Fiscal stress to fiscal sustainability:

The transformation of Odisha's Public Finances

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Abstract—This paper investigates Odisha's fiscal transition from stress to sustainability over the post-FRBM period (2005–06 to 2024–25) using an integrated framework encompassing fiscal sustainability, fiscal resilience, fiscal space, and expenditure efficiency. Fiscal sustainability is assessed through FRBM-consistent deficit and debt thresholds and debt-growth dynamics, while fiscal resilience is captured by a Composite Shock Absorption Index combining revenue stability, expenditure flexibility, debt sustainability, and fiscal buffers. Expenditure efficiency is evaluated using ICOR estimates, an Expenditure Management Index, and sector-level outcome efficiency indicators. The results indicate that FRBM-anchored fiscal discipline facilitated growth-led debt reduction and a sustained decline in interest burdens, permitting an expansion of capital and development expenditure without violating fiscal rules. Fiscal consolidation thus evolved from balance-sheet repair to efficiency-driven, growth-compatible adjustment supported by expanded fiscal space arising from lower committed expenditure. However, fiscal resilience remains structurally constrained by weak and volatile buffers, and improvements in aggregate expenditure efficiency did not translate into commensurate gains in health, education, and infrastructure outcomes, pointing to persistent delivery inefficiencies.

Key Words—FRBM, debt sustainability, fiscal resilience, fiscal space, expenditure efficiency

I. INTRODUCTION

Located on India's eastern coast, Odisha is a resource-rich state with abundant minerals, fertile river basins, and a long history of maritime trade with Southeast Asia, culturally reflected in Boita Bandana during Bali Jatra. Despite this legacy, colonial extraction, post-independence structural constraints, and recurrent natural disasters transformed Odisha into one of India's most fiscally and economically vulnerable states by the late twentieth century, marked by persistent revenue deficits, high public debt, low development expenditure, and acute poverty. The enactment of the Odisha Fiscal Responsibility and Budget Management (FRBM) Act in 2005 constituted a structural break, initiating sustained fiscal consolidation through deficit containment, debt reduction, and expenditure reprioritisation. Improved revenue mobilisation—especially non-tax revenues from mining—alongside increased capital spending, agricultural support, and disaster-risk mitigation strengthened fiscal resilience. By 2022–23, Odisha ranked among India's fiscally healthiest states, providing a compelling case to examine the mechanisms underlying its transition from fiscal stress to fiscal sustainability during 2005–06 to 2024–25. Against this background, the paper addresses the following research questions:

1. How did Odisha transition from fiscal stress to fiscal sustainability in the post-FRBM period?
2. To what extent has adherence to FRBM norms influenced fiscal sustainability and fiscal resilience in Odisha?
3. Has fiscal consolidation in Odisha been achieved through expenditure compression or through improvements in expenditure efficiency and fiscal space creation?

This study seeks to address these questions through a structured analysis. The following section provides an overview of the transition from fiscal stress to fiscal sustainability in post-FRBM Odisha. The next subsequent sections empirically investigate FRBM-Led Fiscal Sustainability and Fiscal Resilience in Odisha through debt sustainability indicators and shock absorption index, next section analyse fiscal consolidation through expenditure efficiency and fiscal space creation in Odisha. The final section outlines result, discussion and conclusion with policy recommendations provides remarkable fiscal transformation from chronic fiscal stress to sustainable and resilient public finances.

II. METHODOLOGY AND DATABASE

This study employs a descriptive quantitative approach based on simple statistical techniques using secondary data for the period 2005–06 to 2024–25. Data are drawn from the Budget Documents of the Government of Odisha, State Finances: A Study of Budgets (RBI), and Finance Commission reports (12th–15th FC). Fiscal trends are analysed across two phases corresponding to 12th–13th and 14th– 15th Finance Commission. Growth rates are computed using annual percentage changes. Fiscal sustainability is examined through standard indicators—fiscal, revenue and primary deficits, debt–GSDP ratio, interest burden and capital expenditure share—supported by the Domar debt dynamics framework. Fiscal resilience is assessed using a Composite Shock Absorption Index constructed from normalised sub-indices. Expenditure efficiency is evaluated using the Incremental Capital–Output Ratio (ICOR), along with an Expenditure Management Index and sectoral efficiency. The fiscal space, development expenditure ratios and its utilisation are examined through the ratio of development expenditure to available fiscal space. Together, these methods allow an integrated assessment of fiscal sustainability, resilience, and efficiency in Odisha.

III. REVIEW OF LITERATURE

Misra and Khundrakpam (2009) examine the fiscal stress of Indian states in the 1990s, highlighting persistent revenue deficits, rising debt, and interest burdens that necessitated rule-based fiscal discipline. Rao (2017) analyses the evolution of the FRBM framework in India and underscores its role in restoring macroeconomic stability through deficit and debt containment. Mukherjee (2019) and Jacob and Chakraborty (2020) show that post-FRBM fiscal consolidation across states was largely achieved through expenditure compression rather than structural revenue reforms, raising concerns about growth sustainability. Das (2015) and Isaan and Mohan (2016) demonstrate through cross-state analysis that strict fiscal rules without adequate fiscal space can adversely affect capital and social expenditure. Rath (2005) documents Odisha's severe fiscal stress prior to reforms, marked by chronic deficits and debt overhang. Mohanty (2014a, 2014b) identifies a structural break in Odisha's fiscal trajectory after 2002–03, linking fiscal consolidation to debt restructuring and the enactment of the Odisha FRBM Act. Jena (2019) finds that Odisha achieved one of the strongest deficit corrections among Indian states due to declining interest payments, expenditure rationalisation, and institutional reforms. Mishra and Mohanty (2016) assess expenditure efficiency and rank Odisha favourably in terms of revenue and expenditure performance, though debt sustainability remained a concern. Mohanty et al. (2016) and Chakraborty and Thomas (2024) highlight the role of mining-based revenue buoyancy in expanding Odisha's fiscal space and supporting higher capital expenditure. Rangarajan and Srivastava (2025) and Srivastava (2022) argue that investment-led growth driven by public capital expenditure can coexist with fiscal consolidation, a pattern increasingly evident in Odisha.

Research Gap

Existing studies on Odisha examine fiscal sustainability, expenditure efficiency, and fiscal space in isolation, with limited analysis of their dynamic interaction over the long post-FRBM period. This paper fills the gap by integrating fiscal sustainability, resilience, and fiscal space within a unified framework for 2005–06 to 2024–25.

IV. TRANSITION FROM FISCAL STRESS TO FISCAL SUSTAINABILITY IN POST-FRBM ODISHA

This section addresses the first research question by examining how Odisha transitioned from a fiscally stressed state to a fiscally sustainable one following the enactment of the FRBM Act. The analysis is organised into two distinct phases corresponding to the consolidation and post-consolidation periods: (i) 2005–06 to 2014–15, covering the 12th and 13th Finance Commission periods, and (ii) 2015–16 to 2024–25, encompassing the 14th and 15th Finance Commission periods. Together, these phases capture the evolution of Odisha's fiscal correction, resilience, and expansion strategy.

1. Fiscal Consolidation Phase: 2005–06 to 2014–15

The initial post-FRBM decade represents a phase of intensive fiscal consolidation marked by systematic correction of deficits, restructuring of expenditure, and rapid improvement in debt sustainability.

