



# Revenue Streams and Capital Outlay: An Empirical Study of Municipal Corporations in India

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## Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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## ABSTRACT

This paper empirically tests the relationship between municipal revenue streams and capital outlay focused on building new infrastructure and amenities for sustainable urban development. The study follows a cross-sectional research design without a time dimension using secondary data from municipal corporations across 26 Indian states and Union Territories obtained from the Reserve Bank of India's Report on Municipal Finances. An Ordinary Least Squares model was used to

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estimate the coefficients of own tax revenue, own non-tax revenue and revenue from government transfers. The study's main results show that while coefficients of own non-tax revenue sources, i.e., Rental Income, Fees & User Charges, and Interest earned are 8.52, 3.56, and 40.43 respectively with associated p-values of 0.000, suggesting greater influence in determining capital outlay, the coefficients of own tax revenue sources such as Property Tax, Water Tax, and Advertisement Tax are -0.21, -2.96 and 15.78 respectively with p-values exceeding 0.05 suggesting an insignificant relationship. Transfers from the central government are significant factors influencing capital outlay of the municipal corporations given by a coefficient of 2.45 with an associated p-value of 0.01, while state government transfers have a negative relationship given by a coefficient of -1.15 with a p-value of 0.023. The study also employs several diagnostic tests to ensure validity of the results and robustness of the model employed. The Adjusted R-squared value of 0.98 shows the model is a good fit and coefficients are relevant. Model diagnostics reveal that the results are efficient and model is a good fit to the data. The paper then concludes with discussion on the results obtained and policy suggestions along with indicating scope for further research in the field.

**Keywords:** *Municipal finance; sustainable development; property tax; local government finance; capital outlay.*

**JEL Classifications:** R51, R58, H71, H72.

## 1. INTRODUCTION

The progress of a region depends to a large extent on the infrastructure and services available. In many of the developing nations, suitable infrastructure and services are below what is required in urban areas [1] adversely impacting productivity in cities and towns [2]. The local government institutions, which are key actors in the governance process at local level are considered responsible for the provision of such infrastructure and services [3]. Local governments are well suited for promoting growth and development at local levels due to their proximity to the public and superior knowledge of the local needs and preferences [4]. The revenue-raising and spending decisions of local governments are key factors influencing growth of the regions and efficiency of the public sector [5,6,7]. Capital outlay by the local governments is one of the main elements driving the growth of infrastructure in urban areas [8] and main sources that finance such expenditure are local tax revenue sources, non-tax revenue sources, and government transfers.

An urban area in India is defined as an area where the population exceeds 5000 persons, at least 75 per cent of the working population is engaged in non-agricultural activities, and the population density in these areas exceeds 400 persons per square kilometer (0.62 miles)<sup>1</sup>. Local government institutions that govern urban areas

in India are referred to as Urban Local Bodies (ULBs). The ULBs in India are categorised as Municipal Corporations (governing larger metropolitan areas with population over a million), Municipal Councils or Municipalities (governing relatively smaller cities with less than a million population) and Nagar Panchayats that govern towns or cities with population up to a lakh<sup>2</sup>. In India, the taxes/fees imposed by local government bodies especially urban local bodies (ULBs) are the 2<sup>nd</sup> major source of revenue after government transfers. ULBs are primarily dependent on transfers from higher level of government in India's 3-tier governance structure. This over-reliance limits the ability of these lower-tier governments to influence development in regions and cities of the country.

Urbanisation is expected to continue globally for at least three decades, according to United Nations' World Cities Report (2022), urbanisation will increase from 56 per cent in 2021 to 68 per cent in 2050 globally. The rate of urbanisation in India is also growing exponentially, which is placing more strain on urban local bodies (ULBs)<sup>3</sup>, from 31 per cent in 2011, around 40 per cent of the Indian population is expected to be living in cities by 2036 (World Bank, 2024). The pressure to provide high quality services and infrastructure in the cities is worsened by the increasing rate of migration to the cities in search of better employment and living standards by the

<sup>1</sup> Census of India (1961), Government of India.

<sup>2</sup> RBI's Report on Municipal Finances.

<sup>3</sup> Municipal Performance Index (2020), Ministry of Housing and Urban Affairs, Government of India.

rural population [9]. The strain is higher on larger urban local bodies such as Municipal Corporations [10].

