A Methodological Framework for the Assessment of State Finances

Abstract

This paper develops a comprehensive methodological framework for assessing state finances in India by integrating insights from both classical and contemporary public finance literature. Drawing on Haughton (1998) on tax buoyancy, elasticity, and stability; Leuthold and N'Guessan (1986) on structural responsiveness of tax systems; and Dalamagas, Palaios, and Tantos (2019) on welfare-based tax effort measurement, the framework combines revenue and expenditure diagnostics—including composition, efficiency, developmental orientation, standard fiscal ratios, and relevant equations. It provides an integrated toolkit for evaluating revenue performance, expenditure efficiency, transfer dependency, and debt sustainability, serving as a structured methodological guide for empirical and comparative state-level fiscal analysis in India.

Keywords: Revenue Performance, Expenditure Efficiency, Transfer Dependency, Debt Sustainability, Methodologies.

JEL Classification Code:H20, H72, H77, H63, B41.

I. Introduction

A comprehensive assessment of state finances is crucial for understanding fiscal federalism in India, as the responsibilities of state governments in the domains of development and welfare have steadily expanded while their revenue-raising authority remains relatively constrained. This situation has intensified both vertical fiscal imbalances—between the Union and the States—and horizontal imbalances—among the States themselves. These structural disparities highlight the growing need for a systematic and robust evaluation of state finances. Although existing research has examined specific dimensions such as revenue capacity, tax performance, intergovernmental transfers, and debt sustainability, the methodologies employed are dispersed and lack coherence across studies. Consequently, there is a pressing need for an integrated analytical framework capable of presenting a complete and accurate picture of the fiscal condition of state governments.

Addressing this gap, the present study develops a unified and comprehensive methodological framework applicable to any Indian state. This framework synthesizes traditional fiscal indicators with modern theoretical concepts such as tax responsiveness, tax effort, revenue stability, transfer dependency, and solvency. Additionally, it incorporates expenditure-based dimensions including allocative efficiency, expenditure productivity, and the balance between developmental and committed spending. Taken together, these parameters enable an assessment of how effectively states mobilize their own financial resources, translate public expenditure into meaningful developmental outcomes, and manage their debt and debt-servicing obligations to ensure long-term fiscal sustainability. Thus, the proposed framework provides a holistic and clear understanding of the financial health of states, facilitating evidence-based policy interventions and reform initiatives aimed at strengthening their economic and developmental performance.

II. Review of Literature

The literature review examines existing studies on tax capacity and tax effort, highlighting key concepts and methodological developments. It identifies gaps in traditional approaches and motivates the framework used in this study.

Classical works by Prest (1962), Chelliah (1971), Lotz and Morse (1967), and Bahl (1972) established the basis for tax buoyancy, elasticity, and tax effort measurement. Rao (1979) further refined the conceptual foundations for analysing tax performance in developing countries. Haughton (1998) provided one of the most detailed methodological treatments for estimating buoyancy, elasticity, and tax stability. He demonstrated the superiority of log–log models for buoyancy estimation and proposed the Prest-adjusted revenue approach for measuring elasticity net of discretionary tax changes. Leuthold and N'Guessan (1986) examined the divergence between buoyancy and elasticity in developing economies, showing that buoyancy tends to be inflated due to frequent discretionary changes. Their work highlights the limitations of dummy-variable techniques for short time series. Recent advancements in tax effort measurement, particularly the welfare-based model proposed by Dala Magas et al. (2019), redefine taxable capacity as *(GDP – consumption)*, offering a more theoretically grounded alternative to traditional tax-capacity regressions. Building on this perspective, Cyan, Martinez-Vazquez, and Vulovic (2014) extend the literature by advocating efficiency-oriented methodologies that explicitly distinguish between taxable capacity and actual tax performance. These approaches incorporate key structural variables such as per capita income, economic structure, trade openness, and urbanization, alongside institutional and policy variables including tax administration quality, compliance levels, governance effectiveness, and the assignment of fiscal powers. By accounting for these factors, their framework provides a more nuanced assessment of tax effort, particularly suited to developing and federal economies. Contemporary literature further examines GST implications, transfer dependency, debt stress, fiscal discipline, and sustainability metrics using indicators such as the debt–GSDP ratio, interest–revenue receipts ratio, and interest–

growth differential.

