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“An Empirical Study of Growth and Trends in Indirect Tax Revenue Of Chhattisgarh” (FY2005–06 To FY2025–26)

Kenankranta Patel

Research Scholar,
Dept. of Commerce,
Bharti Vishvavidyaly,
Durg (Chhattisgarh, India)

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ABSTRACT:

Indirect taxes are an important source of revenue for state governments in India. This study analyzes the growth and trend of indirect tax revenue in Chhattisgarh for the period 2005–06 to 2025–26. The study examines the changes in revenue before and after the implementation of the Goods and Services Tax (GST). The data used in the study is based on secondary sources such as government reports and budget documents. The analysis shows that indirect tax revenue has increased significantly over the study period due to economic growth, tax reforms, and improved tax administration. The findings also indicate that the introduction of GST has positively influenced the growth of tax revenue in the state.

KEYWORDS: *Indirect Tax Revenue, GST, Revenue Growth, Chhattisgarh, Trend Analysis, Tax Reforms.*

INTRODUCTION:

Indirect taxes play a significant role in the revenue system of state governments. These taxes are collected on goods and services and are ultimately borne by consumers. In India, indirect taxation has undergone major reforms over the years, especially with the introduction of the Goods and Services Tax (GST) in 2017. GST replaced several indirect taxes and created a unified tax structure across the country.

Chhattisgarh is a developing state with strong industrial and natural resource sectors. The growth of mining, power generation, and manufacturing industries has contributed to the expansion of the tax base in the state. Therefore, it is important to examine the trend and growth of indirect tax revenue in Chhattisgarh over a long period.

This study focuses on the period from 2005–06 to 2025–26 to understand the long-term growth pattern of indirect tax revenue and the impact of tax reforms such as GST.

REVIEW OF LITERATURE:

- Chakraborty and Rao (2010) examined the potential tax base of GST in India and argued that GST could simplify the indirect tax structure and improve revenue efficiency.
- Khan and Shadab (2012) discussed the prospects of GST for Indian states and concluded that GST would reduce cascading tax effects and enhance tax collection efficiency.
- Jain (2013) analysed the economic implications of GST and suggested that the reform could strengthen revenue mobilisation.
- Garg (2014) explained the basic features of GST and emphasized its role in creating a unified national market.
- Adhana (2015) described GST as a major tax reform capable of improving transparency and reducing tax evasion.
- Dani (2016) analysed the economic impact of GST and concluded that the reform could promote economic growth.
- Pandith (2017) studied GST's opportunities and challenges for MSMEs and highlighted improvements in long-term efficiency.
- Mishra (2018) stated that GST enhanced transparency and efficiency in tax administration.
- Nayyar and Singh (2018) conducted a comprehensive analysis and noted that GST could strengthen indirect tax collection.
- Mukherjee (2020) analysed GST efficiency across Indian states and observed significant variation in state performance.
- Mukherjee (2022) highlighted changes in fiscal relations between the central and state governments after GST.
- Joseph and Kakarlapudi (2023) analysed GST performance across states and found improved compliance but concerns regarding fiscal autonomy after the compensation period.
- Singh (2023) examined tax revenue trends in Chhattisgarh and observed significant growth in tax mobilisation.
- Datta, Ghosh and Bagchi (2024) analysed changes in GST revenue patterns across Indian states.
- Mallikarjun et al. (2025) conducted a comparative state-level study and highlighted disparities in GST revenue collection among states.

RESEARCH GAP:

- Mallikarjun et al. (2025) mainly compared interstate GST revenue but did not examine detailed state-level analysis.

- Datta et al. (2024) analysed changes in revenue patterns but did not focus specifically on the contribution of GST revenue in Chhattisgarh.
- Joseph and Kakarlapudi (2023) studied GST performance across states but did not conduct a detailed fiscal analysis for individual states.
- Singh (2023) analysed overall tax revenue growth in Chhattisgarh but did not specifically study GST revenue trends after 2017.

Most of the existing studies analyze the impact of GST only for a short period after its implementation. There is a lack of comprehensive research that examines the indirect tax revenue trend over a longer period, including both the pre-GST and post-GST periods. Therefore, this study attempts to fill this gap by analyzing the growth and trend of indirect tax revenue in Chhattisgarh from 2005–06 to 2025–26, along with the factors influencing revenue changes.

SIGNIFICANCE OF THE STUDY:

This study is important because indirect taxes are a major source of revenue for state governments. Understanding the growth and pattern of indirect tax revenue helps in evaluating the effectiveness of tax policies and administrative reforms.

The study also helps to understand how major reforms such as GST, economic growth, and changes in industrial and consumption patterns influence tax revenue in Chhattisgarh. The findings of this study may be useful for policymakers, researchers, and government authorities in designing better tax policies and improving revenue collection in the future.