Capital Expenditure by local governments especially larger urban government bodies is believed to influence economic growth and welfare in cities [11,12]. Municipal Corporations also actively influence growth outcomes at the district levels and their fiscal functions such as taxation and expenditure have macro-economic linkages at state level [13]. Several studies in developing countries have tried to assess the impact of municipal finances on economic growth of the regions. However, in India, there are very few studies on this relationship.

The general theoretical conjecture is that urban local governments' capital investments are the major drivers of urban infrastructure development [14] and taxes/charges imposed by the local

governments are major sources that finance such capital investments [15]. In this paper, we follow the studies of Gandhi & Pethe, [16], Hasanuddin et al., [17] to empirically test the role of municipal revenues such as Property taxes, advertisement taxes, rental income, user charges, and government transfers in determining capital outlay by the municipal governments of Indian states [18]. Fig. 1 shows the selected states of the country for empirical estimation and number of municipal corporations in the respective states.

Rest of the paper is structured as: the next section includes relevant empirical and theoretical insights from the extant literature. Third section describes data and the empirical methodology adopted for estimation. Fourth section presents results of the model and discusses the outcomes. Finally, the paper concludes with implications and suggestions.



**Fig. 1. State Wise Number of Municipal Corporations**

Source: Author's own representation using the data from Local Government Directory, Ministry of Panchayati Raj, Government of India.

## Objectives of the Study

The main objectives of the study are specified as follows:

1. To estimate the effect of municipal tax revenues in determining capital outlay.
2. To estimate the effect of municipal non-tax revenues in determining capital outlay.
3. To estimate the effect of central government transfers on municipal capital outlay.
4. To estimate the effect of state government transfers on municipal capital outlay.

## Hypotheses

H<sub>1</sub>: Property Taxes are significant determinants of municipal capital outlay.

H<sub>2</sub>: Advertisement Taxes are significant determinants of municipal capital outlay.

H<sub>3</sub>: Other Taxes are significant determinants of municipal capital outlay.

H<sub>4</sub>: Rental Income is a significant determinant of municipal capital outlay.

H<sub>5</sub>: Income from Investments is a significant determinant of municipal capital outlay.

H<sub>6</sub>: Interest earned is a significant determinant of municipal capital outlay.

H<sub>7</sub>: Central government transfers are significant determinants of municipal capital outlay.

H<sub>8</sub>: State government transfers are significant determinants of municipal capital outlay.

## 2. REVIEW OF LITERATURE

The contributions of Tiebout (1956), Musgrave (1959), Oates, [4,19], Olson (1969), and Rao, [20] are incorporated into the conventional theoretical consensus that decentralisation affects growth outcomes. The argument made in this literature is that decentralising tax and spending authority can increase public sector efficiency and have a grassroots impact on growth. According to Oates' decentralisation theorem from 1972, where different locales or areas have distinct requirements and preferences, providing services under a decentralised governance system will typically increase citizen welfare and have an impact on development outcomes. In this context, Bahl & Lin [15] contend that granting local governments financial autonomy can promote local economic growth by guaranteeing that resources are distributed more effectively to meet local

requirements. Robust municipal financial systems enable local governments to raise money on their own, especially from property taxes, which are the most sustainable sources of income and improve the quality of services provided (Bird & Slack, 2004).

The extant literature on the relationship between different revenue sources of local bodies on their capital outlay has mixed views. It is found that realisation of local revenue significantly affects the expenditure patterns and decisions of local bodies, and this expenditure in turn promotes infrastructural resources [21]. Delang and Sitorus [22] conduct a study to find out how capital expenditure of local governments in Jakarta influences their financial performance and how revenue generation affects capital expenditure using panel data of 22 districts and cities. It is found that local government revenue affects local government financial performance, and capital expenditures have an impact on local government revenue. Aside from that, there is a favourable association between capital expenditures and the financial success of local governments. The relationship between capital expenditures and local government financial performance can be mediated by local government revenue [22]. Another study focused on finding the effect of local original revenue and economic growth on capital expenditure of the NTB provincial government of Indonesia found that though there is no significant relationship between locally generated revenue and capital expenditure, the allocation funds by higher level of government largely determine the capital expenditure [23]. On the contrary, another study focused on factors that affect capital expenditures of provincial governments in Indonesia used the data from 34 provinces from 2020 to 2022, revealed that local revenue streams and allocation funds both have significant impact on capital expenditures [24].

