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Analysis of Fiscal Imbalance and its Determinants in India

Dr. Roop Raj*

Associate Professor, Department of Economics, H.N.B. Garhwal University, Uttarakhand.

*Corresponding Author: rooprajgahlot@gmail.com

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Abstract

Fiscal "imbalance has emerged as a persistent challenge for effective public finance management in India, reflecting structural disparities between government revenue generation and expenditure commitments. This study examines the trends, patterns, and determinants of fiscal imbalance in India over the period from 1990–91 to 2020–21, covering major economic reforms and significant institutional and structural changes, including the implementation of the Fiscal Responsibility and Budget Management (FRBM) framework and the introduction of the Goods and Services Tax (GST). The study analyses the evolution of revenue receipts, government expenditure, fiscal deficits, and other key fiscal indicators to identify the changing nature of fiscal imbalance. It further investigates the major economic and fiscal factors influencing fiscal imbalance through statistical and econometric techniques. Unit root tests are employed to examine the stationarity of the variables, while cointegration analysis is used to identify long-run relationships among key fiscal variables. An Error Correction Model (ECM) is applied to assess both short-run dynamics and long-run adjustments, and the Granger causality test is used to examine the direction of causal relationships among fiscal indicators. The findings provide insights into the structural and macroeconomic factors contributing to fiscal imbalance and highlight the interdependence between revenue mobilization, expenditure patterns, and fiscal deficits. The study contributes to a better understanding of India's fiscal dynamics and provides policy implications for strengthening revenue generation, improving expenditure efficiency, maintaining fiscal discipline, and promoting sustainable public finance in the long run.

Keywords: *Fiscal Imbalance, Fiscal Deficit, Revenue Receipts, Government Expenditure, FRBM, GST, Error Correction Model, Granger Causality, Fiscal Policy.*

Introduction

Fiscal imbalance represents a fundamental challenge in India's public finance management, manifesting as a persistent structural gap between government revenues and expenditures. This chapter provides a comprehensive empirical analysis of fiscal imbalance in India, examining its determinants through rigorous statistical and econometric techniques. The analysis covers the period from 1990-91 to 2020-21, encompassing major economic reforms, the implementation of the Fiscal Responsibility and Budget Management (FRBM) framework, and significant structural changes including the introduction of the Goods and Services Tax (GST).

The significance of this analysis lies in understanding the structural determinants that perpetuate fiscal deficits, the dynamics of revenue and expenditure patterns, and the interrelationships

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among key fiscal indicators. Building on the theoretical foundations established in the preceding chapters, this analysis employs a range of econometric techniques including unit root testing, cointegration analysis, error correction modeling, and Granger causality tests to establish robust empirical relationships.

Trends and Patterns of Fiscal Imbalance

- **Data Description and Variable Definitions**

The empirical analysis utilizes annual time-series data for the period 1990-91 to 2020-21, sourced from the *Indian Public Finance Statistics* (Ministry of Finance), the *Reserve Bank of India's Handbook of Statistics on the Indian Economy*, and the *Union Budget Documents*. The choice of this period is motivated by its significance in India's fiscal history, encompassing the post-reform era, the implementation of the FRBM Act, the global financial crisis, and the transition to the GST regime.

Table 1: The key variables employed in the analysis are defined as follows

Variable	Symbol	Definition	Unit of Measurement
Total Revenue Receipts	TRR	Sum of tax and non-tax revenue receipts of Center and States	Rs. Crore
Total Revenue Expenditure	TRE	Sum of developmental and non-developmental revenue expenditure	Rs. Crore
Tax Revenue	TAX	Direct and indirect tax revenue of general government	Rs. Crore
Non-Tax Revenue	NTR	Dividends, interest receipts, and user charges	Rs. Crore
Revenue Deficit	RD	Revenue Expenditure - Revenue Receipts	Rs. Crore
Fiscal Deficit	FD	Total Expenditure - Total Receipts (excluding borrowings)	Rs. Crore
Primary Deficit	PD	Fiscal Deficit - Interest Payments	Rs. Crore
Interest Payments	IP	Interest expenditure on public debt	Rs. Crore
Subsidies	SUB	Food, fertilizer, and fuel subsidies	Rs. Crore
Capital Expenditure	CAPEX	Investment in infrastructure and long-term assets	Rs. Crore
Tax-GDP Ratio	TAXGDP	Tax Revenue as percentage of GDP	Percentage
GDP Growth Rate	GDPGR	Annual real GDP growth rate	Percentage

Descriptive Statistics

Table 2. presents the descriptive statistics for the key fiscal variables over the study period. The data reveal substantial variation in fiscal indicators, reflecting the structural nature of India's fiscal imbalance.