OBJECTIVE OF THE STUDY:

1. To analyze the growth trend of indirect tax revenue in Chhattisgarh.
2. To examine the impact of GST on indirect tax revenue in the state.
3. To identify the major factors affecting the increase and decrease in indirect tax revenue.

RESEARCH HYPOTHESIS:

H₀: There is no significant growth in indirect tax revenue in Chhattisgarh during the period 2005–06 to 2025–26 and GST has no significant impact on revenue.

H₁: There is significant growth in indirect tax revenue in Chhattisgarh during the period 2005–06 to 2025–26 and GST has a significant impact on revenue.

RESEARCH METHODOLOGY:

The study is based on secondary data collected from government help in understanding the growth pattern and trend of indirect tax revenue in the state.

DATA INTERPRETATION:

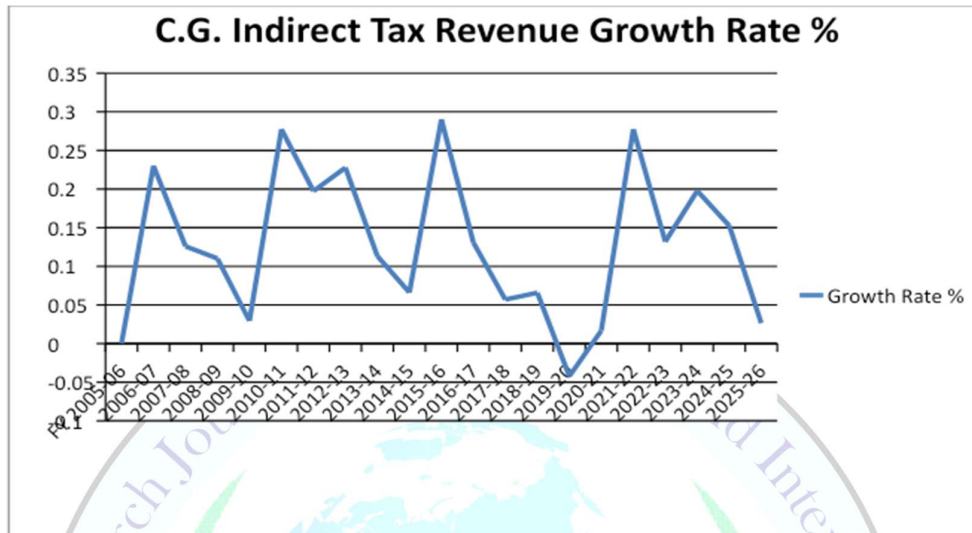
Table-: Chhattisgarh Indirect Tax Revenue (2005–06 to 2025–26) –

FY Actual	Revenue rs. crore	Growth %
2005-06	5017.85	-
2006-07	6172.21	23.01%
2007-08	6949.26	12.59%
2008-09	7714.51	11.01%
2009-10	7941.15	02.94%
2010-11	10142.85	27.72%
2011-12	12144.15	19.73%
2012-13	14909.23	22.77%
2013-14	16596.48	11.32%
2014-15	17694.42	06.62%
2015-16	22828.16	29.01%
2016-17	25813.15	13.08%
2017-18	27284.33	05.70%
2018-19	29078.85	06.58%
2019-20	27848.68	-04.23%
2020-21	28316.53	01.68%
2021-22	36169.15	27.73%
2022-23	40940.98	13.19%
2023-24	49035.40	19.77%
2024-25	56513.66	15.25%
2025-26	58015.61	02.66%

Data source - Budget <https://finance.cg.gov.in>

Indirect taxes include: (Customs Duty, Union Excise Duty (Central Excise), State Excise Duty, Taxes on Sales and Trade (Sales Tax/VAT), Taxes on Vehicles, Taxes on Goods and Passengers, Taxes and Duties on Electricity, Service Tax, and Other Taxes and Duties on Goods and Services.)