In light of the above decisions and facts, the following *objectives* have been formulated for this study, which will help enhance understanding of state finances and facilitate their evaluation**:**

(i) To design a standardized methodological framework for assessing state finances, focusing on tax performance, transfer dependence, expenditure patterns, and debt sustainability.

(ii) To promote clearer understanding of state-finance analysis by outlining simple, replicable tools—formulas, ratios, and basic econometric steps—for evaluating fiscal indicators and diagnosing states' financial health.

III. Conceptual Framework

This section explains the five core analytical pillars used to evaluate state fiscal performance and shows how each pillar helps assess the overall fiscal health of a state. It clarifies the structure of analysis and sets the foundation for understanding revenue strength, expenditure behaviour, debt sustainability, and fiscal discipline. These pillars together provide a comprehensive picture of how efficiently and responsibly a state manages its public finances: -

(i) *Composition and Trends* of various kinds of receipts and expenditures over the study period.

(ii) *Tax Buoyancy and Elasticity* of various kinds of taxes: -

- *Tax buoyancy:* measures overall responsiveness of tax revenue to income growth, inclusive of discretionary changes.
- *Tax elasticity*: however, isolates automatic revenue movements by adjusting tax collections for discretionary effects.
- *Tax Effort:* assesses how effectively a state utilizes its tax base relative to its potential. A higher tax effort reflects administrative efficiency and willingness to mobilize own resources.

  These indicators capture the structure/strength of a state's tax system.

(iii) *Expenditure Impacts and Efficiencies:* assess how productively government spending translates into developmental outcomes. The focus is on the composition and quality of expenditure, its effect on growth and social services, and whether spending delivers value without being crowded out by committed liabilities. It can also be assessed comparatively how a state is performing relative to other states.

(iv) *Central Transfer Dependency:* Transfer dependency measures the degree to which a state relies on central transfers to finance its expenditure needs. High dependency suggests weak fiscal autonomy.

(v) *Debt Sustainability:* Debt sustainability evaluates a state's ability to service and manage its long-term liabilities without compromising future development expenditure.

All these pillars together provide a multidimensional view of a state's fiscal health.

IV. Integrated Methodology

This section presents the methods that may be used to understand, estimate, and evaluate the various aspects of state finances discussed in Section III of the present paper. The methods for evaluating different aspects of state finances are as follows: -

(i) A Trend and Composition Analysis (Basic Statistical Tools)

Before applying advanced tools such as tax buoyancy, elasticity estimation, or debt-sustainability models, the study begins with a structured trend and composition analysis to establish the underlying fiscal behaviour of the state.

This preliminary analysis uses basic statistical techniques—percentages and ratios to examine the structure of receipts and expenditure, averages and moving averages to smooth short-term fluctuations, and both annual and compound annual growth rates (CAGR) to capture short-term and long-term growth patterns. Trend lines and simple decomposition methods are further employed to identify structural shifts in major fiscal variables.

This framework enables a systematic assessment of:

- *Receipts structure*—revenue vs. capital receipts, tax vs. non-tax components, and the relative contribution of own-source revenue and central transfers.
- *Expenditure structure*—revenue vs. capital expenditure, developmental vs. non-developmental spending, and committed expenditure such as salaries, pensions, and interest payments.
- *Debt behaviour*—growth patterns, composition, and movement in interest burdens. By

mapping long-term fiscal patterns and compositional changes, this trend-based analysis builds a necessary foundation for interpreting the behaviour and stability of fiscal variables before estimating tax buoyancy, elasticity, or undertaking debt-sustainability assessments.

