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Municipal Expenditures in India: An Assessment

Swati Raju[1*]

[1*]Mumbai School of Economics & Public Policy, University of Mumbai Email:swatiraju1@gmail.com

Abstract

The fast pace of urbanization in India has created a massive demand for civic services and infrastructure which is provided by Urban Local Bodies (ULBs). The size of municipal governments in the country is very small and total expenditure are a mere 1.2 - 1.4 percent of GDP. An analysis of expenditure through two ratios – capital to total expenditure and revenue to capital expenditure provide insights to the nature and quality of municipal expenditure in 22 States for the span 2019-20 to 2022-23. The findings show revenue expenditure constitutes a greater percentage as capital expenditure on average comprises only 43.04 percent of total expenditure. Further, municipal corporations across States follow divergent transition paths and hence there is an emergence of clubs for both the expenditure ratios.

Keywords: municipal expenditures, spatial dependence, clustering, club convergence.

I. Introduction

India's urban population is projected to be around 40 percent as per the Economic Survey 2023-24 and will create a huge demand for urban civic services and infrastructure that has to be provided by the urban local bodies (ULBs) which are also recognized as the third tier of government under the 74th Constitutional Amendment Act (Nagarpalika Act), 1992. Currently, there are 4852 urban local bodies (ULBs) in India. (localbodydata.com). Provision of services would lead to increased expenditure demands and in turn require an enhancement in revenues to match the expenditure needs. The Reserve Bank of India (2024) has identified concerns on the revenue raising ability - inefficiency in tax collection and low user charges. The channel of using external borrowings to fund projects faces constraints as municipal corporations are required to obtain approvals from the State government. Hence there is a significant reliance on grants from the centrald and state governments. This limits the financial autonomy of the municipal corporations and their ability to implement infrastructure projects as inadequate revenues converts to lower spending. Consequently, the size of municipal governments is negligible and the total expenditures of municipal corporations have ranged between are between 1.2-1.4 percent of GDP over the period 2019-20 to 2022-23 (Reserve Bank of India, 2024). Section II summarizes the findings from literature and the theoretical backdrop discussed in Section III. Sections IV, V and VI present the methodology, results and conclusions respectively.

II. Review of Existing Studies

The collective concerns highlighted in the literature on municipal finances in India revolved around the inadequacy of own revenues, substantial variation between own revenues and expenditure requirements and the consequent adverse impact on service delivery, the necessity to improve property tax collections, along with higher allocation of funds to urban local bodies, especially given the loss of revenue from the implementation of GST.

Mohanty et al. (2007) and Nallithaga (2009) were among the first studies that analyzed the fiscal performance and the delivery of municipal services in the country. Mohanty et al. (2007) observed low municipal revenues resulted in very low expenditures levels (lower than the minimum required) for adequate provision of civic services and resulted in creation of a revenue surplus during 2000-04 and the contradiction was a consequence of the statutory obligations that mandated a municipal corporation to spend from resources available, given the constraints imposed by State governments on raising debt. Nallathiga (2009) highlighted the impact of low revenues on delivery of municipal services and the substantial variations in revenue performance could be attributed to inefficiencies in property tax collection due to weak assessment methods and administrative inefficiencies. Mohanty et al. (2007) recommended access to external borrowings to improve expenditure levels; Nallithaga (2009) underscored the dependence on grants from central and State governments.

Later studies which include Rao and Bird (2010), Ahluwalia et al. (2019), Jain and Joshi (2020), Subalakshmi and Raghunathan (2022) and Mehta et al. (2024) have reiterated similar findings. Rao and Bird (2010) indicated

urban service delivery to be significantly below the levels suggested by the Zakaria Committee[1] and ascribed the infrastructure gap to the acute funds shortage faced by urban bodies. Weak constitutional provisions for devolution of funds from the State governments, limited own revenue sources and revenue loss from implementation of the Goods and Services Tax (GST) have led to weakened fiscal autonomy and low fiscal capacity in the ULBs (Ahluwalia et al., 2019). The devolution of funds to municipalities in India at (0.5 percent of GDP is much lower compared to Brazil and the Philippines, where transfers range between 6 – 10 percent of GDP (Mehta et al., 2024). Jain and Joshi (2022) expressed concern on fiscal sustainability given the reliance on external resources while Subalakshmi and Raghunathan (2022) highlighted the need for better quality and transparency of available data.

