



From Nirbhar to Atmanirbhar: A Comparative Assessment of Outsourced Municipal Revenue Sharing Model and its Impact on EBIDA Growth and Operating Surplus in Jharkhand's Cities

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Abstract: The primary challenge for any state is to enhance governance by harnessing the potential of municipal management and adopting best practices. The Urban Development and Housing Department (UD&HD) of the Government of Jharkhand (GoJ) initially confronted this challenge to make cities self-sufficient and drivers of growth towards Atmanirbharata. To tackle this, GoJ introduced a municipal revenue-sharing model in partnership with a Project Management Unit (PMU) at the state level. This paper assesses the impact of interventions by the Urban Development & Housing Department (UD&HD) to enhance the Atmanirbharata of Jharkhand's cities and their access to capital markets. The focus is on enabling these cities to fully cover their revenue expenses through self-generated operational income, leading to positive operating surpluses and Earnings Before Interest, Depreciation, and Amortisation (EBIDA). Sample data from the income and expenditure of 49 cities of Jharkhand classified among two categories as corporations and municipalities including Municipal Council and Nagar panchayat from 2016-17 to 2023-24 have been utilised to assess operating surpluses and EBIDA. Additionally, percentage change is analysed for financial statements to evaluate the impact of these interventions on trends in self-generated operational income and revenue expenses. Examining the financial statements and reports from the 15th and 16th Finance Commissions indicates that the outsourcing model has contributed to an increase in the cities' own revenue in Jharkhand, resulting in an improved operating surplus. This growth is due to the outsourcing of revenue assessment and collection, which has had a positive impact on EBIDA and operating surplus, thereby enhancing the interest coverage ratio. The study offers significant theoretical and managerial policy implications with discussions on the challenges faced, limitations of the study and directions for future research.

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Introduction

India's urban population residing in towns stood at 377 million (31%) as per census of 2011. This figure is expected to increase multi-fold by the year 2050. Urban India contributed 63% to the nation's GDP in 2011, a share projected to surpass 80% by 2050. This rapid urbanization presents a significant opportunity for India to drive economic transformation and growth. However, it also poses a major challenge to civic infrastructure and services including sanitation, water supply, sewage, housing,

electricity, and public transport.¹The growing demand for infrastructure services must be addressed by local governments as they are responsible for managing issues at the city level.

Indian cities were devolved with additional functions as per the 74th Constitutional Amendment Act (CAA) where effective service delivery like better roads, streetlights, sanitation systems etc. is expected from Indian cities. Capital Investments for better infrastructure require huge funds for which Indian cities are still dependent on external grants or borrowings. The India Infrastructure Report 2023 emphasised the financial sustainability of cities i.e. Atmanirbharata and the efficacy of municipal bonds as potent financing instruments as it is projected that in the next two decades to match the rapid increase in urban population, it will require a trillion-capital investment. Thus, to meet the increased population demand for improved infrastructure, sustainable economic expansion and structural transformation are expected to take place in the future (Sivaramakrishnan, 2015). This increased infrastructure would require a lot of expenditure on its maintenance which needs to be met by cities from their self-generated operational income. (Awasthi et al., 2021). To achieve this, cities need strong financial resource base from self-generated sources, ensuring they are not dependent on grants from the central or state governments or on external borrowing, at least to cover their revenue expenses. According to the RBI report, municipal revenue in India constitutes approximately 1% of GDP, whereas in emerging economies such as Brazil and South Africa, it ranges between 6% and 8%.

Due to limited self-generated operational income, Indian cities are largely dependent on grants from the Central and State governments to meet their revenue expenditure needs. (Reserve Bank of India, 2022). Therefore, Indian cities need to achieve positive operating surpluses to sustain themselves in the future and ensure effective service delivery.

At the recently concluded Chintan Shivir organized by the Ministry of Housing & Urban Affairs (MoHUA), cities were envisioned to evolve from engines of growth into economic powerhouses. This transformation requires cities to be Atmanirbhar i.e. strong financial resilience, enabling them to cover their expenses through their self-generated operational income. This highlights the need for technical support, which can serve as a bridge between the central and state governments and cities.