(ii) Estimating Tax Buoyancy and Elasticity

- Buoyancy Estimation (Haughton, 1998)

Tax buoyancy captures the overall responsiveness of tax revenue to changes in income, reflecting both automatic revenue growth and the impact of discretionary tax policy interventions. It is estimated using the standard log–linear model:

$$\ln(T) = \ln(a) + \beta \cdot \ln(Y)$$

where T is actual tax revenue, Y represents Gross State Domestic Product (GSDP), and β is the buoyancy coefficient. The value of β provides important insights. A buoyancy coefficient greater than 1 implies that tax collections rise more than proportionately with economic growth, indicating a responsive and potentially progressive tax system. A value equal to 1 suggests proportionate growth, while a value below 1 indicates that revenue growth lags behind GSDP, often reflecting a narrow tax base, weak compliance, or limited

rate adjustment.

- Elasticity Estimation (Prest-Adjusted Method)

Tax elasticity measures the *structural* responsiveness of tax revenue to income growth after removing the impact of discretionary policy changes. Using the Prest-adjusted method, discretionary revisions are filtered out by constructing an adjusted revenue series. Elasticity is then estimated through:

$$\ln(AT) = \ln(\alpha) + \beta \cdot \ln(Y)$$

where AT denotes adjusted (policy-neutral) tax revenue and β is the elasticity coefficient. Interpreting β allows researchers to understand the inherent productivity of the tax system. A coefficient greater than 1 indicates that the tax base naturally expands faster than income, even without policy action. A value equal to 1 reflects proportional structural responsiveness, while $\beta < 1$ reveals weak automatic revenue growth—often seen in systems with narrow bases or inadequate administrative capacity.

Because elasticity isolates automatic responses, it is considered a more accurate measure of underlying tax performance in settings where discretionary changes are frequent. Hence, the combination of buoyancy and elasticity provides a clearer distinction between policy-driven and structural components of tax revenue growth.

V. Result & Discussion

Illustrative Table:

Table 1: Tax Buoyancy and Elasticity

Tax Type	Buoyancy	Elasticity
GST	1.2	0.9
Excise	0.8	0.6

Table 1 shows that GST has higher buoyancy (1.2) compared to excise duties (0.8), indicating that GST revenues respond more strongly to economic growth. However, its elasticity (0.9) is comparatively lower, because elasticity captures only the effect of GSDP/GDP growth on tax revenue, whereas buoyancy reflects the combined impact of economic expansion and various discretionary policy interventions—such as changes in tax rates, expansion of the tax base, or other revenue-enhancing measures. In contrast, excise taxes exhibit both lower buoyancy (0.8) and lower elasticity (0.6) than GST, pointing to a structurally weaker tax base with limited responsiveness to economic growth.

The divergence between buoyancy and elasticity across both tax categories underscores the need to distinguish between discretionary policy effects and the inherent structural tax capacity when analysing revenue performance. A larger gap between buoyancy and

elasticity indicates that the government is more actively mobilising revenue from its available resources, whereas a smaller gap suggests lower levels of such activity. In essence, this difference serves as an indicator of the government's efficiency and the intensity of its revenue-raising efforts.

(iii) Measuring Tax Capacities and Efforts

Tax capacity refers to the theoretical maximum revenue a government can generate from taxes, given the economic, demographic, and administrative characteristics of a region or country, without changing tax rates beyond what is considered normal.

In other words, it is an estimate of the amount of tax a state or country is capable of collecting under normal circumstances, based on factors such as:

- Income levels (Y) – higher income generally allows higher tax collections.
- Population (P) – more people usually mean a larger tax base.
- Administrative/structural variables (A) – efficiency of tax administration, compliance levels, and governance structures.
- Consumption patterns or sectoral composition – in some methods.

Tax capacity is typically used together with actual tax collections to determine tax effort, which shows whether a government is collecting less than, equal to, or more than its potential revenue.