The above studies have suggested that the resource gap of ULBs can be surmounted through the issuance of municipal bonds to finance capital expenditure and the public private partnership model for urban infrastructure projects (Rao and Bird, 2010) while Ahluwalia et al.(2019) suggested enhancing revenue collection augmentation by improving the efficiency of property tax collection and user charges coupled with higher inter-governmental transfers Mehta et al. (2024) also argued for higher intergovernmental transfers, increase in untied grants to ULBs and the introduction of green bonds and blended financial instruments.

III. Theoretical Context and Research Objectives

The paradigm of fiscal federalism propounded by Musgrave (1959) advocated the division of functions and financial relations between different levels of government. In this framework, the focus of the union government would be on macroeconomic stability and income distribution whereas sub-national (State) governments were better suited to the allocation of resources and the provision of local public services. Local governments can ensure an efficient provisioning of public goods and service delivery as they understand local preferences (Tiebout, 1956; Buchanan, 1960; Oates, 1969). Huo et al. (2018) ascribe the creation of clusters of fiscal performance to endogenous growth and agglomeration theory

The research objective is to understand and analyze the expenditure performance of municipal corporations through the lens of two ratios which reflect the nature and quality of expenditure, namely, ratio of capital expenditure to total expenditure and revenue expenditure to capital expenditure Higher the capital to total expenditure ratio implies higher developmental expenditure and a greater focus on asset creation whereas higher the ratio of revenue to capital expenditure implies greater expenditure incurred on current consumption vis-à-vis asset creation.
The paper, therefore, proposes the following hypotheses:
H1: Does fiscal federalism and agglomeration effect result in spatial spillovers in expenditure behavior in terms of capital expenditure (capex) and do municipal corporations across States have higher revenue expenditure.
H2: Do municipal corporations across States form convergence clubs that suggests prevalence of multiple equilibria and divergent transition paths in the context of expenditure incurred and the quality of expenditure.

IV. Methodology

The substantial differences in expenditure behavior across municipal corporations in the States can lead to the emergence of spatial effects and lead to geographical spillovers. Further, it is also possible that the convergence may not be absolute and municipal corporations can have different transition paths to convergence. These spatial and convergence effects have been studied using Moran's I statistic and the Phillips and Sul clustering analysis.

A. Spatial Autocorrelation

A cross–section analysis of any variable 'x' for a group of neighboring regions (States) requires an examination of the spatial structure of the autocorrelation of the residuals due to the possibility of spatial spillovers. These spillovers are specifically modelled and a spatial weights matrix constructed which incorporates the geographic relationship between observations in a neighborhood. In a binary contiguity matrix, the element (i,j) of the spatial weight matrix, w_{ij}= 1 if region i and j share a border, and zero otherwise. The spatial weights matrix is row standardized (sum of each row equals 1)

When the variable 'x' demonstrates a systematic pattern then one can conclude the prevalence of spatial autocorrelation. When the value taken by variable '*x'* at location *i* is similar(different) to the value taken by

[1] The Zakaria Committee was constituted in 1963 by the Central Council of Local Self Government to address the financial challenges and suggest measures that could improve revenues and the functioning of urban local bodies in India.

variable '*x*' at spatially contiguous locations *j* then positive (negative) spatial correlation can be inferred. Consequently, significant positive spatial autocorrelation would imply the clustering of similar values across geographic regions while significant negative spatial autocorrelation would mean that neighboring values are more dissimilar. Spatial effects have been analyzed using Moran's I statistic which can be computed as:

$$I = \left(\frac{n}{s_0}\right)\sum_{i=1}^{N}\sum_{j=1}^{N} w_{ij}x_i x_j / \sum_{i=1}^{n} x_i^2 \quad (1)$$