Table. No 01

Variables	2005-06	2006-07	2007-08	2008-09	2009-10	Improvement	2010-11	2011-12	2012-13	2013-14	2014-15	Improvement
TRR	16.55	17.71	16.99	16.57	16.22	-0.33	16.84	17.43	16.78	16.5	18.13	1.29
Own Rev	7.68	8.5	7.36	7.52	7.45	-0.23	8.08	8.6	8.83	8.52	8.87	0.79
OTR	5.88	5.96	5.3	5.38	5.41	-0.47	5.66	5.81	5.74	5.69	6.3	0.64
ONTR	1.8	2.54	2.05	2.13	1.97	0.17	2.42	2.78	3.09	2.83	2.57	0.15
Central Trans	8.87	9.21	9.64	9.05	8.73	-0.14	8.76	8.82	7.96	7.99	9.26	0.5
T Devolution	5.73	6.11	6.07	5.57	5.23	-0.5	5.38	5.31	5.29	5.14	5.15	-0.23
Grants	4.94	3.1	3.57	4.74	3.49	-1.45	3.44	3.52	3.94	2.84	4.11	0.67
Revenue Exp	15.99	15.49	13.71	14.27	15.52	-0.47	14.87	15	14.61	15.39	16.27	1.4
Interest Pay	4.34	3.13	2.45	1.95	1.86	-2.48	1.55	1.11	1.07	0.97	0.89	-0.66
general	51.26	49.3	42.76	35	38.33	-12.93	35.3	31.53	34.17	30.01	28.41	-6.89
Economic	14.36	17.6	21.04	26.19	22.78	8.42	24.1	25.19	26.66	27	28.99	4.89
social	34.38	33.1	36.2	38.81	38.89	4.51	40.6	41.37	39.17	41.04	41	0.4

Committed Exp/Tot Exp	59.05	47.68	44.71	45.83	51.12	-7.93	49.43	42.97	41.72	38.53	36.97	-12.46
Rev Deficit	0.57	2.22	3.28	2.3	0.7	0.13	1.98	2.43	2.18	1.12	1.86	-0.12
Fiscal Deficit	-0.32	0.81	1.02	-0.39	-1.39	-1.07	-0.33	0.29	0	-1.56	-1.74	-1.41
Primary Def	4.02	3.94	3.48	1.55	0.48	-3.54	1.23	1.49	1.1	-0.59	-0.85	-2.08
Debt/GSDP	42.84	36.58	28.09	24.53	23.15	-19.69	19.81	16.7	14.51	13.04	13.77	-6.04
Capital Out	1.22	1.43	2.2	2.55	2.24	1.02	2.17	2.1	2.15	2.62	3.52	1.35

Source: various budget documents of state finance Odisha.

As shown in Table 1, Odisha recorded sustained revenue surpluses throughout most of this period, reflecting effective control over revenue expenditure combined with modest but steady improvements in revenue mobilisation.

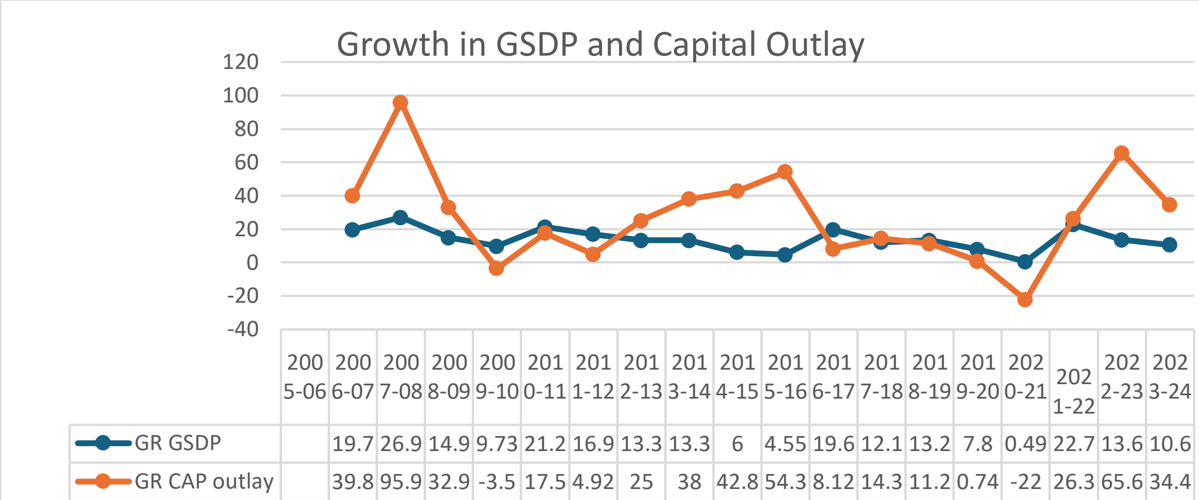
Total revenue receipts increased from 16.55 per cent of GSDP in 2005–06 to 18.13 per cent in 2014–15. While central transfers contributed to this improvement, own revenue performance also strengthened, particularly through tax revenues. However, non-tax revenues remained volatile, indicating limited internal buoyancy and continued reliance on intergovernmental transfers for fiscal adjustment during this phase.

On the expenditure side, consolidation was primarily driven by containment of revenue expenditure, which remained below 16 per cent of GSDP until 2012–13. This expenditure discipline facilitated the emergence of sustained revenue surpluses, with the revenue balance improving by 1.29 percentage points over the period. Fiscal deficits remained well below the FRBM ceiling, and in several years fiscal surpluses were recorded, enabling net repayment of public debt.

A significant structural shift occurred in the composition of public expenditure. The share of general services expenditure declined sharply from 51.26 per cent of total expenditure in 2005–06 to 28.41 per cent in 2014–15, while expenditure on economic and social services increased steadily. This reallocation indicates that fiscal consolidation was not achieved at the cost of developmental spending, but rather through improved allocative efficiency and rationalisation of non-developmental expenditure. The declining ratio of committed expenditure to total expenditure further enhanced fiscal flexibility and resilience.

Capital outlay, however, remained relatively constrained during much of the consolidation period, averaging around 2 per cent of GSDP until 2012–13 (Figure 1). A notable increase occurred only in the terminal years, when capital outlay rose to 3.52 per cent of GSDP in 2014–15. This pattern suggests that the fiscal space generated during consolidation was initially prioritised for balance-sheet correction and debt reduction rather than for immediate expansion of public investment.

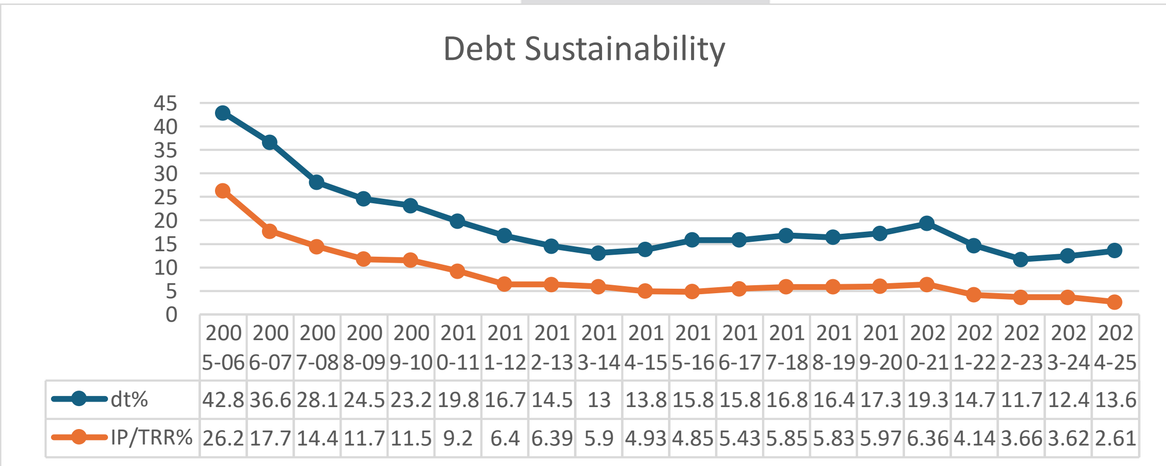
Figure No 01



Source: various budget documents of state finance Odisha.

Debt sustainability indicators improved dramatically during this phase. Outstanding debt declined from 42.84 per cent of GSDP in 2005–06 to 13.77 per cent in 2014–15, while interest payments fell sharply as a share of revenue receipts (Figure 2). This improvement was reinforced by active debt management through MTFR Program's 5 forms, including swapping of high-cost borrowing, prepayment of high-cost loans, low-cost borrowing from OMBADC and CAMPA, the institutionalisation of the Consolidated Sinking Fund and the Guarantee Redemption Fund, Loan by GoI for shortfall in GST compensation cess during 2020-21 and 2021-22, Long term Infrastructure Loan by GoI and drawing down the Public Account Net for Financing the CAPEX. Together, these measures reduced refinancing risks, lowered borrowing costs, and strengthened fiscal credibility. (Annual budget 2023-24, Govt. of Odisha)

Figure No.02



Source: various budget documents of state finance Odisha.

Overall, the evidence indicates that Odisha's post-FRBM consolidation strategy prioritised fiscal discipline, expenditure restructuring, and debt sustainability. This phase laid a strong foundation for subsequent expansion in capital expenditure and growth-oriented fiscal policy.