Tax effort essentially measures how effectively a government is mobilising taxes relative to its tax capacity - that is, the proportion of actual revenue collected compared to what could reasonably be collected under normal conditions. A Tax Effort equal to 1 indicates that the government is collecting taxes exactly at its estimated capacity, while a value less than 1 signifies under-performance due to administrative inefficiencies or low taxpayer compliance. Conversely, a Tax Effort greater than 1 show that the government is collecting more than its estimated capacity, possibly through strong administration, broader tax coverage, or enhanced measures such as audits and Digitalisation.

The following methods are widely used for measuring tax capacity and tax effort…

Method 1: Regression-based Tax Capacity Model

Regression-based Tax Capacity Model is a method to estimate a state or country's tax capacity using statistical analysis. It relates tax revenue (dependent variable) to factors like income, population, and administrative efficiency (independent/explanatory variables) through a regression equation. In short, it shows how these factors influence tax collection and helps measure both tax capacity and tax effort.

Tax Capacity: $T = \alpha + \beta_1 Y + \beta_2 P + \beta_3 A + \epsilon$ ..... (i)

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Y represents income, P denotes population, and A refers to administrative or structural factors, all of which serve as explanatory variables. The coefficients β_1, β_2, and β_3 indicate how changes in these explanatory variables affect a particular tax and help determine its tax capacity. For each type of tax, appropriate variables will be identified to assess the influence of explanatory variables through regression analysis, ensuring that both direct and indirect relationships with the dependent variable are adequately captured.

Tax Effort:

$$\text{Tax Effort} = \frac{\text{Actual Tax collection}}{\text{Estimated Tax Capacity}}$$

Method 2: Representative Tax System (RTS)

Representative Tax System (RTS) is a method used to estimate the theoretical tax capacity of a state or country. It assumes that if the tax structure and rates of a high-income or average region were applied to the target region, it would generate a certain amount of revenue. In short, RTS uses a "representative tax system" to estimate the potential maximum tax revenue**.**

$$\text{Tax Capacity} = \text{Normative Rate} \times \text{Tax Base} \quad \text{..... (ii)}$$

Here:

Normative Rate: This is the theoretical or standard tax rate that can be applied under normal circumstances. It is considered a fair and practical rate that taxpayers can reasonably pay. For example, if the general income tax rate is 10%, then this would be the Normative Rate**.**

Tax Base: This is the base on which the tax is applied. It is usually the total value of income, sales, property, or other economic activity. For example, the total personal income, total sales, or total property value of a state would be considered the Tax Base**.**

In short, Tax Capacity indicates the maximum revenue that can be collected from the tax base at a normal rate.

$$\text{Tax Effort} = \frac{\text{Actual Tax Collection}}{\text{Estimated Tax Capacity}}$$

Method 3: Welfare-based Taxable Capacity (Dalamagas et al., 2019)

Welfare-based Taxable Capacity is the highest level of tax revenue a government can collect without lowering the welfare or living standards of its citizens. It takes into account both the economic base and social welfare factors, ensuring that taxation does not harm people's well-being while estimating the potential tax revenue.

Optimal Taxable Capacity:

$$TC = Y - C$$

Where: - Y = income, C = consumption.
This method avoids arbitrary variable selection and provides a theoretical benchmark for tax effort.

Illustrative Table:

Table 2: Tax Effort Indicators

State / Year	Actual Tax Collection (₹ crore)	Estimated Tax Capacity (₹ crore)	Tax Effort Ratio
State A	19,500	25,000	0.78
State B	32,000	30,500	1.05

All values in this table are illustrative and have been included only to demonstrate the methodology; they do not represent actual state data.