Where, n - the number of observations, w_{ij} - the element in spatial weight matrix corresponding to the region (i,j), x_i and x_j - deviations from mean values for region i and j, respectively, s_0 - the normalising factor equal to the sum of the elements of the weight matrix, ($s_0 = \Sigma_i\Sigma_j w_{ij}$)

The null hypothesis is no global spatial autocorrelation and the expected value of I can be calculated as

$$E(I) = -1/(N-1) \quad (2)$$

When the computed I is greater than the expected value, it implies positive spatial autocorrelation and implies negative spatial autocorrelation when the computed I is smaller than the expected value.

B. Philip Sul Method for Clustering

This method employs the log t regression to test for the existence of clubs. The method uses a data based algorithm that identifies the clustering of units for convergence using a time varying factor representation model and does not impose any particular assumptions for trend stationarity or stochastic non-stationarity of the series. The method can be adapted to panel data so as to cluster units into groups with similar transition paths. The model described below is taken from Du (2017).

A panel data variable, X_{it}, can be decomposed as

$$X_{it} = g_{it} + a_{it} \quad (3)$$

where, g_{it} - systematic components a_{it} - transitory components.

The systematic (common) components can be separated from idiosyncratic components by transforming equation (3) as

$$X_{it} = \left(\frac{g_{it} + a_{it}}{u_t}\right) u_t = \delta_{it} u_t \quad (4)$$

where, δ_{it} - time-varying idiosyncratic element and u_t - a single common component.

Equation (4) is the dynamic-factor model where u_t captures the deterministic component and δ_{it} the idiosyncratic component.

Phillips and Sul (2007) imposed some restrictions on δ_{it} and u_t and suggested removal of the common factor as follows:

$$h_{it} = \frac{X_{it}}{\frac{1}{N}\sum_{i=1}^{N} X_{it}} = \frac{\delta_{it}}{\frac{1}{N}\sum_{i=1}^{N} \delta_{it}} \quad (5)$$

where, h_{it} - the relative transition parameter and traces out a transition path of individual *i* in relation to the panel average.

Equation (5) indicates the cross-section mean of h_{it} to be unity, and the cross-section variance of h_{it} satisfies the following condition:

$$H_{it} = \frac{1}{N}\sum_{i=1}^{N}(h_{it} - 1)^2 \rightarrow 0 \; if \; lim_{t\rightarrow\infty} \; \delta_{it} = \delta, for \; all \; i \quad (6)$$

The log t regression test used to determine the convergence of X_{it} requires:

$$lim_{t\rightarrow\infty} \frac{X_{it}}{X_{jt}} = 1, for \; all \; i \; and \; j \quad (7)$$

And is equivalent to the convergence of the time-varying factor-loading coefficient

$$lim_{t\rightarrow\infty} \; \delta_{it} = \delta, for \; all \; i \quad (8)$$

The null hypothesis of convergence, H_0: $\delta_i = \delta$ and $\alpha \geq 0$ against the alternative, H_1 : $\delta_i \_= \delta$ or $\alpha < 0$ and the hypothesis testing is done using the following log *t* regression model:

$$\log\left(\frac{H_1}{H_t}\right) - 2\log(\log(t)) = a + b\log(t) + \varepsilon_t$$

For $t = (rT), (rT)+1, \ldots\ldots, T \; with \; r > 0$ (9)