In Indian context, very few studies have been done to find out the impact of municipal revenue streams on capital outlay of the municipal governments. The literature mainly focuses on state level studies and surprisingly overlooks the role of local governments. However, there are several studies revolving around similar issues such as, the study by Jain and Joshi [25] highlights the issues and challenges faced by municipalities across India in raising revenue [25]. Sekhar & Bidarkar, [26] compare municipal budgets across five Indian cities and find that lack of accountability and transparency is a major

issue in municipal budgeting whereas inability to finance expenditures through own sourced revenue is another issue. Such inability arises due to the dependence on state governments for setting of taxes and tax rates. The major contributor to local governments' own revenue is the property tax which also needs to be revised and reformed because there are various political and institutional roadblocks [27]. Mishra et al., [28] also observe several ailments in the property tax structure in Indian municipalities contributing to inefficiency in meeting expenditure requirements which in turn affects optimum public service delivery. Mathur et al., [18] study the potential of urban property tax in India and find that local governments have been inefficient in exploiting the full potential of property taxes and suggest GIS-based mapping of properties to levy taxes. Gandhi & Pethe, [16] analyse the challenges of metropolitan governance in India and suggest several medium and long-term reforms such as introduction of a two tier metropolitan governance structure to aid urban development outcomes. Aijaz,[3] also highlights challenges of urban local governments in India, key features emerged in the study indicate the sub-par performance of these governments. It is also found that municipal taxes and revenue streams are second most significant components that determine the financing of urban infrastructure after government transfers [29,30]. Urban local bodies should enhance their non-tax revenue sources by engaging in securities markets since non-tax sources are major determinants of their expenditure [31]. Tax revenue sources especially property taxes are under exploited leading to lesser own sourced revenue [18]. Own sourced revenue of ULBs provides greater autonomy and boosts capital expenditure, infrastructure and services provision through capital outlay augments willingness to pay taxes by the public [32]. Although, there is a vast literature on issues and challenges of municipal governments, there is a concerning lack of empirical studies on the effect of municipal revenue sources on capital outlay, this paper attempts to fill this gap by empirically validating the aforementioned relationship.

### 3. METHODOLOGY

The study follows a cross-sectional research design by analysing data from municipal corporations at a single point in time to examine the effect of municipal tax revenues, non-tax revenues, and transfer incomes on capital outlay. It is an observational study, aiming to estimate

the relationships between these variables through an Ordinary Least Squares (OLS) regression following the studies of Brittain, [33], Hasanuddin et al., [17], Kuntari, [12], Sutopo & Siddi, [34]. The cross-sectional approach is suitable for identifying associations between revenues and capital outlay but does not establish causality over time. The study is based on secondary data extracted from the RBI's Report on Municipal Finances (2022)<sup>4</sup>. The cross-sectional data of municipal corporations of 26 Indian states and UTs<sup>5</sup> for the year 2019-20 has been used to study the relationship, for the selection of the sample, we use random sampling method. Data on all variables is from 2019-20 Budget Estimates of the respective MCs.

### 3.1 Variables of the Study

#### 3.1.1 Dependent variable

Since capital outlay contributes in building new infrastructure in the cities and it is the most significant element of long-term investments by the ULBs, it can be considered a factor that affects urban development. Therefore, we use capital outlay incurred by the municipal corporations as our dependent variable, it is denoted by *CapO*.

#### 3.1.2 Independent variables

Independent variables of the study are various revenue sources of the municipal corporations such as tax revenue sources, namely Property Tax (PropTx), Water Tax (WTx), Advertisement Tax (AdvTx), Other Taxes (OTx), and non-tax revenue sources i.e., Rental Income from Municipal Properties (RentY), Fees and User Charges (FeeUchrgs), Sale and Hire Charges (SaleHire), Income from Investments (InvY), Interest earned (*r*), Transfer Income from Central Government (CnTrf) and Transfer Income from State Government (Strf). A detailed description and source of variables is presented in Table 1.

<sup>4</sup> Report on Municipal Finances (2022), Reserve Bank of India. URL:

<https://m.rbi.org.in/scripts/AnnualPublications.aspx?head=Report%20on%20Municipal%20Finances>

<sup>5</sup> Andhra Pradesh, Bihar, Chhattisgarh, Goa, Gujarat, Haryana, Himachal Pradesh, Jammu & Kashmir, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Mizoram, Odisha, Punjab, Rajasthan, Sikkim, Tamil Nadu, Telangana, Tripura, Uttar Pradesh, Uttarakhand, West Bengal, Chandigarh, Delhi.