In Table 2, the tax effort ratio provides insights into how effectively a state utilizes its taxable capacity. State A shows a tax effort of 0.78, indicating under-performance, as it collects only 78% of its estimated tax capacity. This suggests inefficiencies in tax administration, a narrow tax base, low compliance, or a lack of revenue mobilisation initiatives.
In contrast, State B has a tax effort of 1.05, meaning it collects slightly more than its estimated capacity. This reflects stronger administrative efficiency, broader tax coverage, and greater effectiveness in enforcement and compliance mechanisms. Such a value also suggests that State B is pushing its tax system beyond standard norms, possibly through improved digitalisation, audits, or rationalisation of tax rates.
Overall, the divergence between the two tax effort ratios highlights the importance of evaluating both structural tax capacity and administrative efficiency. A high tax effort underscores strong revenue mobilisation, while a low ratio indicates potential for significant improvement through policy reforms and capacity-building measures.

(iv) Assessing Central Transfer Dependency
The study evaluates the state's fiscal dependence on the Union government by using a structured set of receipts-based and expenditure-based indicators. These ratios collectively measure how much of a state's revenue, capital receipts, and overall resources are financed

through central transfers such as tax devolution, grants, and loans. While receipts-based ratios assess the proportion of funds received from the Centre relative to the state's total revenue and capital inflows, expenditure-based ratios indicate the extent to which the state's spending commitments are supported by these transfers. Together, these indicators offer a comprehensive picture of the state's financial reliance on the Union government and help identify vulnerabilities that may arise from fluctuations in central assistance.

A. Receipts-based Ratios

1. Revenue Transfers as a Percentage of Revenue Receipts
   Revenue Transfer % (Receipts) = (Revenue Transfers / Revenue Receipts) × 100

2. Loan Transfers as a Percentage of Capital Receipts
   Loan Transfer % (Receipts) = (Loan Transfers / Capital Receipts) × 100

3. Aggregate Transfers as a Percentage of Aggregate Receipts
   Aggregate Transfer % (Receipts) = (Total Transfers / Aggregate Receipts) × 100

B. Expenditure-based Ratios

4. Revenue Transfers as a Percentage of Revenue Expenditure
   Revenue Transfer % (Expenditure) = (Revenue Transfers / Revenue Expenditure) × 100

5. Loan Transfers as a Percentage of Capital Expenditure
   Loan Transfer % (Expenditure) = (Loan Transfers / Capital Expenditure) × 100

6. Aggregate Transfers as a Percentage of Aggregate Expenditure
   Aggregate Transfer % (Expenditure) = (Total Transfers / Total Expenditure) × 100

The larger these ratios are, the greater the state's dependency on the Centre and conversely, lower ratios imply lower dependency.

Illustrative Tables:

Table 3: Dependency of X State Government for receipts in Central Transfers

(Figures in Percentages)

	Plan Periods					
Particulars	VI Plan (1980-85)	VII Plan (1985-90)	APS (1990-92)	VIII Plan (1992-97)	IX Plan (1997-02)	X Plan (2002-07)

Revenue Transfers as a Percentage of Revenue Receipts of the State	25.11	22.09	16.52	13.08	13.58	17.01
Loan Transfers as a Percentage of Capital Receipts of the state	57.79	61.03	54.42	31.80	23.81	3.58
Aggregate Transfers as a Percentage of Aggregate Receipts of the state	28.74	27.77	25.54	19.47	18.93	6.10

Table 4: Dependency of X State Government for Expenditures on Central Transfers
(Figures in Percentages)

Plan Periods						
Particulars	VI Plan (1980-85)	VII Plan (1985-90)	APS (1990-92)	VIII Plan (1992-97)	IX Plan (1997-02)	X Plan (2002-07)
Revenue Transfers as a Percentage of Revenue Expenditure of the State	25.23	22.29	15.39	18.64	13.49	14.91
Loan Transfers as a Percentage of Capital Expenditure of the state	36.00	58.44	52.47	62.27	34.85	8.29
Aggregate Transfers as a Percentage of Aggregate Expenditure of the state	25.58	25.77	27.00	18.92	14.80	15.32