V. Empirical Evidence

The paper has analyzed the spatial effects in municipal expenditures for corporations in 22 States based on data obtained from the Reserve Bank of India's Report on Municipal Finances (2024) for the years 2019-20 to 2022-23. The two expenditure ratios considered reflect the quality and nature of expenditure incurred, namely, the ratio of capital expenditure to total expenditure (CETE)and revenue to capital expenditure (RECE). Higher capital expenditure (capex) would imply higher development expenditure and asset creation. A higher ratio of revenue to capital expenditure indicates higher expenditure on current consumption. From Table 1 it can be seen that on average, capital expenditure is 43.04 percent of total expenditure implying thereby that revenue expenditure accounts for approximately 57 percent and revenue expenditure (administrative, establishment and operational expenditure) far exceeds the capital/developmental expenditure of municipal corporations. Mohanty et al. (2007) also observed capital expenditure to be 44 percent of GDP during 2000-04 and hence indicates to the stagnancy observed in capital expenditures of municipal corporations.

Table 1: Summary Statistics: Expenditure Ratios (Percent)

	CETE	RECE
Mean	43.04	332.20
Std. Deviation	21.83	510.48
Min	4.66	18.99
Max.	84.08	2251.92
Source: Author Calculations		

State-wise performance of the expenditure ratios – CETE and RECE (Table 2) reveals the quality of municipal expenditures across States. It is pertinent to note that municipal corporations in only 11 States display a capital expenditure ratio greater than the average. An assessment of the quality of expenditure by examining the ratio of revenue to capital expenditure highlights the extremely wide variations and although it is high in several States, it is substantially greater for municipal corporations in 5 States. The high RECE ratios tells that municipal corporations primarily incur revenue(current) expenditure.

Table 2: State wise Expenditure Ratios (Percent)

State	CETE	RECE
Andhra Pradesh	43.60	131.16
Bihar	54.88	83.90
Chhattisgarh	49.87	104.20
Delhi	4.66	2251.92
Goa	11.88	845.68
Gujarat	41.35	142.00
Haryana	37.94	164.27
Himachal Pradesh	58.93	70.18
Jammu and Kashmir	25.57	611.49
Jharkhand	65.57	52.66
Karnataka	66.90	51.42
Kerala	44.68	127.60
Madhya Pradesh	28.44	257.78
Maharashtra	67.26	49.10
Odisha	61.88	62.02
Punjab	24.17	315.54
Rajasthan	42.86	139.50
Tamil Nadu	66.71	50.09
Telangana	41.84	162.73

Uttar Pradesh	84.08	18.99
Uttarakhand	14.75	579.98
West Bengal	9.06	1036.23
Average	**43.04**	**332.20**
Source: Author Calculation		

The results of Table 2 when combined with the findings of literature (substantial variations in expenditure performance) posit to the prevalence of geographical spillovers and hence it becomes pertinent to examine spatial effects in expenditure and also understand if municipal corporations converge to in the nature and pattern of expenditure incurred. Spatial effects are inferred from the results of the Moran's I statistic. Results of Table 3 indicate prevalence of spatial effects for the ratio of revenue to capital expenditure (RECE) while no spatial effects are observed for capital expenditures to total expenditures (CETE).

Table 3: Results of Spatial Dependence

Year	CETE	RECE
2020	0.0629 (0.3568)	0.2167*** (0.0124)
2021	0.0188 (0.5804)	0.2746# (0.000)
2022	0.0082 (0.6433)	0.2454# (0.0001)
2023	0.1338 (0.1345)	0.2427# (0.0096)
p-values in parentheses # 1% and *** % percent level of significance		

The results of the Philips- Sul (2007) convergence test (Table 4) revealed the absence of absolute convergence for both the expenditure ratios – RECE and CETE as the co-efficient of the t- test was smaller than the critical value of -1.65 at the 5 percent level (Rows 1 and 6) and to the emergence of multiple clubs for the expenditure ratios and hence indicative that States follow varied transition paths.