The prime challenge that any State faces to is make governance robust to bring in necessary changes by tapping the untapped potential of its Municipal governance in line with best practices. The Government of India (GoI) has previously estimated that the deficit in urban infrastructure financing is 80% of the total needs. To address this shortfall, the GoI has highlighted the potential for bridging the gap through private financing, including municipal borrowing and public-private partnerships (PPPs). (Athar et al., 2022). In addition to revenue policy, the performance of cities in collecting and mobilising revenue from their designated sources regardless of the decisions made on rates and levels affects the size of their operating surpluses available for future financing (Athar et al., 2022). A similar challenge was faced by the Urban Development and Housing Department (UD&HD), Government of Jharkhand (GoJ) initially. In response, the Government of Jharkhand introduced a public-private partnerships (PPPs) and outsourced municipal revenue-sharing model in collaboration with a Project Management Unit (PMU) at the state level.² This initiative aims to ensure that cities achieve operating surpluses in the coming years, ultimately leading to a surplus position for the state (Kumar & Goel, 2023.). This approach is intended to reduce cities'³ reliance on government grants and transfers by increasing revenue commitments.

This paper aims to evaluate the strengthening of Atmanirbharata in the cities of Jharkhand through an outsourced municipal revenue-sharing model, which leads to positive EBIDA and operating surpluses against the following two objectives:

- **Objective 1:** To assess impact of the outsourced revenue-sharing model on the EBIDA and operating surplus and self-reliance (Atmanirbharata) of cities of varying population sizes.
- **Objective 2:** To evaluate the ability of cities in Jharkhand Grouped as Corporations and others as collectively referred to as Municipalities covering Municipal Council and nagar panchayats in handling their debt responsibilities by using the interest coverage ratio.

The rest of the article is structured as follows: Section 2 covers recent literature review along with the theoretical background and research hypotheses. Section 3 outlines the sampling methods, data

¹ Municipal Performance Index 2019, Ministry of Housing and Urban Affairs

² 15th Finance Commission Report

³ The terms city, Urban local bodies, and Municipalities are used interchangeably in this paper

collection process and data analysis techniques. Section 4 presents the empirical findings and analysis for the state, followed by the conclusion in Section 5. It also covers major policy implications along with limitations of the study.

Literature review

A literature review was conducted to study relevant studies on municipal finance from 2016 to 2024 as the outsourced revenue sharing model was implemented from 2017-18 onwards. 34 publications were reviewed though none of the publications was India-specific based on revenue sharing model impact on EBIDA and Operating surplus indicating that these are innovative new concepts. Additionally, government reports and other references on municipal finance were included to develop comprehensive hypotheses.

Atmanirbhar as defined by Kumar and Goel (2023), refers to the capability of a municipal body to generate sufficient surplus to cover its expenses i.e. operating surplus. Similarly, Bhargava and Goel (2008) emphasized that financial sustainability is the capacity to generate enough revenue to survive. Therefore, a positive operating surplus with consistent growth indicates that cities are progressing towards self-reliance (Atmanirbhar cities). In India, municipal corporations are heavily dependent on property taxes which restricts the exploration of alternative revenue sources (RBI Report on Municipal Finances, 2022). This over-dependence on property tax limits financial autonomy. It is evident that effective financial management is required for assessing the reliability and performance of local governments. Thus, financial ratio analysis is a widely used method for assessing an organization's financial health (Brown, 1993; Rivenbark, Roenigk, & Allison, 2010). Annual Financial Statements (AFS), in accordance with the National Municipal Accounting Manual (NMAM) and State Municipal Accounting Manual (SMAM), provide the essential data for such analyses (P. Goel, 2023). It is important to diversify revenue sources for enhancing fiscal sustainability. Ali and Kalim (2020) suggested that outsourcing can be used to improve organizational performance, while Ahadi and Esmaili (2019) found that diversification of revenue and community engagement can improve financial sustainability of small municipalities.