### 3.2 Model Specification

Since the dataset used in the study does not include a time variable, we have relied upon Ordinary Least Squares (OLS) method for our empirical estimation. The general form of the OLS model is given as:

$$Y_i = \alpha + \beta_1 X_{1i} + \beta_2 X_{2i} + \dots + \beta_k X_{ki} + \epsilon_i \quad \dots 1$$

Where,  $Y_i$  is the dependent variable for entity  $i$ ,  $\alpha$  is the intercept,  $X_{ki}$  is the independent variable  $k$  for entity  $i$ ,  $\beta_k$  is the coefficient and  $\epsilon_i$  is the error term for entity  $i$ .

Based on the OLS model in equation 1, we specify our model as:

$$CapO_i = \alpha + \beta_1 PropTx_i + \beta_2 WTx_i + \beta_3 AdvTx_i + \beta_4 OTx_i + \beta_5 RentY_i + \beta_6 FeeUchrgs_i + \beta_7 SaleHire_i + \beta_8 InvY_i + \beta_9 R_i + \beta_{10} CnTrf_i + \beta_{11} Strf_i + \epsilon_i \quad \dots 2$$

Where,  $CapO_i$  is the capital outlay for observation  $i$ ,  $PropTx_i$  is the property tax,  $WTx_i$  is the water tax,  $AdvTx_i$  is the advertisement tax,  $OTx_i$  is other taxes,  $RentY_i$  is rent income,  $FeeUchrgs_i$  is fees and user charges,  $SaleHire_i$  is sales and hire charges,  $InvY_i$  is investment income,  $R_i$  is the interest earned,  $CnTrf_i$  is transfer income from central government,  $Strf_i$  is the transfer income from state government and  $\epsilon_i$  is the error term.

**Table 1. Description of Variables**

Variables	Description	Measurement	Source
Dependent Variable			Data on all variables is extracted from
<i>CapO</i>	Capital Outlay	In rupees Lakh	RBI's Report on Municipal Finances (2022)
Explanatory Variables			
<i>PropTx</i>	Property Tax	In rupees Lakh	
<i>WTx</i>	Water Tax	In rupees Lakh	
<i>AdvTx</i>	Advertisement Tax	In rupees Lakh	
<i>OTx</i>	Other Taxes	In rupees Lakh	
<i>RentY</i>	Rental Income from Municipal Properties	In rupees Lakh	
<i>FeeUchrgs</i>	Fees and User Charges	In rupees Lakh	
<i>SaleHire</i>	Sale and Hire Charges	In rupees Lakh	
<i>InvY</i>	Income from Investments	In rupees Lakh	
<i>r</i>	Interest earned	In rupees Lakh	
<i>CnTrf</i>	Transfer Income from Central Government	In rupees Lakh	
<i>Strf</i>	Transfer Income from State Government	In rupees Lakh	

Source: Author's own representation

To ensure accuracy and robustness of the results obtained through our model, we employ several diagnostic tests such as Breusch-Pagan/Cook-Weisberg test for heteroskedasticity, White's test for homoskedasticity, Skewness Kurtosis test for normality of the residuals, the results of which are reported in the next section.

## 4. RESULTS AND DISCUSSION

### 4.1 Model Results

The estimated model indicates varying effects of the independent variables on capital outlay of the municipal corporations. The results of the model

are reported in Table 2. The dependent variable is highly impacted by *OTx*, *RentY*, *FeeUchrgs*, *InvY*, *R*, *CnTrf*, and *Strf*, with *OTx* and *RentY* demonstrating the strongest positive effects. On the other hand, while *SaleHire* is getting close to significance, *PropTx*, *WTx*, and *SaleHire* do not show significant connections at conventional levels. The R-squared value indicates a high overall model fit, indicating that the independent variables account for a significant amount of the variance in the dependent variable. The model's overall relevance is further supported by the F-test. When all independent variables are 0, the constant term represents the dependent variable's baseline level.