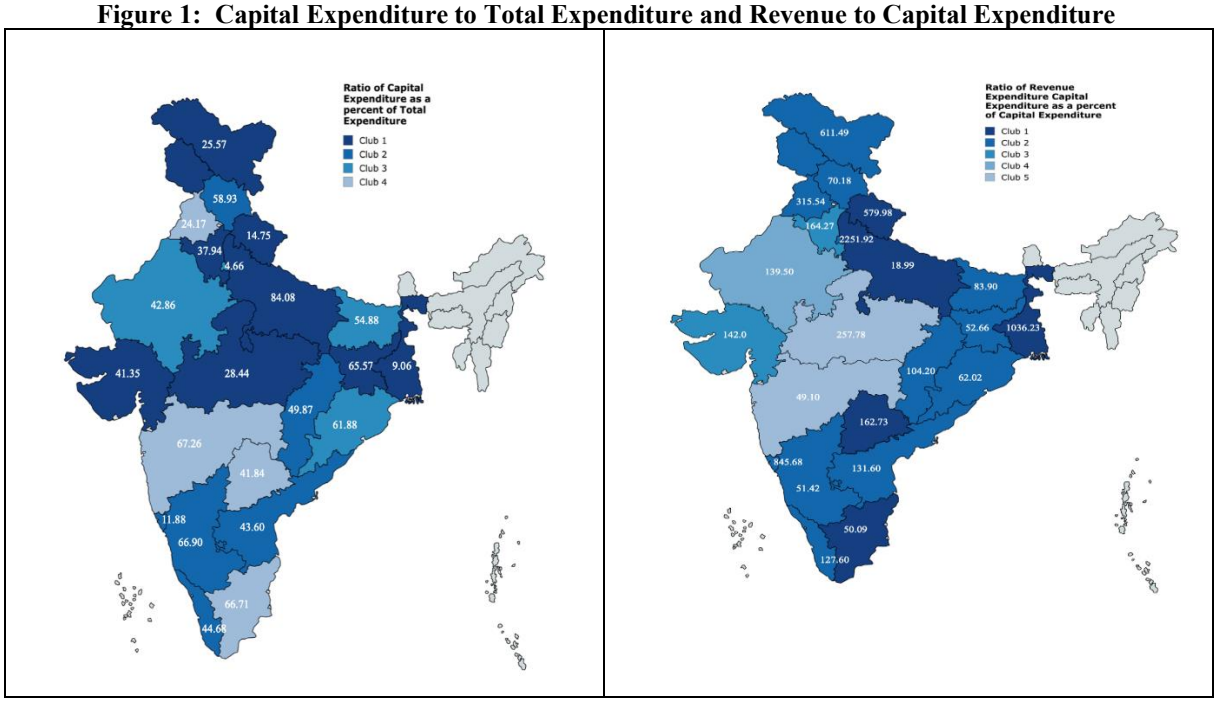
Table 4: Results of Club Convergence

Rows		**States**	**Coefficient (t- statistics)**	**Speed of Convergence**
	Ratio of Capital Expenditure to Total Expenditure (CETE)			
1	Full Sample		-3.7050 (-84.6242)	
2	Club 1 (8 States)	Gujarat | Haryana | Jammu and Kashmir | Jharkhand |Madhya Pradesh | Uttar Pradesh | Uttarakhand | West Bengal |	1.0746 (0.5250)	0.5373
3	Club 2 (6 States)	Andhra Pradesh | Chhattisgarh | Goa | Himachal Pradesh | | Karnataka | Kerala	0.0653 (2.9121)	0.033
4	Club 3 (4 States)	Bihar | Delhi | Odisha | Rajasthan |	0.1822 (0.4481)	0.0911
5	Club 4 (4States)	Maharashtra | Punjab | Tamil Nadu | Telangana	-2.2647 (-1.6051)	-1.1324
	Ratio of Revenue Expenditure to Capital Expenditure (RECE)			
6	Full Sample		-2.7801 (-3.2188)	
7	Club 1 (5 States)	Tamil Nadu | Telangana | Uttar Pradesh | | Uttarakhand | West Bengal	1.1276 (0.6213)	0.5638
8	Club 2 (12 States)	Andhra Pradesh | Bihar | Chhattisgarh | Delhi | Goa |Himachal Pradesh | Jammu and Kashmir | Jharkhand | Karnataka | Kerala | Odisha | Punjab	0.1049 (0.3124)	0.0525

