Municipal Bonds for Financing India's Urban Infrastructure: The Case of Indore

by
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Bachelor of Architecture
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Abstract

To address the challenges arising from growing urbanization, local governments in India need to allocate significant funds to facilitate the development of urban infrastructure in the coming decades. The financial constraints experienced by governments at various levels, especially at the local level, underscore the need for alternative financing methods to bridge the substantial investment gap. Municipal bonds present a viable option for accessing the capital market for long-term debt to finance urban infrastructure.

India's history with municipal bonds dates back to the mid-1990s, yet its municipal bond market is shallow and urban local bodies remain highly underleveraged. Recent initiatives aimed at developing the municipal bond market have led to an increase in bond issues since 2017. However, this activity is very limited and few municipalities have been successful in issuing bonds. In this context, Indore's relatively active participation in India's municipal bond market, despite facing similar challenges as other municipalities, offers an interesting case study. This thesis analyzes Indore Municipal Corporation's latest green bond issuance and situates it within the trajectory of municipal bond financing in India in order to understand the factors contributing to the city's performance, and to reflect on the replicability and scalability of these factors to proximate contexts.

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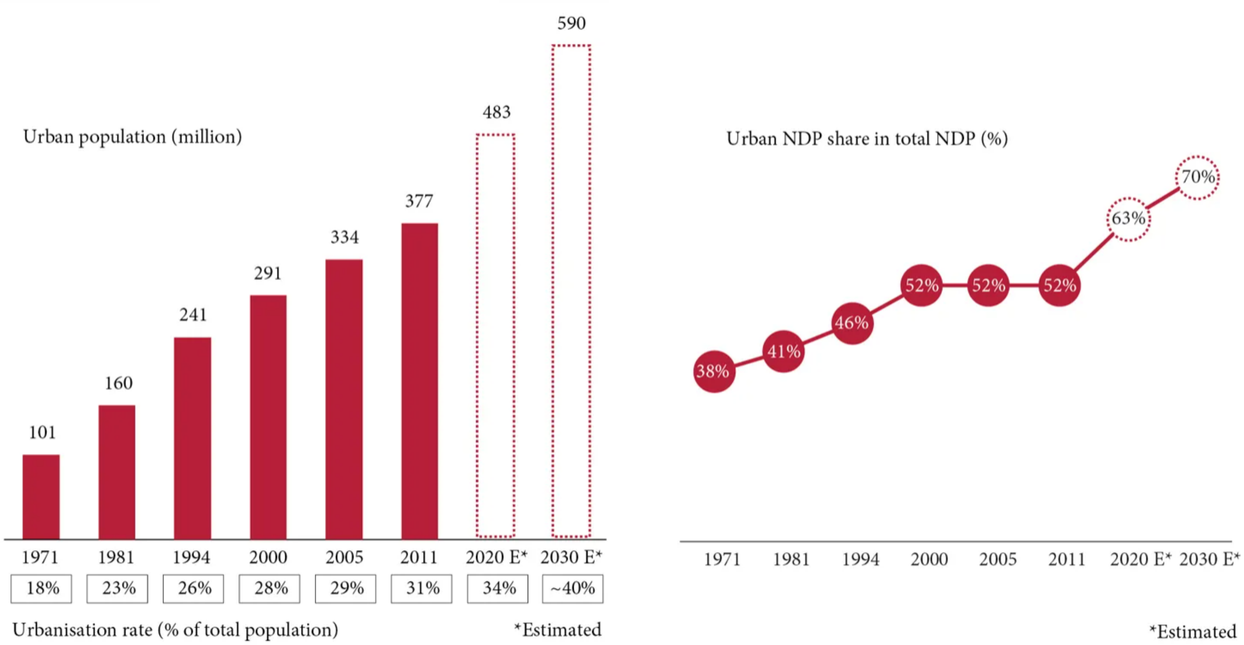
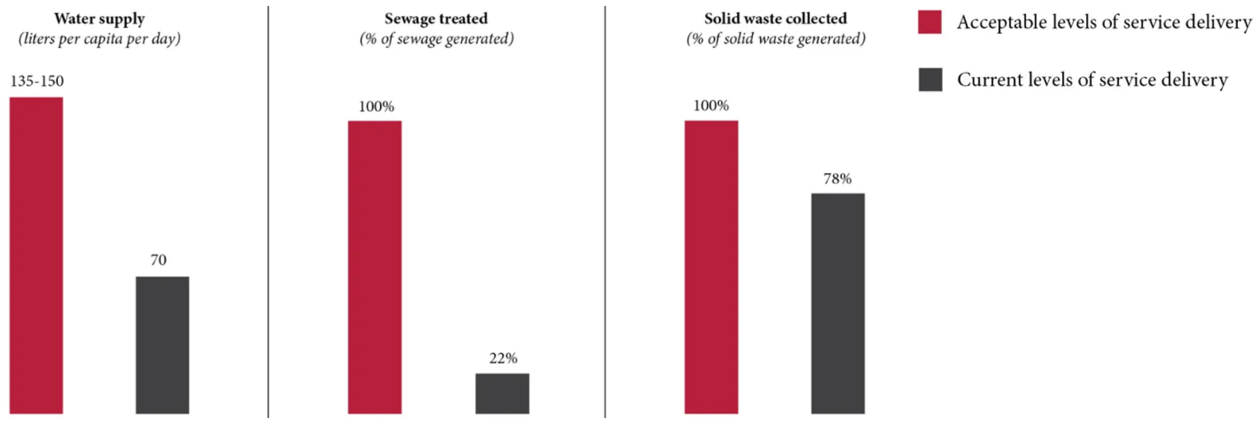
Introduction

Urbanization Challenges

India's rapid urbanization puts immense pressure on cities' infrastructure and service delivery. Between 2019 and 2035, 17 of the 20 fastest growing cities in the world are expected to be from India (Holt, 2018). In addition to that, cities in India are noted for their highly unsatisfactory performance in terms of the delivery of public services and the building and maintenance of urban infrastructure, especially when viewed in light of the current income levels (HPEC, 2011). Most urban infrastructure and service needs fall primarily within the mandate of municipal governments all over India and improvements to service delivery are often stated as suffering primarily due to lack of adequate funding (McKinsey Global Institute, 2010; HPEC, 2011). Investment requirements for providing urban services conforming to national benchmarks for urban infrastructure are estimated at Rs.3.92 million crores (US$ 870 billion) for the period of 2012-31, not including the operations and maintenance costs (HPEC, 2011). The small size of the municipal budgets, compared to peers in other countries, and the limited capacity of local governments are cited among crucial reasons for the poor performance of municipal corporations around India (RBI, 2022).



Rising urban population and urban share in total NDP
Source: Gupta and Sachdeva, 2021



Acceptable and current service delivery levels
Source: Gupta and Sachdeva, 2021

Issues of public finance are inherently an equity concern. The dearth of investment in public infrastructure and service delivery, and their consequent poor quality, directly impacts the cities' most vulnerable who are most dependent on municipal services. This low investment has an adverse impact on inclusive growth strategies, hindering the efficiency and productivity, and thus the livelihoods, of the most vulnerable urban populations. The informal sector, which represents over half of India's GDP and is a significant part of the urban economic landscape (Murthy, 2019), depends heavily on reliable access to various services and utilities. The primary motivation of this research is to understand the avenues available for municipalities to raise funds to fulfill their responsibilities towards the delivery of infrastructure and services, in a context where large funding gaps exist. The case study approach is meant to draw insights as to how relatively successful efforts can be replicated and scaled to similar contexts.

Focus on Municipal Bonds

Recommendations for bridging the significant gap in funding at the local level regularly highlight the need for municipalities to take on debt financing mechanisms (Mohanty *et al.*, 2007; Ahluwalia *et al.*, 2019; RBI, 2022). Municipal bonds were a topical issue in the union budget, announced in February 2023 (Tambe, 2023). They were a key recommendation in the Reserve Bank of India's (RBI's) report on municipal finances (2022). Simultaneously, there is a growing interest in green bonds as a way to mobilize resources for green infrastructure, resulting in India becoming the world's second-largest market for green bonds in 2020 (USAID, 2020). Though the current green bond activity is led by the private sector, India issued its first sovereign green bond in January 2023 and municipalities have been entering this space as well—Ghaziabad Nagar Nigam in 2021 and Indore Municipal Corporation in 2023 (Hussain and Dill, 2023). Given the current push for financing urban infrastructure through municipal bonds and the evolving regulatory and policy environment surrounding it, this research aims to understand how local governments have been responding to this pressure/opportunity to issue municipal bonds.

Online media coverage of municipal bonds and Indore's recent issue
Source: Google Search and the respective news outlets

Municipal bonds represent access to scalable, long-term, low-cost debt capital. They offer certain advantages over other financing mechanisms, like loans and grants, available to ULBs in closing the investment gap. The issuance of municipal bonds can fix the corporation's liability for the entire tenor, aiding the clarity of its planning efforts. They are useful in terms of borrowing size which gives access to large upfront capital, and long maturity periods which often span about 10 years in India, allowing long-term manageable repayments. In the emerging Indian context, when appropriately structured and supported with credit enhancements, municipal bonds can be issued at interest rates lower than the risk-return profile of individual ULBs. The current programmatic incentives are further reducing the cost of capital, offering municipal bonds a competitive advantage over other forms of borrowing. To achieve favorable credit ratings from agencies, ULBs strive for fiscal discipline, improved accounting practices, and uniform financial reporting, making way for overall financial management benefits for the ULB. The longer-term resource mobilization is particularly suitable for infrastructure projects with extended timelines. Additionally, more able ULBs financing their expenses through market borrowing opens up the possibility for a redistributive effect allowing central and state government grants and loans to reach financially weaker cities and towns.

India’s municipal bond market is very thin despite its protracted history. 2017 saw a resurgence in the dormant market due to the enabling environment. However, only 21 urban local bodies (ULBs) have utilized this instrument since 1997, and of them, most have only issued a single municipal bond as a one-off exercise. The size of these issues has also been very small compared to the budgets of the respective cities. The extent of underutilization poses interesting questions about the existing municipal bond activity and the instrument’s potential for being a reliable option for municipal finance.

Evidence of Positive Deviance in Indore

Among the recent wave of issuances, Indore Municipal Corporation’s (IMC) public issuance of municipal green bonds in 2023 stands out in a few ways. This issuance made IMC India’s second ever local government body to raise money from retail investors; the first being in 1998. Before this bond issue, the few bonds issued by ULBs across India have been privately placed and primarily held by institutional investors. The fact that IMC went for two municipal bond issues in a short interval of time (2018 and 2023) is noteworthy—not many other cities are raising additional debt this way, especially not cities of Indore’s scale and GDP. This also speaks to its ability to generate bankable projects that can be financed this way. IMC’s green bonds are the second biggest issue by a single ULB, discounting pooled issue, in terms of funds raised. Lastly, according to an IMC employee, Indore’s efforts have been recognized by the state and talks are underway for it to assist other municipalities in innovative financing for urban infrastructure. Considering India's notably underdeveloped municipal bond market and the push for ULBs to secure funds from this market, Indore's relatively active participation in this domain recently, in contrast to other ULBs, warrants an exploration of the factors driving IMC's bond issues, and its implications for unlocking the potential of commercial financing for urban infrastructure in India.

In 2023, Indore was ranked India’s “cleanest city” for the seventh consecutive time by the central government’s Swachh Survekshan (cleanliness survey) rankings. This is the world’s largest cleanliness survey, being published by the Ministry of Housing and Urban Affairs (MoHUA) under the ambit of

Swachh Bharat Mission (SBM) since 2016. As of 2022, it evaluates the performance of 4,355 cities and towns on solid waste management (SWM) and elimination of open defecation, using self-assessed service-level progress, verification of self-assessment by an independent body, and citizen feedback (Press Information Bureau, 2022b). Despite the limitations in methodology and implementation, the stability of the survey's findings combined with its outcome focus allow it to be a sufficiently reliable outcome indicator (Gupta and Sachdeva, 2021). Although the scale of the sanitation and SWM challenge in Indore is representative of much of urban India, Indore's consistently good performance (in recent years) in this domain is unique. The city has achieved 100% door-to-door garbage collection (increasing from 750MT per day in 2011 to 1,115MT per day in 2017) as well as 100% segregation of waste at source and this is widely attributed to increasing citizen engagement, leveraging technological advancement, and partnering with NGOs and private entities (Smart City Indore, 2020).

Besides the issuance of the latest green bond and the implementation of sanitation and SWM efforts, further evidence of positive deviance in IMC's local governance and financing include:

- In 2020, IMC emerged as the highest-ranked municipal corporation in Government of India's (GoI's) Municipal Performance Index which relies considerably on the efficiency and quality of expenditure parameters (MoHUA, 2021).
- Research (Gupta & Sachdeva 2021) comparing SWM revenue expenditure of 27 cities with the performance outcomes on cleanliness as measured by the Swachh Survekshan survey finds that funding explains about 23% of the variance in SWM performance. This study proposes effective utilization of funds, stable city leadership, citizen involvement, and public private partnerships as potential additional factors contributing to successful implementation.
- IMC's green bonds offer document emphasizes the strengths of the issuing body as follows: growing economic base, efficient operations, and service delivery track record; satisfactory financial performance; structured payment mechanism; focus on asset creation and cost saving and; comfortable financial position (IMC, 2023). This is maintained by much of the industry literature reviewing these bonds as an investment opportunity.

Research Objective

Development outcomes are complex to evaluate and the metrics for success are variable, subjective, and ever-changing. As pointed out by Venugopal (2018), "failure" is socially constructed, it is neither a stable nor self-contained category—"there are multiple criteria under which a project can fail, and success is only possible where all such criteria and constituencies have been addressed." In analyzing Indore's performance in the municipal bond market, this thesis takes cues from Hirschman's call for a flexible approach to evaluating development work (Alacevich, 2014) and Sanyal's framing of "relative success" (2007). As the paper will reveal, Indore's bonds face many problems that are indicative of the stage of development of India's municipal bond market, yet, it is able engage with this market in ways that other municipalities seem to be struggling to achieve. Furthermore, from the perspective that urban finance in India is at a stage where attracting private finance in and of itself is considered an accomplishment, Indore's experience provides an opportunity to inquire: *when* is a municipal bond issue feasible?

While rooted in its specific context, this case study approach offers an opportunity to extend the research learnings to other ULBs and contemplate the potential replicability and scalability of the factors contributing to Indore's performance. Though it is outside the immediate scope of this thesis to dive deep into the question of replicability and scalability, the implementation focus of the research emphasizes findings that have the potential to be expanded to proximate urbanizing contexts in India and can inform viable interventions among resource-scarce urban local bodies striving to meet civic needs.

The research questions guiding my thesis are as follows:

> **Despite similar challenges as other municipalities around India, how did IMC succeed in mobilizing funds through the issuance of bonds to retail investors?**
> **How has Indore been able to reap the benefits of administrative and fiscal decentralization to participate relatively actively in the municipal bond market?**

Methodology

This paper begins with understanding the critical issues with municipal finance in India and the vision for municipal bonds. Based on this foundation, it proceeds to look at the development of the municipal bond market in India, in order to situate Indore's issuances in this trajectory. This history, along with an exploration of the reasons for underutilization of these instruments by ULBs and comparisons with similar municipal corporations, help define the factors contributing to Indore's relatively active performance in the municipal bond market. In attempting to understand if any of these factors are unique to IMC this paper, Indore's experience is interrogated through two lens: external factors including pressures for performance (Sanyal, 2022) and conditions creating an enabling environment, as well as internal factors that explain IMC's capacity to respond to these pressures and opportunities.

To achieve the above, I used a mixed-methods approach that includes interviews and other qualitative research along with quantitative analysis.

Primary qualitative analysis comprises semi-structured interviews with public and private practitioners (government officials and consultants), academics, and civil society representatives, with diverse experience in the fields of urban finance, municipal bonds, accounting, fiscal reform, urban planning, and city administration. These interviews aimed to get a wide range of perspectives on the research questions and build an understanding of how to assess success of municipal bonds in the context of India.

The historic analysis of India's municipal bond market is dependent on desk research involving literature review, comprising a significant amount of gray literature—including reports, policy literature, working papers, newsletters, press releases, speeches, white papers, project plans, tender documents, bond offer documents, budget statements, rating rationales, and investment analyses—produced by government agencies, research organizations, non-governmental organizations (NGOs), and other institutions. The review of public statements and media reports gives a picture of the aspirations and opinions of public officials surrounding the topic of municipal bonds.

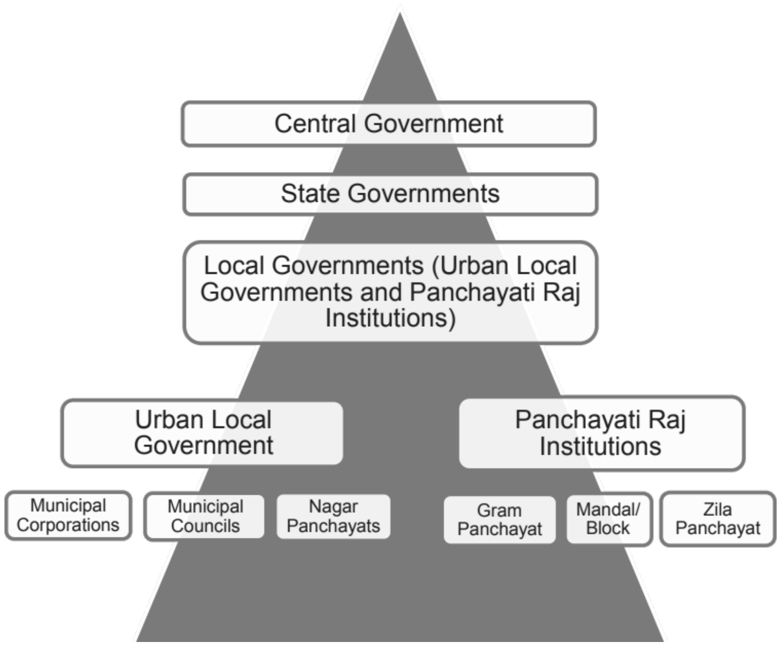
The quantitative analysis for this thesis draws from secondary data including financial data from municipal budgets, audit reports, and figures disclosed in bond offer documents, to analyze and compare financial health of various ULBs; census data for demographic and population information; and election results for local, state, and National elections between 1997 and 2023 during various municipal bond issues, to help correlate the bond issue with the political environment across all levels of the government.

One key issue with the methodology is the limited investor perspective. Though the investment analyses and reviews of bonds offered by ratings agencies and independent investment research firms capture the key strengths and weakness of the instruments, the lack of access to data regarding investors prevents a more complete picture from emerging in terms of their investment decisions specific to this asset class.

Municipal Finance in India

Overview of India's Governance Structure

The 1992 Constitution (73rd and 74th Amendment) Acts of India granted constitutional status to rural and urban local bodies respectively, making them the third-tier of government. ULBs in India consisting of municipal corporations, municipal councils, and nagar panchayats represent local governance in urban areas, where elected municipal councils and ward committees are entrusted with the responsibility of formulating and implementing plans for economic development and social justice. It incorporated to the constitution the Twelfth Schedule which identifies 18 functions as belonging to the domain of ULBs. (Mohanty *et al.*, 2007)



Three-tiers of governance structure
Source: RBI, 2022

Criticism regarding the impact of this decentralization initiative in empowering local governments pertains to asymmetric distribution of functions and finances of ULBs (Mohanty *et al.*, 2007), and lack of adequate capacity building at the local level to undertake these functions (HPEC, 2011; RBI, 2022). Although it improved the tax generating capacity of municipal corporations to some extent, it is found to have been ineffective in improving non-tax sources of resource generation (Bagchi, 2000).