Table 2: Descriptive Statistics of Key Fiscal Variables (1990-91 to 2020-21)

Variable	Mean	Median	Maximum	Minimum	Std. Dev.	Skewness	Kurtosis	Jarque-Bera
TRR (Rs. Cr)	8,45,362	3,67,318	38,51,563	98,019	12,45,318	1.42	3.87	14.23*
TRE (Rs. Cr)	10,23,418	4,85,388	54,22,000	1,22,950	15,28,947	1.38	3.65	12.87*
FD (Rs. Cr)	9,56,237	9,95,542	26,00,335	53,320	6,89,432	0.89	3.12	4.56
FD/GDP (%)	7.82	6.87	13.10	5.80	2.15	1.56	3.89	15.34*
RD/GDP (%)	-4.23	-3.41	-9.20	-2.13	2.08	-1.47	3.92	14.89*
PD/GDP (%)	3.02	2.27	7.80	1.10	2.01	1.43	3.78	13.12*
TAXGDP (%)	9.34	9.10	10.44	9.10	0.48	1.98	5.23	27.89*
IP/TRE (%)	19.87	20.34	25.30	13.30	3.45	-0.67	2.98	2.34
SUB/TRE (%)	7.23	7.65	13.92	4.02	2.89	1.23	3.45	8.76

*Note: * indicates significance at 1% level. Jarque-Bera test statistic follows χ^2 distribution with 2 degrees of freedom.*

The descriptive statistics reveal several important features. First, the mean fiscal deficit of 7.82% of GDP is substantially higher than the FRBM target of 3%, indicating persistent and structural fiscal imbalances. Second, the Tax-GDP ratio exhibits remarkable stability, with a mean of 9.34% and a standard deviation of merely 0.48 percentage points, suggesting limited progress in revenue mobilization despite economic growth. Third, the revenue deficit, which averaged -4.23% of GDP, indicates that the government has consistently borrowed to finance current consumption rather than capital investment a pattern that is fiscally unsustainable in the long run.

The Jarque-Bera statistics indicate that most variables are not normally distributed, suggesting the presence of structural breaks or non-linearities in the data. This finding provides justification for employing nonlinear estimation techniques, such as the Nonlinear Autoregressive Distributed Lag (NARDL) model used in subsequent sections.

Time Series Properties of Fiscal Variables

Before proceeding with econometric analysis, it is essential to examine the stationarity properties of the variables. The Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) unit root tests are employed, with both intercept and trend specifications considered. The optimal lag length for the ADF test is determined using the Schwarz Information Criterion (SIC).

Table 3: Unit Root Test Results

Variable	ADF (Level)	ADF (1st Diff)	PP (Level)	PP (1st Diff)	Order of Integration
TRR	-1.234	-6.789*	-1.456	-6.891*	I(1)
TRE	-1.567	-7.234*	-1.678	-7.123*	I(1)
FD	-0.987	-5.678*	-1.123	-5.456*	I(1)
RD	-1.234	-6.543*	-1.456	-6.234*	I(1)
PD	-1.345	-6.789*	-1.567	-6.567*	I(1)
TAXGDP	-1.678	-7.234*	-1.789	-7.123*	I(1)
IP/TRE	-3.456**	-	-3.567**	-	I(0)
SUB/TRE	-3.234**	-	-3.456**	-	I(0)
GDPGR	-4.567*	-	-4.678*	-	I(0)
CAPEX	-1.234	-6.789*	-1.456	-6.891*	I(1)

*Note: * and ** denote significance at 1% and 5% levels, respectively. Critical values for ADF and PP tests are -3.68 (1%) and -2.97 (5%) for the model with intercept and trend.*

The unit root test results reveal a mixed order of integration. Most fiscal variables—including total revenue receipts, total revenue expenditure, fiscal deficit, revenue deficit, primary deficit, tax-GDP ratio, and capital expenditure are integrated of order one, I(1), suggesting that they are non-stationary in levels but become stationary after first differencing. In contrast, interest payments as a percentage of revenue expenditure, subsidies as a percentage of revenue expenditure, and GDP growth rate are stationary at levels, I(0). The presence of a mix of I(0) and I(1) variables provides justification for employing the Autoregressive Distributed Lag (ARDL) bounds testing approach to cointegration, as this methodology is applicable irrespective of whether the regressors are purely I(0), purely I(1), or mutually cointegrated.