2. Post-Consolidation and Fiscal Expansion Phase: 2015–16 to 2024–25

The second phase reflects a transition from balance-sheet correction to calibrated fiscal expansion, while broadly maintaining compliance with FRBM norms.

Table. No. 02

Veriables	2015-16	2016-17	2017-18	2018-19	2019-20	Improvement	2020-21	2021-22	2022-23	2023-24	2024-25	Improvement
TRR	20.98	18.91	19.34	19.96	18.89	-2.09	19.32	23.08	19.97	22.27	22.78	3.46
Own Rev	9.5	7.86	8.24	8.94	8.73	-0.77	9.95	14.33	11.85	12.78	12.74	2.79
Own Tax R	6.85	5.82	6.33	6.08	6.24	-0.61	6.34	6.14	6.18	6.48	6.48	0.14
O N T R	2.65	2.05	1.9	2.86	2.7	0.05	3.61	8.18	5.67	6.3	6.26	2.65
Cent Trans	11.47	11.05	11.1	11.02	10.16	-1.31	9.37	8.76	8.12	9.48	10.04	0.67
T Devolut	7.17	7.21	7.1	7.09	5.66	-1.51	4.71	5.75	5.7	6	5.96	1.25
Grants	4.3	4.99	4	3.93	4.49	0.19	5.22	2.5	2.41	3.48	4.07	-1.15
Rev Exp	17.9	16.56	16.31	17.12	18.44	0.54	17.64	16.53	17.39	19.58	19.77	2.13
Interest Pay	1.01	1.03	1.13	1.16	1.13	0.12	1.23	1.26	0.73	0.8	0.59	-0.64
General	25.61	25.7	28.2	28.2	28.8	3.19	29.66	30.09	36.12	27.87	23.02	-0.2
Economic	30.93	30.31	28.89	27.55	26.08	-5.13	27.08	25.36	22.60	28.53	26.11	-0.4
social	41.91	42.4	41.1	42.7	43.9	1.99	41.86	43.17	40.07	42.56	49.90	8.1
committed Exp/T Exp	35.47	36.4	37.17	35.1	34.39	-1.08	35.64	33.2	28.22	25.72		0
Revenue D	3.08	2.36	3.03	2.84	0.45	-2.63	1.68	6.56	2.58	2.69	2.96	1.28
Fiscal D	-2.15	-2.39	-2.12	-2.04	-3.5	-1.35	-1.81	3.11	-2.02	-3	-3.5	-1.69
Primary D	-1.13	-1.36	-0.99	-0.87	-2.37	-1.24	-0.58	4.07	-1.29	-2.19	-2.9	-2.32
Debt/GSDP	15.83	15.82	16.77	16.38	17.26	1.43	19.34	14.66	11.7	12.4	13.56	-5.78
Capital O	5.2	4.7	4.79	4.71	3.8	-1.4	3.4	3.5	5.1	6.2		2.8

Source: various budget documents of state finance Odisha.

As presented in Table 2, this period is characterised by higher revenue mobilisation, rising capital expenditure, and sustained debt prudence, even amid significant macroeconomic shocks.

Revenue receipts exhibited volatility in the initial years following the restructuring of intergovernmental transfers under the 14th Finance Commission. Total revenue receipts declined from 20.98 per cent of GSDP in 2015–16 to 18.89 per cent in 2019–20. However, post-pandemic recovery led to a strong rebound, with revenue receipts rising to 22.78 per cent of GSDP by 2024–25. Notably, this improvement was driven primarily by own revenue mobilisation rather than central transfers.

Own revenue increased significantly from 9.50 per cent of GSDP in 2015–16 to 12.74 per cent in 2024–25. Within this, non-tax revenue—particularly mining royalties—emerged as a key driver of fiscal space creation, highlighting the growing importance of natural resource revenues in Odisha's fiscal architecture. In contrast, the relative share of central transfers declined, indicating reduced dependence on intergovernmental support.

Expenditure trends during this phase reflect expanding developmental responsibilities and counter-cyclical fiscal support during the COVID-19 pandemic. Revenue expenditure increased from 17.9 per cent to 19.77 per cent of GSDP, while social sector expenditure remained broadly increased more than 8%. Although general services expenditure witnessed some expansion, the ratio of committed expenditure to total expenditure declined substantially, enhancing expenditure flexibility and fiscal resilience.

A defining feature of this phase is the sustained increase in capital outlay. Capital expenditure rose from 5.2 per cent of GSDP in 2015–16 to over 6 per cent by 2023–24, signalling a decisive shift toward infrastructure-led and investment-driven growth. Unlike the earlier phase, fiscal space generated during this period was increasingly channelled toward capital formation rather than debt reduction.

Fiscal deficit outcomes remained broadly consistent with FRBM thresholds, with temporary deviations during the pandemic reflecting counter-cyclical policy responses. Importantly, the debt–GSDP ratio, after rising during the pandemic, declined sharply to 11.7 per cent in 2022–23 and remained well below the prudential limits prescribed by the 15th Finance Commission. Strategic reliance on low-cost borrowing, interest-free central loans, and public account balances further reinforced debt sustainability.

V. FRBM-LED FISCAL SUSTAINABILITY AND FISCAL RESILIENCE IN ODISHA

This section examines the impact of FRBM-led fiscal discipline on Odisha's fiscal sustainability and shock-absorption capacity using a combination of debt sustainability indicators and a Composite Shock Absorption Index (SAI). The analysis draws on evidence reported in Tables 3 to 8, covering the period 2005–06 to 2024–25, corresponding to the post-FRBM fiscal regime.

1. Impact of FRBM on Fiscal Sustainability

The impact of FRBM compliance on fiscal sustainability in Odisha is evaluated using standard debt sustainability indicators reported in Table 3, including the fiscal deficit–GSDP ratio, debt–GSDP ratio, primary balance, interest payment burden, and Domar debt dynamics condition. These indicators collectively assess whether fiscal policy remained compatible with intertemporal solvency under FRBM constraints.

Table. No. 3

Year	FD/ GSDP	Debt/ GSDP %	PB/ GSDP%	IP/ TRR	g (Gr GSDP%)	k (Gr DEBT%)	r (EIR)	pd	Debt Sustain able
2005-06	-0.32	42.84	-1.95	26.25	9.48	7.06	10.9	4.02	NO
2006-07	0.81	36.58	-1.29	17.68	19.68	2.18	8.65	3.94	YES
2007-08	1.02	28.09	-0.68	14.43	26.94	-2.52	8.62	3.48	YES
2008-09	-0.39	24.53	-1.56	11.74	14.87	0.33	7.95	1.55	YES
2009-10	-1.39	23.15	-2.52	11.52	9.73	3.57	8.21	0.48	YES
2010-11	-0.33	19.81	-1.40	9.20	21.22	3.73	7.97	1.22	YES
2011-12	0.27	16.71	-0.80	6.40	16.94	-1.40	6.63	1.38	YES
2012-13	0.00	14.51	-1.27	6.39	13.30	-1.58	7.33	1.07	YES
2013-14	-1.56	13.04	-2.42	5.90	13.29	1.81	7.54	-0.59	*
2014-15	-1.74	13.77	-3.08	4.93	6.00	11.92	6.86	-0.85	NO
2015-16	-2.15	15.83	-3.10	4.85	4.56	20.21	7.02	-1.13	NO
2016-17	-2.39	15.82	-3.21	5.43	19.54	19.45	7.07	-1.36	NO
2017-18	-2.13	16.77	-2.79	5.85	12.12	18.88	7.34	-0.99	NO

2018-19	-2.04	16.38	-2.89	5.83	13.22	10.57	7.46	-0.87	NO
2019-20	-3.50	17.26	-4.39	5.97	7.80	13.59	6.95	-2.37	NO
2020-21	-1.81	19.34	-3.65	6.36	0.49	12.59	6.74	-0.58	NO
2021-22	3.11	14.66	-0.11	4.14	22.72	-6.94	6.29	3.88	YES
2022-23	-2.02	11.71	-3.98	3.66	13.62	-9.30	5.94	-1.28	*
2023-24	-3.00	11.56	-5.34	3.62	10.57	17.13	7.03	-2.12	NO

Source: Calculated from the various Budget at a Glance, Finance Department of Odisha.