Functions listed in the 12th Schedule of the Constitution | *Source: RBI 2022*

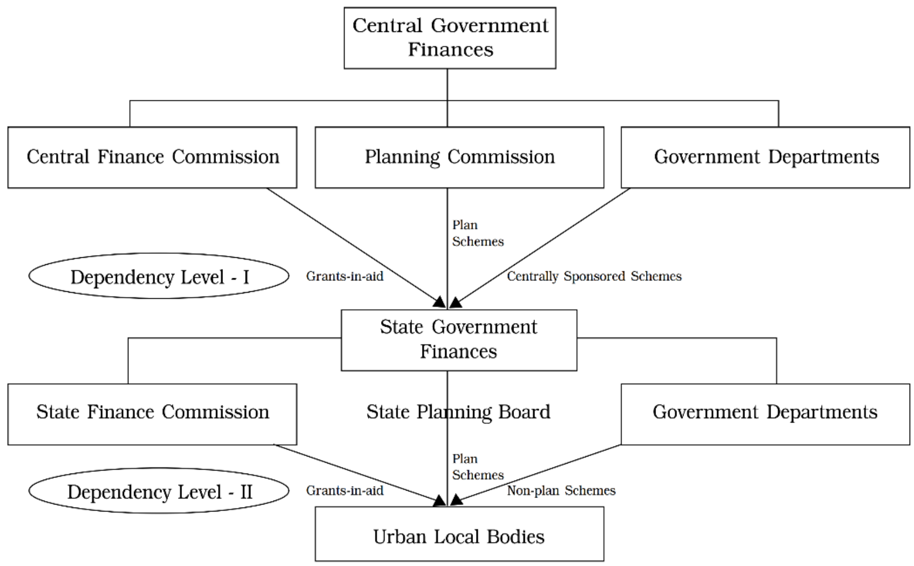
1	Urban planning including town planning	10	Slum improvement and upgradation
2	Regulation of land-use and construction of buildings	11	Urban poverty alleviation
3	Planning for economic and social development	12	Provision of urban amenities and facilities - parks, gardens and playgrounds
4	Roads and bridges	13	Promotion of cultural, educational and aesthetic aspects
5	Water supply - domestic, industrial and commercial	14	Burials and burial grounds, cremations, cremation grounds and electric crematoriums
6	Public health, sanitation, conservancy and solid waste management	15	Cattle pounds, prevention of cruelty to animals
7	Fire services	16	Vital statistics including registration of births and deaths
8	Urban forestry, protection of environment and ecology	17	Public amenities including street lighting, parking lots, bus stops and public conveniences
9	Safeguarding the interests of weaker sections of the society including the handicapped and mentally retarded	18	Regulation of slaughterhouses and tanneries

Fiscal Dependency in Urban Local Bodies

The central government disburses funds to state governments which are responsible for allocating resources to ULBs based on the recommendations of the State Finance Commissions (SFCs) as well as the devolutions made by the Central Finance Commission (CFC). These finance commissions are constituted every five years. State governments have the power to impose taxes, duties, tolls, and fees, and are authorized to allocate revenues from specific sources to ULBs, while SFCs are responsible for assessing and suggesting the allocation of tax revenues and grants-in-aid to ULBs. This architecture of fiscal federalism positions ULBs as deeply dependent on upper levels of the government, especially given the ineffective utilization of existing revenue sources by ULBs. Besides own and shared revenues, ULB's rely heavily on states' grants-in-aid, which themselves are resource constrained, and poor devolution of revenue sources by states has resulted in growing fiscal gaps within ULBs (Mohanty *et al.*, 2007). The gap is accentuated by vertical imbalance, i.e. the "constitutionally built-in mismatches in the division of expenditure liabilities and revenue raising powers of the union, states and local Bodies"(Mohanty *et al.*, 2007).

India utilizes a three-level tax framework, where the national government is authorized by the constitution to impose taxes on income, capital transactions (including wealth and inheritance taxes), sales, services, customs, and excise duties. Meanwhile, state governments have the authority to levy sales taxes on goods sold within their states, along with taxes on entertainment, professions, alcohol manufacturing, property transfers (stamp duties), and land ownership (land revenue). Local governments, authorized by the state, have the power to impose property taxes and fees for public services such as water supply and sanitation.

One main issue arising from the way in which SFCs function is that they are dissolved once they submit the report with their recommendations. Thus there is little oversight regarding the adoption of their suggestions by the respective states.

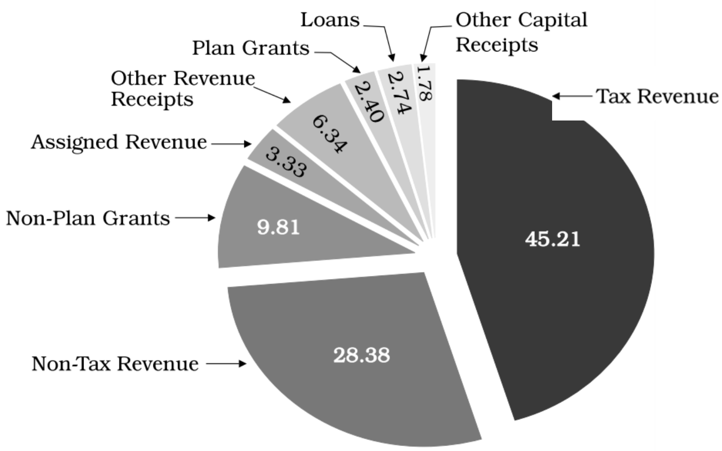


Financing Structure
Source: Mohanty et al., 2007

Urban Finance

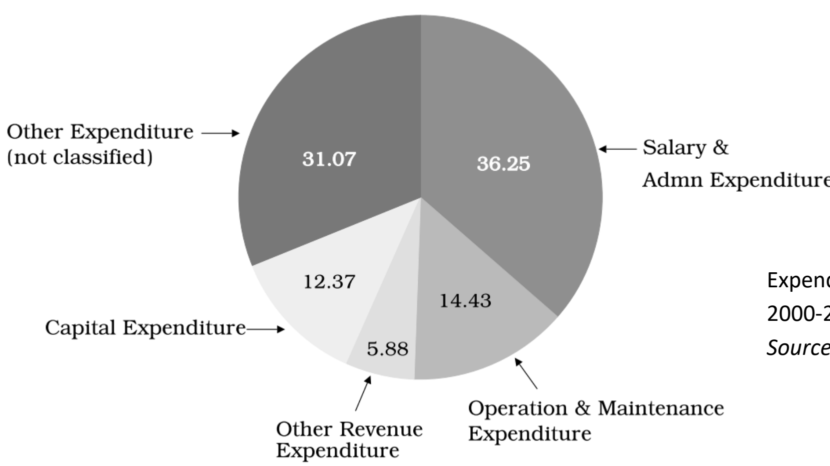
Less than half of the 18 functions to be performed by municipal bodies have a corresponding financing source (Mohanty *et al.*, 2007). For more than a decade, municipal revenues and expenditures have stagnated at about 1% of the GDP in India, which is very low in comparison to other developing nations like Brazil and South Africa whose ratio stood at 7.4% and 6%. Restrictions imposed by the states on their authority to levy taxes, set rates, grant exemptions, borrow funds, and govern intergovernmental transfers makes ULBs in India amongst the weakest globally in terms of fiscal autonomy (Ahluwalia *et al.*, 2019).

Revenue for municipal corporations consists of own tax revenue, own non-tax revenue, assigned (shared) revenue, grants-in-aid, loans and other receipts. Despite wide variation in collection across municipal corporations and generally lower collection compared to other OECD countries, property tax is a major revenue source in most cities especially since Goods and Services Tax (GST) subsumed taxes like octroi and local body tax in 2017. Fees and user charges dominate the non-tax revenue category. Municipal corporations depend on the state for a significant portion of their revenue receipts—state government transfers, including assigned revenues, plan grants (SFC), and non-plan grants constitute about 30-35% of revenue receipts. Central governments transfers only account for about 5%. (RBI, 2022)



Revenue composition of municipal corporations 2000-2004
Source: Mohanty et al., 2007

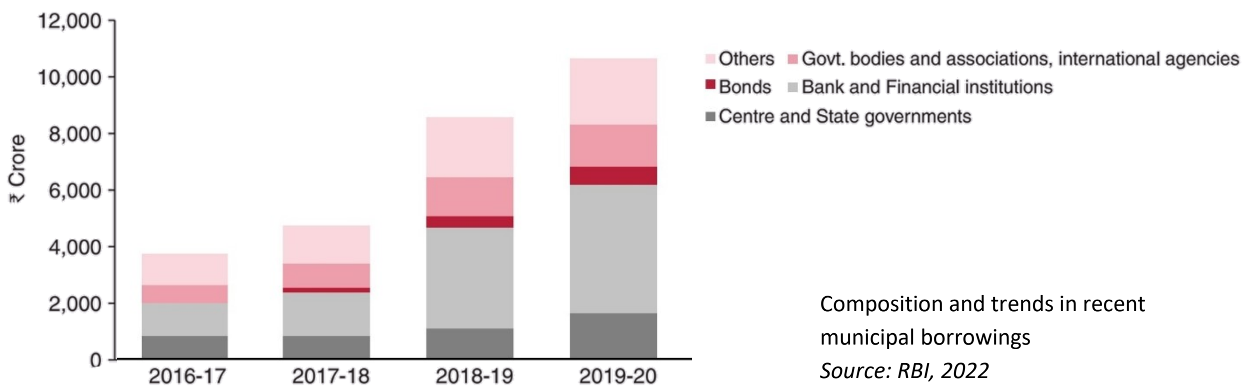
Revenue and capital expenditure are the two broad categories of MC expenditure. Establishment, administrative, operations and maintenance expenditures, and interest payments on loans are part of revenue expenditure, while capital expenditure includes spending on capital formation and principal repayment. The chart below, based on data from 2000-04, shows how less than 13% of the total expenditure was on capital works (Mohanty *et al.*, 2007). Though revenue expenses, particularly establishment and administrative (salaries, wages and pensions), continue to dominate municipal expenditure, the share of capital expenditure increased to about 42% (0.44% of GDP) in 2019-20, with large inter-state variations (RBI, 2022).



Expenditure composition of municipal corporations 2000-2004
Source: Mohanty et al., 2007

Gross municipal borrowings in India is miniscule, less than 0.05% of GDP cumulatively of all municipal corporations (with a large inter-state variance). Over half the loans raised by municipal corporations are borrowings from financial institutions and loans from upper tiers of government. Less than 10% of the total borrowings are funds raised from capital markets through bond issuances (RBI, 2022). Municipalities are required to balance their budgets or maintain a surplus, by law. As a result, they have faced challenges in effectively accessing capital markets to adequately supplement their income. Furthermore, any borrowing needs are to be approved by state governments.

In comparison, market borrowings are the primary source of financing deficits for both the central and state governments in India. States and Union Territories (UTs) cover approximately 85% and the central government covers about 61% of their gross fiscal deficits through market borrowings.



Composition and trends in recent municipal borrowings
Source: RBI, 2022

Critical Issues

RBI’s maiden Report on Municipal Finances (2022) compiles and analyzes budgetary data for 201 municipal corporations across India. It highlights the small size of the municipal budgets in India compared to peers in other countries; lack of financial autonomy as revenues are dominated by property tax collections and devolution of taxes and grants from upper tiers of government; and poor quality of expenditure as witnessed by rising establishment expenses, administrative costs and interest and finance charges, but minimal capital expenditure. It explains how resource gaps are financed by borrowings from banks and financial institutions and loans from Center and state governments in the absence of a well-developed municipal bond market, and urges ULBs to explore different innovative bond and land based financing mechanisms to augment municipal resources. Additional challenges in municipal financing in India include (Mohanty *et al.*, 2007; Bandyopadhyay, 2014):

- Functioning of ULBs is adversely affected by vertical imbalance, fiscal dependency, borrowing constraints and inefficiency in municipal management.
- Inadequate own taxes and user charges of ULBs, alongside their inefficient collection has seriously constrained their ability to mobilize resources.
- The above is made worse by states' elaborate controls over municipal corporations and their inability to assign buoyant taxes (like Octroi) to ULBs.
- The notion that the government should play the role of a facilitator rather than a provider of infrastructure has further led to disinvestments by GoI and various state governments, leading to declining budgetary allocation for lower tiers of government.
- Since statutory requirements necessitate ULBs to generate revenue surplus, resource gaps are not as evident in municipal budgets. The under-spending in civic services becomes apparent when looking at the per capita spending needed to provide a minimum level of civic amenities.
- Lack of uniformity in the classification and reporting of data impedes accurate comparisons across different parameters.
- Lack of clarity, consistency, and predictability in expenditure assignment and revenue allocation makes long-term fiscal planning difficult.

Key Developments

Since the 74th Amendment in 1992, waves of reforms and programs attempted to tackle the above issues. The following are some of the important initiatives and reforms that defined and continue to define the contours of India's urban finance and its municipal bond market:

- Octroi, the main source of municipal revenue in states where it was levied (between 58-70% of the municipal own revenue in the state of Madhya Pradesh prior to abolition in 1976), was abolished in many stages across all states (up until 2017), due to reasons like hindrance to trade, unscientific tax assessment, corruption at check posts, high collection costs, and wastage of time and fuel. This abolition left ULBs more dependent on states and led the way to property tax being their main revenue source. None of the states have been able to find an alternative source of funds which is as reliable and buoyant as octroi and the compensatory grants to ULBs have been very low and infrequent. (NIUA, 1998)

- The 10th (1995), 11th (1998), 12th (2002) Finance Commissions provided “ad-hoc grants” to ULBs, while 13th Finance Commission (2007) introduced “performance based grants” which incentivize better administration at the local level. Financial devolution to cities has increased through the successive finance commissions—from 0.78% of the divisible revenue pool in the 11th Finance Commission to 4.3% in the 15th (2017). (Gupta and Sachdeva, 2021)
- The Indo-US Financial Institution Reform and Expansion-Debt & Infrastructure (FIRE_D) program, 1994-2011, involved USAID-funded work towards developing active bond based finances for ULBs. Some pooled municipal bonds during this period were also backed by funding from USAID. Many outcomes of the program were institutionalized as part of the JnNURM reform agenda. This program was part of the reason for the healthy growth witnessed by the bond market until the mid-2000s. The program also assisted municipal officials in increasing the city’s revenues while making optimal use of existing assets and helped build municipal capacity to better govern the city through providing training and technical assistance. (Mehta, 1996)
- In 2002, the Comptroller & Auditor General (CAG) of India established a task force to address the accounting format for ULBs. This task force proposed the adoption of an accrual accounting system for municipalities to enhance the accuracy, comprehensiveness, and timeliness of recording municipal transactions. In line with this recommendation, the central government introduced the National Municipal Accounts Manual (NMAM) in 2004 which state governments were required to adopt.
- Jawaharlal Nehru National Urban Renewal Mission (JnNURM), 2005-2014, was launched to support ULBs in improving infrastructure facilities and basic services to the urban poor. This flagship urban investment program encouraged ULBs to link the projects with market-based financing. It also linked various municipal and state reforms (including accounting reforms) to the disbursal of funds.
- Securities & Exchange Board of India’s (SEBI’s) Issue and Listing of Municipal Debt Securities (ILMDS) Regulations, 2015, were passed to facilitate issuance of municipal debt and listing of debt securities by municipal corporations in India. All municipal bonds looking to be listed are subject to these regulations. The changes brought on were aimed at creating a conducive regulatory framework for the development of municipal debt securities and enhancing investor confidence. This made public issues only possible for revenue backed bonds. These regulations were subsequently amended to help increase municipal bond activity.

- The Smart Cities Mission, launched in 2015, was designed to fund infrastructure in cities chosen based on their ability to fulfil mission objectives. The projects were encouraged to invite private financing and special purpose vehicles (SPVs) were established as way to channel funds for these projects.
- Atal Mission for Rejuvenation and Urban Transformation (AMRUT), launched in 2015, started incentivizing municipal bonds in 2018, leading to a resurgence in the municipal bond market. This has been subsumed under AMRUT 2.0 which renewed the municipal bond incentives.

Municipal Bonds in India

Development of India's Municipal Bond Market

The financial challenges experienced by the Government of India during the early 1990s spurred the exploration of alternative methods to fund urban infrastructure. Municipal bonds as a means to raise capital for urban infrastructure initiatives, a strategy that had played a significant role in facilitating urban infrastructure development in the United States of America (USA) and Canada, was initially discussed during a seminar organized by the Indo-USAID Financial Institutions Reform and Expansion (FIRE-D) project in 1995. The concept was subsequently expanded upon by an Expert Group on Commercialization of Infrastructure Projects in the India Infrastructure Report. This set the stage for the emergence of the municipal bond market, allowing organizations involved in urban civic services to secure funds through commercial borrowings.

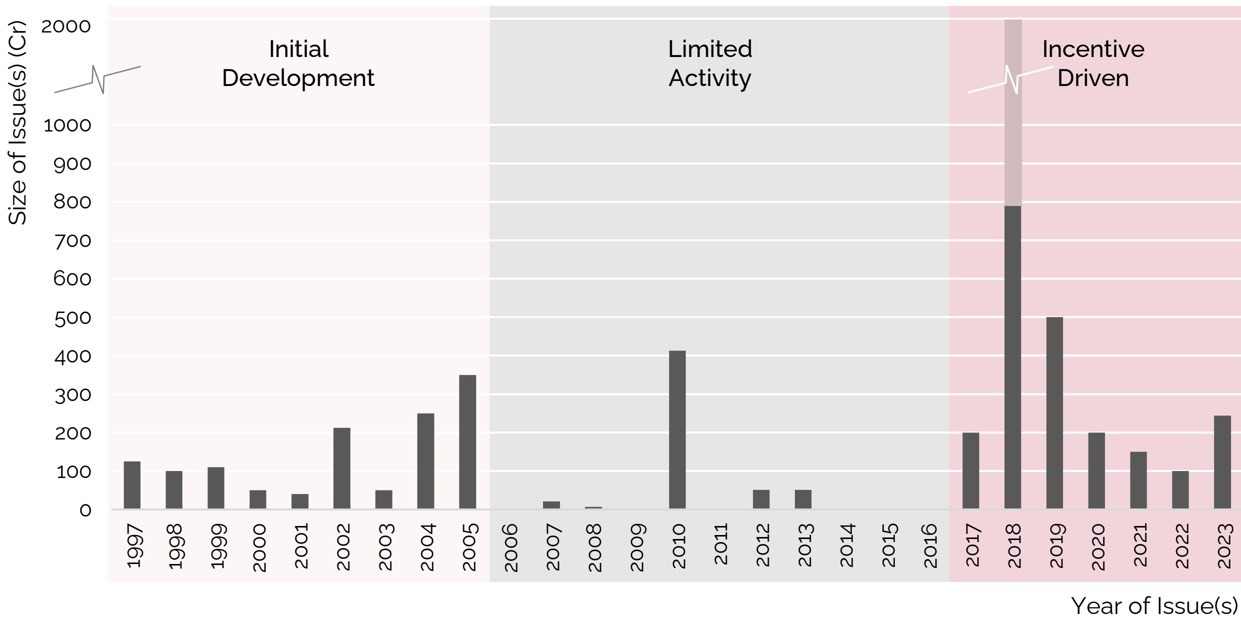
Bond financing by municipalities is still an under-utilized mechanism in India. There is a significant push to deepen and broaden the municipal bond market to increase municipal bond issues and augment municipal resources. The 2023-24 budget urges ULBs to raise funds through bond financing and has committed to incentivize improvement of local finances and credit worthiness to enable more participation in the municipal bond market and create a conducive atmosphere to build investor confidence (Tambe, 2023). The recent RBI report (2022) also emphasizes tapping the debt market by issuing municipal bonds as a promising way to bridge the fiscal gap at the local government level. The scope for debt financing at the local level is determined as being considerable based on ULBs' low outstanding debt and debt sustainability parameters such as interest coverage and debt coverage ratios (Mohanty *et al.*, 2007).