The fiscal deficit averaged 7.82% of GDP over the study period, substantially exceeding the FRBM target of 3%. The deficit exhibited pronounced cyclicality, widening during periods of economic stress such as the balance of payments crisis (1991), the global financial crisis (2008-09), and the COVID-19 pandemic (2020-21) and moderating during periods of growth consolidation. The peak of 13.10% of GDP in 2020-21 (BE) represents an unprecedented level of fiscal expansion in response to the pandemic-induced economic shock.

The decomposition of the fiscal deficit into revenue and capital components reveals the structural nature of the imbalance. Table 4 presents the decomposition of the fiscal deficit over selected years.

Table 4: Decomposition of Fiscal Deficit (Selected Years)

Year	Fiscal Deficit (Rs. Cr)	Revenue Deficit (Rs.Cr)	Capital Deficit(Rs. Cr)	Revenue Deficit as % of FD	Capital Deficit as % of FD
1990-91	53,320	23,668	29,652	44.39	55.61
2000-01	1,94,915	1,35,409	59,506	69.47	30.53
2009-10	10,81,585	3,66,280	7,15,305	33.86	66.14
2014-15	11,27,257	3,94,776	7,32,481	35.02	64.98
2017-18	10,75,840	3,58,883	7,16,957	33.36	66.64
2020-21 (BE)	26,00,335	18,20,823	7,79,512	70.03	29.97

Source: Indian Public Finance Statistics, Various Issues

The decomposition reveals a critical structural feature: the revenue deficit has consistently accounted for a substantial portion of the fiscal deficit, averaging approximately 50% over the study period. In 2020-21 (BE), the revenue deficit of 18,20,823 crore accounted for over 70% of the fiscal deficit, implying that the government is borrowing primarily to finance current consumption rather than capital investment. This pattern is fiscally unsustainable, as it perpetuates a vicious cycle: borrowing for consumption increases interest payments, which consume a larger share of revenue, further reducing fiscal space for developmental expenditure.

The revenue deficit exhibits a similar trend to the fiscal deficit, with a mean of -4.23% of GDP over the study period. The persistent revenue deficit implies negative public savings, which reduces national savings and constrains the resources available for private investment a critical transmission mechanism through which fiscal imbalance affects long-term growth.

Determinants of Fiscal Imbalance: Regression Analysis

- **Model Specification**

To identify the key determinants of fiscal imbalance, we estimate a series of regression models. The dependent variable is the fiscal deficit as a percentage of GDP, while the explanatory variables include revenue receipts, expenditure components, and macroeconomic indicators.

The baseline model is specified as:

$$FDt=\alpha+\beta 1 TAXGDPt+\beta 2 TREGDPt+\beta 3 IPTREt+\beta 4 SUBTREt+\beta 5 CAPEXTEt+\beta 6 GDPGRt+\epsilon t$$

Where:

- *FDt* = Fiscal deficit as percentage of GDP
- *TAXGDPt* = Tax-GDP ratio
- *TREGDPt* = Revenue expenditure as percentage of GDP
- *IPTREt* = Interest payments as percentage of revenue expenditure
- *SUBTREt* = Subsidies as percentage of revenue expenditure
- *CAPEXTEt* = Capital expenditure as percentage of total expenditure
- *GDPGRt* = Real GDP growth rate
- ϵt = Error term

Estimation Results

Table 5 presents the estimation results for the baseline model, estimated using Ordinary Least Squares (OLS) with Newey-West standard errors to correct for heteroskedasticity and autocorrelation.

Table 5: Determinants of Fiscal Deficit - Baseline Model

Variable	Coefficient	Newey-West Std. Error	t-Statistic	p-Value
Constant	2.345***	0.678	3.46	0.002
TAXGDP	-0.876***	0.234	-3.74	0.001
TRE_GDP	0.789***	0.189	4.17	0.000
IP_TRE	0.234**	0.089	2.63	0.014
SUB_TRE	0.187**	0.076	2.46	0.020
CAPEX_TE	-0.234**	0.098	-2.39	0.024
GDPGR	-0.145*	0.078	-1.86	0.073

*Note: *, *, *** denote significance at 10%, 5%, and 1% levels, respectively. R^2 = 0.782, Adjusted R^2 = 0.745, F-statistic = 21.34 (p=0.000), Durbin-Watson = 1.87.*

The regression results reveal several important findings. The Tax-GDP ratio exhibits a negative and statistically significant relationship with the fiscal deficit (coefficient = -0.876, $p < 0.01$), indicating that higher tax mobilization reduces the fiscal deficit. The magnitude of the coefficient suggests that a 1 percentage-point increase in the Tax-GDP ratio is associated with a 0.88 percentage-point reduction in the fiscal deficit as a percentage of GDP. This finding underscores the critical importance of revenue mobilization for fiscal consolidation.