As shown in Table 3, the period from 2006–07 to 2012–13 marks a phase of strong fiscal consolidation. The fiscal deficit-GSDP ratio is declined and well below from FRBM target 3%, the debt–GSDP ratio declined sharply from 42.8 per cent in 2005–06 to 14.5 per cent by 2012–13, well below FRBM and Finance Commission thresholds (28% in 12th FC and 25% in rest of the periods). Simultaneously, interest payments as a share of revenue receipts (should less than 15% in 12th FC and less than 10% in rest of the period) fell from 26.3 per cent to below 7 per cent, indicating a substantial easing of fiscal stress. Importantly, debt sustainability was achieved despite the persistence of primary deficits, as the growth rate of GSDP consistently exceeded the effective interest rate, satisfying the Domar condition ($g > r > k$). This suggests that FRBM adherence facilitated growth-led fiscal adjustment rather than reliance on contractionary surplus generation.

From 2013–14 onwards, fiscal sustainability weakened as reflected in widening fiscal and primary deficits and adverse debt dynamics (Table 3). In several years, debt growth outpaced output growth, violating sustainability conditions and reversing earlier gains. The deterioration intensified during 2020–21, when the COVID-19 shock led to a sharp output contraction and expanded borrowing requirements. However, the swift restoration of favourable debt dynamics in 2021–22, characterised by renewed growth and declining debt ratios, underscores the credibility of the FRBM framework in enabling temporary deviations without entrenching fiscal instability.

Fiscal Resilience and Shock Absorption Capacity

Fiscal resilience under the FRBM regime is assessed using the Composite Shock Absorption Index (SAI), constructed from four sub-indices—Revenue Stability (RSI), Expenditure Flexibility (EFI), Debt Sustainability (DSI), and Fiscal Buffers (FBI)—reported in Tables 4 to 8. The SAI Fiscal resilience is emphasised by Baldacci, McHugh & Petrova (2011) and in this framework captures the state's capacity to absorb shocks, maintain fiscal stability, and recover without long-term deterioration. The methodology following by the study International Centre for Information System and Audit (ICISA,2004) is analogous to Human Development Index of UNDP. Each index is calculated using standard statistical or financial methods and normalized to allow comparability. The normalized values are then aggregated to form the composite Shock Absorption Index (SAI), which provides an overall measure of Odisha's resilience. Each indicator is first normalized on a 0–100 scale to ensure uniformity, using the formula: Normalized Value = (Actual - Minimum) / (Maximum - Minimum) × 100.

Revenue Stability Index (RSI)

The Revenue Stability Index (RSI) measures the predictability and consistency of Odisha's own-source revenues, which are central to fiscal autonomy and planning. The index is computed using the inverse of revenue volatility, defined as one minus the coefficient of variation of Own Tax Revenue and Own Non-Tax Revenue: $RSI = 1 - (\sigma/\mu) * 100$, where σ denotes the standard deviation and μ the mean of own revenues over the relevant period. Higher RSI values indicate lower revenue volatility. The index is normalised using the min–max method to obtain RSI_N on a 0–100 scale.

Table No. 4 (RSI)

Year	Own Revenue	SD	MEAN	RSI	RSI N
2005-06	6534.19	1425.032	3690.87	61.39034	2.279635
2006-07	8653.18	2128.457	4895.913	56.52584	-14.181
2007-08	9509.66	1531.726	6174.258	75.19175	48.98115
2008-09	11171.35	1929.653	8967.095	78.48073	60.11049
2009-10	12194.54	1597.724	10382.18	84.6109	80.85389
2010-11	15973.04	2740.518	12212.15	77.55908	56.99179
2011-12	19885.7	3966.348	14806.16	73.2115	42.28035
2012-13	23112.16	4737.364	17791.36	73.37267	42.82572
2013-14	25270.19	4049.412	21060.27	80.77227	67.86466
2014-15	27899.16	3392.421	24041.8	85.88949	85.18041
2015-16	31238.24	3503.382	26879.94	86.96656	88.82501
2016-17	30895.49	2805.026	28825.77	90.26903	100
2017-18	36312.29	3489.429	31586.3	88.95271	95.54581
2018-19	44594.86	6389.302	35760.22	82.13293	72.4689
2019-20	46962.38	7431.857	39691.26	81.27583	69.56862
2020-21	53776.2	7207.31	45411.43	84.12886	79.22277
2021-22	95004.73	23603.22	60084.54	60.71665	0
2022-23	89273.42	24388.2	71254.18	65.77296	17.10964
2023-24	107438.1	23015.99	86373.11	73.35282	42.75857

Source: Calculated from the various Budget at a Glance, Finance Department of Odisha.

The RSI (Table 4) indicates a steady improvement in revenue stability between 2005–06 and 2016–17, reflecting enhanced tax administration and revenue diversification under FRBM discipline. Revenue stability peaked during 2016–17, enabling predictable fiscal planning. However, Revenue volatility increased sharply during the pandemic years, leading to a temporary decline in RSI, but partial recovery in subsequent years suggests improving post-shock adjustment.

Expenditure Flexibility Index (EFI)

The Expenditure Flexibility Index (EFI) captures the government's ability to adjust spending in response to shocks. It is computed as the residual share of discretionary expenditure in total revenue expenditure: EFI = 1 - (Committed Expenditure / Total Revenue Expenditure). Committed expenditure includes salaries, pensions, and interest payments, which are largely non-discretionary. EFI is normalised using the min–max method to derive EFI_N

Table No. 5 (EFI)

Year	Committed exp	Rev Exp	Comitted/TR	EFI	EFI N
2005-06	9299.27	13603.52	0.683592923	0.316407	0
2006-07	9224.52	15772.02	0.584866111	0.415134	30.76892899
2007-08	10214.72	17723.27	0.57634511	0.423655	33.42456088
2008-09	12340.27	21190.12	0.582359609	0.41764	31.55009854
2009-10	15612.19	25291.6	0.617287558	0.382712	20.66454926
2010-11	17822.44	29367.95	0.60686701	0.393133	23.91218887
2011-12	18092.91	34660.24	0.522007638	0.477992	50.3592294
2012-13	19717.92	38237.56	0.515668887	0.484331	52.33474717
2013-14	21626.68	45617.75	0.474084759	0.525915	65.29474314
2014-15	24655.15	51135.74	0.482151036	0.517849	62.78082926
2015-16	28062.16	58805.71	0.477201279	0.522799	64.32345705
2016-17	31631.74	65040.53	0.486338903	0.513661	61.47564999
2017-18	36242.6	71837.3	0.504509496	0.495491	55.81265255
2018-19	39992.87	85356.41	0.468539738	0.53146	67.02288908
2019-20	43046.11	99137.3	0.434207004	0.565793	77.72293547
2020-21	44240.1	95310.85	0.464166462	0.535834	68.38585255
2021-22	51070.45	109587.5	0.46602424	0.533976	67.80686253
2022-23	50918.32	131006.1	0.388671278	0.611329	91.91447553
2023-24	59157.04	163089.4	0.362727637	0.637272	100

Source: Calculated from the various Budget at a Glance, Finance Department of Odisha.

The EFI (Table 5) displays a strong and sustained upward trend throughout the study period, indicating a gradual reduction in committed expenditures relative to total revenue expenditure. Notably, even during crisis years, expenditure flexibility remained relatively high, allowing for reprioritisation rather than abrupt fiscal compression. Among all components, EFI emerges as the most stable contributor to fiscal resilience.

Debt Sustainability Index (DSI)

The Debt Sustainability Index (DSI) assesses whether public debt dynamics are compatible with economic growth. It is computed as: DSI = 1 - (Debt Growth Rate / GSDP Growth Rate). A positive DSI implies that economic growth exceeds debt growth, indicating sustainable debt dynamics. The index is normalised using the min–max approach to obtain DSI_N.

Table No. 6 (DSI)

Year	g	r	DSI	DSI N
2005-06	9.477801	7.063691	0.254712	93.11233
2006-07	19.67543	2.175363	0.889438	95.52773
2007-08	26.93958	-2.51789	1.093464	96.30413
2008-09	14.86532	0.327526	0.977967	95.86462
2009-10	9.734597	3.567062	0.633569	94.55404
2010-11	21.22421	3.72878	0.824315	95.27991
2011-12	16.93768	-1.39904	1.082599	96.26279
2012-13	13.29642	-1.57875	1.118735	96.4003
2013-14	13.28812	1.80647	0.864054	95.43113
2014-15	5.995446	11.91515	-0.98737	88.38569
2015-16	4.550517	20.20635	-3.44045	79.05066
2016-17	19.55684	19.45139	0.005392	92.16356
2017-18	12.11571	18.87684	-0.55805	90.01943
2018-19	13.21904	10.57429	0.200072	92.9044
2019-20	7.799868	13.591	-0.74246	89.31764
2020-21	0.499161	12.58566	-24.2136	0
2021-22	28.75774	-6.93832	1.241268	96.86659
2022-23	8.735209	-9.30015	2.064674	100
2023-24	14.06505	9.239037	0.343121	93.44876

Source: Calculated from the various Budget at a Glance, Finance Department of Odisha.