The municipal bond issuances in India thus far can be categorized into 3 distinct phases:

1. Initial development phase: Between the mid-1990s and 2005, market development was characterized by a push for financial and administrative decentralization and USAID's support in this process. Only a select group of prominent municipal corporations utilized bonds during this phase. Bangalore was the first to introduce municipal bonds in India in 1997 with a state government guarantee, followed by Ahmedabad in 1998 without any guarantee. Subsequently, the Indian municipal bond market demonstrated healthy growth until the mid-2000s. During this

period, nine municipal corporations managed to raise approximately Rs.1200 crores, with an average issue size of about Rs.130 crores per corporation (RBI, 2022).

2. Limited activity phase: Between 2006 and 2016 there was a lull in market borrowing. No municipal bonds, except for pooled issues and one bond by Nagpur, were floated during this period. Municipal bond issues came to an abrupt halt after 2005. This decline in activity is primarily due to the launch of JnNURM in 2005, which took advantage of the buoyant tax revenue due to rising GDP and favorable macroeconomic conditions after 2004 to aid municipal finance (Nallathiga, 2015). The nationwide scheme allocated central government grants totaling about ₹1 lakh crore to qualifying municipal corporations (RBI, 2022), which was more attractive to ULBs compared to the effort of issuing and servicing municipal bonds. Simultaneously, the lull can also be explained by the declining appeal of these bonds from an investor perspective: taxable municipal bonds declined after 2005 in the face of high levels of taxation and competition from fixed and small scale deposits in the market; non-taxable municipal bonds lost sheen after 2007 with the rise of equity markets and illiquid municipal bonds (Nallathiga, 2015).
3. Incentive driven phase: Since 2017 the surge in municipal bond activity can be explained by the AMRUT incentives. In an effort to rejuvenate the municipal bond market, SEBI, the regulatory authority overseeing capital markets, introduced guidelines in 2015 for the issuance and listing of municipal bonds. The Smart Cities Mission also pushed for projects to be funded through private financing and rekindled an interest in municipal bonds in public discourse. This set the stage for a revival in municipal bond issuances in India, when AMRUT introduced in 2018, financial incentives in the form of a lump-sum grant-in-aid for municipal bond issuances at a rate of Rs.13 crores per Rs.100 crores of bonds issued. This incentive was structured as a first-come, first-serve reward for 10 ULBs, with the total incentive not exceeding Rs.26 crores per municipality. 11 municipal corporations raised around Rs.3940 crores between 2017 and 2022 and availed this incentive (this includes an issue of Rs.2000 crores by Andhra Pradesh Capital Region Development Authority for the development of Amravati which is currently caught up in political turmoil and mismanagement and there is no update on the usage of the funds raised). Many of these issues were for the amount of Rs.200 crores, which represents the Rs.26 crores cap on the incentive available per ULB—this further demonstrates how the recent bond activity is primarily fueled by these rewards. AMRUT 2.0 which succeeded AMRUT, extended further incentives structured in a similar way (MoHUA, 2022).



Municipal bond activity in India

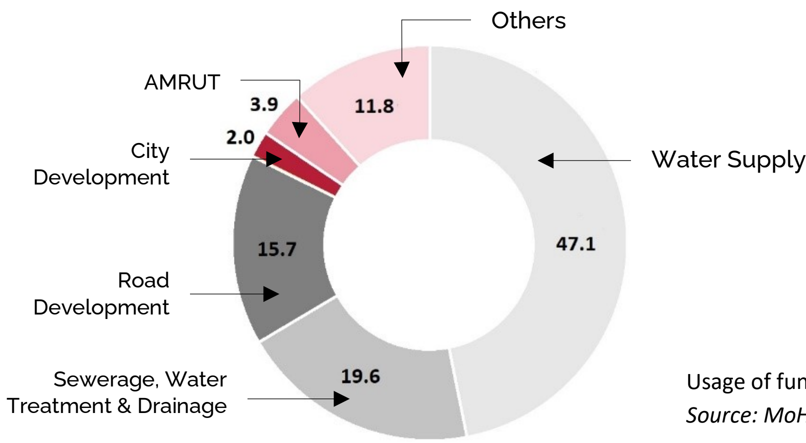
Source: Compiled by author from numerous sources (see note on pg 38)

Key Characteristics of India's Municipal Bonds

In the US, the municipal debt stands at $4 trillion, nearly 16% of the country's GDP. In India, the total borrowing of MCs stood at just 0.05% of the GDP, most of which was from state governments and banks (RBI, 2022). Consequently, only 1% of urban bodies' financial needs are met through municipal bonds as opposed to 10% in the US. Most municipal bonds do not have a sovereign guarantee like for G Secs, or state guarantee as in the case of state government bonds. Unlike the US, municipal bonds in India have no inherent tax exemption on the interest and the interest rates are comparatively much higher, indicating the riskier nature of investments. Until Indore's recent issuance, municipal bonds were mostly privately placed and available mainly to institutional investors, compared to the US where 55-60% of municipal bond issuances are held by individuals.

Usage of Funds

Proceeds from municipal bonds in India have almost exclusively been used for capital expenditure and/or expansion of essential municipal services. Among these, most issues have gone towards financing water supply and sewerage, and road construction works. This is possibly due to the ease of enforcing user charges in such infrastructure projects, as well as the relative certainty with which both the amount and frequency of expected revenues can be predicted (RBI, 2022).



Usage of funds raised through municipal bonds
Source: MoHUA as cited in RBI, 2022

Type of Municipal Bond

Municipal bonds are essentially of two types based on the repayment mechanism (Mehta, 1996):

- General Obligation (GO) bonds are backed by the 'full faith and credit' of the issuing body, thus all permissible taxes and overall revenues of local authorities are utilized to meet debt obligations. The debt carrying capacity of the local authority is the primary factor defining the security of investing in such a bond. The funds generated from these bonds are predominantly allocated to projects or services that might not be feasible to finance through direct user charges or that yield lower returns, like healthcare, education, recreational facilities, public infrastructure like roads and buildings, as well as general governance initiatives.

- Revenue bonds, on the other hand, depend on designated revenue sources derived from facilities or services financed by bond proceeds. They are secured through a commitment of specific revenue streams rather than relying on the full faith and credit of the issuer. They usually come with stringent debt servicing requirements. In some cases, they are backed by an additional guarantee from the local government and are referred to as “double barreled” bonds. These bonds are typically used for projects that provide community-wide advantages, such as water and sewer systems. Revenue bonds are usually considered more risky compared to GO bonds, and hence have higher interest rates.

The municipal bonds issued in India do not fit neatly into either category of bonds. They are termed structured debt obligations (SDOs or SOs), where the issuance is contingent upon the borrower escrowing specific revenue sources for debt repayment. As a result, repaying the bonds is accorded top priority and is distanced from the ULB's overall financial and fiscal standing (Pethe and Ghodke, 2002).

This structure is “a blend between a general obligation bond and a revenue bond” (Mathur and Ray, 2003) where it provides for debt servicing obligations by dedicating other revenue streams in the event of insufficiency of escrowed revenues. Such credit enhancement techniques are meant to increase the rating of the instrument in order to achieve a more favorable interest rate for borrowing.

Credit Rating and Interest Rates

An independent opinion of an issuer's capacity to meet its financial obligations promptly and completely, a credit rating offers insights into the credit quality of the issuer over the duration of the bond's existence. For issuers, credit ratings hold significance as they enable them to secure better pricing (lower interest rates) for the funds borrowed, while investors and lenders find reassurance in the independent evaluation available in the public domain. Additionally, credit ratings gain significance within the prevailing regulatory mandates related to bond and bank loan borrowings.

The higher the risk associated with the ability of a borrower to service debt payments, the higher the interest rate they have to pay on the bond. Interest rates for India’s municipal bonds are relatively higher compared to other types of bonds due to factors like credit risk, lack of liquidity, and market perception. Rates on recent issuances range from 7.15% to 10.23% (earlier bonds went upto 14.75%).

The exploratory exercise of evaluating the credit quality of municipal entities in India in the mid-1990s was undertaken by Credit Rating Information Services of India Ltd. (CRISIL), an Indian credit rating agency and a subsidiary of Standard and Poor’s Rating Services in the US. Together with Ahmedabad Municipal Corporation (AMC) and other municipal corporations, it developed a framework for evaluating municipal credit (Srikumar, 2010). Ratings are typically based on factors such as the legal and administrative framework for accessing the capital market; the economic base of the area that the ULB covers; detailed analysis of municipal finances; assessment of the ULB’s existing operations; managerial assessment involving an analysis of the organizational structure, administrative systems and procedures, proficiency in project management, extent of expenditure oversight, capability to navigate political influences, and initiatives taken to enhance resources and improve collections; and project specific issues like costs, returns, means of funding, and its effect on debt service coverage ratio (Mathur and Ray, 2003).

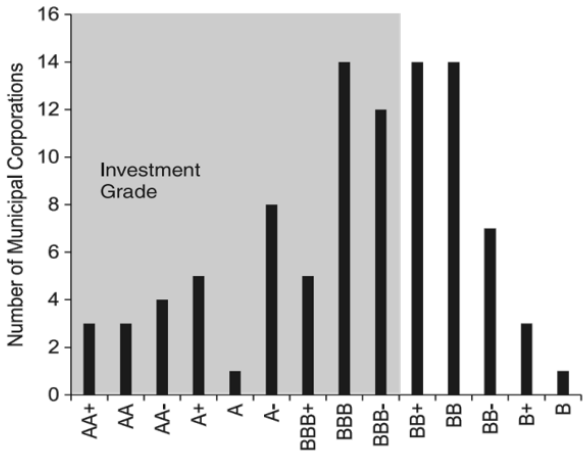
Since all the bond issues in India are structured obligations, the ratings seen on the instrument are over and above the issuer rating, and reflect the credit quality of the specific debt instruments issued by ULBs and not the ULB itself. Typically, the ratings of the ULBs are lower than that of their issues and ULBs engage in multiple credit enhancement methods to improve the rating of the issue. This practice started with AMC's first municipal bond which was rated AA(SO) by CRISIL. The successful experience of AMC motivated numerous local bodies to consider credit ratings as a preliminary step towards entering the capital market. Among these ULBs, only a handful achieved credit ratings that met investors' criteria, and a smaller subset went on to actually issue municipal bonds (Srikumar, 2010). Today, other rating agencies including CARE, ICRA, Brickwork, ACUITE, India Ratings & Research etc. also assign ratings for municipal issues and issuers.

The universe of cities that were part of this first rating exercise, and consequent bond issues, shows a bias towards cities that had octroi as a major source of revenue at the time, i.e. Ahmedabad, Nagpur, Nashik, Ludhiana, and Thane. Enterprising leadership, both political and bureaucratic, was cited as the primary reason for the inclusion of other non-octroi cities, including Indore, in this phase.

Subsequently, JnNURM initiated credit rating of ULBs as a way to benchmark performance in its aim to incentivize urban reform, which led to rating agencies devising a consistent assessment methodology in 2008. Of the 63 ULBs rated at the time, 40% were rated as sub-investment grade (BB+ and lower). Among the investment grade (BBB- and above) ULBs, those rated A- and above were in octroi levying states.

More recently, the central government has incorporated the credit rating of municipal corporations into the reform strategy of the Smart Cities and AMRUT programs. In 2017, 94 cities were assigned ratings, and 59% of these received investment grade ratings (Press Information Bureau, 2017), underscoring the untapped potential for municipal bond financing. Credit rating has incentivized municipal bodies to undergo reforms to achieve investment grade. All the first municipal bond issuances by ULBs were preceded by measures taken to improve the credit quality of the issuing body, including the maintenance of a proper account and adopting double entry accrual systems (RBI, 2022).

These credit rating initiatives associated with reform programs were useful in getting an idea of the landscape of municipal credit quality, but very few of these cities were able to convert these ratings to municipal bond issues. In fact, an overview of the cityfinance.in (City Finance, 2022) database of ULB ratings shows how a majority of the ratings issued in 2017 have been categorized as “withdrawn” after the completion of twelve months after the one-time rating exercise. Some are in the category of “issuer not cooperating” due to non-submission of the necessary disclosures at the stated intervals. Few have retained the status of "affirmed", "upgraded", or "downgraded", indicating a more sustained engagement with the rating process.



Credit ratings of municipal corporations, 2018
Source: MoHUA as cited in RBI, 2022

Credit Enhancement and Bond Structure

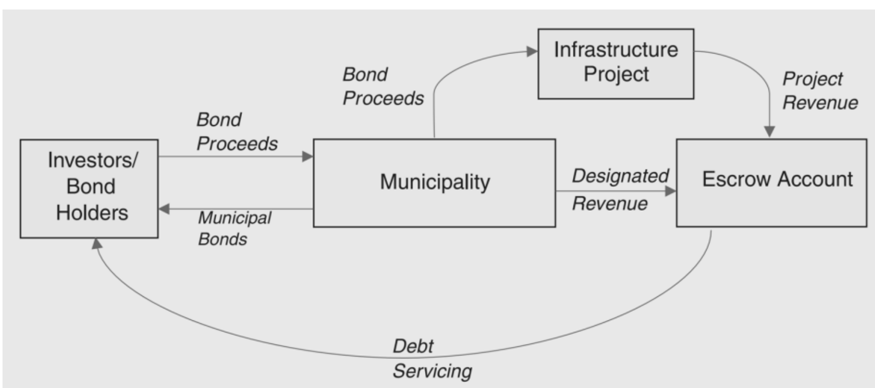
Government Securities (G-secs) and State Development Loans (SDLs) are financial instruments issued by the central and state governments, respectively, and are backed by a sovereign guarantee–explicit for G-secs and implicit for SDLs. Most municipal bonds do not include such an unconditional guarantee, thus making them riskier investments. However, the state government's backing to honor their commitment for both the principal and interest payments on municipal bonds may be considered implicit in nature. It is worth noting that no municipal corporation in India has failed to meet its debt obligations so far.

Typically, credit enhancement (not to be confused with credit enhancement in relation to Tax Increment Financing) refers to a form of assurance offered by a third party to cover the interest and principal payments of a bond in case the issuer cannot fulfill their obligations. In the case of municipal bonds issued in India, a similar objective is achieved through various strategies. Though these methods are typically meant for revenue bonds (in the US context), they are commonplace in the hybrid structure of India's municipal bonds. Some of these measures, as outlined in (Mehta, 1996), are internal to the specific bond structure:

- **Debt Service Reserve Fund**: This fund acts as a buffer against delayed debt service payments and hold enough funds to cover a predefined number of debt service charges. It may be capitalized from the bond proceeds, existing reserves of the issuing authority, or special grants. While it ensures timely payments, it doesn't necessarily guard against total default.

Replenishment procedures in case of delays could include state transfers, diversion of tax revenues, or other own revenues of the ULB.

- **Overcollateralization of Cash-flow**: This approach offers partial coverage for user charge collection delays or delinquencies without affecting the timeliness of debt servicing. Debt service coverage ratio (DSCR) of at least 1.25 throughout the tenor of the bond was one of the requirements for the issue of tax-free municipal bonds according to GoI's 2001 guidelines (SEBI, 2014).
- **Flow of Funds Structure**: The order of priority in which allocation of the revenues generated by the ULB is to happen can be specified in the bond resolution. Municipal bondholders are typically given a high ranking on the bond offer documents to further secure their interests.
- **Additional Bonds Test**: This prevents issuing new bonds with the same revenue streams unless coverage requirements for existing and new debt are met.
- **Other Covenants**: Additional covenants might address facility operation, maintenance, casualty insurance provision, approved investments for pledged funds, surplus allocation after meeting the designated flow of funds, and more.



Structured Payment Mechanism
Source: RBI, 2022

The unavailability of the above instruments for credit enhancement, would necessitate measures external to the bond security structure, like insurance or guarantees. One of the most basic types available for ULBs with weaker financial profiles is a blanket state government guarantee, which is not indicative of market worthiness. This was used for multiple issuances in the earlier phase (pre-2006) of municipal bond development in India. The potential for implementing this type of credit enhancement extensively at a larger scale is questionable due to weak state government credit profiles and substantial liabilities stemming from existing guarantees. Partial financial guarantees by USAID was another external measure which secured a couple early pooled issuances during their maiden market engagements, but was not meant as a scalable credit enhancement option.

Municipal bonds in India have used a combination of the above measures to improve credit quality. The most crucial credit enhancement undertaken is the escrowing of a portion of the municipal corporation's future cash flows to ensure the existence of a designated account from which repayment for the municipal bond could be facilitated. This placing of revenues beyond the immediate control of the ULB is essentially "a form of political risk insurance" (Vaidya and Johnson, 2001). Other financial structuring of bonds, extraordinary institutional arrangements, and redirecting funds devolved from State Finance Commissions are additional ways in which credit ratings are typically improved. However, the multiple layers of credit enhancement may have led to overcollateralization (Chattopadhyay, 2006). Bond issues where escrowed funds were deemed inadequate to mitigate credit risk, incorporated guarantees from their corresponding state governments, as in the case of Bangalore (1997), Indore (2001), Hyderabad (2004), and Chennai (2003 and 2005) (Srikumar, 2010).

AMC's 1998 bond issue, which was the first municipal bond issuance without a state government guarantee, set the precedent for credit enhancement through a combination of innovative measures meant to prioritize the municipal cash flows for debt servicing. These strategies included a dedicated escrow account of octroi taxes from ten collection centers, a pledge committing all octroi taxes and other income to bondholders in case the escrowed amount is insufficient, a condition to retain a minimum average DSCR of 1.5, a sinking fund for principal repayment, and mortgages of city property up to 1.2 times the par value of the bonds (Vaidya and Johnson, 2001). Although these recourse structures have evolved since then, they followed the general trend established by this issue.

Though the multiple levels of enhancements can substantially improve credit quality, reliance on these extraordinary measures should ideally diminish with time. Besides being expensive and increasing the cost of market finance, these financial arrangements limit the cities' future ability and flexibility in resource allocation, especially for raising additional debt, and are unsustainable in the long-term. ULBs that do not themselves meet creditworthiness requirements and issue creditworthy debt with particular structuring or under particular financial arrangements are unlikely to gain good ratings time after time and issue after issue.

Private vs. Public Placement

As per SEBI's ILMDS regulations of 2015, issuers have the option to release municipal debt securities either as a public offer or through private placement. These regulations do not hold for private placement of municipal debt securities unless they are proposed to be listed on the stock exchange(s) (SEBI, 2022).

Public issue: When municipal debt securities are offered to the public or investors through an official issue document, it is termed a public issue. For a municipal entity to conduct a public issue of these securities, the issuer must show surplus income on its Income and Expenditure statement in any of the three most recent financial years. If the issuer is a corporate entity subject to the Companies Act 2013 (like the SPVs established for the Smart Cities Mission), it must not have negative net worth in any of the three most recent financial years. The issuer is subject to a wide range of disclosures pertaining to its constitution and financial records. Public comments are sought on the draft offer document filed with the stock exchange(s). The minimum subscription amount per investor is Rs.1000, thus opening it up for retail investors.

Private placement: In a private placement, an issuer offers municipal debt securities to a limited group of individuals (up to two hundred, excluding qualified institutional buyers) through a placement memorandum. The issuer must appoint a merchant banker to undertake the disclosure requirements. The investor class usually includes public sector banks and companies, insurance companies, and foreign institutional investors, who hold these bonds from a long term horizon. The minimum subscription amount per investor is Rs.10 lakhs which was reduced from Rs.25 lakhs during SEBI's 2019 updates to the ILMDS (2015) regulations.

Until IMC's 2023 green bond issue, the only public placement of municipal bonds in India was in 1998, where AMC issued 25% of its maiden issue as a public offer. This was a deliberate attempt by AMC to encourage residents to participate in city development, mirroring practices observed in developed markets (Srikumar, 2010). Along a similar vein of inviting public participation, the CEO of Indore Smart City Development Limited (ISCDL) and the Additional Commissioner of IMC, Divyank Singh said, “We could have easily funded the power plant by getting money from banks or private players, but we have decided to reach out to the people because it gives a sense of belongingness” (Patil, 2022). He also explained that the alternative financing mechanism is meant to set an example that other municipalities can follow (Patil, 2022).

