1.45	1.33	1.27	1.25	1.26
Decile 8	1.77	1.63	1.51	1.45	1.43	1.42
Decile 9	1.34	1.19	1.07	1.02	1.00	1.01
Decile 10	0.34	0.20	0.08	0.02	0.00	0.01

% **Change in Net Consumption**

Decile	2017 (1)	2022 (5)	2027 (10)	2032 (15)	2037 (20)	2042 (25)
Decile 1	0.04	-0.53	-0.78	-0.91	-0.96	-0.97
Decile 2	0.04	-0.53	-0.78	-0.91	-0.96	-0.97
Decile 3	3.49	5.04	5.57	5.85	5.98	6.04

Decile 4	4.12	5.68	6.21	6.49	6.63	6.70
Decile 5	4.15	5.71	6.24	6.53	6.67	6.74
Decile 6	2.00	3.53	4.05	4.33	4.47	4.54
Decile 7	3.08	4.62	5.15	5.43	5.56	5.63
Decile 8	2.85	4.39	4.91	5.19	5.32	5.39
Decile 9	3.41	4.96	5.48	5.76	5.90	5.96
Decile 10	4.72	6.28	6.82	7.10	7.24	7.30

Distributional income also becomes more equitable after the GST reforms. Households have greater economic wellbeing and consumption increased relative to the baseline by as much as 8 percent as demonstrated in the upper section of the Tables. They also increase labour supply to take up additional jobs created.

(i) GST and Governance Synergies

The processing of the Goods and Services Tax (GST) in India is naturally consistent with the wider governance agenda of the Indian government promoting visibility, simplification and efficiency in administration. The GST is not simply a tax reform. It should be understood as a part of a multi-faceted governance reform agenda designed to work in conjunction with digitization, demonetization, and other structural reforms.

(ii) Integration with Other Reforms: Digitization and Demonetization

The implementation of GST is paving the way for the digitization of India's economic and administrative systems. GST is a completely digital system in that processes including registration, return filing, and payment of taxes are all made through a single online portal (GSTN). Through this digital framework, anytime human interaction is eliminated, corruption is diminished, and improves transparency and audit-ability in tax administration.

Moreover, GST was introduced shortly after the demonetization of November 2016. This reform was an attack on unaccounted money and considered the larger issue of how it forces formalization of economic activities. GST and demonetization have a shared vision of developing the formal economy, increasing digitization in transactions, and improving tax compliance. Together, these reforms build a data-rich governance architecture that tracks financial behavior and supports targeted policy.

(iii) “Minimum Government, Maximum Governance” Approach

GST reflects the values established by “Minimum Government Maximum Governance” by streamlining the chaotic, multi-layered tax regime in India. Prior to implementing GST, India’s indirect tax system was characterized by overlapping central and state taxes, cascading taxes, and high compliance costs. GST has effectively replaced multiple indirect taxes with the unified framework of CGST, SGST, and IGST, which consequently reduces compliance costs and administrative friction.

By promoting a single national market, GST reduces logistics costs, compliance costs and tax arbitrage. The simplification of Indian indirect taxes will reduce reliance on bureaucrats, thereby promoting good governance and maximum governance with minimum control.

(iv) Role in Promoting “Make in India” and Attracting FDI

GST is a strategic enabler for the "Make in India" initiative. By harmonizing indirect taxes and removing inter-state barriers, it boosts domestic manufacturing competitiveness. Under the previous regime, cascading taxes and inefficient logistics discouraged large-scale production and interstate trade. With GST, manufacturers benefit from input tax credits, standardized tax treatment, and better supply chain integration.

Moreover, foreign investors view GST as a signal of economic modernization and policy predictability. It assures them of a streamlined tax regime and a more coherent regulatory framework. The resulting improvement in India’s Ease of Doing Business rankings and enhanced investment climate have led to higher FDI inflows, particularly in logistics, retail, and manufacturing sectors.

(v) Challenges and Limitations

Despite its transformative potential, GST has faced several implementation challenges and structural limitations. These must be acknowledged to ensure that future reforms address them effectively.

(vi) Uneven Impact Across Sectors and States

GST's impact is not uniform across sectors. According to Bhattarai's CGE analysis, while sectors like education, health, transport, and manufacturing witnessed positive output gains, others such as construction, non-metallic minerals, and basic metals experienced declines in output and capital stock post-GST.

State-wise disparities also persist. Richer states with diversified economies have adapted more easily to GST, while poorer and agrarian states faced revenue shocks and administrative strain. This unevenness challenges the federal balance and calls for more flexible, supportive mechanisms through the GST Compensation Fund and revenue-sharing frameworks.

(vii) Implementation Bottlenecks

The initial phase of GST saw technical glitches, frequent changes in tax rates, and confusion around return filings. Small businesses especially struggled with complex compliance requirements, such as monthly return filings, e-way bills, and invoice matching.