The DSI (Table 6) remains positive for most years, confirming that Odisha's debt dynamics were largely compatible with economic growth under the FRBM regime. The sharp deterioration in 2020–21 reflects an exceptional cyclical shock rather than structural insolvency, as evidenced by the rapid post-pandemic recovery in DSI values.

Fiscal Buffer Index (FBI)

The Fiscal Buffer Index (FBI) measures the state's capacity for self-insurance against shocks. It is calculated as the ratio of primary revenue balance to total revenue receipts: FBI = (Primary Revenue Balance / Total Revenue Receipt) *100. Higher FBI values indicate stronger buffer availability. The index is normalised to derive FBI_N.

Table No. 7 (FBI)

Year	Rev Exp	IP	PRB	FBI	TRR	FBI N
2005-06	13603.52	3697.01	4178.2	29.66479	14084.71	83.92
2006-07	15772.02	3188.43	5449.03	30.21763	18032.62	86.09
2007-08	17723.27	3169.48	7413.4	33.7476	21967.19	100
2008-09	21190.12	2889.81	6309.7	25.63875	24610.01	68.05
2009-10	25291.6	3044.17	4182.78	15.82575	26430.21	29.40
2010-11	29367.95	3061.46	6969.67	20.94493	33276.16	49.56
2011-12	34660.24	2576.43	8183.21	20.32236	40267.02	47.11
2012-13	38237.56	2807.23	8506.58	19.3609	43936.91	43.33
2013-14	45617.75	2888.22	6217.32	12.70219	48946.85	17.09
2014-15	51135.74	2810.27	8672.41	15.21532	56997.88	26.99
2015-16	58805.71	3343.3	13479.03	19.55142	68941.44	44.07
2016-17	65040.53	4035.43	13294.29	17.89287	74299.39	37.54
2017-18	71837.3	4988.34	18355.33	21.54273	85204.29	51.92
2018-19	85356.41	5800.37	19990.08	20.08122	99546.12	46.16
2019-20	99137.3	6062.56	8493.01	8.361916	101567.8	0
2020-21	95310.85	6643.79	15720.18	15.05948	104387.2	26.38
2021-22	109587.5	6342.45	50380.86	32.7945	153626	96.24
2022-23	131006.1	5502.32	24958.53	16.58789	150462.3	32.40
2023-24	163089.4	5181.14	21684.97	12.07449	179593.3	14.62

Source: Calculated from the various Budget at a Glance, Finance Department of Odisha.

In contrast, the FBI (Table 7) reveals significant volatility and a declining long-term trend, indicating limited self-insurance capacity. Fiscal buffers eroded markedly during periods of stress, particularly in 2019–20 and 2020–21, and despite a sharp improvement in 2021–22, buffer rebuilding was not sustained.

Composite Shock Absorption Index (SAI): Overall Assessment

To assess Odisha's overall fiscal resilience, the individual indices—RSI, EFI, DSI, and FBI—are combined into a single measure called the Shock Absorption Index (SAI). This transformation ensures comparability across indicators with different units and scales. Once normalized, the SAI is calculated as the simple average of the four scores:

SAI = (RSI_N + EFI_N + DSI_N + FBI_N) / 4.

A higher SAI denotes stronger fiscal shock absorption capacity. This composite measure helps to benchmark the state's resilience over time and serving as an essential diagnostic tool for fiscal management.

Table No. 8 (SAI)

Year	RSI -N	EFI-N	DSI-N	FBI-N	SAI
2005-06	52.7456019	0	93.1123257	83.91688	57.4437
2006-07	35.3897755	30.768929	95.527726	86.09463	61.94526
2007-08	50.3329203	33.424561	96.3041338	100	70.0154
2008-09	60.1104794	31.550099	95.8646185	68.0574	63.89565
2009-10	80.8538811	20.664549	94.5540357	29.40176	56.36856
2010-11	56.9917796	23.912189	95.2799061	49.56738	56.43781
2011-12	42.2803425	50.359229	96.2627877	47.11492	59.00432
2012-13	42.8257155	52.334747	96.4003003	43.32749	58.72206
2013-14	67.8646532	65.294743	95.4311295	17.09731	61.42196
2014-15	85.1803973	62.780829	88.3856894	26.99712	65.83601
2015-16	88.8250001	64.323457	79.0506596	44.078	69.06928
2016-17	100	61.47565	92.163556	37.54458	72.79595
2017-18	95.5457972	55.812653	90.0194343	51.92223	73.32503
2018-19	72.4688853	67.022889	92.9043959	46.16503	69.6403
2019-20	69.5686092	77.722935	89.3176434	0	59.1523
2020-21	79.2227577	68.385853	0	26.38325	43.49796
2021-22	0	67.806863	96.8665897	96.24551	65.22974
2022-23	17.1096359	91.914476	99.9999984	32.40399	60.35703
2023-24	42.7585614	100	93.448759	14.62468	62.708

Source: Calculated from the various Budget at a Glance, Finance Department of Odisha.

The combined effect of these dimensions is reflected in the SAI (Table 8). Fiscal resilience strengthened during periods of stable growth and disciplined fiscal management, notably in 2007–08 and 2016–18, while declining sharply during the pandemic shock. Post-pandemic recovery improved resilience, but persistent buffer weakness continues to constrain long-term shock absorption capacity.

VI. FISCAL CONSOLIDATION THROUGH EXPENDITURE EFFICIENCY AND FISCAL SPACE CREATION IN ODISHA

This section addresses Research Question 3 by examining whether Odisha's fiscal consolidation from 2005–06 to 2024–25 was driven primarily by expenditure compression or by improvements in expenditure efficiency and fiscal space expansion.

1. Expenditure Efficiency and Fiscal Consolidation in Odisha

examine whether fiscal consolidation in Odisha has been achieved through expenditure compression or improvement in expenditure efficiency, this study relies on two complementary methodological tools: Incremental Capital–Output Ratio (ICOR) and the Expenditure Management Index (EMI), as presented in Table 9 and Table 10, respectively.

A. Table No. 9, Incremental Capital-Output Ratio (ICOR)

Higher development spending (as % of GSDP) is linked to lower GSDP growth So we must analyse efficiency of investment (ICOR - Incremental Capital Output Ratio = (GCF - Gross capital Formation/GSDP)/growth rate GSDP) to check how much growth each rupee of investment generates. A lower ICOR indicates higher efficiency, meaning less investment is required for growth, while a higher ICOR suggests inefficiency.

year	GCF	GSDP	GCF/GSDP	Yt(%)	ICOR
2005-06	7931.22	85096	9.32	9.47	0.98
2006-07	7922.08	101839	7.77	19.67	0.39
2007-08	14251.29	129274	11.02	26.93	0.41
2008-09	16303.24	148491	10.97	14.86	0.73
2009-10	25761.69	162946	15.80	9.73	1.62
2010-11	23820.82	197530	12.06	21.22	0.57
2011-12	33482.99	230987	14.49	16.93	0.85
2012-13	34203.12	261700	13.07	13.27	0.98
2013-14	30671.94	296475	10.34	13.28	0.77
2014-15	12897.94	314250	4.10	5.99	0.68
2015-16	16267.95	328590	4.95	4.56	1.08
2016-17	14977.96	392804	3.81	19.54	0.19
2017-18	12059.22	440395	2.73	12.11	0.22
2018-19	2108.53	498611	0.42	13.21	0.03
2019-20	22985.28	537502	4.27	7.80	0.54
2020-21	14677.56	540150	2.71	0.49	5.51
2021-22	46238.41	662886	6.97	22.72	0.30
2022-23	44939.37	753177	5.96	13.62	0.43

Source: Calculated from the various Budget at a Glance, Finance Department of Odisha.