Expenses related to bond issuance can encompass accounting charges, commissions, legal expenses, printing expenditures, registration fees, and underwriting costs. These costs are already high in India due to the multiple layers of credit enhancement involving extensive financial arrangements. For public issues, these costs are even higher. This is one of the reasons public issue of bonds was discontinued after the first attempt in 1998 (until being taken up by IMC recently). The additional obligations associated with public issues, in terms of information disclosure, and the accompanying prolonged timelines were also a hindrance for their take up. Another reason was the perception that it is easier to handle stakeholder expectations for a limited group of investors compared to a diverse investor base (Srikumar, 2010). Private placement arrangements can also be tailored to align with the financial needs of both the issuer and investors, thus increasing flexibility. The trend of private placement of municipal bonds that set in was in alignment with the patterns seen in corporate bond markets on account of higher costs, higher disclosure requirements, and protracted timelines associated with retail bond offerings.

Taxation

Municipal bonds are taxed like any other listed bonds, as per the income tax slab rates. Further, the capital gains arising on the transfer of municipal bonds are not tax-exempt either. Though there was a provision to issue tax-free bonds during the earlier issuances, the scarcity of such issuances suggests that the associated eligibility criteria may be prohibitive for ULBs.

The technological, financial, legal benefits, and political considerations surrounding municipal bonds, make a compelling argument for tax-free status for these bonds, i.e. exempting the interest earned by investors from this asset class from income tax. Such a measure has the potential to drive substantial private and public sector investments towards these instruments. Additionally, it could alleviate the upward pressure on bond coupon rates, enhancing the attractiveness of bonds as a financing avenue for ULBs. In 2017, instead of providing tax-free status to municipal bonds, which could potentially disrupt the broader bond market, the government encouraged municipal corporations by proposing a compensation of 2% interest subsidy on the total size of the issue (Kumar *et al.*, 2018). This compensation eventually took the shape of the current AMRUT incentives linked to municipal bonds.

Market Performance

In February 2023, National Stock Exchange (NSE) Indices launched India's first Municipal Bond Index that tracks the performance of municipal bonds issued as per the SEBI ILMDS Regulations, 2015 (Singhania, 2023). All bond issues since 2017 (except the Amravati bond issue) can be seen on this tracker. Due to the small size and low trade volumes, liquidity in the municipal bond market is presently poor. IMC's bonds are currently the only municipal bonds seen trading (though trading flat) in the secondary market and this has to do with the fact that they are the only bonds offered via public placement. Despite the flexibility offered through the STRPP structure and the low face value of the bonds, their market activity is restricted by the small volume of the issuance and limited interest in this asset class among investors. In the case of the privately placed municipal bond issuances since 2017, though they are all listed on one or more exchanges, they offer very little liquidity since there are no willing sellers or buyers at any particular point of time. The lack of trading volume, combined with low liquidity and high face value makes the privately placed municipal bonds essentially unavailable for retail investors even in the secondary market.

Sr No.	Issuer	No of ISINs	Maturity Year	Coupon Range	Capped weights	YTM range	Issuer Level Conservative Rating	Outstanding amount (In Crores)
1	GREATER HYDERABAD MUNICIPAL CORP.	3	2028, 2029	8.90% to 10.23%	12.50%	9.43%	AA-	495
2	INDORE MUNICIPAL CORPORATION	5	2026, 2028, 2030, 2032	8.25% to 9.25%	12.50%	8.41% to 8.75%	AA	384
3	LUCKNOW MUNICIPAL CORPORATION	7	2024 to 2030	8.50% for all	11.49%	8.88% to 9.02%	AA	200
4	PUNE MUNICIPAL CORPORATION	1	2027	7.59%	11.49%	8.48%	AA+	200
5	SURAT MUNICIPAL CORPORATION	1	2024	8.68%	11.49%	8.50%	AA+	200
6	AHMEDABAD MUNICIPAL CORPORATION	1	2024	8.70%	11.49%	8.35%	AA+	200
7	MUNICIPAL CORPORATION BHOPAL	1	2025	9.55%	10.06%	9.24%	AA	175
8	GHAZIABAD NAGAR NIGAM	7	2025 to 2031	8.10% for all	8.62%	8.81% to 8.93%	AA	150
9	VADODARA MUNICIPAL CORPORATION	1	2027	7.15%	5.75%	8.46%	AA	100
10	GREATER VISAKHAPATNAM MUNICIPAL CORP.	1	2028	10.00%	4.60%	9.21%	AA	80
	Total	**28**	**3.74 yrs**	**8.62%**	**100.00%**	**8.79%**		**2,184**

Municipal Bond Index tracking municipal bond issues currently listed on the exchanges

Source: Nifty India NSE as cited in Singhania, 2023

Process of Issuing Municipal Bonds

ULBs are required to have a credit rating to be able to issue a municipal bond, as per the current regulations. One of the most challenging parts of the process of issuing municipal bonds, besides getting a credit rating, is the generation of the project to be financed. Relying on capital market borrowing for financing enforces market discipline, ensuring that only projects demonstrating adequate returns on investment, combined with a focus on risk mitigation and strong institutional structures are pursued

(Mehta and Satyanarayana, 1999). Once a bankable project has been generated, which in itself can involve various steps and multiple stakeholders, it needs to be approved by the concerned authorities at the ULB, including the Mayor-in-Council and Corporation Council representing corporators from all wards, as well as the state government, before the municipal bond issue process can begin.

There are numerous stakeholders operating in the municipal debt securities ecosystem of India. The process of raising funds through these instruments demonstrates the involvement of these stakeholders at various stages.

Municipal bond issuances within the scope of SEBI ILMDS Regulations in India follows a process containing four phases (Kalaskar, 2018):

1. The municipal body appoints the following intermediaries after using the SEBI repository to learn about the issuance process:
    - merchant banker(s) who also serves as the technical advisor(s) for the transaction are appointed as the lead manager(s) to the issue;
    - rating agency(s) to rate the particular issue;
    - registrar and transfer agent who register and maintain detailed records of the transactions of investors; and
    - debenture trustee who is the intermediary between the debenture holders (investors) and the issuing company ensuring that the terms of the debenture are adhered to and protecting the interests of the investors.
2. The Information Memorandum (IM) is prepared and the debt instrument is structured in multiple steps:
    - data collection (audits of financial statements etc.) for the IM preparation as per the SEBI guidelines;
    - structuring of the bond on the basis of the project;
    - structuring of the repayment mechanism;
    - finalization of the cash flow mechanism; and
    - preparation of the draft information memorandum as per SEBI regulations.
3. The remaining intermediaries are finalized in the subsequent steps:
    - creation of a separate escrow account for servicing the bond;
    - obtaining a rating letter and rating rationale from the selected rating agencies

- signing of the tri-partite agreement between National Securities Depository Limited (NSDL) & Central Depository Services Limited (CDSL), registrar, and issuer; and
- appointment of bankers to the issue and opening a bank account.

4. The issue/bidding process is launched through the following steps:
    - collation of the submitted bids by the book runner or arranger in case of a placement involving pre-selected investors;
    - submission of required documents by the issuer to the stock exchange in order to obtain the in-principle approval for the listing;
    - opening of the issue;
    - allotment of bonds;
    - payment of stamp duty and creation of security; and
    - listing of bonds.

Upon bond issue and listing, the ULB has to follow SEBI's post-issue compliance and will have to make continuous disclosures, as stipulated, until the maturity of the debt security.

Thus, this whole process and the frequent mandatory disclosures opens up the workings of the various departments within the municipal corporation to the many stakeholders: SEBI, stock exchanges, transaction advisors, merchant bankers, legal counsel, credit rating agency, registrar and transfer agent, auditor of the issue, escrow banker, debenture trustee, arranger, and investors. The continued scrutiny from these actors at various stages of the bond issue, up until maturity, increases transparency and puts pressure on the municipal corporation to maintain the health of the organization in the long-term (Srikumar, 2023).

Assessing Success of Issuances

Municipal finance markets remain thin, and the recent increase in municipal bond activity in the country can be attributed primarily to the central government incentives attached to municipal bond issues, thus raising concerns around the sustainability of this activity. The number of municipal bonds issued in entirety are also very far and few. In this setting, some experts express concern over rewarding instruments' creditworthiness without acknowledging the ways in which it was achieved, i.e. through extensive credit enhancements. This can create stronger incentives for cities to continue with these practices and engender path dependency, rather than progressing to raise finance on more attractive terms and become competitive in private markets.

Other concerns around bond issues by municipal authorities relate to the spending ability of ULBs. Evidence from earlier bond issues showed that the projects were not ready to absorb the funds mobilized (Chattopadhyay, 2006)—since none of the recent issues have matured yet, it is difficult to analyses if this is still the case. The overcollateralization which is typical to these issues also impedes the ULB's future ability to use its revenue. Furthermore, some of the recent bond issues have a tenor of 5 years which does not serve the purpose of the instrument whose benefit lies in allowing long-term planning and resource management—these short maturity periods are yet another indication that the current bond activity is primarily incentive driven and/or that ULBs are testing the waters through their pilot issues.

Seddon (2014) proposes "market worthiness", defined as "the ULB's institutional readiness to access and use private finance for public ends", as the benchmark for sustainable financial health of municipal governments, rather than an emphasis on creditworthiness of particular instruments which is a temporary condition. She suggests measuring progress toward market worthiness through institutional changes and city performance targets that can be centered on:

- Ways of achieving financial creditworthiness, particularly from revenues that are elastic to urban growth and quality of services delivered to citizens.
- ULB's ability to convert finance into high-quality infrastructure and services, rather than just financially viable projects.
- Systems for quickly and easily providing investors with adequate information to assess risk on an ongoing basis.
- Detailed list of criteria for benchmarking performance, unlike the broad assessments contained in city ratings.

The above suggested directions for measuring progress are important to keep in view as the municipal bond market evolves. They offer ways of evaluating municipal bond issues in ways that can help build market resilience in the long-term. However, using these guidelines to assess the current issuances, which can be considered pilot efforts to an extent, may not be very useful (from an implementation perspective) given the fundamental struggles that municipalities face in their bond issue journey. Acknowledging the many challenges (economic, political, and regulatory) overcome by ULBs in issuing bonds can help see how some ULBs are able to engage with the capital market better than others and if/how this experience can be translated to proximate contexts.

Some of the reasons for failure of bond issues initiated by ULBs include lack of political support as in the case of Pune and Vijayawada (Bagchi, 2001); insufficient commitments received upon issuance as in the case of Nagpur (2007) where poor market timing worked against the issue despite having received assistance from FIRE(D) and Indore (2002) due to concerns on credit quality, despite the rating (Singh, 2012); and lack of state government guarantee (TOI, 2018).

Urban finance in India is at a stage where private finance in and of itself is considered an achievement. The peculiarities of India's municipal bond issuances can be attributed to a large extent to the nascent stage of development of the municipal bond market. The analysis in this paper evaluates the performance of municipal bonds from within this context where the relative success of a municipal bond issue is demonstrated by the following aspects:

- The preparation necessary for issuing municipal bonds imposes rigorous demands on municipal capacity, beginning with the credit rating process which in itself can take over 2 years (Srikumar, 2023). Engaging in this process exposes ULBs to a range of scrutiny that can pressure the ULB to undertake reforms and maintain accessible records, thus increasing transparency of wide-ranging data.
- The sense of pride and self-esteem associated with the credit rating is an important motivation that can drive a ULB's employees to strive to maintain or improve this rating.
- Upon bond issuance, for the period of the tenor, ULBs are continuously monitored by the various stakeholders as described above. This longitudinal pressure can help build fiscal prudence and market worthiness as is demonstrated by ULBs which have issued multiple bonds (see section on *Technical Capacity*).

Reasons for Underutilization

India has released approximately Rs.6000 crores (including Amravati's issue) worth of municipal bonds so far, with about 20 ULBs engaging in this method of financing. This pales in comparison to the expansive Rs.120+ lakh crores (Janaagraha, 2019) Indian bond market. The insufficient financial standing, coupled with inadequate governance and management of city agencies, have hindered their capacity to issue bonds and diminished investor trust and confidence. The main underlying factors preventing the widespread adoption of municipal bonds in India primarily revolve around the limited strength of issuers, including their low ability, accountability, and autonomy within city agencies. This is further compounded by the absence of a conducive environment for their successful implementation. (Mohanty *et al.*, 2007; Srikumar, 2010; Janaagraha, 2019)

Janaagraha's (2019) study on the subject summarizes its findings into four categories:

1. Issuer ability is largely limited by incapacity to develop financial plans and reports; inability to enhance internal revenue; unpredictable allocation of grants and transfers; inefficiency in conceiving and executing projects; and inability to effectively manage debt issuance and repayment.
2. Issuer accountability suffers from inadequate implementation of sound fiscal and accounting practices; absence of well-crafted city development plans; insufficient emphasis on performance management; and lack of meaningful citizen engagement.
3. Issuer autonomy related constraints include restricted independence in creating long-term plans and developing infrastructure; and obligation to generate revenue and impose taxes within specific mandates.
4. Challenges related to an enabling environment are centered on unfavorable conditions for increased debt adoption and decreased reliance on grants by city agencies; limited information sharing and collaboration between investors and city agencies; insufficient incentives for investors, particularly retail investors, to participate in municipal bond subscriptions.

Note: The following table is a compilation of the municipal bonds issued in India so far. The data is sourced from wide ranging literature including academic articles and reports (Vaidya and Vaidya, 2008; Srikumar, 2010; World Bank, 2011; RBI, 2022), offer documents on SEBI, investment analyses etc. It may not be a complete representation and there may be errors arising from the data used. It should be noted that details about multiple issues vary slightly across the available sources, and this is dealt with through a comparison across multiple sources and noting the most reliable option. Data on election results for local, state, and central governments was compiled through media reports available online.

Year	City	Size (Cr)	Purpose	Rating	Interest	Tenor	Placement	Taxable	Guarantee	Escrow	Local	State	National
1997	Bengaluru	125.00	City Roads, Drains, & Street Lighting	A(SO)	13.00%	7	Private	Yes	State	State grants & property tax	NA	JD	UF Coalition (including
1998	Ahmedabad	100.00	Water Supply & Sewerage	AA(SO)	14.00%	7	Public & Private	Yes	No	Octroi from 10 collection points	BJP	RJP	UF Coalition (including
1999	Nashik	100.00	Water Supply, Sewerage, & Roads	AA(SO)	14.75%	7	Private	Yes	No	Octroi from 4 collection points	INC	NDA coalition	NDA coalition
1999	Ludhiana	10.00	Water Supply & Sewerage	LAA-(SO)	13.5% to 14%	7	Private	Yes	No	Water & sewerage taxes & charges	SAD-B	NDA Coalition (including SAD-B)	NDA coalition
2000	Nagpur	50.00	Water Supply	LAA-(SO)	13.00%	7	Private	Yes	No	Property tax & water charges	BJP	UPA coalition	NDA coalition
2001	Madurai	30.00	City Roads & Refinance TNUDF Loan	LA+(SO)	12.25%	15	Private	Yes	No	Tolls from road deposited daily	DMK	DMK	NDA coalition
2001	Indore	10.00	Improvement of City Roads	A(SO)	11.50%	7	Private	Yes	State	State grants & property tax	BJP	INC	NDA coalition
2002	Ahmedabad	100.00	Water Supply & Sewerage	AA(SO)	9% (floating)	10	Private	No	No	Property tax revenues	BJP	BJP	NDA coalition
2002	Hyderabad	82.50	Water Supply & Sanitation in 14 ULBs	AA+(SO)	8.50%	7	Private	No	State	Taxes: Nonresidential property, professional, ad, entertainment; stamp duty; & town planning charges	TDP	TDP	NDA coalition
2002	Tamil Nadu Water & Sanitation Pooled Fund	30.20	Refinancing Loans for Water & Sanitation Projects of 13 ULBs	LAA+(SO)	9.20%	15	Private	Yes	USAID (partly)	NA	-	AIADMK Coalition (including INC)	NDA coalition
2003	Nashik	50.00	Underground Sewerage & Storm Water Drainage	NA	7.50%	5	Private	No	No	NA	SHS	UPA coalition	NDA coalition
2004	Vishakhapatnam	50.00	Water Supply	AA-(SO)	7.75%	7	Private	Yes	No	Property tax	INC	TDP	UPA coalition
2004	Vishakhapatnam	50.00	Water Supply	NA	NA	NA	Private	No	NA	NA	INC	TDP	UPA coalition
2004	Ahmedabad	58.00	Water Supply, Storm Water Drainage, Roads & Bridges	NA	6.40%	10	Private	No	No	Octroi & property tax revenues	INC	BJP	UPA coalition

Year	City	Size (Cr)	Purpose	Rating	Interest	Tenor	Placement	Taxable	Guarantee	Escrow	Local	State	National
2004	Hyderabad Metropolitan Water Supply & Sewerage Board	50.00	Drinking Water	NA	7.00%	6	Private	No	State	NA	TDP	TDP	UPA coalition
2004	Chennai Metropolitan Water Supply & Sewerage Board	42.00	Water Supply Augmentation Project	NA	5.20%	7	Private	No	State	NA	AIADMK	AIADMK Coalition (including INC)	UPA coalition
2005	Ahmedabad	100.00	Roads & Water Supply	NA	7.50%	10	Private	No	No	Octroi & property tax revenues	INC	BJP	UPA coalition
2005	Thane	50.00	Sewerage	NA	8.00%	8	Private	Yes	NA	NA	NA	NCP Coalition (including INC)	UPA coalition
2005	Thane	50.00	Sewerage	NA	6.50%	8	Private	Yes	NA	NA	NA	NCP Coalition (including INC)	UPA coalition
2005	Chennai Metropolitan Water Supply & Sewerage Board	50.00	Water Supply	NA	NA	7	Private	No	State	NA	AIADMK	AIADMK Coalition (including INC)	UPA coalition
2005	Karnataka Water & Sanitation Pooled Fund	100.00	Water Supply for 8 ULBs, Greater Bangalore Water Supply & Sanitation	NA	5.90%	15	Private	No	USAID (partly)	NA	-	INC	UPA coalition
2007	Nagpur	21.20 (partial)	Water Supply & Sewerage	AA(SO)	7.75%	NA	Private	No	NA	NA	NA	NCP Coalition (including INC)	UPA coalition
2008	Tamil Nadu Water & Sanitation Pooled Fund	6.70	NA	NA	7.25%	10	Private	No	NA	NA	-	DMK Coalition (including INC)	UPA coalition
2010	Vishakhapatnam	30.00	Water Supply	NA		NA	Private	No	NA	NA	INC	INC	UPA coalition
2010	Tamil Nadu Water & Sanitation Pooled Fund	83.19	NA	NA	7.50%	10	Private	No	NA	NA	-	DMK Coalition (including INC)	UPA coalition
2010	Karnataka Water & Sanitation Pooled Fund	300.00	Lending to ULBs via Directorate of Municipal Administration	NA	NA	NA	NA	NA	NA	NA	-	BJP	UPA coalition
2012	Tamil Nadu Water & Sanitation Pooled Fund	51.00	NA	NA	10.60%	10	Private	Yes	NA	NA	-	AIADMK	UPA coalition

Municipal bond issues in India | *Source: Compiled by author from numerous sources (see note above table)*