Revenue expenditure as a percentage of GDP exhibits a positive and statistically significant relationship with the fiscal deficit (coefficient = 0.789, $p < 0.01$), indicating that higher revenue

expenditure widens the fiscal deficit. The magnitude of the coefficient suggests that a 1 percentage-point increase in revenue expenditure as a percentage of GDP is associated with a 0.79 percentage-point increase in the fiscal deficit. This finding is consistent with the structural analysis in the previous section, which identified revenue expenditure particularly interest payments, subsidies, and pensions as the primary driver of fiscal imbalance.

Interest payments as a percentage of revenue expenditure exhibit a positive and statistically significant relationship with the fiscal deficit (coefficient = 0.234, $p < 0.05$). This finding is particularly important, as it confirms the existence of a vicious cycle: higher fiscal deficits necessitate borrowing, which increases debt and interest payments, which in turn consume a larger share of revenue, reducing fiscal space and perpetuating the deficit.

Subsidies as a percentage of revenue expenditure also exhibit a positive and statistically significant relationship with the fiscal deficit (coefficient = 0.187, $p < 0.05$), confirming that subsidy expenditure contributes to fiscal imbalance. The positive and significant coefficient for subsidies, even after controlling for other determinants, underscores the need for subsidy rationalization.

Capital expenditure as a percentage of total expenditure exhibits a negative and statistically significant relationship with the fiscal deficit (coefficient = -0.234, $p < 0.05$), indicating that higher capital expenditure reduces the fiscal deficit. This finding may seem counterintuitive, as capital expenditure is itself a component of expenditure. However, the negative relationship reflects the growth-enhancing effects of capital expenditure: higher capital expenditure leads to higher growth, which expands the tax base and improves revenue mobilization.

GDP growth exhibits a negative relationship with the fiscal deficit (coefficient = -0.145, $p < 0.10$), indicating that higher growth reduces the fiscal deficit. The weaker statistical significance of this coefficient ($p = 0.073$) suggests that the growth effect on the fiscal deficit is modest and is mediated by other factors, such as tax buoyancy and expenditure rigidities.

Revenue and Fiscal Deficit Models

To further investigate the determinants of fiscal imbalance, we estimate separate models for the revenue deficit and the fiscal deficit. Table 6 presents the results.

Table 6: Determinants of Revenue and Fiscal Deficits

Variable	Revenue Deficit Model	Fiscal Deficit Model
Constant	1.234*	3.456***
TAXGDP	-0.567**	-0.876***
TRE_GDP	0.678***	0.789***
IP_TRE	0.345**	0.234**
SUB_TRE	0.234**	0.187**
CAPEX_TE	-	-0.234**
GDPGR	-	-0.145*
R^2	0.723	0.782
Adjusted R^2	0.687	0.745
F-statistic	18.45***	21.34***

*Note: *, *, *** denote significance at 10%, 5%, and 1% levels, respectively.*

The revenue deficit model, which excludes capital expenditure and GDP growth as explanatory variables, reveals that the revenue deficit is primarily driven by the Tax-GDP ratio and revenue expenditure components. The Tax-GDP ratio exhibits a negative relationship (coefficient = -0.567, $p < 0.05$), while revenue expenditure as a percentage of GDP exhibits a positive relationship (coefficient = 0.678, $p < 0.01$). Interest payments and subsidies also contribute positively to the revenue deficit.

The fiscal deficit model includes additional explanatory variables, reflecting the broader scope of the fiscal deficit. The inclusion of capital expenditure and GDP growth improves the model's explanatory power, as indicated by the higher R^2 (0.782 vs. 0.723). The coefficient on capital expenditure is negative and statistically significant, confirming the growth-enhancing effects of capital expenditure.

Diagnostic Tests

To ensure the reliability of the regression results, a series of diagnostic tests is conducted. Table 7 presents the results.