Using the Incremental Capital–Output Ratio (ICOR) (Table 9), Odisha exhibited predominantly low ICOR values (<1) during 2006–08, 2010–14, 2016–19, and 2021–23, indicating productive and efficient capital investment supporting growth. Temporary spikes in ICOR during 2009–10 and 2020–21 coincided with exogenous shocks, underscoring transient inefficiencies rather than systemic compression.

B. Expenditure Management Index (EMI)

It is constructed with Relative Distance Methodology (as per ICISA, 2004) integrates three dimensions of expenditure quality—Interest Payment Index (IPI), Development Expenditure Index (DEI), and Capital Expenditure Index (CEI).

$$\boldsymbol{Deprivation\ Index\ (D) = Max\ (X) - X\ Max\ (X) - Min\ (X) \times 100 \ldots\ldots\ldots Eq\ (1)}$$

$$\boldsymbol{Improvement\ Index\ (I) = Y - Min\ (Y)\ Max\ (Y) - Min\ (Y) \times 100\ \ldots\ldots\ldots Eq\ (2)}$$

Where, X refers to the actual value of the indicator for a given state. Max (X) and Min (X) are maximum and minimum value of the particular indicator across the states in a specified period. Similarly, Y can be interpreted like X with the condition $X \neq Y$. The value of EMI will lie in 0 to 100 scale where 0 depicts worst performance and 100 implies the best performance. The final EMI is then derived as the simple arithmetic mean of the normalized IPI, DEI, and CEI values for each year.

Table. No.10, Expenditure Management Index (EMI)

Year	IP/TRR	DE/TE	CapEX/TE	IPI	DEI	CEI	EMI
2005-06	0.262	0.493	0.136	0.000	0.000	0.000	0.000
2006-07	0.177	0.499	0.185	37.867	2.264	31.424	23.852
2007-08	0.144	0.578	0.224	52.247	31.370	56.893	46.837
2008-09	0.117	0.662	0.213	64.119	62.275	49.633	58.676
2009-10	0.115	0.638	0.172	65.112	53.334	23.113	47.186
2010-11	0.092	0.651	0.185	75.356	58.357	31.841	55.185
2011-12	0.064	0.649	0.177	87.740	57.330	26.307	57.126
2012-13	0.064	0.644	0.191	87.781	55.735	35.362	59.626
2013-14	0.059	0.683	0.187	89.940	69.926	33.076	64.314
2014-15	0.049	0.697	0.233	94.229	75.170	62.669	77.356
2015-16	0.048	0.752	0.257	94.587	95.467	77.900	89.318
2016-17	0.054	0.753	0.252	92.015	95.702	74.589	87.435
2017-18	0.059	0.728	0.263	90.144	86.491	82.160	86.265
2018-19	0.058	0.726	0.251	90.267	85.760	74.169	83.399
2019-20	0.060	0.708	0.208	89.638	79.103	46.424	71.722
2020-21	0.064	0.667	0.232	87.890	64.153	61.974	71.339
2021-22	0.041	0.630	0.287	97.706	50.651	97.764	82.040
2022-23	0.037	0.629	0.274	99.858	50.132	89.051	79.680
2023-24	0.029	0.697	0.291	1.000	75.001	1.000	25.667

Source: Calculated from the various Budget at a Glance, Finance Department of Odisha.

The Expenditure Management Index (EMI) (Table 10) similarly improved steadily from 2006–07, peaking between 2014–15 and 2018–19, This improvement occurred through reduced interest burdens and increased developmental spending without a contraction in total expenditure, indicating a qualitative shift in expenditure composition rather than expenditure cuts. The decline in EMI post-2019–20 mainly reflects pandemic-related fiscal pressures rather than deliberate compression.

both ICOR and EMI results consistently demonstrate that Odisha's fiscal consolidation has been achieved mainly through improved expenditure efficiency and better expenditure management, rather than through curtailment of public spending. This efficiency-led consolidation has allowed the state to maintain growth momentum while strengthening fiscal sustainability. The next step is to analyse sectoral efficiency to assess how effectively public spending translates into developmental outcomes across key sectors.

C. Sectoral Efficiency of Public Expenditure in Odisha

Sectoral efficiency analysis evaluates how effectively public expenditure translates into measurable outcomes across key development sectors. Using outcome indicators normalised by sectoral expenditure, efficiency indices were constructed for the Health, Education, and Infrastructure sectors for the period 2005–06 to 2022–23 (Tables 11–5.4.13).

C.1. Health Sector Efficiency Table. No. 11

year	IMR	MMR	TFR	Health Exp	IMRI	MMRI	TFRI	Health Efficiency
2005-06	75	303	2.6	581.92	1	1	1	1
2006-07	73	303	2.45	698.96	0.806	0.829	0.777	0.804
2007-08	71	303	2.4	875.7	0.620	0.658	0.600	0.626
2008-09	69	258	2.4	1093.85	0.477	0.443	0.474	0.465
2009-10	65	258	2.4	1254.68	0.388	0.383	0.409	0.393
2010-11	61	258	2.3	1283.94	0.354	0.374	0.381	0.370
2011-12	57	235	2.2	1362	0.309	0.319	0.340	0.323
2012-13	53	235	2.1	1765	0.215	0.242	0.241	0.233
2013-14	51	235	2.1	1957	0.184	0.216	0.214	0.205
2014-15	49	222	2	3187	0.099	0.117	0.111	0.109
2015-16	46	180	2	3681	0.076	0.077	0.092	0.082
2016-17	44	168	2.1	4729	0.050	0.051	0.069	0.057
2017-18	41	150	1.9	4927	0.043	0.041	0.055	0.046
2018-19	40	136	1.9	5703	0.032	0.028	0.043	0.034
2019-20	30	136	1.8	6185	0.015	0.024	0.034	0.024
2020-21	36	119	1.8	7875	0.013	0.011	0.019	0.014
2021-22	36.3	119	1.8	10433	0.004	0.003	0.006	0.005
2022-23	36.3	119	1.8	12318	0	0	0	0

Author's calculation from the data Source: State finance document (2005–06 to 2024–25), RBI.

The Health Efficiency Index (Table 11), based on IMR, MMR, and TFR, shows a substantial improvement from 2005–06 to around 2013–14, reflecting effective utilisation of rising health expenditure. During this phase, increased spending was associated with sharp declines in mortality and fertility indicators. However, after 2014–15, efficiency gains slowed and eventually plateaued, despite a sharp rise in health expenditure. Post-2019–20, efficiency declined marginally, partly reflecting systemic capacity constraints and pandemic-related disruptions. This indicates diminishing marginal returns to health spending and the emergence of saturation effects.

C.2. Education Sector Efficiency: Table. No. 12

year	GER	NER	TPR	Education Exp	GERI	NERI	TPRI	EDU Efficiency
2005-06	92.25	78.58	40	2767.62	1	1	1	1
2006-07	90.98	82.06	39	3199.55	0.835	0.891	0.831	0.852
2007-08	96.66	84.23	37	3740.66	0.747	0.766	0.660	0.724
2008-09	97.48	92.72	33	4832.31	0.556	0.634	0.432	0.540
2009-10	98.04	91.83	32	5541.07	0.472	0.530	0.353	0.452
2010-11	99.6	93.27	32	6424.26	0.398	0.448	0.294	0.380
2011-12	99.69	93.61	30	6910	0.362	0.410	0.246	0.339
2012-13	99.96	93.85	28	7304	0.337	0.382	0.208	0.309
2013-14	99.2	93.09	35	8438	0.272	0.310	0.232	0.271
2014-15	92.69	91	25	10183	0.182	0.226	0.106	0.171
2015-16	91.67	88.42	24	11557	0.143	0.175	0.078	0.132
2016-17	92.47	88.47	23	12169	0.131	0.160	0.064	0.118
2017-18	93.3	91.9	28	14534	0.092	0.123	0.066	0.093
2018-19	100.7	86.9	27	17020	0.075	0.074	0.041	0.063
2019-20	92.3	86.9	25	17987	0.048	0.063	0.026	0.046
2020-21	92.26	83.06	24	17824	0.050	0.056	0.023	0.043
2021-22	97.9	82.5	25	19720	0.042	0.037	0.017	0.032
2022-23	93	81.3	26	25078	0	0	0	0

Author's calculation from the data Source: State finance document (2005–06 to 2024–25), RBI.