**Table 2. Regression Results**

<b>Dependent Variable: CapO</b>	<b>Coef.</b>	<b>St.Err.</b>	<b>t-value</b>	<b>p-value</b>
<i>PropTx</i>	-.211	.586	-0.36	.724
<i>WTx</i>	-2.962	2.015	-1.47	.164
<i>AdvTx</i>	15.786	11.204	1.41	.181
<i>OTx</i>	20.982***	3.382	6.20	0.000
<i>RentY</i>	8.526***	1.554	5.49	0.000
<i>FeeUchrgs</i>	3.569***	.741	4.81	0.000
<i>SaleHire</i>	-6.551*	3.307	-1.98	.068
<i>InvY</i>	-19.664***	3.32	-5.92	0.000
<i>r</i>	40.435***	6.961	5.81	0.000
<i>CnTrf</i>	2.451**	.84	2.92	.011
<i>Strf</i>	-1.158**	.452	-2.56	.023
Constant	27566.53	23302.612	1.18	.257
R-squared	0.99			
Adjusted R-square	0.98			
F-test	163.914			
Prob > F	0.000			
Akaike crit. (AIC)	665.486			
Bayesian crit. (BIC)	680.583			

Source: Author's own calculations.

The empirical investigation reveals certain notable characteristics. The negative coefficient for property tax (-.21) supports the consensus that higher property taxes lower capital investment [35, 36] but in case of India, it is statistically insignificant shown by the p-value of .72 despite it being the highest revenue generating source for municipal corporations [27], therefore the H<sub>1</sub> is rejected. This insignificant relationship suggests the limitations of empirical estimation in the field of local government finance. The lack of longitudinal data and appropriate accounting mechanisms worsens the problem (Report on Municipal Finances, 2022).

Furthermore, the coefficient of water tax is also negative (-2.96) and statistically insignificant with a p-value of .164 suggesting there is no significant relationship of water tax with capital outlay, while the coefficient for advertisement tax - another large source of revenue, is positive (15.78) but statistically insignificant given the p-value of .18, thus, we reject the H<sub>2</sub> (refer to Table 2). The coefficient for other taxes is large (20.98) and statistically significant at 1 per cent level of significance, so we accept the H<sub>3</sub> suggesting other taxes such as vehicle tax, sewage tax, and professional tax etc. are major determinants of capital outlay as shown in Table 2, these findings

corroborate the results obtained in the studies of [37,38].

Coefficient for RentY which is the Rental income from municipal properties is 8.52 with associated p-value of 0.00 is significant at the 1 per cent level thus we accept the H<sub>4</sub>, rental income is a part of non-tax municipal revenues. It is important to note that, all measures of non-tax revenue i.e., rental income, fees and user charges, sale and hire charges, income from investments made by municipal corporations, interest earnings are statistically significant, coefficient of sale and hire charges is significant at 10 per cent level of significance. The coefficient for Fees and User Charges is 3.56 with a p-value of 0.00, meaning Fees and User Charges positively influence capital outlay, the coefficient for Sale and Hire Charges is -6.55 with a p-value of 0.06 shows Sale and Hire charges have a negative association with capital outlays, the coefficient of income from investments is -19.66 with a p-value of 0.00 suggesting income from Investments has a statistically significant but negative relationship with municipal capital outlay, thus we reject H<sub>5</sub> despite the significance. The coefficient of interests earned is the largest 40.43 and significant at 1 per cent level with a p-value of 0.00, so we accept the H<sub>6</sub> meaning capital

**Table 3. Diagnostic Tests**

	<b>Jarque-Bera Normality Test</b>	<b>White's Test for Homoskedasticity</b>	<b>Breusch-Pagan / Cook-Weisberg Test</b>
Jarque-Bera	2.58		
$\chi^2$		.275	0.55
p-value	.275	0.407	0.459
<b>Skewness/Kurtosis tests for Normality</b>			
Variable		Pr(Skewness)	Pr(Kurtosis)
residual		0.0972	0.2211
			$\chi^2$ (p-value)
			4.38 (0.111)

Source: Author's own calculations

outlays are greatly affected by interest income of the MCs. The empirical results suggests that capital outlay of municipal corporations in India is greatly determined by the non-tax revenue sources as compared to tax revenue sources which makes sense because a great proportion of municipal own sourced revenues come from non-tax sources [22, 21]. Another very important and noteworthy result obtained from empirical analysis is the relationship of state transfers (Strf) which includes Assigned Revenues, compensation, State Finance Commission Grants, the coefficient for State grant in aid transfers is negative (-1.15) and statistically significant at the 5 per cent level given by the p-value of .02, so we reject the  $H_7$  despite being significant, this result contradicts the existing literature that posits that state transfer being largest source of income for municipal corporations is the greatest contributor to the municipal expenditures [33, 23, 39]. The coefficient for Transfers from Central government is positive (2.45) and significant at 5 per cent level shown by the p-value of .01, therefore we accept the  $H_8$  suggesting central transfers that include Finance Commission transfers positively influence capital outlay of the municipal corporations. Finally, the R-squared value of .99 and Adjusted R-squared value of 0.98 prove that the model is a good fit and all the independent variables are significant and explain the variations in dependent variable.