Year	City	Size (Cr)	Purpose	Rating	Interest	Tenor	Placement	Taxable	Guarantee	Escrow	Local	State	National
2013	Tamil Nadu Water & Sanitation Pooled Fund	51.00	NA	NA	8.70%	10	Private	Yes	NA	NA	-	AIADMK	UPA coalition
2017	Pune	200.00	Water Metering Project	AA+(SO)	7.59%	10	Private	Yes	No	Property tax & water tax	BJP	NDA coalition	BJP
2018	Hyderabad	200.00	Strategic Road Development Project	AA-(SO)	8.90%	10	Private	Yes	No	Property tax & user charges	TRS	TRS	BJP
2018	Indore	139.90	Development of Infrastructure	AA(SO)	9.25%	10	Private	Yes	No	Own tax & non-tax revenue	BJP	BJP	BJP
2018	Hyderabad	195.00	Strategic Road Development Project	AA-(SO)	9.38%	10	Private	Yes	No	Property tax & user charges	TRS	TRS	BJP
2018	Amravati (AP Capital Region Development Authority)	2000.00	Capital region development	A+(SO)	10.32%	10	Private	Yes	State	State grants	TDP	TDP	BJP
2018	Bhopal	175.00	Development projects under AMRUT	AA(SO)	9.55%	10	Private	Yes	No	Property tax, water tax, fees & user charges	BJP	BJP	BJP
2018	Vishakhapatnam	80.00	Development of Sewerage System & Treated Water Supply	AA(SO)	10.00%	10	Private	Yes	No	Property tax, vacant land tax, & bulk water supply charges	NA	TDP	BJP
2019	Ahmedabad	200.00	Development projects under AMRUT	AA+(SO)	8.70%	5	Private	Yes	No	Property tax & user charges	BJP	BJP	BJP
2019	Hyderabad	100.00	Strategic Road Development Project	AA-(SO)	10.23%	10	Private	Yes	No	Property tax & user charges	TRS	TRS	BJP
2019	Surat	200.00	Development projects under AMRUT	AA+(SO)	8.68%	5	Private	Yes	No	Property tax & user charges	BJP	BJP	BJP
2020	Lucknow	200.00	Water Supply & Residential Projects	AA(SO)	8.50%	10	Private	Yes	No	Property tax, fees & user charges	BJP	BJP	BJP
2021	Ghaziabad	150.00	Tertiary Sewage Treatment Plant	AA(SO)	8.10%	10	Private	Yes	No	Property tax & revenue grants	BJP	BJP	BJP
2022	Vadodara	100.00	Water Supply & Sewerage	AA(SO)	7.15%	5	Private	Yes	No	All collected taxes	BJP	BJP	BJP
2023	Indore	244.00	Solar Power Plant for Drinking Water	AA(SO)	8.25%	9	Public	Yes	No	Own tax & non-tax revenue	BJP	BJP	BJP

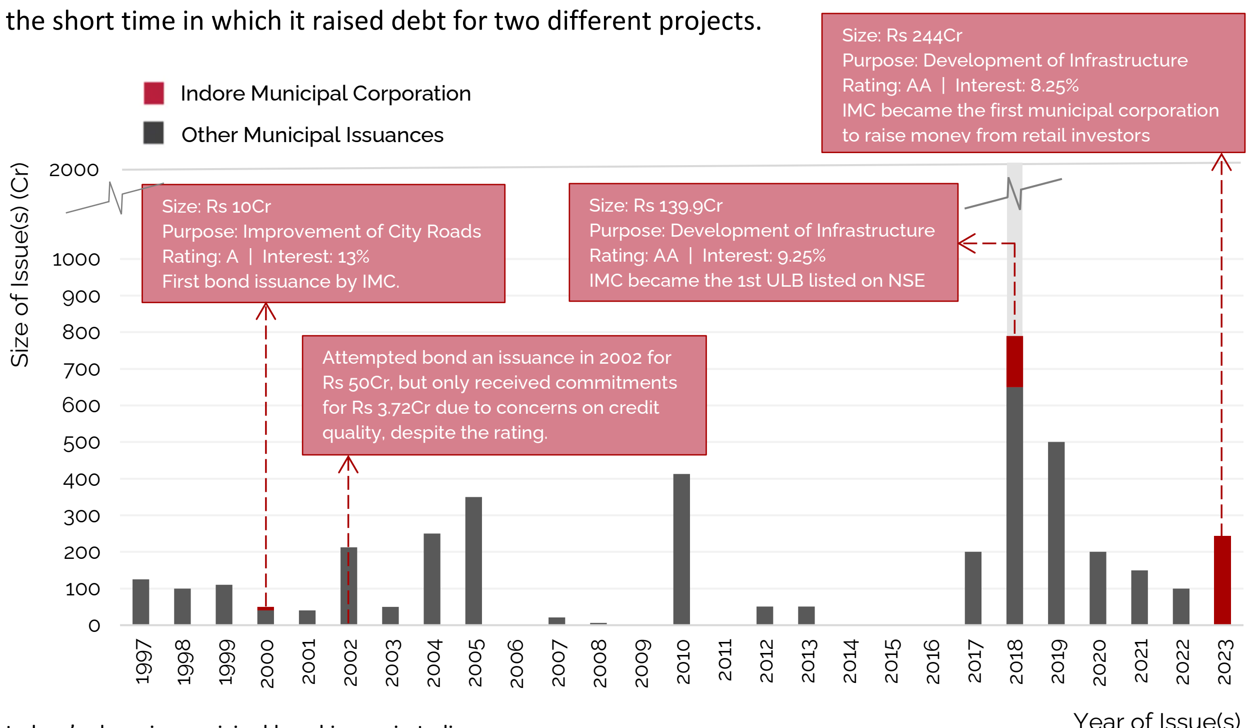
Municipal bond issues in India | *Source: Compiled by author from numerous sources (see note above table)*

Indore's Experience

Indore is a city in west-central India. It is the largest and most populous city in the state of Madhya Pradesh and the largest metropolitan city in central India. It serves as the state's financial capital and is a commercial center for good and services, a major transshipment hub, a center for manufacturing oil extraction machinery and hosts the largest grain and vegetable markets of Madhya Pradesh (Vaidya and Vyas, 2003). Indore has a large informal sector and as of 2013, 38% of the city's population are estimated to live in informal settlements (IMC, 2013).

Indore's Participation in the Municipal Bond Market

The graph below comprises all the municipal bond issuances in India so far (based on the above table). The erratic nature of the issuances is a sign of the under-developed stage of this market in India. Despite the same challenges as other ULBs across India, Indore Municipal Corporation has managed to raise a total of Rs.393.9 crores through bond financing over three issues (2000, 2018, 2023). Of this, the two recent issuances amount to Rs.383.9 crores. Additionally, its latest issuance worth Rs.244 crores is one of the largest amounts to be raised through a single issuance, by a single ULB. As mentioned earlier, this issuance made IMC the second ever civic body to raise funds from retail investors. It is also unique given the short time in which it raised debt for two different projects.



Indore's share in municipal bond issues in India

Source: Compiled by author from numerous sources (see note on pg 38)

IMC's Green Bonds

Green bonds refer to bonds raising funds for green infrastructure projects. Though most municipal bonds so far can be understood as green bonds given their water and sanitation focus, this categorization intends to target investments and funds towards specific projects as outlined by SEBI. This trend reflects a broader pattern in urban finance at the national level. Indore Municipal Corporation is the second ULB to release green bonds after Ghaziabad Nagar Nigam in 2021.

Indore released its first green bonds in February 2023, soon after the city hosted a five-day summit in January which aimed to encourage domestic and foreign investment in the government's development efforts (Vats, 2022). The event marked the Pravasi Bharatiya Divas, i.e. day of Non-Resident Indians (NRIs), which engaged members of the diaspora to strengthen their ties with the government, and the Invest Madhya Pradesh Global Investor Summit which pitched the state as an attractive investment opportunity to the congregation of investors and industries. According to Ashishkumar Chauhan, the MD & CEO of NSE, "[t]he launch of green bond issue by Indore Municipal Corporation is a great example of cooperative federalism & depth of local governance model in India" (Press Trust of India, 2023).

Particulars of Bond Issue

The bond offer document filed with SEBI (IMC, 2023) describes the instrument in great detail.

- Instrument: Rated, listed, taxable, secured, redeemable, non-convertible debenture (NCD).
- Mode of Issue: Public issue by Indore Municipal Corporation. The face value of each bond is Rs.1000 and comprises of four separately transferable and redeemable principal parts (STRPP) each of face value Rs.250. A STRPP offers part payment of principal along with due interest at pre-defined tenures. Once listed, they can be traded separately, thus offering added flexibility.
- Issue Size: The total size of Rs.244 crores ($29.7 million), comprising a base issue size of Rs.122 crores and an option to retain oversubscription of up to Rs.122 crores which is referred to as the "green shoe option". They will not be listed if IMC does not receive a minimum subscription of 75% of the base issue, as per SEBI ILMDS Regulations for a public issue of debt securities.
- Coupon Rate: 8.25% per annum payable half-yearly for each STRPP.
- Tenor (i.e. time-to-maturity): STRPP A of an NCD – 3 years
STRPP B of an NCD – 5 years
STRPP C of an NCD – 7 years
STRPP D of an NCD – 9 years

- Credit Rating: IMC's green bonds underwent assessment by two rating agencies, India Ratings & Research Private Limited and CARE Ratings Limited. While the former assigned them a rating of 'IND AA+/Stable', the latter granted them a rating of 'CARE AA; Stable'.
- This issue is not backed by any guarantee of the state or the central government.
- Purpose: Funds to be used to reduce IMC's financial burden related to the drinking water needs of the city. Indore aims to install a 60MW ground mounted captive solar PV power plant at Jalud pumping station to fetch water from the Narmada River. Sites of 165.20 and 45.64 acres in villages in Khargone district (~80 km away) have been identified for the project.

The solar power plant is also envisioned as a cost saving mechanism for the ULB, allowing it to save up to Rs.7 crores per month in the exercise of pumping Narmada water from Jalud to Indore when the proposed solar power plant recovers its cost (PTI, 2023). Additionally, carbon credits generated through this project are to be traded on the global carbon credit market, which IMC has been part of since 2018, to generate more earnings.

Risk Factors

This part of the paper discusses the potential risks associated with IMC's green bonds, as listed in the bond offer document submitted to SEBI (IMC, 2023), to give detail and clarity on the kind of issues faced by ULBs, specifically IMC, in accessing the capital market:

Project related and internal risks may arise from unanticipated delays in implementation and cost overruns of the project; accelerated loan repayments or cross-defaults resulting from financial agreements with other lenders who impose restrictions on creation of security interest over IMC's assets or raising additional debt; unresolved dispute between the state government and the Ministry of Defense over an unsecured borrowing (during 1975-1987) which was subsumed in IMC; lack of access to records pertaining to IMC's constitution as a municipal corporation; considerable dependence on timely GST compensation from the state affects IMC's liquidity position; pending decisions in legal proceedings and claims may have material effects; delays or inability to obtain, renew, or maintain project related permits and approval; leakage of tax collections due to fraud or technical faults will affect availability of funds; inability to raise funds in a timely manner through these bonds will further impact IMC's eligibility to receive the central government incentives which are tied to the bonds; dependence on central and state government for timely and complete disbursal of grants and budgetary allocation; inconsistent/incomparable revenue collections due to migration of accounting software to E-Nagar

Palika platform (FY 2021) and first time levy of betterment tax (FY 2022); low current demand collection ratios of property tax; uncertainty caused by the COVID-19 pandemic; inability to comply with terms and conditions associated with the Viability Gap Funding scheme may impact grant payment; project related weaknesses identified in the DPR pertaining to relocation of overhead transmission line passing through the proposed site, encroachment by locals on a portion of the site and completion of registration with the state's energy department; ability to pay coupon and redeem principal depend on various factors affecting IMC's financial condition; non-applicability of SARFAESI (Securitisation and Reconstruction of Financial Assets and Enforcement of Security Interest Act, 2002) to IMC can protract the recovery proceedings in case of any default; potential consequences to instances of delays and non-compliances with post listing requirements applicable to IMC's existing NCDs listed on NSE.

Risks related to the issue and green bonds include interest rate risk emerging from potential changes to interest rates which are inversely related to the price of the bonds; revisions to the credit ratings (which may not reflect all risks) of IMC or its instruments by the rating agencies affecting the bond value; lack of an active market for green bonds on the stock exchange may adversely impact the bonds' liquidity and market prices; delay in making refunds; no assurance that the bonds issued will be listed on the stock exchanges in a timely manner or at all, depending on the necessary procedures and permissions; returns received in the form of interest or sale of bonds may be subject to taxes; legalities concerning investment activities of certain investors; changes in central and state level policies may affect IMC's revenue collection and/or expenditure; the bonds may be affected by changes to Indian law or administrative practice; operational risks include petty theft, employee negligence, burglary, embezzlement, and fraud; unforeseen risks related to maiden offering of NCDs by a municipal corporation bearing STRPP structure.

External risk factors include differences in information availability on municipal corporations in India versus other countries with more developed securities markets; prevailing political scenario with respect to periodic elections and/or rotation of the officers may shift policy focus and impact IMC's ongoing activities; labor related risks arising from difficulty in maintaining flexible human resource policies due to stringent labor regulations and work stoppages by industry labor unions; natural calamities, pandemics, protest, riots, terrorism etc. may delay project implementation; changes in regulations to which IMC is subject could impair its profitability and future financial performance.

Cost and Sources of Funds

IMC's green bonds are eligible for a central government incentive from the Ministry of Housing and Urban Affairs (MoHUA), under AMRUT 2.0 whose objective is to make cities self-reliant and water-secure. Eligibility for incentives is based on the issuance of municipal bonds, with the first 20 urban local bodies receiving incentives on a "first come, first serve" basis during the program period (FY 2021 to FY 2025). ULBs which have already availed this incentive, can claim further incentive if their subsequent issuances meet SEBI's definition of green bonds. This incentive amounts to Rs.10 crores for every Rs.100 crore of green bonds issued, up to a maximum of Rs.20 crores per ULB. (IMC, 2023)

Additionally, IMC is entitled to a grant through the Viability Gap Funding (VGF) program under one of Ministry of New and Renewable Energy's (MNRE's) solar schemes, based on the volume of solar power installed. IMC was selected by MNRE for setting up solar power plants with an allocated capacity of up to 100MW, 60MW of which it is proposing to build at Jalud (IMC, 2023; MNRE, 2023). Thus far, it has been uncommon to see this structure of financing projects, where almost the entirety of funding is coming (directly and indirectly) through a single municipal bond issuance. The extent to which IMC can manage expenses to achieve this is yet to be seen.

Cost of Proposed Project *(Source: IMC, 2023)*	**(in Cr)**
Land, Civil, electrical, and Mechanical works (including GST of 37.68)	299.77
Preliminary / Pre-operative expenses (2%)	5.23
Total	**305.00**

Capital Structure for the Proposed Project *(Source: IMC, 2023)*	**(in Cr)**
IMC Contribution (including GoI/GoMP grants and internal accruals)	At least 20%
Ministry of New and Renewable Energy through Solar Energy Corporation of India Limited (based on the volume of solar power installed)	41.28
AMRUT 2.0 Incentive (Rs.10 Cr/Rs.100 Cr raised)	20.00
External Borrowing (Net proceeds of the Issue)	244.00
Total	**305.28**

Outstanding Debt

IMC's existing borrowings are listed in the offer document (IMC, 2023) to give investors an idea of the debt obligations bearing on the ULB. The last item on the list refers to its bond issue in 2018.

Lender *(Source: IMC, 2023)*	**Amount Sanctioned (in Cr)**	**Amount Outstanding (in Cr)**
Housing and Urban Development Corporation Limited	18.25	6.73
Housing and Urban Development Corporation Limited	52.42	4.02
Asian Development Bank	352.59	105.78
SBI	170.00	144.43
SBI	150.00	115.34
National Safai Karamcharis Finance & Development Corp	12.21	9.86
NCD – June 2018	139.90	139.90
Total	**895.37**	**526.06**

Structured Payment Mechanism

IMC was required to create a first pari-passu charge and escrow mechanism in favor of the bondholders on the own revenues of IMC along with the existing holders of its previous bonds (2018). This ensures that the debt servicing would be proportional to the size of the issue, i.e. 140:244. Additionally, the escrow account is to maintain twice the amount of annual debt payments including both interest and principal payments. These payments are made through the amounts being transferred from escrow to the interest payment account (IPA) and the sinking fund account (SFA) for principal repayment.

Investor Perspective

Industry literature reviewing the bonds describes the following strengths and weaknesses.

Strengths include strong financials with consistency in reporting revenue surplus; adequacy of escrowed cash flows for debt servicing; Structured Payment Mechanism with appropriate Debt Service Reserve Accounts; and monitoring of the reserve accounts by debenture trustee.

Weaknesses include possibility of untimely execution of project and cost overruns; timely receipt of grants and incentives from the central and state governments; moderate tax collections; illiquidity of Green Bonds on the stock market; non-applicability of SARFAESI; and political risks.

Bond Performance

Category	Issue Size		Bonds Subscribed		Amount Oversubscribed		No. of Times Oversubscribed
	(₹Billion)	(~$ Billion)	(₹Billion)	(~$ Billion)	(₹Billion)	(~$ Billion)	
Institution	0.61	0.007	1.074	0.013	-0.464	-0.006	1.76
Corporate	0.61	0.007	1.218	0.015	-0.608	-0.007	2
HNI	0.61	0.007	0.020	0.000	0.590	0.007	0.03
Retail	0.61	0.007	0.718	0.009	-0.108	-0.001	1.18
Total	***2.44***	0.030	***3.029***	0.037	***-0.589***	-0.007	***1.24***

Investor response to IMC's green bond issue
Source: Ranjan, 2023

The issue was oversubscribed 1.24 times (Ranjan, 2023), i.e. a higher demand was recorded than the number of shares available. The level of interest from various investors in these bonds can be inferred, to some extent, from the number of times their share of the issue was oversubscribed:

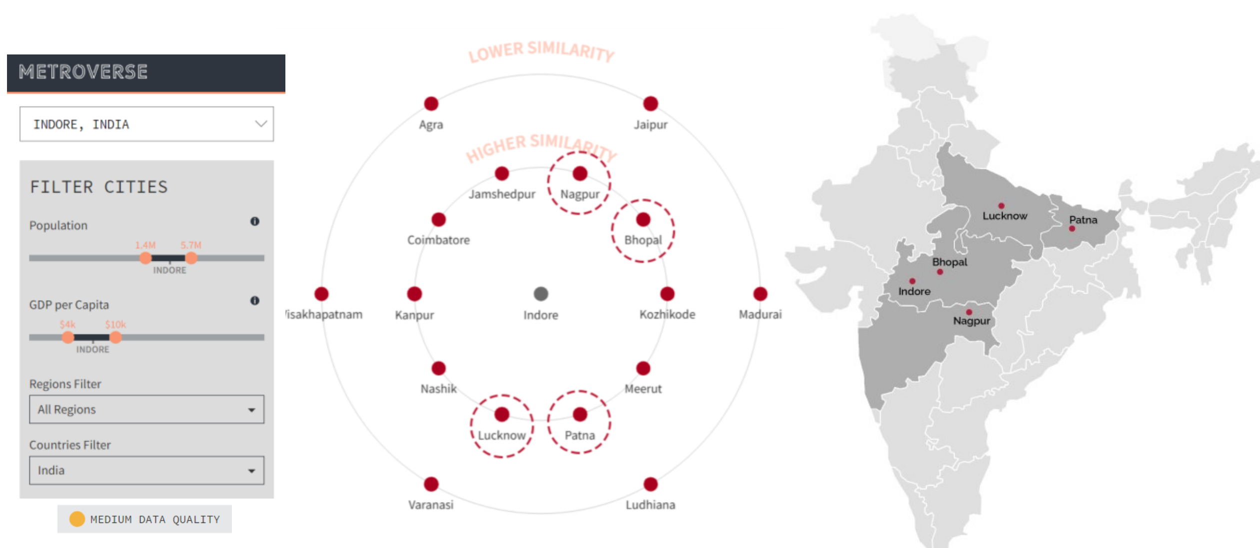
- Institutional investors, including public financial institutions, scheduled commercial banks, multilateral and bilateral development financial institutions etc., seemed to have been significantly interested in these bonds, oversubscribing their share by 1.76 times.
- Corporate investors, including non-institutional investors, companies, statutory bodies/ corporations and societies etc., seemed to have been most interested in these bonds.
- High Net-Worth Individuals (HNIs) were the only investor group who did not subscribe to their designated share of the issue. This may be because of the taxable nature of the investment.
- Retail investors oversubscribed for the issue by 1.18 times. Given that this was the first municipal bond issue available for retail investors, this is a positive sign in the potential for future municipal bonds to attract investment from this category.