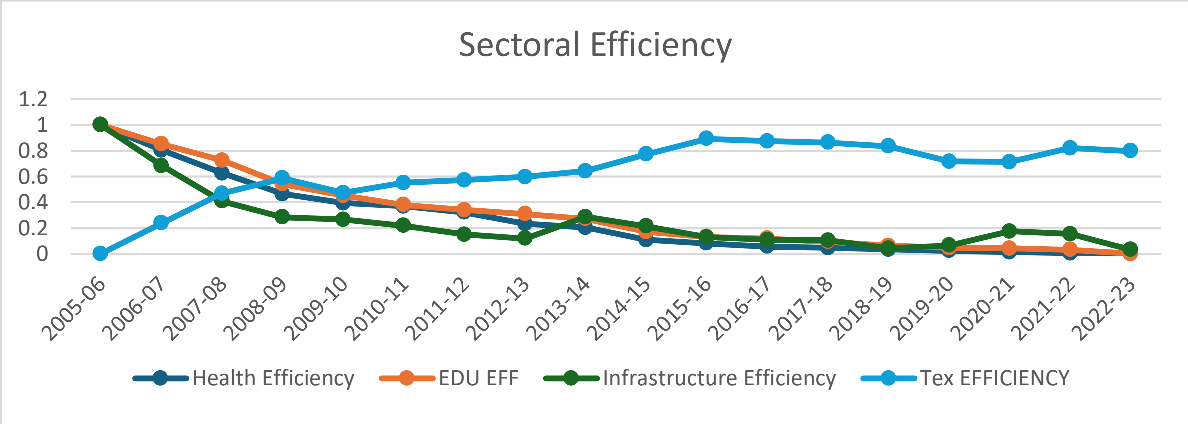
The Education Efficiency Index (Table 12), constructed using GER, NER, and Teacher–Pupil Ratio, exhibits a continuous decline over the study period. Although education expenditure increased nearly ninefold between 2005–06 and 2022–23, efficiency fell steadily from 1.0 to near zero. Initial improvements in enrolment were not sustained in later years, suggesting that higher spending failed to generate proportional improvements in educational outcomes. The results point to deep structural inefficiencies and highlight the limited effectiveness of expenditure expansion without governance and quality reforms.

C.3. Infrastructure Sector Efficiency: Table. No. 13

Year	LFPR	K.M of Road	No Bridge	Power Consumption	Economic Sec Exp	LFPR Index	KM Road Index	No Bridge Index	Power Consp Index	Infrastructure Efficiency
2005-06	66.6	18006.36	20	8144	2819.57	1	1	1	1	1
2006-07	65.2	18070.24	18	9288	3944.15	0.685	0.696	0.571	0.780	0.683
2007-08	54.8	18073.26	15	10761	5796.43	0.371	0.449	0.237	0.574	0.408
2008-09	53.06	18073.24	20	11747	8221.69	0.238	0.294	0.210	0.398	0.285
2009-10	53.5	18149.65	19	12228	8669.84	0.226	0.276	0.169	0.390	0.265
2010-11	53.2	18150.88	21	13099	10344.02	0.180	0.219	0.142	0.331	0.218
2011-12	53.5	18512.67	17	13054	12313.48	0.145	0.177	0.032	0.246	0.150
2012-13	55.2	19020.31	17	13552	14262.29	0.124	0.148	0.000	0.200	0.118
2013-14	56.4	20113.04	106	14213	17876.33	0.092	0.113	0.803	0.136	0.286
2014-15	53.2	21342.7	116	15440	23221.44	0.053	0.078	0.645	0.083	0.215
2015-16	53.2	23381.19	119	15923	31925.04	0.026	0.047	0.430	0.014	0.129
2016-17	48.3	25288.19	118	16343	34809.27	0.013	0.046	0.372	0.002	0.108
2017-18	51.7	27139.54	121	17984	37199.92	0.013	0.046	0.349	0.008	0.104
2018-19	51.2	30637.9	78	19370	41720.99	0.006	0.047	0.115	0.000	0.042
2019-20	55.3	30642.62	89	19728	39739	0.014	0.053	0.178	0.013	0.064
2020-21	56.5	31301.17	185	18606	38366.4	0.017	0.061	0.615	0.009	0.175
2021-22	55.8	22760	203	21434	43646.43	0.009	0.011	0.586	0.011	0.154
2022-23	61.3	25660	99	30449	56456.31	0.000	0.000	0.095	0.031	0.032

Author's calculation from the data Source: State finance document (2005–06 to 2024–25), RBI.

Infrastructure efficiency (Table 13), measured through labour force participation, road length, bridge construction, and power consumption, also displays a declining trend. While public investment in economic infrastructure expanded rapidly, efficiency deteriorated over time, falling sharply after 2013–14. Temporary improvements linked to bridge expansion were not sustained. By 2022–23, the infrastructure efficiency index dropped to 0.032, indicating severe diminishing returns and weak outcome responsiveness to expenditure growth.



Graph 03, Source: State finance documents (2005–06 to 2024–25), RBI.

Sectoral efficiency analysis (Graph No.3) demonstrates a rising trend in total expenditure efficiency (EMI) reflecting improved fiscal discipline and resource allocation, sectoral efficiency in key areas health, education and infrastructure sectors exhibited declining efficiency despite rising expenditure, highlighting the importance of institutional reforms alongside outcome-based expenditure management and fiscal space expansion.

D. Fiscal Space for Development Expenditure

Fiscal space is the government's capacity to increase development spending without risking fiscal stability. Heller, Peter S. (2005) In Odisha, high committed expenditures (salaries, pensions, interest) have limited investment in sectors like infrastructure, health, and education.

Table No. 14

Year	TRR	Net Borrowing	Net pub Account	grants	Committed exp	F Space	Dev Exp	Utilisation Ratio
2005-06	14084.7	1057.37	-596.09	4205.69	9299.27	9452.4	7763.31	0.821
2006-07	18032.6	195.15	-1099.26	3159.02	9224.52	11062.99	9656.86	0.873
2007-08	21967.2	-1338.07	-772.11	4611.02	10214.72	14253.32	13207.12	0.926
2008-09	24610	-340.95	460.4	5158.7	12340.27	17547.88	17822.54	1.015
2009-10	26430.2	161.44	2921.16	5717.02	15612.19	19617.63	19476.63	0.993
2010-11	33276.2	184.01	581.07	6806.25	17822.44	23025.09	23482.19	1.020
2011-12	40267	-974.01	-32.41	8152.2	18092.91	29319.87	27308	0.931
2012-13	43936.9	-1300.31	1722.25	6859.73	19717.92	31500.65	30444	0.966
2013-14	48946.9	-2.97	4837.4	8429.42	21626.68	40584.07	38323	0.944
2014-15	56997.9	3534.18	2346.22	12917.5	24655.15	51140.65	46474	0.908
2015-16	68941.4	6908.45	154.37	14129.46	28062.16	62071.52	59497	0.958
2016-17	74299.4	8261.38	1115.92	19639	31631.74	71683.96	65410	0.913
2017-18	85204.3	10171.39	-811.9	17619.94	36242.6	75941.13	70958	0.934
2018-19	99546.1	6062.91	4094.47	19597.53	39992.87	89308.14	82693	0.926
2019-20	101568	10185.11	7193.64	24152.1	43046.11	100052.74	88574	0.885
2020-21	104387	11065.5	-1108.96	28240.37	44240.1	98343.81	82791	0.842
2021-22	153059.44	-7018.3	-13779.82	16609.92	51070.45	97800.79	96961	0.991
2022-23	150462.34	-8580.04	23753.28	18199.6	50918.32	132916.86	113504	0.854
2023-24	179593.25	13981.76	6128.8	28988.33	59157.04	169535.1	160198	0.913

Calculated from the data Source: Budget at a Glance (2005–06 to 2024–25), Finance Department of Odisha.

This subsection addresses whether FRBM-led fiscal consolidation in Odisha generated adequate fiscal space for development expenditure. Table 14 indicates a substantial and sustained expansion of fiscal space ((Total revenue receipt + Net borrowing +Net public account + grants) – committed expenditure) over 2005–06 to 2023–24, driven by rising revenue receipts, grants, and a sharp reduction in committed expenditure. Fiscal space increased from ₹9,452 crore to ₹1,69,535 crore, while committed expenditure declined from 66 per cent to 31.89 per cent of total revenue (Table 2), significantly enhancing discretionary spending capacity. The utilisation ratio (development expenditure to fiscal space) varied—peaking above 1 in 2010–11 (indicating borrowing) and dipping during the COVID-19 pandemic, but recovering to 0.913 by 2023–24.