Various other studies provide insights into challenges associated with municipal finance. In India, the Government of Jharkhand's Public-Private Partnership (PPP)-based revenue-sharing model, supported by Project Management Units (PMUs), are highlighted as a successful approach to addressing property tax collection issues and staff shortages (P. Goel, 2024). Comparatively, ULBs in Jharkhand rely on 91% of their revenues from transfers, whereas West Bengal achieves a 37% ratio from their own revenues, indicating a stark contrast in financial autonomy (Bandyopadhyay, 2011).

ULBs in India are burdened with managing extensive urban infrastructure demands, estimated at Rs. 39.2 lakh crores for 2011-2031 (Bandyopadhyay, 2011). Despite fiscal transfers, their own-source revenues remain insufficient to meet these obligations (A Toolkit for Property Tax Reforms, 2020). It is observed that none of the above studies focused on EBIDA in the context of local governments especially in India as local governments are exempt from paying taxes.

This paper aims to present income and expenditure statements by separating EBIDA and operating surplus from revenue grants. The objective is to evaluate the self-generating capacity of cities, a concept that has not yet been advocated even by the National Municipal Accounts Manual (NMAM) in Indian cities. The study also analyses the impact of revenue-generating interventions of outsourcing on EBIDA and operating surplus by examining income and expenditure patterns.

- **Conceptual Framework and Research Hypotheses**

The framework assesses the impact of revenue-generating interventions of outsourcing by the Government of Jharkhand (GoJ) in achieving a positive municipal finance status through EBIDA and operating surplus analysis. The concept of "sustainable" municipal finance pertains to the efforts made by cities to ensure that their revenue receipts exceed their revenue expenditures, thereby generating a surplus and minimizing reliance on grants and transfers. Additionally, the financial sustainability concept refers to an organisation ability to cover all its costs through income generated from its operations (Kinde, B. A. 2012) without depending on external support, such as subsidies. A sustainable operating surplus indicates a positive internal revenue surplus, as illustrated below in Figure 1.

Sustainable Municipal Finance- Positive Own Municipal Finances surplus

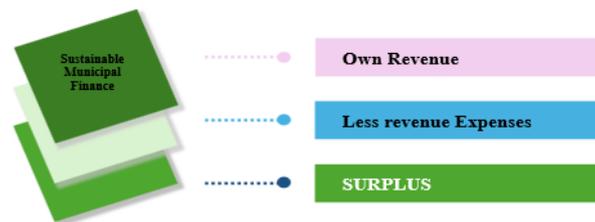


Figure 1: Concept of sustainable Operating surplus

Key parameters for assessing debt servicing capacity based on Income and Expenditure Statements include the Interest Coverage Ratio (EBIDA/Interest) which shall be greater than one. This ratio is required for disclosure under Chapter 31 of the NMAM, but many cities fail to report them due to outdated financial reporting formats that do not accommodate EBIDA calculations. Overall, debt servicing for municipal bonds is crucial for financing city infrastructure development.

Based on the above literature and municipal finance common concepts, the following hypotheses are proposed to investigate the impact of outsourcing of revenue-raising models on the financial performance of the cities of Jharkhand during 2016-17 and 2023-24.

Null Hypotheses (H₀)

- The outsourced revenue-raising model of Jharkhand cities does not have a significant impact on their post-EBIDA and their post-Operating surplus.
- The average interest coverage ratio is not more than 1.

Research Methods

The sample, data collection methods and data analysis techniques utilised in this study are discussed in this section. A purposive sampling technique (Harrison, 2015) is used to select Jharkhand as sample state and its cities. Jharkhand is also highlighted by the 15th Finance Commission report for best practices in revenue augmentation due to its exemplary property tax practices and overall ease of living. So, the final sample comprises 49 cities across the state, categorized into 10 Municipal Corporations, 19 Municipal Councils, and 20 Nagar Panchayats. Although Jamshedpur is not officially notified and therefore property tax is not collected there, it was classified as a Municipal Corporation due to its population size. Data spanning six years, from 2016-17 to 2023-24 were analysed, with 2016-17 marking the beginning of the state's reform era.