Table 3 illustrates the state's dependency on central transfers for its receipts. During the VI Plan, revenue transfers accounted for around 25% of the state's total revenue, gradually declining to 17% by the X Plan, indicating a reduced reliance on central support. Similarly, loan transfers, which constitute capital receipts, fell sharply from about 58% to just 3.58%, showing that the state increasingly financed its capital projects from its own resources. Overall, dependency on aggregate receipts decreased from 28.74% to 6.10%, reflecting a significant improvement in fiscal autonomy. In general, higher ratios indicate greater dependence on central transfers, while lower ratios correspond to increased self-reliance, demonstrating how changes in these figures directly affect the state's fiscal independence.

Table 4 highlights the state's dependency on central transfers for its expenditures. During

the VI Plan, revenue expenditure dependency was 25.23%, which gradually declined to 14.91% by the X Plan, indicating that the state became increasingly self-reliant in covering its regular expenses. In contrast, capital expenditure dependency initially rose, reaching 62%, but fell sharply to 8.29% by the X Plan, showing that the state progressively financed its capital projects from its own resources. Overall, aggregate expenditure dependency decreased from 25.58% to 15.32%, reflecting a significant reduction in reliance on central assistance. Generally, higher ratios signify greater dependence on central transfers, whereas lower ratios indicate stronger fiscal autonomy, demonstrating how these figures influence the state's financial independence.

(v) Expenditure Analysis Methodologies

Expenditure estimation can be carried out through several analytical methodologies such as examining expenditure–GSDP ratios, percentage-share methods to understand the composition of expenditures, and elasticity measures that capture how responsive different expenditure categories are to economic growth and how government spending influences living standards. More advanced techniques—such as regression models using variables like income, population, inflation, or sectoral growth, along with correlation analyses - help in identifying the determinants of expenditure behaviour and understanding long-term fiscal patterns. Within this analytical framework, interest payments together with salaries, pensions, and subsidies constitute the core of the state's *committed expenditure*, which, being mandatory in nature, renders the expenditure structure rigid and limits fiscal flexibility. The burden of these obligations is assessed through ratios such as Interest Payments to Revenue Receipts (IP/RR), IP/RE, IP/TE, and similarly Committed Expenditure to RR, RE, and TE, where higher ratios indicate that a larger share of revenue is pre-empted by inflexible liabilities. Indicators like IP/GSDP and Committed Expenditure/GSDP further highlight the pressure these obligations exert relative to the state's income-generating capacity. Rising values of these ratios increase fiscal stress, weaken debt sustainability, and substantially reduce the fiscal space available for productive and capital expenditure, thereby constraining long-term growth and development potential. This underscores the need for prudent debt management, stronger revenue mobilisation, and more efficient prioritisation of public spending.

(vi) Debt Sustainability

The Debt–GSDP ratio is a core indicator widely used by the Finance Commission *(in various reports and documents, various issues)*, the Reserve Bank of India *(in various documents, various issues)*, and fiscal policy bodies to assess the sustainability of a state's debt burden. It measures the stock of outstanding debt relative to the size of the state's economy and reflects the economy's capacity to service and absorb public debt. A lower ratio indicates that the state's income base is sufficiently large to support its liabilities, while a higher ratio signals rising fiscal stress, reduced borrowing space, and potential

vulnerability to macroeconomic shocks. Although a moderate ratio may not be problematic in itself, its interpretation depends critically on the state's growth performance, interest burden, and primary balance. Persistent increases in the Debt–GSDP ratio typically suggest structural fiscal pressures and the need for consolidation measures to ensure long-term debt sustainability.

Integrated Debt Sustainability Assessment Framework

Debt sustainability is assessed through a combination of macro-fiscal indicators, theoretical models, and econometric diagnostics to capture both the static and dynamic dimensions of debt behaviour. A central tool is the interest–growth differential (r – g), which determines

whether debt expands faster than the state's economic capacity. When the interest rate on public debt exceeds the GSDP growth rate (r > g), debt rises automatically even without new borrowing, creating upward pressure on the debt trajectory. As Mahmood and Rauf (2012) emphasize, a persistent positive r–g gap leads to inherently unstable debt dynamics, while *Maurya (2016)* highlights that such conditions heighten rollover risks and weaken long-term fiscal credibility.