The interest from retail investors in IMC's bonds is a noteworthy phenomenon. It is difficult to ascertain if this interest is related to the green infrastructure focus of the bond since there are no other bonds available for retail investment to compare with. The fact that IMC was able to open up its issue to this investor class is encouraging, and could indicate a certain level of investor confidence, however the lack of data on the investors and their rationale behind these investments prevents any definite conclusions. Alternatively, one interviewee suggested that this oversubscription may in fact be manufactured demand, where the arrangers work with pre-selected investors to create the perception of an attractive investment. This is not an uncommon practice in India's shallow municipal bond market, since it not only makes the instrument (and the issuer as an extension) seem marketable but also works to ensure that enough commitments are received so as to avoid failure of the bond issue. In this regard, some industry professionals believe that the public placement aspect of the bond is mostly just optics, especially given the higher costs associated with a public placement.

Comparison with Proximate Contexts

To understand the factors that enabled Indore's green bond issue in 2023 soon after its 2018 bond issue, the financial performance of Indore Municipal Corporation is analyzed and compared with other municipal corporations of a similar population and GDP.

The cities were identified with the help of Metroverse (CID, 2023), a tool that assesses the similarity between urban economies, of comparable population and GDP, by calculating competitiveness in the same industries to reveal 'sister' cities that share analogous growth prospects and hurdles. The selected cities are Lucknow, Patna, Nagpur, and Bhopal. Another important similarity across these cities is that they are all currently led by the National Democratic Alliance (NDA). State governments are also NDA led, except for Bihar where the NDA coalition fell apart in 2022. Since the national government is NDA led as well, there is political alignment across all levels of the government in chosen cases, expect Patna.



Left & Center: Metroverse showing cities most similar to Indore based on population and GDP
Source: Metroverse (CID, 2023)

Right: Map locating the chosen cities
Source: Author

Municipal Corporation	2011 Census	2023 Estimate	GDP per capita
Indore Municipal Corporation (IMC) Madhya Pradesh	1,964,086	2,298,766	₹ 1,51,101
Lucknow Municipal Corporation (LMC) Uttar Pradesh	2,817,105	3,263,898	₹ 96,000
Patna Municipal Corporation (PMC) Bihar	1,684,222	2,079,004	₹ 1,08,657
Nagpur Municipal Corporation (NMC) Maharashtra	2,405,665	2,673,897	₹ 2,46,750
Bhopal Municipal Corporation (BMC) Madhya Pradesh	1,798,218	2,104,634	₹ 1,47,000

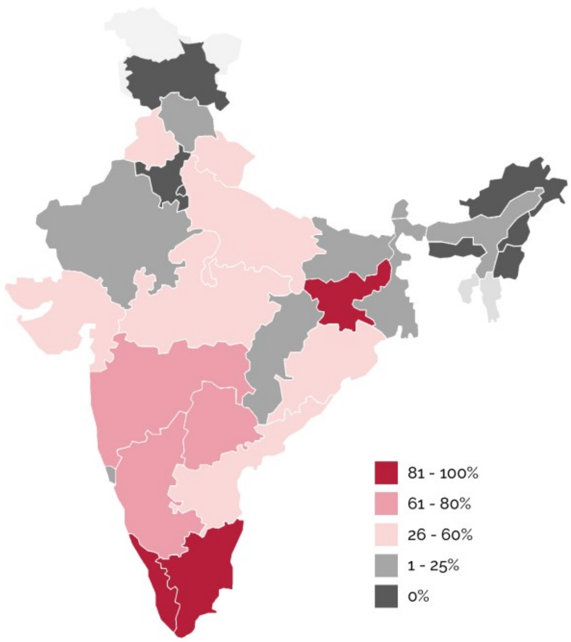
Population and GDP of the chosen cities
Source: India Census, 2023; Wikipedia, 2023

	Rating History	Municipal Bonds	Octroi (pre-GST introduction in 2017)
IMC	BBB (2008); A+ (2017) Upgraded	2001; 2002 (failed); 2018; 2023	Abolished in 1976 (MP)
LMC	BB (2008); A- (2017) Upgraded	2020	Abolished in 1986 (UP)
PMC	Not Rated	None	Never had octroi (BR)
NMC	A (2008); BBB (2017) Downgraded	2000; 2007 (partial issue)	Started to abolish in 1999; Briefly abolished in 2013; Reinstated in 2014 (MH)
BMC	BBB (2008); A- (2017) Upgraded	2018	Abolished in 1976 (MP)
Source	*City Finance, 2022*	*See note on p.38*	*NIUA, 1998; Wikipedia, 2023*

Challenges of Dealing with Municipal Accounts

Effective policy design and their efficient execution depends on access to historical data on financial performance pertaining to the ULB's revenues and expenditures; snapshot of the financial state at a given time, encompassing owned assets and assumed liabilities; and cash flow information over a designated time frame (ICAI ARF, 2023). The biggest challenge in comparing the selected cities pertains to the difficulties in dealing with their municipal accounts due to non-uniform financial records across different cities and states; varying availability of documents online across cities and financial years; improper classification of items under the various heads in accounts and budgets; inconsistent record keeping across years as systems migrate and reforms are adopted; unavailability of disaggregated details online in the case of some cities (eg: Indore has not published detailed budget reports online); finances of some cities being published only in the local language (eg: Lucknow' budget); significant differences across budget estimates, revised estimates and actual expenditure; and lack of easy access to historic records.

In this respect, the launch of the City Finance portal by MoHUA in 2020 (City Finance, 2022) is an important step towards standardizing financial information on cities to allow access to timely and credible data. The range of financial and operational performance indicators made available aim to facilitate benchmarking, comparison, and peer learning among cities. However, as of August 2023, the platform is still underdeveloped and has a long way to go in terms of achieving its vision. Though the financial data accessible through the website is incomplete, it allows rough comparisons based on the limited data and it shows how much data is available on the different states.



Data availability on City Finance:
Maharashtra: 81-100%
Madhya Pradesh and Uttar Pradesh: 26-60%
Bihar: 1-25%
Source: City Finance, 2022; Author

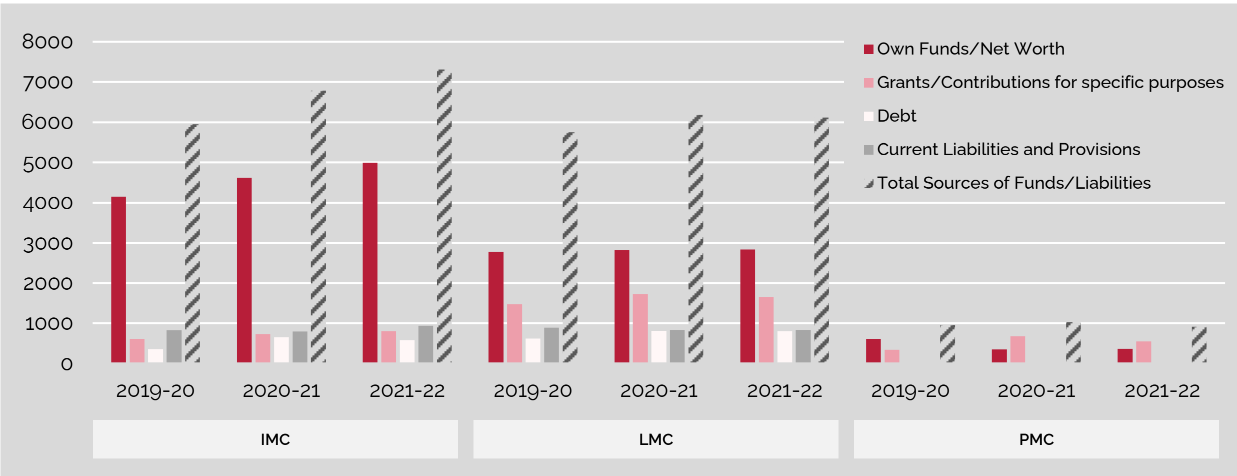
For the purpose of the following financial analysis, data was collected directly from available budgets, and audit reports on the cities' websites and made comparable as best possible given the variation in bookkeeping. Where available, data disclosed in municipal bond offer documents filed with SEBI were utilized. The latter proved to be a great resource and demonstrated the difference in information availability between ULBs that have issued bonds recently and those that have not, from among the selected cities. Very little data was available online for NMC and BMC as of August 2023; empty fields in the following table can be interpreted as unavailable.

	Indore Municipal Corporation			Lucknow Municipal Corporation			Patna Municipal Corporation			Nagpur Municipal Corporation			Bhopal Municipal Corporation		
Balance Sheet	2019-20	2020-21	2021-22	2019-20	2020-21	2021-22	2019-20	2020-21	2021-22	2019-20	2020-21	2021-22	2019-20	2020-21	2021-22
Liabilities									Revised Est			Revised Est			
Own Funds/Net Worth	**4152.11**	**4616.16**	**4994.85**	**2774.38**	**2818.70**	**2836.45**	**612.02**	**349.87**	**361.64**				4210.00	4510.06	4817.39
Grants/Contributions for specific purposes	613.50	727.26	799.23	1475.18	1725.02	1651.42	338.90	671.48	547.98						
Debt	354.18	648.45	579.43	616.89	807.55	799.20	0.00	5.34	0.00	261.30	254.38	261.36	336.80	315.70	289.04
Current Liabilities and Provisions	829.18	792.34	936.45	886.13	832.47	832.81	0.93	1.16	2.61						
Total Sources of Funds/Liabilities	**5948.97**	**6784.21**	**7309.96**	**5752.58**	**6183.74**	**6119.88**	**951.85**	**1027.85**	**912.23**						
Assets															
Fixed Assets	3487.96	3655.38	3724.69	2928.86	2948.55	3062.02	190.23	153.66	147.47						
including Capital Work-in-Progress	1515.86	1710.33	873.02	8.78	11.70	17.27	43.14	108.57	118.64						
Investments	232.36	261.52	315.26	2.51	36.66	86.82	0.00	0.00	0.00						
Current Assets	2226.52	2865.92	3268.92	2821.21	3198.53	2971.04	626.59	499.04	662.45						
including Cash and Bank Balances	234.69	473.81	372.95	539.39	911.12	579.25	607.33	495.21	626.84						
Other Assets	2.13	1.39	1.09	0.00	0.00	0.00	135.03	375.15	102.31						
Total Application of Funds/Assets	**5948.97**	**6784.21**	**7309.96**	**5752.58**	**6183.74**	**6119.88**	**951.85**	**1027.85**	**912.23**						
Income & Expenditure	2019-20	2020-21	2021-22	2019-20	2020-21	2021-22	2019-20	2020-21	2021-22	2019-20	2020-21	2021-22	2019-20	2020-21	2021-22
Income															
Own Revenue:	**846.42**	**741.53**	**898.27**	**362.28**	**394.81**	**373.06**	**76.26**	**92.51**	**114.53**	**540.02**	**581.44**	**718.74**	**398.84**	**454.19**	
Tax Revenue	567.15	487.95	511.03	261.31	315.72	282.20	61.96	76.32	75.56				302.88	326.65	331.10
Fees & User Charges	193.27	168.74	285.41	46.63	37.75	58.28	3.56	3.44	30.68						
Other Own Revenue	86.00	84.84	101.83	54.34	41.34	32.58	10.74	12.75	8.29						
Grants & Assigned Revenue:	**828.94**	**823.41**	**909.16**	**699.83**	**755.32**	**956.47**	**210.04**	**233.10**	**357.85**	**1201.98**	**1235.56**	**1459.26**	**574**	**542**	
Assigned Revenues & Compensation	581.63	553.65	646.53	0.68	0.16	34.33	46.96	83.64	49.89				313	300	
Grants, Contributions & Subsidies	247.31	269.75	262.63	699.15	755.16	922.13	163.08	149.46	307.96				261	242	
Total Revenue	**1675.36**	**1564.94**	**1807.43**	**1062.11**	**1150.13**	**1329.53**	**286.30**	**325.61**	**472.38**	**1742**	**1817**	**2178**	**972.84**	**996.19**	**1093.04**
Expenditure															
Establishment Expenses	413.42	417.29	430.34	403.20	426.30	492.56	239.51	199.99	176.15						
Administrative Expenses	57.99	63.50	82.65	9.67	16.80	20.27	18.68	16.30	27.53						
Operations & Maintenance	376.76	390.11	514.27	424.52	479.88	503.76	132.95	121.04	152.92						
Interest & Finance Expenses	28.61	31.57	35.43	0.00	0.00	17.01	0.04	0.02	0.04						
Revenue Grants, Contributions & Subsidies	62.80	48.60	70.42	3.19	4.70	125.37	0.88	0.00	0.00						
Provisions & Write Off	144.77	12.71	0.00	55.70	69.00	17.02	0.00	0.00	0.00						
Depreciation	244.62	250.12	274.96	111.95	116.63	124.03	0.00	0.00	0.00						
Other Expenses	7.79	10.92	10.21	4.33	7.11	5.66	1.67	1.96	38.67						
Total Expenditure	**1336.76**	**1224.82**	**1418.28**	**1012.56**	**1120.42**	**1305.68**	**393.73**	**339.31**	**395.31**	**1313**	**1118**	**1450**	**840.43**	**913.37**	**1005.11**
Prior Period Items	0.00	0.00	0.00	0.00	-12.13	-6.19	0.00	0.00	0.00						
Transfer to Reserve Funds	-79.81	-74.59	-86.15	0.00	0.00	0.00	NA	NA	NA					0.08	0.07
Surplus (Profit)	258.79	265.53	303.00	49.55	17.58	17.66	-107.43	-13.70	77.07	429	699	728	132.41	82.82	87.93
Ratios	2019-20	2020-21	2021-22	2019-20	2020-21	2021-22	2019-20	2020-21	2021-22	2019-20	2020-21	2021-22	2019-20	2020-21	2021-22
Debt/Own Funds (x times)	0.09	0.14	0.12	0.22	0.29	0.28	0.00	0.02	0.00						
Own Revenue/Total Revenue (%)	50.52%	47.38%	49.70%	34.11%	34.33%	28.06%	26.64%	28.41%	24.25%	31.00%	32.00%	33.00%	41.00%	45.59%	
Tax Revenue/Own Revenue (%)	67%	66%	57%	72%	80%	76%	81%	82%	66%						

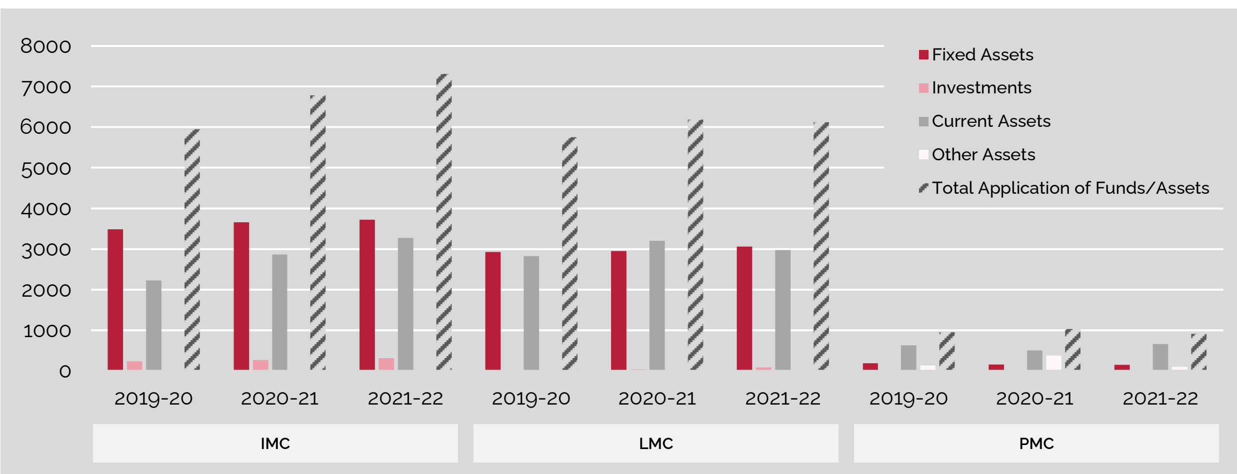
Key financial metrics for IMC, LMC, PMC, NMC, & BMC for FY 2019-20, 2020-21, & 2021-22 | *Source: Compiled by author from financial documents on respective ULB websites & bonds offer documents*
All values in crores unless otherwise mentioned.

Comparing Balance Sheets

The balance sheet functions as a snapshot depicting the assets, liabilities, and net worth of fund types at the conclusion of the fiscal year. It is evident from the graphs below that the net worth of IMC is much greater than the other two municipal corporations and it has been increasing for the past 3 years. The total assets of IMC and LMC are somewhat comparable and LMC had greater liabilities arising mainly from the grants and contributions. PMC's numbers in this respect are on a significantly lower scale.