To compare the pre- and post-impact of state interventions, trend analysis was conducted analyzing financial data from 2016-17 along with data from 2023-24. The data analysed in this study has been compiled from the Income and Expenditure Statements of cities available on the city finance portal. According to the National Municipal Accounts Manual (NMAM), these statements detail total revenue receipts including self-generated operating revenue as well as revenue grants and transfers and revenue payments for the current year compared to the previous year. The analysis encompasses codes 110 to 180, which represent four main sources: Tax Revenue (Code 110), Assigned Revenue (shared revenue from the state to Urban Local Bodies; Code 120), Non-Tax Revenue (including fees, user charges, and other income; Codes 130, 140, 150, 170, 171, and 180), and Net Revenue Grants received from the Central and State Governments to cover the revenue expenses of cities (Codes 160 and 260). Additionally, Codes 210 to 250 and 271 indicate the revenue expenses of cities funded by their self-generated operating revenue, while Codes 270/272 represent non-cash expenses incurred by the cities.

The results of Descriptive statistics including mean, standard deviation, skewness and kurtosis, were calculated using SPSS 27.0 (Statistical Package for the Social Sciences). Further, financial statement analysis was used to see the impact of growth in own revenue evidence by 15th and 16th finance commission reports. Kolmogorov-Smirnov (K-S), and Shapiro-Wilk tests were applied to evaluate the variability and normality of the data. The interest coverage ratio is calculated to assess the debt servicing capacity of each category of municipality and the state as a whole, using the EBIDA approach.

Data Analysis and Findings

The Section attempts to assess the impact of the outsourced revenue-sharing model with the Project Management Unit (PMU) on the EBIDA and operating surplus and to examine cities' debt servicing through positive Earnings before Interest, Depreciation, and Amortization (EBIDA), resulting from outsourced revenue model by the Government of Jharkhand (GoJ). This has been analyzed below in Table 1.

Table 1: Suggested Financial Reporting Format for Income and Expenditure Statement through EBIDA Approach (Rs in Crores)

Population (2011 Census)		6407375 (100%)			4608102 (72%)			17,99,273 (28%)		
		State (49 Cities) (Col 1=1.1+1.2)			Corporations (10 Cities) (Col 1.1)			Municipality (39 Cities) (Col 1.2)		
Revenue		FY17 (Pre)	FY24 (Post)	CAGR	FY17 (Pre)	FY24 (Post)	CAGR	FY17 (Pre)	FY24 (Post)	CAGR
1	Tax Revenue	92.31	219.89	11%	73.08	170.97	11%	19.23	48.92	12%
2	Non-Tax Revenue	131.72	206.92	6%	104.91	153.65	5%	26.81	53.27	9%
A	Total Own Revenue:(1+2)	224.03	426.82	8%	177.99	324.62	8%	46.04	102.19	10%
3	Grants and Transfers (Net)	96.08	372.94	18%	53.38	231.52	20%	42.7	141.43	16%
B	Total Revenue receipts(A+3)	320.11	799.76	12%1	231.36	556.14	12%	88.74	243.62	13%
EXPENDITURE										
4	Establishment Expenses	100.94	202.12	9%	76.58	143.98	8%	24.36	58.13	11%
5	operation & Maintenance	40.05	108.19	13%	32.70	95.72	14%	7.36	12.47	7%
6	Other Revenue expenses	32.95	43.56	4%	26.42	26.00	0%	6.52	17.55	13%
C	Revenue Expenses before Finance charge like interest etc:(4+5+6)	173.94	353.86	9%	135.70	265.71	9%	38.24	88.15	11%
D	EBIDA: A-C	50.10	72.96	5%	42.28	58.91	4%	7.8	12.36	13%
E	Finance Charge	33.89	54.32	6%	25.90	36.79	4%	7.99	17.54	10%
	Surplus/Deficit (D-E)	16.20	18.63	2%	16.38	22.12	4%	-0.19	-5.18	13%
	Interest Coverage Ratio	1.48	1.34		1.63	1.60		0.98	0.70	1.48

Source: Annual financial statements of 49 Cities uploaded on the city finance portal; Secondary research, Authors' analysis

Notation:

- EBIDA-Earning before interest, depreciation and amortisation
- Net Grant=Revenue Grants received Code 160 of NMAM less revenue Grants spent Code 260

The transition from the pre- to post-intervention period shows a significant improvement in both EBIDA and operating surplus, indicating that the revenue-raising model or intervention has positively impacted the financial health of the municipalities. From table 1, it is evident that outsourcing model has improved EBIDA (5%) and operating surplus (2%) in case of Jharkhand state. It is interesting to note that major contribution (13%) has come from smaller municipalities in the state. It can be inferred that smaller municipalities need more capacity building specially in a scenario where they have scarcity of staff

Table 2: Descriptive Analysis

Rs in Lakhs	N	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
EBIDA-Pre (FY 2016-17)	49	-36.10	382.82	-0.168	.340	7.766	.668
EBIDA-Post (FY 2023-24)	49	148.89	632.29	5.812	.340	37.843	.668
OS-Pre (FY 2016-17)	49	-105.27	478.70	-1.098	.340	6.036	.668
OS-Post (FY 2023-24)	49	38.02	544.56	4.585	.340	28.419	.668

Table 2 highlights increase in the mean values of EBIDA and own source revenues. These developments have brought stability to the assessment and collection systems of cities, fostering a transition from dependency (nirbhar) to self-reliance (atmanirbhar) for municipalities. However, an increase in standard deviation in EBIDA as well as own source revenue suggest variation across municipalities.

The Kolmogorov-Smirnov and Shapiro-Wilk statistics are highly significant (.000), with p-values (Sig.) falling below 0.05. This indicates that the distributions of Operating Surplus and EBIDA deviate significantly from normality. This is logically consistent, as larger cities generally have higher Operating Surplus and EBIDA compared to smaller municipalities and panchayats, making it improbable for city data to be normally distributed. The results concerning skewness and kurtosis further support this conclusion. Therefore, non-parametric tests will be utilised in this analysis.

Hypotheses Testing

H₀₁ : The outsourced revenue-raising model of cities does not have a significant impact on their post EBIDA and operating surplus

The Mann-Whitney U Test is used to determine if the outsourced revenue-raising strategy implemented by Jharkhand cities significantly affects their post-EBIDA and operating surplus performance as data set is not normal. The analysis was conducted on a sample of 98 observations.

The test yielded a Mann-Whitney U value of 1555.000, with a standardized test statistic (Z) of 2.519 and an asymptotic significance (two-tailed) value of 0.012. Given that the p-value (0.012) is below the standard significance level of 0.05, the null hypothesis of no difference between the groups is rejected. This suggests a statistically significant difference in post-EBIDA results between cities that use outsourced revenue-raising methods and those that do not. The statistical evidence indicates that the outsourced revenue-mobilization model is linked to enhanced financial outcomes in terms of EBIDA. This conclusion aligns with the trend shown in Table 1, which reveals that the state's EBIDA rose from Rs 50 crore to Rs 72 crore during the period studied. Collectively, these findings support the notion that structured outsourcing of revenue functions has positively impacted municipal operating performance

Further, Mann-Whitney U Test is used to assess whether Jharkhand cities that has outsource revenue-raising have a different operating surplus. The test gave a U value of 1328.000, a Z score of 0.906, and a p-value of 0.365. Since the p-value is more than 0.05, we cannot reject the null hypothesis. This means there is no significant difference in operating surplus between cities that outsource and those that do not. The results suggest that outsourcing might increase revenue in some cases, but it does not always lead to a higher operating surplus. This matches what is shown in Table 1, where the state's operating surplus only went up slightly from Rs 16 crore to Rs 18 crore. The small increase is mainly because of higher spending and ongoing deficits in many towns. In Jharkhand, deficits in 39 towns have reduced the surplus made by municipal corporations, lowering the overall effect on the state's operating surplus.

H₀₂: The average interest coverage ratio is not equal to 1.

Based on the financial statement analysis, this hypothesis is accurate for 39 cities, however, the average interest coverage ratio for 49 cities is 3.9, while the state-wide average is 1.34, and for corporations, it stands at 1.60. However, for smaller municipalities, including councils and panchayats, the ratio is less than 1. This is not particularly concerning, as municipal bonds in India are primarily issued by larger corporations. Therefore, Jharkhand can consider accessing capital markets through its larger corporations, which are better positioned for such initiatives.