Complementing this, the Debt–GSDP ratio measures the scale of outstanding liabilities relative to the state's economic output. Although moderate values may not be immediately alarming, their combination with a sustained r > g scenario can gradually compress developmental spending and increase reliance on external sources such as central transfers, indicating long-term fiscal stress.

To systematically interpret these indicators, the study applies the *Domar Debt Sustainability Framework*, which states that the public debt ratio remains stable when the growth rate of GSDP (g) exceeds the interest rate on debt (r). Thus:

- If g > r, the debt burden stabilizes or declines.
- If g < r, debt becomes explosive unless offset by strong primary surpluses.

This condition is further reinforced through primary balance analysis, since persistent primary deficits in an r > g environment accelerate debt accumulation. Interest burden ratios—Interest Payments to Revenue Receipts, Revenue Expenditure, and Total Expenditure—are also incorporated to evaluate how far rising interest costs erode fiscal space and crowd out productive expenditure.

Beyond ratio-based diagnostics, the study integrates econometric tools used in empirical public finance literature. Following Mahmood and Rauf (2012), *unit root tests (ADF and PP)* are applied to assess whether debt and related fiscal variables are stationary or follow non-stationary trajectories, which may signal explosive debt paths. *Johansen cointegration tests* are used to determine whether revenue and expenditure maintain a long-run

equilibrium, while a *Vector Error-Correction Model (VECM)* captures the speed at which fiscal imbalances are corrected over time. Fiscal reaction functions further test whether primary balances respond positively to rising debt levels—a necessary condition for sustainability. Maurya (2016) similarly applies cointegration and *Granger causality tests***,** which the present study uses to examine causal linkages between debt, fiscal deficit, and GSDP growth. These tests help determine whether rising fiscal deficits drive future debt accumulation, or whether economic growth helps moderate debt ratios, thereby adding predictive insight to the sustainability assessment. Taken together, the integration of macroeconomic indicators (r–g), solvency ratios (Debt–GSDP), the Domar condition, interest and primary balance metrics, and dynamic econometric tools (unit roots, cointegration, VECM, and Granger causality) provides a comprehensive and methodologically rigorous framework for evaluating the long-run sustainability of state debt.

In nutshell, the integrated methodology enables a multidimensional assessment of a state's fiscal health by jointly interpreting revenue performance, expenditure behaviour, and debt dynamics. A situation of high buoyancy combined with low elasticity suggests that discretionary policy interventions, rather than automatic economic responses, are driving revenue growth. High tax effort reflects strong administrative capacity and the effective mobilisation of the available tax base, while a high degree of dependence on intergovernmental transfers points to limited fiscal autonomy. At the same time, weak debt indicators signal underlying solvency concerns that necessitate timely corrective measures. Taken together, this combined analytical approach yields more robust and nuanced insights into fiscal performance and sustainability than any single method applied in isolation.

VI. Conclusion and Scope of the Framework

In conclusion, this study presents a systematic methodological framework that integrates classical and modern fiscal tools for the analysis of state finances in India. By combining buoyancy–elasticity analysis, welfare-based tax effort measurement, transfer dependency ratios, and debt sustainability indicators, the framework provides a coherent and multidimensional analytical basis for assessing state-level fiscal performance. It will prove useful for researchers, policymakers, and fiscal analysts in understanding and applying the methodology for comparative state studies and for evaluating fiscal behaviour within the context of India's evolving federal structure.

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COMPETING INTERESTS DISCLAIMER:

Authors have declared that they have no known competing financial interests OR non-financial interests OR personal relationships that could have appeared to influence the work reported in this paper.

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