9	Club 3 (2 States)	Gujarat | Haryana	0.4210 (0.4476)	0.2105
10	Club 4 (1 State)	Rajasthan	-5.0347 (-0.9121)	-2.5174
11	Club 5 (1 State)	Madhya Pradesh | Maharashtra	0.0964 (0.0566)	0.0482
Note: CV of t statistic -1.65 @ 5% level (ii) Clubs mentioned here are final clubs after merging of clubs and (iii) speed of convergence is measured as β/2				

The speed of convergence within the clubs is faster in some clubs and clubs with negative co-coefficients would have slow/weak convergence. The emergence of clubs is supportive of the discussion in literature on variations in the fiscal behavior of municipal corporations. Figures 1 maps the clubs for both CETE and RECE and reiterate the findings of the Moran's I results for RECE.

Figure 1: Capital Expenditure to Total Expenditure and Revenue to Capital Expenditure



IV. Conclusions

The size of municipal governments in India is very small and expenditures incurred by all municipal corporations together constitute a mere 1.2-1.4 percent of GDP. The paper has through paper expenditure ratios - revenue to total expenditure and revenue to capital expenditure focused on understanding the nature and quality of expenditure incurred by city governments (municipal corporations) aggregated for the State level which has been necessitated by the availability of data from the Reserve Bank of India and can be viewed as a limitation of the study. The study of expenditures becomes necessary as growing urbanization has led to a huge demand for urban infrastructure. The paper finds support for the documentation in literature on the substantial differences in expenditure ratios across municipal corporations coupled with the stagnancy in capital expenditures since the early 2000s. The empirics of the paper find the prevalence of spatial effects with regard to rthe revenue to capital expenditure ratio but not for the ratio of capital to total expenditure. The emergence of convergence clubs points to the clustering of States and indicates to the existence of multiple local equilibrium rather than to absolute convergence.

References

1. Ahluwalia, I. J., Mohanty, P. K., Mathur, O., & Roy, D. (2019). State of Municipal Finances in India. *Indian Council for Research on International Economic Relations (ICRIER), Working Paper No. 19-r-03*. New Delhi, India.
2. Chattopadhyay, S. (2015). Financing India's Urban Infrastructure: Current Practices and Reform Options. *Journal of Infrastructure Development*, 7(1), 55-75.

3. Jain, M., & Joshi, R. (2015). Municipal Finances in India: Unresolved Issues and Way Forward. *Cities: The 21st Century India*. Bookwell – Delhi.
4. Mehta, M., Mehta, D. &, Bhavsar, D.(2024). Sixteenth Finance Commission and Urban Local Governments, *Economic & Political Weekly*, 59(37), 17-20
5. Mishra, A. K., & Mohanty, P. K. (2018). Urban Infrastructure Financing in India: Applying the Benefit and Earmarking Principles of Taxation. *Journal of Social and Economic Development*, 20(1), 110-128.
6. Nallathiga, R., & Campus, M. H. I. (2012). Analysing the Finances of Urban Local Bodies in India: A Cross-Sectional Study. *IPE Journal of Economic and Policy Research,* 7(1): 32-58, 2012. *https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2255841*.
7. Rao, M. G., and Bird, R. M. (2010). Urban Governance and Finance in India. *NIPFP Working Paper 2010-68*, April.
8. Reserve Bank of India (2024): *Report on Municipal Finances*, November 2024.
9. Subalakshmi, K. & Raghunathan, U. (2023) *Assessing the Financial Health of Indian Cities*, National Institute of Urban Affairs and Munify Datatech Private Ltd, August. https://niua.in/intranet/sites /default/files/2928.pdf
10. Web resources:
11. localbodydata.com - https://localbodydata.com/urban-local-bodies-of-india#:~:text=There%20are%20total%204852%20Urban,in%20India%20having%201%20ULBs).