Graph Percentage Growth Rate-



Graph Trend Analysis

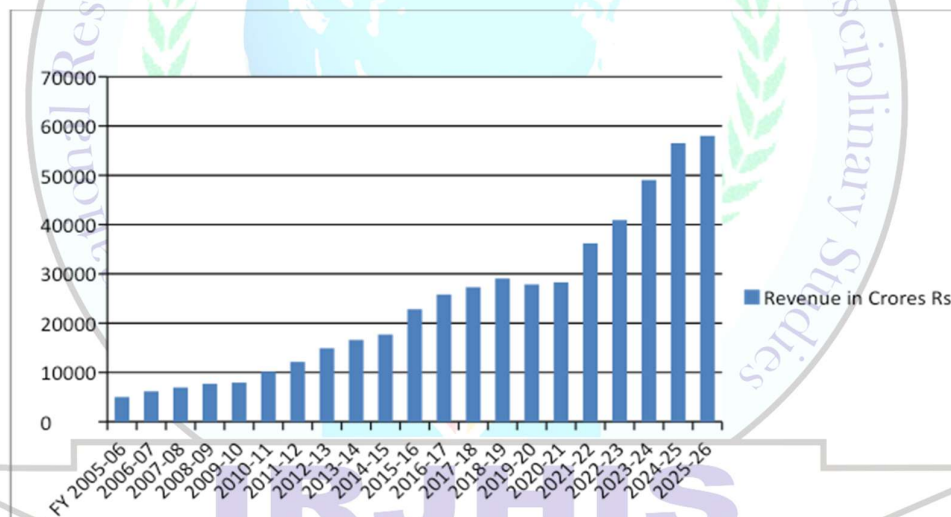


TABLE AND GRAPH ANALYSIS:

- Growth during FY2005–06 to FY2008–09 The steady growth in indirect tax revenue during this period was mainly due to expansion of economic activities, increased industrial production, and higher consumption of goods and services. Taxes such as Value Added Tax (VAT), State Excise Duty, and Sales Tax contributed significantly to revenue growth.
- Slow Growth in FY2009–10 The relatively low growth rate in 2009–10 (2.94%) may be linked to the global financial crisis of 2008–09, which affected industrial production and consumption demand, leading to slower growth in tax revenues.

- Strong Increase in FY2010–11 The significant increase in 2010–11 (27.72%) reflects economic recovery after the global slowdown, along with improved tax administration and higher collection from VAT and excise duties.
- Continued Growth in FY2011–12 Revenue continued to grow in 2011–12 (19.73%) due to expansion of the tax base, rising consumption, and better tax compliance. Reason for Highest Growth (2015–16)
- The highest growth in indirect tax revenue occurred in FY2015–16 (29.01%). This increase can be attributed to improved tax administration, expansion of the tax base, and higher collection from taxes such as VAT (Value Added Tax), State Excise Duty, and Sales Tax before the implementation of GST. Economic activities were also relatively strong during this period, which increased tax revenues.
- Reason for Negative Growth FY(2019–20) Indirect tax revenue showed negative growth in 2019–20 (-4.23%). This decline may be associated with the economic slowdown in India and the initial adjustment issues in the Goods and Services Tax (GST) system. Changes in tax structure and compliance challenges during the early years of GST implementation also affected revenue growth.
- Reason for Strong Recovery FY(2021–22) A strong recovery in indirect tax revenue was observed in 2021–22 (27.73%). This recovery was mainly due to the revival of economic activities after the COVID-19 pandemic, improvement in GST compliance, digitalization of tax administration, and better enforcement by tax authorities. Increased consumption and business activities also contributed to higher tax collection.
- Growth in FY2022–23 (13.19%) The growth in 2022–23 can be attributed to continued economic recovery after the COVID-19 pandemic, improvement in GST compliance, and increased consumption demand. Strengthening of digital tax systems also contributed to higher indirect tax revenue.
- Higher Growth in FY2023–24 (19.77%) The relatively higher growth in 2023–24 was mainly due to expansion in economic activities, higher GST collections, and improvement in tax administration. Increased industrial production and consumption also supported revenue growth.
- Moderate Growth in FY2024–25 (15.25%) In 2024–25, indirect tax revenue continued to increase due to stable economic growth, expansion of the GST base, and better compliance by taxpayers. Government efforts to improve tax monitoring also contributed to the rise in revenue.
- Slow Growth in FY2025–26 (2.66%) The comparatively lower growth in 2025–26 may

indicate stabilization of tax revenue growth after several years of strong increases. It may also reflect changes in economic conditions, consumption patterns, or tax policy adjustments.

- FY2022-26: stable revenue growth with better compliance like “bachat utsav 2025” GST rates rectification...5%,18%, 40%.

CALCULATION:

1. Compound Annual Growth Rate (CAGR)

$$\text{CAGR} = [(\text{Ending value}/\text{Beginning value})^{1/n}-1] \times 100$$

Given value -

Beginning value FY (2005-06) : 5,017.85 rs crore

Ending value FY (2025-26): 58,015.61 rs crore

Number of years(n) : 20

$$\text{CAGR} = [(58,015.61/5,017.85)^{1/20}-1] \times 100$$

$$\text{CAGR} = 0.1301 \text{ or } 13.02\%$$

INTERPRETATION - The compound annual growth rate of indirect tax revenue in Chhattisgarh during FY2005–06 to FY 2025–26 is approximately 13.02%, indicating a strong long-term expansion in the state's tax collection.