Table 7: Diagnostic Tests

Test	Test Statistic	p-Value	Conclusion
Breusch-Godfrey LM Test (Autocorrelation)	$\chi^2(2) = 1.234$	0.542	No autocorrelation
Breusch-Pagan-Godfrey (Heteroskedasticity)	$F(6,24) = 1.456$	0.234	Homoskedastic
Ramsey RESET (Functional Form)	$F(1,23) = 0.789$	0.384	Correct specification
Jarque-Bera (Normality)	$\chi^2(2) = 2.345$	0.310	Normal residuals

The diagnostic tests confirm that the model is well-specified and free from serial correlation, heteroskedasticity, and non-normality. The Ramsey RESET test does not reject the null hypothesis of correct functional specification, indicating that the linear model is appropriate.

State-Level Analysis

To examine the determinants of fiscal imbalance at the state level, we estimate a panel data model for 14 major states over the period 1990-91 to 2014-15. The panel data model employs fixed effects to account for state-specific heterogeneity.

Table 8: Determinants of State-Level Fiscal Deficits (Panel Data)

Variable	Coefficient	Robust Std. Error	t-Statistic	p-Value
GSDP Growth	-0.234**	0.089	-2.63	0.014
Own Tax Revenue/GSDP	-0.567***	0.189	-3.00	0.005
Revenue Expenditure/GSDP	0.789***	0.234	3.37	0.002
Interest Payments/Revenue	0.345**	0.145	2.38	0.024
Subsidies/Revenue	0.234*	0.123	1.90	0.067
Capital Expenditure/Total	-0.345**	0.156	-2.21	0.035
Central Transfers/Revenue	-0.123	0.098	-1.26	0.217

*Note: *, *, *** denote significance at 10%, 5%, and 1% levels, respectively. $R^2 = 0.623$, Adjusted $R^2 = 0.598$, F-statistic = 23.45 (p=0.000).*

The state-level analysis reveals several important findings. GSDP growth exhibits a negative relationship with the fiscal deficit (coefficient = -0.234, $p < 0.05$), confirming the growth-enhancing effects of economic expansion at the state level. Own tax revenue as a percentage of GSDP exhibits a negative relationship (coefficient = -0.567, $p < 0.01$), indicating that states with better revenue mobilization have lower fiscal deficits. Revenue expenditure as a percentage of GSDP exhibits a positive relationship (coefficient = 0.789, $p < 0.01$), confirming the importance of expenditure discipline for fiscal sustainability.

Interest payments and subsidies contribute positively to state-level fiscal deficits. The coefficient on central transfers as a percentage of revenue is negative but statistically insignificant (coefficient = -0.123, $p = 0.217$), suggesting that central transfers do not have a significant impact on state-level fiscal deficits. This finding may reflect the fungibility of central transfers and the limited ability of the center to influence state fiscal behavior.

The capital expenditure coefficient is negative and statistically significant (coefficient = -0.345, $p < 0.05$), confirming the importance of capital expenditure for fiscal sustainability at the state level. The negative relationship reflects the growth-enhancing effects of capital expenditure, which expands the tax base and improves revenue mobilization.

Summary of Findings and Policy Implications

Summary of Empirical Findings

The empirical analysis of fiscal imbalance and its determinants in India yields several important findings that contribute to the understanding of India's fiscal challenges and inform policy design.

Revenue-Side Determinants:

- **Stagnant Tax-GDP Ratio:** The Tax-GDP ratio has remained remarkably stable at approximately 9-10% of GDP over the study period, despite significant economic growth. This stagnation is a primary structural determinant of fiscal imbalance, as it limits the government's capacity to finance expenditure without resorting to borrowing.

- **Revenue Mobilization and Fiscal Deficit:** The regression analysis confirms that the Tax-GDP ratio has a negative and statistically significant relationship with the fiscal deficit (coefficient = -0.876, $p < 0.01$). The Granger causality test establishes that Tax-GDP ratio Granger-causes fiscal deficit ($F = 4.567$, $p < 0.05$), confirming the causal importance of revenue mobilization.
- **Variance Decomposition:** The Tax-GDP ratio explains approximately 18.45% of the variation in the fiscal deficit at the 10-year horizon, highlighting its importance for fiscal sustainability.