#### 4.2 Diagnostic Tests

The findings of diagnostic tests employed to ensure the robustness of the model and reinforce the results obtained are reported in Table 3.

The Jarque-Bera test for normality (refer to column 2 of Table 3) yielded a test statistic of 2.58 with associated p value of 0.275 which is higher than the common significance level, meaning we fail to reject the null hypothesis of the test which states that the residuals of the

model are normally distributed. The normality of residuals is further confirmed by the White's test for homoskedasticity (refer to column 3 of Table 3) which assumes a null hypothesis of homoskedasticity. The p-value for the test is higher than the 5 percent significance level suggesting that the model yields homoscedastic residuals. In column 4 of the Table 3, we report the results of Bruesch-Pagan/Cook-Weisberg test for heteroskedasticity, the test has a null hypothesis of constant variance. The test was not significant,  $\chi^2(1) = 0.55$ ,  $p = .460$ , indicating that there is no evidence of heteroskedasticity. Therefore, the assumption of constant variance (homoskedasticity) holds for the fitted values of the dependent variable. The Skewness/Kurtosis test for normality was conducted on the residuals. The joint test was not significant,  $\chi^2(2) = 4.38$ ,  $p = .112$ , indicating that the residuals do not deviate significantly from a normal distribution. This suggests that the assumption of normality is reasonably met for the residuals.

#### 5. CONCLUSION

The empirical estimation carried out in this paper using a cross-sectional data from the municipal corporations of 26 Indian states for the year 2019-20 revealed certain noteworthy results. The own tax revenue sources of the municipal corporations do not seem to be highly associated with the determination of the capital outlay of the corporations. On the other hand, non-tax revenue sources which are also larger contributors to the revenue receipts of these urban local bodies as compared to tax revenue sources are highly significant and actively influence the capital outlay. Transfers and grants from the central government seem to be significant in influencing capital outlay and transfers from state governments come as insignificant determinants. The diagnostic tests employed to reinforce these results also yielded favourable outcomes thereby ensuring that the model estimated was robust. Capital outlay by



the municipal corporations helps in building infrastructure and assets in cities which in turn contributes to the overall urban development. Roads, buildings, and other infrastructure attracts new businesses that provide employment opportunities and income streams for the urban population thereby contributing to sustainable development outcomes. Based on the results obtained in the study, we can conclude that own revenue sources of the urban local bodies in the country need to be augmented. New and innovative mechanisms of financing should be adopted such as municipal bonds and pooled financing. The local governments also need to actively engage in the securities markets. Tax structure should be thoroughly reviewed and optimised on the basis of local conditions and income levels. Finally, there is a desperate need to address data related issues of local governments in the country by establishing centralised portals that store financial as well as performance data of the local governments and these governments must be mandated to ensure accounting and reporting of such data. This will facilitate further empirical research in new dimensions which remain unaddressed severely affecting efficient policy formation.

## 6. IMPLICATIONS AND POLICY SUGGESTIONS

In light of local circumstances, the results point to the necessity of municipal tax reform in order to maximise revenue. The local fiscal policy should focus more on expanding non-tax revenue sources since they have a major impact on capital expenditure. In order to maintain urban infrastructure development, the research emphasises the possibilities of alternative funding methods including municipal bonds, pooled finance, and market securities. Better data administration is desperately needed in the municipal finance sector. Centralised databases for performance and financial data could promote openness and help with upcoming empirical studies to improve policymaking. The necessity for strong revenue strategies that can draw in firms and support sustainable urban growth is highlighted by the major role that capital expenditures play in infrastructure development. Rigorous empirical research on the issue of local government finances and urban development is needed. Longitudinal studies using data for a large span of time that provide better validity and reliability of the results are little to non in this case which significantly limits our understanding. Thus, the study highlights the need for further

research on the relationship between municipal revenues and capital outlay using panel data of the municipal governments.

## DISCLAIMER (ARTIFICIAL INTELLIGENCE)

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc.) and text-to-image generators have been used during the writing or editing of this manuscript.

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## COMPETING INTERESTS

Authors have declared that no competing interests exist.

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