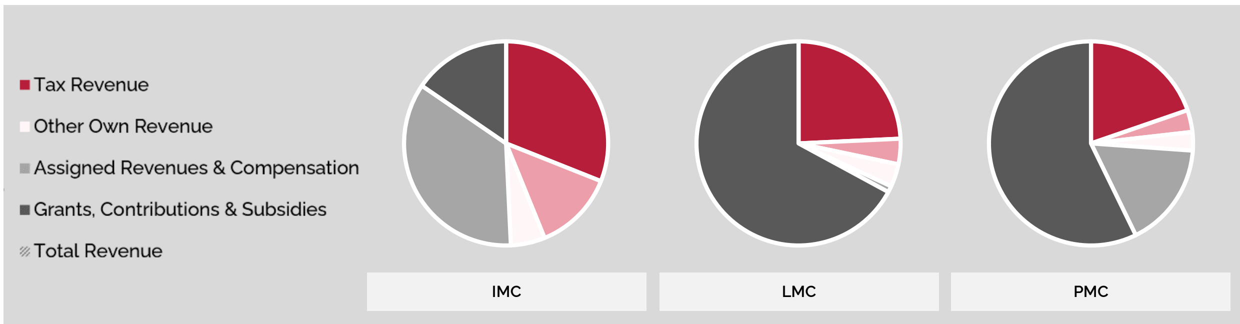
Trends in net worth and liabilities of IMC, LMC, and PMC for FY 2019-20, 2020-21, and 2021-22. Values in crores.
Source: Author; based on data compiled on p.52

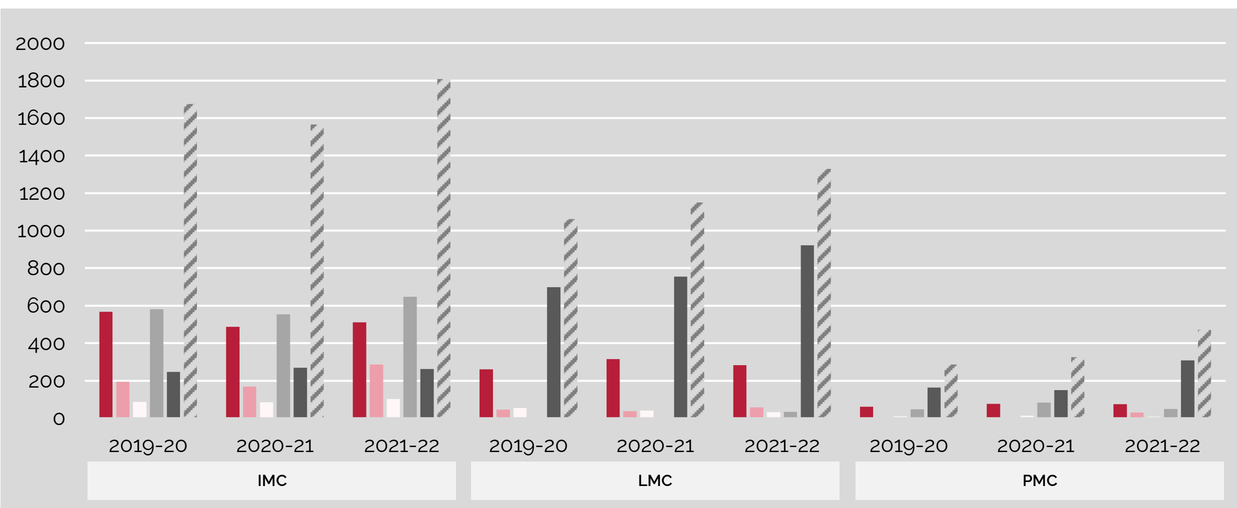


Trends in assets of IMC, LMC, and PMC for FY 2019-20, 2020-21, and 2021-22. Values in crores.
Source: Author; based on data compiled on p.52

Comparing Income and Expenditure

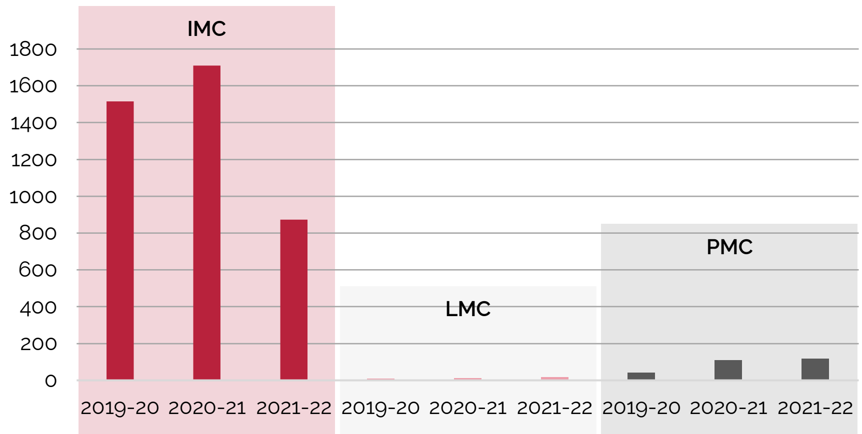
As seen in the pie charts on revenue share, among the primary sources of revenue, IMC shows a much great percentage of own revenue share compared to the other two. This is resulting from the significantly higher property tax revenue and fees and user charges. Even within the external revenue share, IMC's dependence on grants, contributions and subsidies is significantly lesser, whereas it forms the major source of revenue for LMC and PMC. IMC's high share of assigned revenues and compensation also indicates better state support in terms of devolutions of fund. Overall, the revenue sources are more diversified in IMC. The histogram shows that the total revenue for IMC is also much higher than LMC and PMC.



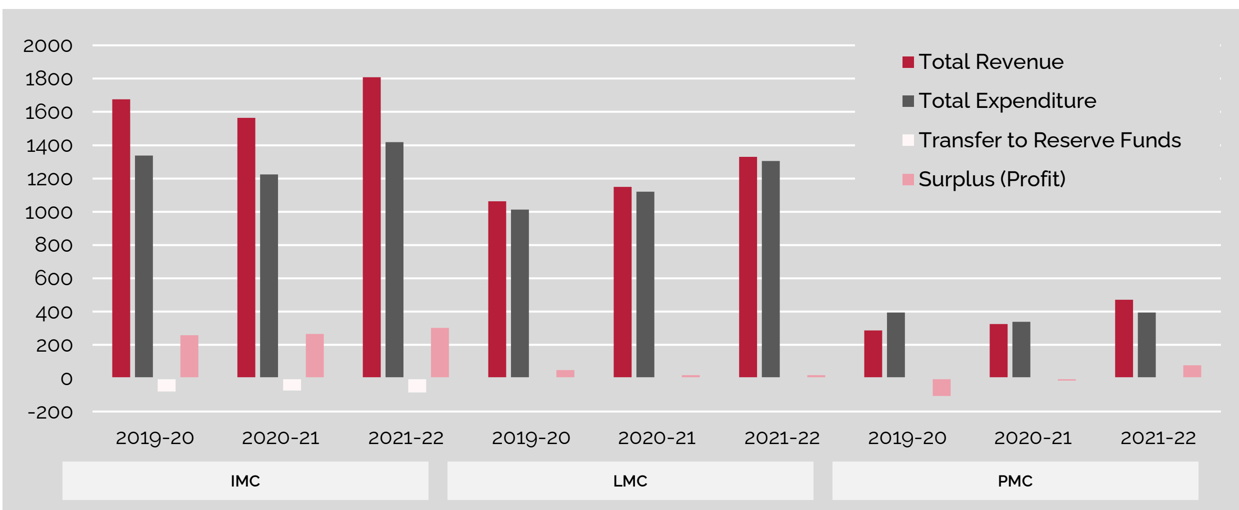


Above: Average share of various revenue sources in IMC, LMC, and PMC for FY 2019-20, 2020-21, and 2021-22
Below: Municipal revenue trends. Values in crores.
Source: Author; based on data compiled on p.52

The expenditures of the selected municipal corporations represent the broader trend where a majority of the funds go towards establishment expenses, operations & maintenance, and administrative expenses like salaries and wages (see table on p.52). The snapshot of spending on capital-works-progress available in the budget document help get a sense of scale of the investment in capital works during last three years, and IMC's spending far exceeds that of LMC and PMC, to the extent that it is reasonable to doubt the veracity of the numbers or consistency in record keeping across the three ULBs. The histogram juxtaposing revenue and expenditure trends across years and contexts shows how a consistent surplus in only recorded in the case of IMC, besides the fact that revenues and expenditures have been generally higher for IMC.



Snapshot of capital work-in-progress (as seen in the assets section) of IMC, LMC, and PMC for FY 2019-20, 2020-21, and 2021-22. Values in crores.
Source: Author; based on data compiled on p.52

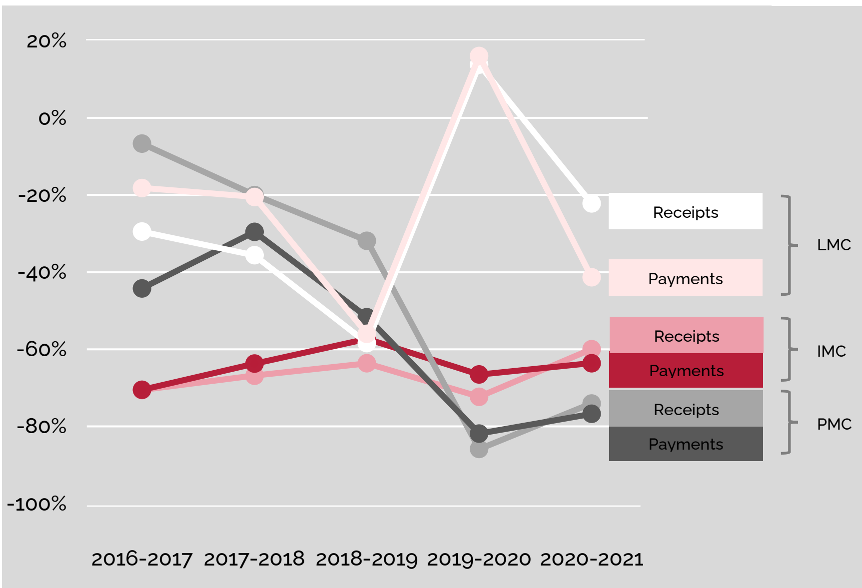


Revenue and expenditure trends in IMC, LMC, and PMC for FY 2019-20, 2020-21, and 2021-22. Values in crores.
Source: Author; based on data compiled on p.52

Budget Variance Comparison

Budget Variance % = ((Actual – Estimate)/Estimate) * 100

Budget variance is an indicator of budgetary discipline and is poor across all years for IMC. Significant variances between budgets and actuals render ULBs' budget documents less credible, with 14 out of 23 cities covered under ASICS (Janaagraha, 2017) showing greater than 30% variance, going up to 76%. IMC falls on the higher side of this spectrum with a variance which is consistently in the range of 60-72%. Indore's variance for receipts and payments is similar across the years in view. Other notable finding is that the actuals are almost always less than the estimated value. The sharp changes in the trends for Patna and Lucknow can be attributed to the onset of COVID-19; interesting this fluctuation is not significant in IMC. The findings from this analysis do not yield any evidence of unique performance in the case of IMC, except for its curiously consistent, and high variance over the years.



Budget variance for IMC, LMC, and PMC for FY 2016-17, 2017-18, 2018-19, 2019-20, and 2020-21
Source: Author; based on data compiled from budget documents available on the respective ULB websites

Comparing Debt Capacity

Comparison of metrics across the cities shows that IMC has maintained a favorable debt/own funds ratio, as have the other two. However, low debt is not always a good sign and could just indicate underspending on public infrastructure and services. It can also be seen that IMC has a significantly higher own revenue share as well as higher other own revenue collection, i.e. property tax revenue is a smaller share of the total revenue. IMC has shown a consistently increasing surplus over the last three financial years. Average collection ratio of property taxes to demand is better than the nationwide average of 50% for both IMC and LMC. This together with the above analyses help show that IMC's financial health is much better than its peers and hence is big contributing factor to its recent municipal bond activity.

	IMC			LMC			PMC		
	2019-20	2020-21	2021-22	2019-20	2020-21	2021-22	2019-20	2020-21	2021-22
Debt/Own Funds (x times)	0.09	0.14	0.12	0.22	0.29	0.28	0.00	0.02	0.00
Own Revenue/Total Revenue	50.52%	47.38%	49.70%	34.11%	34.33%	28.06%	26.64%	28.41%	24.25%
Tax Revenue/Total Revenue	67%	66%	57%	72%	80%	76%	81%	82%	66%
Surplus (in Cr)	258.79	265.53	303.00	49.55	17.58	17.66	-107.43	-13.70	77.07
Demand Collection Ratio	68.34%	54.53%	67.17%	66.83%	NA	60.11%	NA	NA	NA

Financials metrics of IMC, LMC, and PMC for FY 2019-20, 2020-21, and 2021-22
Source: Author; based on data compiled on p.52 and bond offer documents filed with SEBI

History of Municipal Reform

Indore's history of engaging with the city's financial challenges has been recorded by Vaidya and Vyas (2003). The city's rapid expansion since 1997 demanded increasingly higher spending on services. In response, IMC focused on strengthening its revenue base. In 1999, IMC sought active citizen participation to formulate a vision for a "people friendly city", by aiding citizens in creating resident associations and engaging them in consultations around development programs. Objectives emerging out of this vision included enhancing revenue through measures for better coverage, assessment, billing, collection and enforcement; controlling expenditure growth; improving the tax administration; and increasing communication with stakeholders. The vision prioritized efficient, reliable, transparent, and accountable municipal services.

IMC developed a Modernization Plan for the city, focusing on implementing management innovations to improve efficiency and strengthen the revenue base. It received training and technical assistance in these efforts through partnering with the Indo-US FIRE project. The capacity building efforts for both elected representatives and corporation officials was also supported by the Institute of Management Studies at Indore's Devi Ahilya University. In the later phases, the FIRE project also helped IMC establish a Project Management Unit to sustain the reform process through monitoring the implementation of the revenue enhancement measures, revenue department reorganization, communication strategy design, and expenditure control strategy. The various steps taken include:

- Improved tax administration through simplification of assessment by implementing self-assessment by taxpayers, digitizing and updating record of properties, bringing billing and collection functions under one department, and decentralizing revenue operations to zonal offices. With respect to issuance of bills, IMC improved service efficiency and reduced corrupt practices by line staff through separate windows (for building permits, birth and death registration, complaints, and payments of bills, fees, and rents), automated billing, and cash counters. The transition to accrual-based accounting (in 2007) and a digital taxpayer database also boosted sustainable revenue growth.
- Reorganized the revenue department to separate survey and assessment, billing and collection, and vigilance functions, in order to improve efficiency in revenue collection.
- Created an inventory of 1100 real estate properties with digitized details on each property, in the process of planning an optimal strategy for utilizing these properties.
- Digitization and establishment of a Management Information System (MIS) for property taxation drastically increased the number of properties being taxed, from 155 thousand to 267 thousand, leading to a near 45% increase in IMC's own revenues between 2000-01 and 2001-02. A private firm was contracted for this purpose—they covered initial expenses for hardware, software, and training, and recovered their costs via service charges based on the number of bills issued to taxpayers.
- Enforcement drives for property tax and water charge bill recovery were guided by specific recovery goals and the Municipal Commissioner vested zonal officers with the power to disconnect water supply and seize properties in case of default.
- Introduction of e-governance technologies to enhance urban services, communicate data regarding major revenue sources and schemes for the urban poor, and accept citizen suggestions and grievances which are responded to via email.
- Decentralization of municipal functions through the zones and their ward committees received encouraging citizen response due to the streamlined information dissemination, birth and death certificate issuance, revenue collection, and grievance redressal.

The reforms were dependent on strong and sustained commitment of both political and bureaucratic leaders, and intensive outreach efforts (including tax education) to encourage active public participation in revenue mobilization efforts. The improved financial situation allowed IMC to increase its expenditure on services twofold. It was the first municipal corporation to offer accident and disability insurance to all citizens. It undertook extensive city greening works supported by citizen contributions. It was also able to raise debt through a municipal bond based on the increased revenue and improved accounting. (Vaidya and Vyas, 2003)

More recently, Indore also started an Integrated Command and Control Center under the Smart Cities Mission to use information and communication technologies to improve municipal service delivery; built a 311 app for grievance redressal regarding city services and infrastructure; set up an online portal for water tax collection and proposed increase in user charges for greater cost recovery; began GIS based mapping of properties; and incorporated the E-Nagar Palika software for online property tax collection (*IndiaBonds Webinar*, 2023).

Political Landscape

Political support has been an important factor in municipal bond issues in India, going all the way back to the earliest issues. At the very outset, prior to permissions from SEBI, ULBs are required to obtain an approval from the respective state governments, even if an explicit state government guarantee is not provided. Support from local elected representatives proved to be an essential prerequisite for the success of bond offerings by ULBs in Ahmedabad, Nashik, and Ludhiana, enabling the bureaucracy to initiate rigorous procedures to participate in the municipal bond market; whereas a lack of such explicit backing resulted in the failure of bond initiatives by ULBs in Pune and Vijayawada (Bagchi, 2001).

The high levels of dependence of municipalities on the upper levels of government is also evident in how political risk shows up as a significant consideration in gray literature reviewing municipal bonds as investment opportunities. It is also mentioned as an external risk in the offer documents submitted to SEBI. The volatility arising from the politics at the state level can be demonstrated by the example where the Telangana state government proposed a free electricity scheme in 2021, in effect threatening a reliable municipal revenue stream for ULBs across the state and adversely impacting their debt obligations. Politically motivated promises of this nature are commonplace across India. Political interference of this nature and perception of such interference hinders long-term financial planning at the municipal level and undermines investor confidence in local governments.

India's proportional representation electoral system frequently leads to political impasses between the central and state governments. Support for municipal bonds as an urban financing mechanism is varying across the various political parties (Chandrasekaran and Katayama, 2006). Given this background, a notable feature of the municipal bonds issued until now is that most of them were floated when the NDA government was in power at the national level (see table on pp.39-41). The duration of lowest municipal bond activity since inception coincides with the regime of the UPA led government (2004-2013) which launched JnNURM in 2005. A very clear trend among the issuances since 2017 is also that a vast majority of the ULBs, i.e. 8 of the 10 (including Indore), which have successfully issued municipal bonds have NDA led governments at all levels, local, state, and national. This alignment was referred to as political “synergy” by an IMC official who credited a part of Indore’s success in solid waste management to this condition. The same “synergy” was criticized by a local activist as a “license to be corrupt”, given the permissive atmosphere it enables for corruption to flourish due to perceived support from various levels of the government.

The data makes it evident that ULBs which are politically aligned with the upper levels of the government are either more inclined to respond to the vision set by the central government, or better positioned to act on these pressures, or both.

State Government Support

Alongside the political factors described above, financial support from states (guarantees and grants) and state level statutory environment are critical to influencing the ability of ULBs to float bonds. This part of the paper thus attempts to ascertain the role of Madhya Pradesh government in Indore’s municipal bond activity, by comparing its financial support and statutory provisions with the state level contexts of the selected cities.

	Madhya Pradesh (MP)	**Uttar Pradesh (UP)**	**Bihar (BR)**	**Maharashtra (MH)**
Population (2023 Est.)	85,002,417	231,502,578	128,500,364	124,904,071
Share in select cities	2.70% (IMC); 2.48% (BMC)	1.41% (LMC)	1.62% (PMC)	2.14% (NMC)
Total ULBs	377 (2011)	627 (2008)	141 (2007)	416 (2023)
	14 Municipal Corporations; 100 Municipal Councils; 263 Nagar Parishads	12 Municipal Corporations; 194 Municipal Councils; 421 Nagar Parishads	11 Municipal Corporations; 42 Municipal Councils; 88 Nagar Parishads	28 Municipal Corporations; 245 Municipal Councils; 143 Nagar Parishads

Urban Population	27.63%	22.27%	11.29%	45.22%
Share in select cities	9.77% (IMC); 8.97% (BMC)	6.33% (LMC)	14.35% (PMC)	4.73% (NMC)

State level overview for the selected cities

Source: India Census, 2023; Respective state government websites on ULB composition

Of the states being compared, Madhya Pradesh is the least populous and IMC's share of this population is significantly high. Given that it is the biggest urban agglomeration in the state it also represents a high share urban population in the state. LMC and PMC also govern over the biggest cities in their respective states. It should be noted that though PMC has a high share of the urban population in Bihar, the absolute numbers are significantly lower since Bihar is the least urbanized state within this pool. NMC is the only selected ULB that does not have the biggest claim (in terms of population) to its state's support. Nagpur's relatively weaker financial profile (as indicated by the credit rating), despite it having similar population and GDP as the other cities in this study, may in part be related to its inferior position within its state. The opposite condition is true for Indore, where it enjoys a prominent position in a less populated state, thus (theoretically) having more access to the state's fiscal and political support.

Financial Support

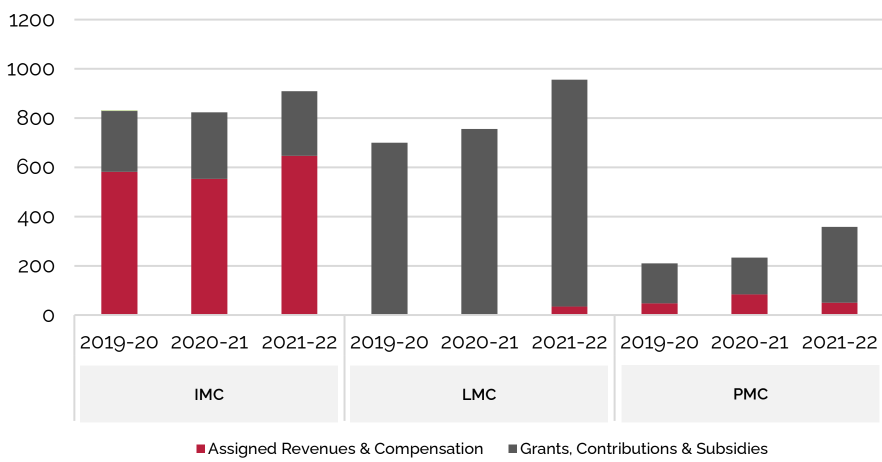
The non-own source revenue component of the municipal incomes gives an insight into the volume and type of funding ULBs receive from the upper tiers of the government. They are of two types:

1. Assigned revenues and compensation: assigned (shared) revenues are "in the nature of a share in the revenues of the state government, to compensate for certain losses in revenue and arrangement of resources of the ULBs. The ratio of the share in revenues is determined on the basis of the revenues collected by ULBs and the recommendations of the State Finance Commissions on devolution of funds to ULBs. E.g. entertainment tax, surcharge on stamp duty, profession tax, motor vehicles tax etc." (City Finance, 2023).