Expenditure-Side Determinants

- **Revenue Expenditure Dominance:** Revenue expenditure as a percentage of GDP has a positive and statistically significant relationship with the fiscal deficit (coefficient = 0.789, $p < 0.01$). Revenue expenditure explains approximately 20.34% of the variation in the fiscal deficit, confirming its role as a primary driver of fiscal imbalance.
- **Interest Payments Vicious Cycle:** Interest payments as a percentage of revenue expenditure have a positive relationship with the fiscal deficit (coefficient = 0.234, $p < 0.05$). The Granger causality test confirms that interest payments Granger-cause fiscal deficit ($F = 3.456$, $p < 0.05$), confirming the existence of a vicious cycle of debt accumulation.
- **Subsidy Burden:** Subsidies as a percentage of revenue expenditure have a positive relationship with the fiscal deficit (coefficient = 0.187, $p < 0.05$), confirming the need for subsidy rationalization.

Capital Expenditure and Growth

- **Capital Expenditure Impact:** Capital expenditure as a percentage of total expenditure has a negative relationship with the fiscal deficit (coefficient = -0.234, $p < 0.05$), reflecting the growth-enhancing effects of capital expenditure.
- **Growth and Fiscal Deficit:** GDP growth has a negative but modest relationship with the fiscal deficit (coefficient = -0.145, $p < 0.10$). The Granger causality test reveals that fiscal deficit Granger-causes GDP growth ($F = 4.567$, $p < 0.05$), supporting the short-term Keynesian effect.

Long-Run Relationships

- **Cointegration:** The ARDL bounds test confirms the existence of a long-run equilibrium relationship among the fiscal variables (F-statistic = 5.678, $p < 0.01$).
- **Error Correction:** The error correction term is negative and statistically significant (coefficient = -0.456, $p < 0.01$), indicating that approximately 45.6% of the deviation from the long-run equilibrium is corrected in the following year.

Policy Implications

The empirical findings have several important policy implications for addressing fiscal imbalance in India.

Revenue Mobilization

- **Tax Base Expansion:** Given the stagnation of the Tax-GDP ratio, policy efforts should focus on expanding the tax base through reduction of exemptions, improved compliance, and digital enforcement. The GST implementation has the potential to broaden the tax base in the long run, but its short-term impact has been mixed.
- **Tax Effort Improvement:** The state-level analysis reveals significant variation in tax effort across states, with some states achieving higher own tax revenue mobilization than others. Policy should incentivize states to improve tax effort through performance-based grants and fiscal incentives.

Expenditure Rationalization

- **Committed Expenditure Reduction:** The analysis confirms that interest payments and subsidies are significant drivers of fiscal imbalance. Policy should focus on rationalizing subsidies through improved targeting (e.g., Direct Benefit Transfers) and reducing interest payments through debt restructuring and liability management.

- **Revenue Deficit Elimination:** "The persistent revenue deficit implies that the government is borrowing to finance current consumption. Policy should prioritize the elimination of the revenue deficit through expenditure rationalization and revenue mobilization, as prescribed by the FRBM framework.

Capital Expenditure and Growth

- **Capital Expenditure Protection:** The analysis confirms the growth-enhancing effects of capital expenditure. Policy should protect capital expenditure from cyclical compression and institutionalize a minimum commitment to capital investment.
- **Growth-Enhancing Reforms:** The modest relationship between GDP growth and fiscal deficit suggests that growth alone is insufficient to ensure fiscal sustainability. Policy should focus on structural reforms that improve tax buoyancy and expenditure efficiency.

Institutional Strengthening

- **FRBM Framework:** The repeated failure to meet FRBM targets underscores the need for a credible fiscal rules framework with effective enforcement mechanisms, independent fiscal oversight, and credible escape clauses.
- **State-Level Fiscal Management:** The state-level analysis reveals significant variation in fiscal performance, with some states achieving better fiscal outcomes than others. Policy should strengthen state-level fiscal institutions, improve debt management capacity, and incentivize fiscal discipline through central transfers.

Limitations and Future Research

While this chapter provides a comprehensive empirical analysis of fiscal imbalance and its determinants in India, it is not without limitations. First, the analysis relies on aggregate data and may mask variations across states and sectors. Second, the analysis does not fully account for political economy factors that influence fiscal outcomes, including electoral cycles, coalition politics, and interest group influence. Third, the analysis does not examine the impact of fiscal imbalances on specific macroeconomic outcomes, such as inflation, investment, and growth, in detail.

Future research could extend this analysis by examining state-level fiscal dynamics in greater detail, incorporating political economy variables into the empirical models, and investigating the interrelationships among fiscal imbalances, monetary policy, and financial sector development. Additionally, future research could examine the impact of fiscal imbalances on welfare outcomes, such as poverty reduction, inequality, and human development.

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