2. Regression Analysis

Regression Equation:

$$Y = a + bX$$

Slope (b) Formula:

$$b = [n\sum XY - (\sum X)(\sum Y)] / [n\sum X^2 - (\sum X)^2]$$

Intercept (a) Formula:

$$a = (\sum Y - b\sum X) / n$$

Calculated Results:

$$b \text{ (Slope)} = 2529.07$$

$$a \text{ (Intercept)} = -3670.87$$

Regression Equation:

$$Y = -3670.87 + 2529.07X$$

3. Correlation coefficient

Formula:

$$r = \frac{[n\sum XY - \sum X \sum Y]}{\sqrt{[(n\sum X^2 - (\sum X)^2)(n\sum Y^2 - (\sum Y)^2)']}}$$

Correlation Coefficient (r) = 0.959

4. Coefficient of Determination Formula:

$$R^2 = r^2$$

$$R^2 = (0.959)^2$$

$$R^2 \approx 0.919 \text{ (91.09\%)}$$

Calculation Result -

CAGR: 13.02%

Regression Coefficient (b): 2529.07

Intercept (a): -3670.87

Correlation (r): 0.959

Coefficient of Determination (R²): 0.919 or 91.09%

Interpretation

The analysis shows a strong positive growth trend in indirect tax revenue in Chhattisgarh. The CAGR during FY2005–06 to FY2025–26 is approximately 13.02%. Regression results indicate that indirect tax revenue increases by about ₹2529.07 crore per year. The correlation coefficient (r = 0.959) indicates a very strong 91.09% positive relationship between time and tax revenue.

HYPOTHESIS TEST RESULT

Since the regression coefficient is positive and strong, revenue clearly increases with time.

H₀ (Null Hypothesis): Rejected

H₁ (Alternative Hypothesis): Accepted

The analysis of revenue data shows a consistent upward trend in indirect tax revenue during the study period. The compound annual growth rate (CAGR) indicates a significant increase in revenue over time. In addition, the comparison between the pre-GST and post-GST periods shows higher revenue growth after the implementation of GST.

Therefore, the null hypothesis (H_0) is rejected and the alternative hypothesis (H_1) is accepted, indicating that indirect tax revenue in Chhattisgarh has grown significantly and GST has positively influenced revenue collection.

Factors Affecting Indirect Tax Revenue in Chhattisgarh FY(2005–06 To FY2025–26)

FY2005–06 to FY2010–11: Growth of Trade and Consumption

During this period, indirect tax revenue increased mainly due to the growth of trade, industrial production, and consumption of goods and services. Taxes such as commercial tax, excise duty, and central sales tax were the main sources of revenue. Economic activities in sectors like mining, power generation, and manufacturing also supported revenue growth.

FY2011–12 to FY2014–15: Improvement in Tax Administration

In this period, the government introduced better tax administration systems and improved monitoring of tax collection. The use of digital systems and improved compliance by taxpayers helped increase revenue gradually.

FY2015–16 to FY2017–18: Tax Reforms and Preparation for GST

During these years, the tax system in India was undergoing major reforms. The government was preparing for the implementation of the Goods and Services Tax (GST) in 2017. Many indirect taxes were reorganized, which affected the pattern of tax revenue during this transition period.

FY2018–19 to FY2019–20: Increase in Revenue after GST

After the introduction of GST, the tax system became more transparent and uniform across the country. Better compliance, digital tax filing, and expansion of the tax base helped increase indirect tax revenue significantly during this period.

FY2020–21 to FY2021–22: Impact of COVID-19 Pandemic

During these years, the COVID-19 pandemic affected economic activities. Lockdowns and reduced consumption slowed down tax revenue growth. However, digital tax systems helped maintain revenue collection to some extent.

FY2022–23 to FY2025–26: Economic Recovery and Higher Compliance

After the pandemic, economic activities gradually recovered. Industrial production, trade, and infrastructure development increased. Improved GST compliance and better tax administration also contributed to the steady growth of indirect tax revenue.

CONCLUSIONS:

The study concludes that indirect tax revenue in Chhattisgarh has shown a significant increase during the period 2005–06 to 2025–26. The growth in revenue is mainly influenced by economic development, industrial expansion, improved tax administration, and policy reforms. The implementation of GST in 2017 has also contributed to greater transparency and efficiency in the tax system. Although certain years experienced slower growth due to economic conditions such as the

COVID-19 pandemic, the overall trend of indirect tax revenue remains positive. Therefore, strengthening tax administration and promoting economic activities can further improve revenue collection in the Chhattisgarh State.

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