Table No. 15

Year	Dev Exp/Texp	FS/Texp	space for dev exp
2005-06	49.302	60.029	10.727
2006-07	49.917	57.185	7.268
2007-08	57.814	62.393	4.580
2008-09	66.199	65.178	-1.020
2009-10	63.773	64.235	0.462
2010-11	65.135	63.868	-1.268
2011-12	64.857	69.635	4.778
2012-13	64.424	66.660	2.236
2013-14	68.274	72.303	4.028
2014-15	69.697	76.696	6.999
2015-16	75.204	78.458	3.254
2016-17	75.268	82.488	7.220
2017-18	72.769	77.879	5.110
2018-19	72.571	78.376	5.805
2019-20	70.764	79.935	9.171
2020-21	66.708	79.240	12.532
2021-22	63.045	63.591	0.546
2022-23	62.904	73.662	10.758
2023-24	69.651	76.279	6.628

Calculated from the data Source: Budget at a Glance (2005–06 to 2024–25), Finance Department of Odisha.

Although development expenditure exceeded available fiscal space in 2008-09 and 2010-11, reflecting reliance on borrowing or reallocations, post-2011 trends show improved alignment between fiscal space and development spending. The temporary under-utilisation during the pandemic was followed by a strong rebound. Overall, the findings confirm that fiscal consolidation in Odisha not only ensured sustainability but also created durable fiscal space, enabling growth-oriented expenditure without undermining fiscal stability. Table 15 reveals development expenditure rising to 75.27% of total expenditure in 2016–17, with occasional overspending financed by borrowing. Since 2011–12, fiscal space and development spending have been better aligned, with near-optimal utilisation post-pandemic, indicating prudent fiscal management supporting development goals.

VI. RESULTS

Transition from Fiscal Stress to Sustainability:

1. Odisha's debt-to-GSDP ratio declined from 42.84% in 2005-06 to 11.56% in 2023-24, demonstrating significant fiscal consolidation.
2. Fiscal deficit remained mostly under the FRBM target of 3%, with surplus periods in 2006-07, 2011-13, and 2021-22, reflecting effective fiscal management.
3. The interest payment to revenue receipt ratio decreased from 26.25% (2005-06) to below 5% post-2015, easing the fiscal burden.

Impact of FRBM Compliance on Fiscal Sustainability and Resilience:

1. During 2006–07 to 2012–13, the primary balance was often negative, but debt remained sustainable due to growth-led fiscal correction (Domar condition met: $g > r > k$).
2. Post-2013, growth moderation led to weaker fiscal sustainability, with debt growth exceeding GSDP growth in some years, notably during the COVID-19 shock (2020-21).
3. Composite Shock Absorption Index (SAI) peaked around 2016-18 (~73) but sharply declined during 2020-21 to ~43, indicating cyclical fiscal vulnerability.
4. Fiscal buffers (FBI) declined from ~30% (mid-2000s) to below 12% (2023-24), highlighting a persistent weakness in shock absorption capacity.

Expenditure Efficiency, Fiscal Space and Sectoral Outcomes:

1. ICOR values remained mostly low and stable, implying effective capital expenditure impact on growth, except temporary rises during the 2008 global financial crisis and 2020 pandemic.
2. Expenditure Management Index rose steadily, supported by a decline in interest burden (IP/TRR reduced from 26.25% to ~5%) and growth in capital expenditure share.
3. Fiscal space expanded as committed expenditure share fell from ~68% (2005-06) to ~36% (2023-24), enabling increased development spending without violating fiscal discipline.
4. Despite overall fiscal efficiency improvements, sectoral efficiency in health, education, and infrastructure declined, indicating inefficiencies in converting fiscal gains into service improvements.

VII. DISCUSSION

Adherence to FRBM norms functioned as a credibility-enhancing institutional anchor, stabilising fiscal expectations and enabling debt consolidation through favourable growth–interest differentials. Debt sustainability during much of the post-FRBM period was therefore growth-led rather than surplus-driven, consistent with theoretical and empirical evidence that high output growth can stabilise debt even in the presence of moderate primary deficits. The post-pandemic recovery further illustrates those temporary deviations from FRBM targets did not undermine solvency, underscoring the flexibility of credible fiscal rules.

Yet, the sustainability of this growth-led consolidation critically depends on how fiscal space is deployed across sectors. Odisha's expanding fiscal space—supported by declining interest payments and buoyant own-source revenues, particularly from mining—allowed a significant increase in capital outlay. Aggregate efficiency indicators, including declining ICOR, suggest that public investment has contributed positively to output growth. This implies that recent debt accumulation is increasingly development-driven, rather than symptomatic of fiscal stress.

At the sectoral level, however, efficiency outcomes diverge sharply. Infrastructure-oriented spending—particularly in roads, irrigation, and power—has exhibited relatively high output responsiveness, reinforcing growth and revenue buoyancy. In contrast, social sector outcomes lag behind expenditure growth, indicating weaker expenditure efficiency. Health indicators such as IMR and MMR improved only gradually despite rising health expenditure, while education outcomes show limited gains in learning quality relative to spending increases. These patterns suggest diminishing marginal returns to social sector spending, driven by governance bottlenecks, uneven service delivery, and capacity constraints.

This sectoral imbalance has important fiscal implications. While productive capital expenditure strengthens debt sustainability through higher growth, inefficient social spending weakens the long-term revenue base by constraining human capital formation. Consequently, Odisha's growth trajectory remains vulnerable to sectoral inefficiencies that reduce the economy's potential growth rate, thereby narrowing the margin by which growth exceeds interest costs. In this sense, sectoral inefficiency emerges as a latent risk to fiscal sustainability, even when headline fiscal indicators remain strong.

The fiscal resilience analysis reinforces this concern. Despite strong debt sustainability and expenditure flexibility, weak and volatile fiscal buffers limit the state's capacity to absorb shocks. Inefficiencies in social sector spending exacerbate this vulnerability by reducing the stabilising role of human capital during downturns. Thus, while FRBM compliance has ensured discipline, it has not automatically translated into balanced sectoral outcomes or robust shock absorption.

Overall, the findings suggest that FRBM norms is a necessary but insufficient condition for durable fiscal sustainability. Long-term stability requires not only fiscal discipline and growth-led debt management, but also sectoral, efficient allocation of fiscal space, particularly toward productivity-enhancing social investments. Strengthening governance and efficiency in health and education is therefore critical—not only for inclusive development, but also for sustaining growth, expanding fiscal space, and maintaining debt sustainability over the long run.

VIII. CONCLUSION

This study shows that Odisha's transition from fiscal stress to fiscal sustainability was achieved through a combination of FRBM-based fiscal discipline, growth-led debt correction, and expanding fiscal space rather than persistent expenditure compression. Improved expenditure efficiency and effective deployment of capital outlays supported economic growth while maintaining debt sustainability. However, declining sectoral outcome efficiency and limited fiscal buffers reveal important limitations of the consolidation process. The central contribution of the paper lies in demonstrating that while rule-based fiscal governance is necessary for restoring fiscal health, sustaining long-term growth and resilience requires a decisive shift toward outcome-oriented spending and stronger fiscal buffers. Odisha's experience thus offers important lessons for sub-national fiscal management in balancing discipline, efficiency, and development.

Limitations:

This study does not explicitly account for agricultural sector dynamics or contingent liabilities such as guarantees and off-budget risks, which may influence fiscal sustainability. Incorporating these dimensions could provide a more comprehensive assessment of Odisha's underlying fiscal risks.

Policy Implications:

1. Strengthen Fiscal Buffers: Prioritise buffer accumulation through stabilisation funds and counter-cyclical savings to enhance shock-absorption capacity.
2. Protect Growth-Enhancing Capital Expenditure: Maintain investment-led consolidation by safeguarding infrastructure spending even during downturns.
3. Improve Sectoral Spending Efficiency: Shift focus from aggregate expenditure control to outcome-based budgeting in health, education, and infrastructure.
4. Deepen Revenue Diversification: Reduce dependence on mining revenues by broadening the tax base and improving non-tax revenue mobilisation.
5. Integrate Fiscal Space into FRBM Design: Reform FRBM rules to explicitly recognise fiscal space and resilience objectives alongside deficit targets.

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