The Wilcoxon Signed-Rank Test was applied to test if the average interest coverage ratio of 49 Jharkhand cities is different from 1. The test result showed a statistic of 762.000, a Z value of 1.487, and a p-value of 0.137. Since the p-value is higher than 0.05, we cannot say there is a significant difference. This means the average interest coverage ratio is about 1. The cities' earnings are roughly equal to their interest payments during the time studied.

Conclusion

The objective of this study is to evaluate the impact of the outsourced revenue-sharing model, implemented by the Project Management Unit (PMU), on Earnings before Interest, Depreciation, and Amortization (EBIDA) and an operating surplus in Jharkhand's 49 cities categorised among corporations and municipalities for the period from 2016-17 to 2023-24. It also seeks to explore the potential for cities

to service their debt through positive EBIDA, generated by this outsourced revenue model. The data shows a significant increase in both tax and non-tax revenues across state cities, corporations, and municipalities. The outsourced revenue-raising model has resulted in growth across various financial indicators. State revenues grew by 8%, while municipalities saw a 10% growth. There was moderate growth in EBIDA, with municipalities showing a 13% increase, indicating better fiscal management but insufficient for operating surpluses. The positive EBIDA ensures that larger city corporations can manage their debt, as reflected in an interest coverage ratio exceeding 1. This opens the door for capital market access through pooled funds.

The findings suggest that the median ICR across cities in the study is likely to be around 1 and larger corporations in Jharkhand can be positioned to leverage capital market opportunities more effectively. Larger corporations, which have stronger financial metrics (higher ICR), are better suited to access capital markets. This is significant since most municipal bonds in India are issued by larger corporations, not smaller municipalities.

The 15th Finance Commission, in its report titled "Empowering Local Government," has recognized the success of Jharkhand's Public-Private Partnership (PPP) model noting its role in enhancing local revenue. Similarly, the 16th Finance Commission, in a study report by The World Bank titled "Incentivizing Transition of Census Towns to Statutory Towns" has praised the PPP model as a key factor in the Financial Management (FM) and Revenue Enhancement of newly formed Urban Local Bodies (ULBs).

Jharkhand engaged three tax collection agencies to evaluate and collect property tax, water user charges and trade licenses, resulting in an increase in its revenue from Rs 224 crore to Rs 426 crore over the study period. This revenue growth significantly contributed to the operating surplus as the increase in revenue surpassed the rise in expenditures leading to an improved operating surplus. The PPP-based model has evidently benefited the cities in Jharkhand, encouraging other states such as Patna, Jaipur and Alwar to adopt similar strategies. This shows that own revenue is key factor supported by PPP based outsource model as one of main factor to augment operating surplus.

The Government of Jharkhand (GoJ) should disseminate these successful practices to other states and cities, enabling them to replicate the model, boost internal revenue generation, and more effectively address staff-related challenges in revenue departments. This could also enhance service delivery and grievance handling for citizens. MoHUA should promote these reforms by organizing seminars, workshops, and publishing best practice guides, ensuring other states and cities can learn from Jharkhand's success. It is suggested to modify NMAM and unify financial ratio indicators across municipalities to improve financial analysis and reporting. Motivate municipalities to engage in revenue-sharing with PMUs to boost their financial independence. To Promote the success of financial reforms in Jharkhand to inspire similar efforts in other states and cities.

The current study has several limitations. Firstly, it relies on a purposive sampling method restricted to Jharkhand and its cities, which means the findings cannot be generalized to a national level. Future research could investigate other cities, such as Bhopal, Jaipur, Patna, and Akola and conduct comparative analyses among cities that have implemented revenue-sharing models. The study is based on secondary data from the income and expenditure statements of the cities. Future studies could utilize both primary and secondary data to assess the impact of the revenue-sharing model on Atmanirbharata from the citizens' perspective. This mixed-methods approach will also offer a comprehensive understanding.

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