The GSTN portal faced load management issues, delaying credit settlements and refunds, especially for exporters. Frequent rate rationalizations and the multiplicity of slabs (0%, 5%, 12%, 18%, 28%) also undermined the "one nation, one tax" ideal, creating uncertainty for traders and investors alike.

(viii) Political and Administrative Challenges

As a cooperative federal structure, GST requires consensus among the Centre and all states via the GST Council. While the Council has largely functioned effectively, political disagreements over rate cuts, compensation delays, and taxation authority have occasionally surfaced—particularly during the COVID-19 pandemic, when states demanded extended compensation.

Administrative capacity also varies among states, leading to inconsistent enforcement, differing interpretations of GST law, and non-uniform taxpayer experiences. Coordination between the Central Board of Indirect Taxes and Customs (CBIC) and State GST departments remains an ongoing administrative challenge.

IV. CONCLUSION

From analyses based on solutions of a dynamic CGE model of India, it can be said that the goods and service tax (Tax) implemented on 1 July 2017 will enhance growth rates and promote investment and capital accumulation in India. It will improve income, consumption and utility of households no matter whether they belong to poor, middle or rich income groups. It will lower the relative prices of commodities but raise the investment, capital stock and employment among 33 production sectors of the model economy. Government will be able to follow more balanced budget following its strategy of minimal government and maximum governance as revenue increases to finance a reasonable growth in the public spending. This GST reform is of fundamental importance as it will unite all 27 states, 7 union territories by integrating more than seven indirect taxes at the central level, seven another taxes at the state level and eliminating more than 500 special cases of indirect taxes making one tax, one nation and one market idea possible for India. The dynamic CGE model, with 25,839 variables was solved to assess macroeconomic, sectoral and household level impacts of GST reforms. Benchmark reproduced the steady state scenario of the Indian economy from 2017 to 2042 leaving the economy grow at the steady state afterwards. Key parameters of the model were given in the last section and some sensitivity analyses to those key parameters were conducted to determine the robustness of these results. This section compares the GST reform scenario to the benchmark economy. The main results can be enumerated as follows:

1) Impacts of GST reforms are very positive for growth, capital formation, investment, consumption and employment in the Indian economy. Real GDP will be 5.4 to 7.5 percent higher with GST reforms relative to the benchmark economy. This is possible as this reform assures investors and the aggregate investment rises by up to 9.5 after the GST reform relative to the benchmark. Smooth flow of goods and services also reduces the rate of depreciation of capital, it raises inflows of FDI, which combined with additional net investment raises the stock of capital up to 35 percent towards the end of model horizon.

2) Higher growth rate allows more consumption which is higher than 6.3 percent relative to the benchmark.

3) In general the GST thus raises capital intensity of the Indian economy. Impact on employment is positive but GST reforms raises employment only up to 1 percent above the benchmark. This is partly due to substitution of labour by capital. Creating more employment requires expansion of labour intensive service sectors along with investment in human capital.

4) The distribution of income also becomes more equal after the GST reforms. The economic wellbeing of households and their consumption increases up to by 8 percent above the benchmark. They also increase labour supply to take up jobs created additionally.
5) Increase in GDP is possible as output of the most of 33 production sectors increase after the implementation of GST. Food and textile, paper, printing and publishing, education and health, real estate, transport and storage sectors experience up to 21 percent expansion above the benchmark economy after the GST reforms. Resources move from less productive to more productive sectors as output of construction, non-metalic minerals and wood products decline after the GST.
6) In general, by liberalizing the economy, the GST reforms make a very positive atmosphere for investment and capital accumulation. Capital stock expands up to 60 percent above the benchmark economy because of expansion in investment and more efficiency in the use of capital that reduces the cost of capital. Rapid expansion in production creates this supply side response, GST reform plays a vital role in this direction.
7) By eliminating the cascading effects of multiplicity of taxes and by removing the red-tape in the tax administration, GST reduces the cost of supply of goods and services. This results in up to 20 percent reduction in prices of commodities relative to benchmark. Consumers are better off as they get commodities at lower prices, producers also gain as the cost of capital decrease. Economy becomes more competitive in the international market. Thus GST reforms is one step to realize the dream of "make in India" initiative of the Modi government. It will not only stabilize prices and raise the standard of living in India but also will make India more competitive in the global market.
8) Economy creates more employment in the service sectors including the transport and storage, hotel and restaurant, food and beverages and textiles, health and education and community services sectors after the GST reforms. Some additional measure need to be taken to prevent loss of employment in construction, non-metalic mineral products or fabricated metal products. As stated above increase in capital intensity is the reason for job losses in these sectors. Investment in human capital can correct this.

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