2. Grants, contributions and subsidies: "grants are all non-repayable transfers received from other levels of government or from private individuals, or institutions including reparations and gifts given for particular projects or programs, or for general budget support. Intergovernmental grants/transfers (also called Grant-in-Aid) … are of two types: i) Plan Grants - made available through planned transfers from upper tier of Government under various projects, programs and schemes; and ii) Non-Plan Grants - made available to compensate against the loss of income and

some specific transfers" (City Finance, 2023). E.g.: Compensation to Municipal Corporations on abolition of Local body Tax with the introduction of Goods and Services Tax.

IMC receives a sizable amount of assigned revenue which formed over 40% of its revenue income in the past three years. This revenue is primarily compensation which accrues to the ULB as a percentage of a tax levied and collected by the State Government. In comparison, the non-own revenue share of the LMC and PMC are dominated by grants and loans. This indicates how IMC's financial health is buttressed by a predictable, although not timely and subject state level revenue collection capacity, source of revenue from the state as prescribed by SFCs. The downside of this sharing of revenues is that the financial prospects of IMC are further tied to the state.



Trends in non-own source revenue for IMC, LMC, and PMC for FY 2019-20, 2020-21, and 2021-22.
Values in crores.
Source: Author; based on data compiled on p.52

Statutory Environment

Another level of support that states can provide for municipal finance is through their statutory provisions on issue that concern municipal reforms and local government capacity. One such municipal reform which is important for financial management and has been tied to various grants and credit rating exercises is double-entry accrual accounting. The mode of accounting employed by the ULB, whether it's cash-based or accrual-based, fundamentally shapes the accuracy and comprehensibility of financial data available to decision-makers and sets the context for financial management. The accrual accounting method is more sophisticated in offering a reliable portrayal of the aforementioned information. Cash based accounting involves recording revenue exclusively when cash is received and noting expenses when cash is disbursed. In contrast, accrual based accounting recognizes revenue when it's earned and expenses when they're incurred, irrespective of the presence of actual cash transactions. (ICAI ARF, 2023).

A comparison of the basic state level statutory provisions on accounting across selected cities does not yield any interesting results, except that Madhya Pradesh requires more disclosures (in terms of number of documents) as part of the contents of annual accounts of its ULBs, than Uttar Pradesh or Bihar.

	Madhya Pradesh	Uttar Pradesh	Bihar	Maharashtra
Prescribed Accounting	Accrual basis	Accrual basis	Accrual basis	Accrual basis
Prescribed Budgeting	NA	Accrual basis	Cash basis	NA
Contents of Annual Accounts	Balance Sheet; Income & Expenditure Statement; Cash flow Statement; Receipts & Payments Account; Notes to Accounts; Financial Performance Indicators	NA	Balance Sheet; Income & Expenditure Statement; Receipts & Payments Account; Notes to Accounts	Balance Sheet; Income & Expenditure Statement; Cash flow Statement; Receipts & Payments Account; Notes to Accounts; Disclosure of accounting policies; Statements prescribed under any Law enacted by a Municipal Council

State level statutory provisions for accrual accounting
Source: Institute of Chartered Accountants of India (ICAI ARF, 2023)

Urban Governance Index (UGI) by Praja (2020) measures the extent to which state governments enable structural empowerment of municipal governments. It maps the themes of democratic empowerment and accountability in urban governance. This tool finds the overall urban governance enabled by Madhya Pradesh to be better than 24 other states in India, including Uttar Pradesh and Bihar. Madhya Pradesh also fares well in terms of fiscal empowerment.

	MP	UP	Bihar	MH
Urban Governance Index	**5/29**	**14/29**	**10/29**	**2/29**
Empowered City Elected Representatives & Legislative Structure	5/29	17/29	7/29	10/29
Empowered City Administration	8/29	22/29	7/29	2/29
Empowered Citizens	4/29	19/29	8/29	2/29
Fiscal Empowerment	3/29	8/29	17/29	1/29

Summary of ranks in Urban Governance Index
Source: Praja, 2020

This study uses various reform action points as indicators to see if they are included within the state's statutes, to assess state level performance. It does not look at the actual implementation of these reforms within the state. It should be noted that UGI's measurement is based on the states' capital cities (including Lucknow and Patna), so the scores may vary for the assessment in relation to Indore and Nagpur which are not capital cities. The following table summarizes UGI's findings for all 42 indicators across the 4 states being compared. The information about IMC and NMC is added where necessary. Details regarding the rationale for using the particular reform actions for analysis are available on Praja's online portal on UGI (2020).

			Madhya Pradesh	Uttar Pradesh	Bihar	Maharashtra
		Urban Governance Index	**5/29**	**14/29**	**10/29**	**2/29**
Empowered City Elected Representatives and Legislative Structure		**Empowered City Elected Representatives and Legislative Structure**	**5/29**	**17/29**	**7/29**	**10/29**
	Mayor	Is the post of Mayor co-terminus with the term of City Government?	Yes	Yes	Yes	No (2.5 Years Term)
	Mayor	Does the Mayor hold executive authority over commissioner?	No	No	No	No
	Mayor	Does the Mayor hold independent authority to appoint chairperson of Standing/Subject committees?	No	No	No	No
	Mayor	Is Mayor the chairperson of apex committee such as Mayor in Council (MIC)/Steering committee?	Yes	Yes	Yes	No
	Councillor	Is every Councillor a member of at least one Standing/Subject committee (except Council, Zonal, Ward/Wards committee)?	No	No	No	No
	Councillor	Does the State Municipal Act have provisions for regular trainings to be conducted for Councillors?	No	No	No	No
	Councillor	Do the councillors receive monthly fixed salary?	Yes	No	Yes	Yes
	Councillor	Is the fixed salary of Councillors at par or more than that of the Commissioner?	No	No	No	No
	Councillor	Do Councillors receive allowances for office expense and designated staff?	No	No	No	Yes
	Council	Do the councils have independent authority to frame by-laws and regulations for functions under the control of City Government?	No	No	No	No
	Council	Does the City Government have Procedure for Conduct and Business Rules?	Yes	No	Yes	Yes
	Council	Does the council have privileges and immunity against all statements made/acts done in the course of their duty?	No	No	No	No
	Council	Does the State Municipal Act have provisions for conducting municipal elections strictly before the expiry of its duration?	Yes	Yes	Yes	Yes
	Council	Do the councils have authority to pass no confidence motion against the Mayor?	No	No	Yes	No
	Constitution of Deliberative Committees	Has the City Government constituted committees according to State Municipal Act?	No (IMC); Yes (BMC)	No (LMC)	No (PMC)	Yes (NMC)
	Constitution of Deliberative Committees	Does the State Municipal Act have provision for all committees (including councils) to hold meetings at least once a month?	No	No	No	Yes
	Constitution of Deliberative Committees	Does the State Municipal Act have provisions for constituting an apex committee such as Mayor in Council (MIC)/steering committee?	Yes	Yes	Yes	Yes
	Constitution of Deliberative Committees	Does the State Municipal Act have provisions for constituting subject/ standing committee?	Yes	Yes	Yes	Yes
	Constitution of Deliberative Committees	Does the State Municipal Act have provisions for constituting zonal/ward committee?	Yes	Yes	Yes	Yes
	Constitution of Deliberative Committees	Does the District/Metropolitan Planning Committee (DPC/MPC) have 80% representation of Elected Representatives (ERs)?	Yes	Yes	Yes	No
	Constitution of Deliberative Committees	Is the Chairperson of the DPC/MPC an ER?	Yes	Yes	Yes	Yes

Performance of MP, UP, BR, and MH across indicators in UGI | *Source: Compiled by author from Praja, 2020 and other sources* 1 of 2

			Madhya Pradesh	Uttar Pradesh	Bihar	Maharashtra
Empowered City Administration		**Empowered City Administration**	**8/29**	**22/29**	**7/29**	**2/29**
	Control & Training of HR	Does the city administration hold sanctioning authority for recruitments?	No	Yes	No	No
		Is there an autonomous body to recruit municipal officials for City Government?	No	No	No	No
		Percentage of vacant posts in the city administration	NA (IMC); 42% (BMC)	28% (LMC)	13% (PMC)	NA (NMC)
		Is there a provision of providing training to the administration in the State Municipal Act?	No	No	No	No
	12th Schedule Functions	Are all 18 functions mentioned in Twelfth Schedule and smart city SPV under independent control of city administration?	No	No	No	No
		How many functions out of 18 functions mentioned in Twelfth Schedule are under the independent control of city administration?	6	1	6	9
		How many functions out of 18 functions in Twelfth Schedule involves the role of city administration?	17	9	16	18
Empowered Citizens		**Empowered Citizens**	**4/29**	**19/29**	**8/29**	**2/29**
	Open Data	Is there a freely accessible open data portal/tab on City Government website?	No (IMC); No (BMC)	No (LMC)	No (PMC)	No (NMC)
	Right to elect/recall	Do the citizens have right to elect the Mayor?	Indirectly Elected	Directly Elected	Indirectly Elected	Indirectly Elected
		Does the electoral college i.e. citizens hold final authority of 'right to recall' a Councillor?	No	No	No	No
	Citizen Consultative Mechanism	Are minutes of meetings of committee (including councils) published on the website?	No (IMC); No (BMC)	No (LMC)	No (PMC)	No (NMC)
		Are elected area level representatives who are enrolled in the electoral list of the area (other than Councillor), members of the ward committee?	No	No	Yes	No
	Active GRM	Does City Government website have digital Grievance Redressal Mechanism (GRM)?	Yes (IMC); Yes (BMC)	Yes (LMC)	Yes (PMC)	Yes (NMC)
		Does the GRM have centralised mechanisms to process complaints registered through multiple modes?	Yes (IMC); Yes (BMC)	No (LMC)	No (PMC)	No (NMC)
		Are the registered complaints/grievances closed by the respective citizen?	Yes (IMC); Yes (BMC)	No (LMC)	No (PMC)	No (NMC)
Fiscal Empowerment		**Fiscal Empowerment**	**3/29**	**8/29**	**17/29**	**1/29**
	Devolution of Financial Power	Does the City Government hold independent authority to introduce new taxes/charges as per State Municipal Act?	Yes	Yes	No	Yes
		Does the City Government hold independent authority to revise the tax rates/charges?	Yes	Yes	Yes	Yes
		Does the council have independent authority to approve the budget according to the State Municipal Act?	Yes	Yes	No	Yes
		Does the State Municipal Act have provision for the City Government budget to include budget allocated by parastatal agencies in the city?	No	No	No	No
		Does the City Government hold authority to access market borrowings?	Yes	Yes	Yes	Yes
	Systemic Fiscal Transfers	Does the State Finance Commission (SFC) have 5th SFC report published on official website?	No (4th SFC)	No (None)	Yes	No (4th SFC)
		Is the Action Taken Report of latest SFC published on the official website by State Government?	Yes	No	No	Yes
		Does the City Government receive a direct percentage share of GST? (through mechanisms such as escrow accounts etc.)	No	No	No	No
	Financial Accountability	Does the State Municipal Act make it mandatory to publish the budget and accounts?	Yes	No	No	Yes
		Has the City Government published its budgets on the website in the last three years (for FY 2019-20, 2018-19 and 2017-18)?	Yes (IMC); No (BMC)	Yes (LMC) 2/3	Yes (PMC)	No (NMC)
		Has the City Government published its accounts on the website in the last three years (for FY 2018-19, 2017-18 and 2016-17)?	Yes (IMC); Yes (BMC)	Yes (LMC)	No (PMC)	Yes (NMC)
		Does the State Municipal Act have provision for conducting external audit?	Yes	Yes	Yes	Yes

Performance of MP, UP, BR, and MH across indicators in UGI | *Source: Compiled by author from Praja, 2020 and other sources*

Programmatic Landscape

The Union Ministry of Housing and Urban Affairs (MoHUA) has introduced several initiatives and programs aimed at establishing economically vibrant, inclusive, and sustainable urban communities. These include the Smart Cities Mission, Atal Mission for Rejuvenation and Urban Transformation (AMRUT), Swachh Bharat Mission, Housing for All, and Heritage City Development and Augmentation Yojana (HRIDAY). Of these, AMRUT and the Smart Cities Mission are of particular significance to the discussion of the recent municipal bond activity. These programs succeed the Jawaharlal Nehru National Urban Renewal Mission (JnNURM) and are based on the learnings emerging from it. The following is an overview of how these three initiatives have shaped and are continuing to shape India's municipal bond market.

Smart Cities Mission

The Smart Cities Mission, launched in 2015 by the NDA government, aims to transform urban areas in India through targeted development by focusing on making 100 "smart" cities. The government planned to spend Rs.96,000 crores on this transformation, with Rs.48,000 crores coming from the Center and rest from respective state governments. The Centre would allocate Rs.500 crores (Rs.100 crores every year) over a period of 5 years, and the state is expected to match this investment. The rest of the funding is to be mobilized by the city (with the help of the state), especially through attracting private investments.

The selection of cities happened in multiple phases through a 'City Challenge Competition'. Indore is part of 20 cities selected during the first phase. The competitive process intended to link financing with the ability of the cities to achieve the mission objectives. Each state was to identify "smart city" aspirants based on different criteria, such as current service levels, institutional systems and capacities, self-financing, and past performance. These cities then created proposals for further evaluation to receive central support. Cities had to satisfy multiple conditions like having a Master Plan, having digitized spatial and GIS maps, creating an online platform for communicating with citizens, offering all projects to the private sector first (through public-private partnerships), and so on (Janaagraha, 2015). The cities were selected in five different phases since 2015. Indore was one of the 20 cities to be selected in first round (Taraporevala, Anand and Sreevatsan, 2018).

The Mission delineates three fundamental geographic approaches to development: area-based development (ABD), pan-city, and greenfield developments. A study by the Centre for Policy Research

(Taraporevala, Anand and Sreevatsan, 2018) found that though the ABD component accounts for 80% of the mission funding, it constitutes a mere 7% of the total area across the 99 cities in their study.

Projects would be implemented through a Special Purpose Vehicle (SPV), a limited company established through a tripartite agreement among the three levels of the government. This structure is meant to keep the SPV separate from the larger municipal governance and democratic processes, and thus ensure operational independence and autonomy in decision-making and mission implementation (Dwivedi *et al.*, 2020). The SPVs have 50:50 equity shareholding by the ULB and state government which is to be maintained, alongside their combined majority stake, in case private companies and financial institutions buy equity stake (Smart Cities, 2021). Indore Smart City Development Limited (ISCDL) is the SPV set up in Indore, and is 50% held by IMC and 50% by the Madhya Pradesh Government.

One of the benefits of an SPV is that it is somewhat immune to political interference, which is a big risk in India's municipal bond market. However, this distancing comes at the cost of accountability and transparency—this and the potential erosion of the ULBs powers due to the displacement of their functions and processes are some of the biggest criticisms against SPVs.

SPVs established to streamline the implementation of the Mission projects are also charged with attracting private finances for its projects. This renewed an interest in municipal bonds and the spurred the recent activity municipal bond activity. All the bond issues since 2017, except for Ghaziabad, came from ULBs of Mission cities.

	Smart Cities Mission Selection	**Proposed Budget (in Cr)**
Indore	Round I (June 2015)	5099.60
Lucknow	Fast Track Round (May 2016)	2053.33
Patna	Round III (Jun 2017)	2776.16
Nagpur	Round II (Sep 2016)	1000
Bhopal	Round I (June 2015)	3500 (revised)
Source	*Taraporevala, Anand and Sreevatsan, 2018*	*Smart City proposals of the respective cities*

Comparison of Smart City Mission budgets

AMRUT

The Atal Mission for Rejuvenation and Urban Transformation (AMRUT) was launched in 2015, by the NDA government, in 500 chosen cities and towns nationwide. This focuses on improving basic infrastructure in the sectors of water supply, sewerage and septage management, stormwater drainage, green spaces and parks, and non-motorized urban transport (Press Information Bureau, 2022a). States have been requested to recommend cities and towns with a population of at least 100,000, including those situated along subsidiary river branches, select capital cities, and important cities in hilly regions, islands, and tourist destinations. It was also linked to promotion of urban reforms like e-governance, constitution of a professional municipal cadre, devolving funds and functions to urban local bodies, review of building by-laws, improvement in assessment and collection of municipal taxes, credit rating of ULBs, energy and water audits, and citizen-centric urban planning (Janaagraha, 2015).

States governments submitted State Annual Action Plans to the Centre for a general agreement in order for funds to be released. The central government did not appraise individual projects. For cities with population less than 1 million, the center and state government funding would be 1:1; for cities with population greater than 1 million, this funding share would be 1:2 (Janaagraha, 2015).

In 2018, AMRUT introduced an incentive linked to the volume of funds raised through municipal bonds. When the scheme was subsumed by AMRUT 2.0 in 2021, this incentive (with modified terms) was continued. Every single ULB that issued a bond since 2017 (Pune which released its bond in 2017 received the incentive retroactively), are all AMRUT cities and have benefitted from this incentive program. An incentive of Rs.227 crores has been disbursed to these ULBs under AMRUT, and Rs.20 crores has been disbursed (to IMC) so far under AMRUT 2.0.

All the cities being compared in this research, i.e. Indore, Lucknow, Patna, Nagpur, and Bhopal, have been chosen in their respective state's AMRUT plan.

JnNURM

The late-1990s marked a historical shift in India's development related focus from rural to urban areas post-Independence, with the growing understanding of cities' role in socio-economic progress. This led to the formulation of JnNURM, by the UPA government, which ran from 2005 to 2014. It was built on three policy initiatives: developing urban infrastructure and services (including for the urban poor), developing urban governance to support sustainable use of funding and encourage private sector involvement, and decentralization in line with the 74th Constitutional Amendment Act (Birkinshaw, 2014). It aimed to empower urban bodies and enable self-governance through various measures, primarily, project-based financing contingent on states and ULBs implementing specific reforms in alignment with the goal of self-governance and greater autonomy for local bodies. The reforms included: modern and transparent budgeting, accounting, and financial management; city-wide framework for planning and governance; universal access to basic levels of urban services; financially self-sustaining agencies for urban governance; transparent accountable governance; and e-governance to reduce cost and time of service delivery (Janaagraha, 2015).

Cities covered by the program were selected across three categories: Category A with a population greater than 4 million as per 2001 census included 7 cities; Category B with a population between 1 and 4 million as per 2001 census included 28 cities; and Category C included 30 religious or historic cities. The scheme represents a consolidation of a market-friendly approach in India's urban policy in the way in which it aimed to engineer investment-oriented markets in land, service, and municipal debt (Birkinshaw, 2014). Its organizational configurations including SPVs, dedicated project cells, and heavy reliance on private-sector consultants, had a tendency to circumvent elected representatives, local authorities, smaller municipalities, and state governments (Birkinshaw, 2014), much like the Smart Cities Mission.

JnNURM adopted a project based competitive bidding approach to finance projects. Approval for individual projects had to be granted by a Central Sanctioning and Monitoring Committee (Janaagraha, 2015). The release of funds was also linked to mandatory reforms both at the local and state level.

	JnNURM Selection	**City Level Reforms Completed (as of 2012)**	**State Level Reforms Completed (as of 2012)**
Indore, MP	Category B	4/8 (1 reform pre-JnNURM)	9/10 (3 reforms pre-JnNURM)
Lucknow, UP	Category B	6/8 (1 reform pre-JnNURM)	9/10 (1 reform pre-JnNURM)
Patna, BR	Category B	1/8	5/10 (2 reforms pre-JnNURM)
Nagpur, MH	Category B	3/8	9/10 (3 reforms pre-JnNURM)
Bhopal, MP	Category B	4/8	9/10 (3 reforms pre-JnNURM)

Comparison of reform completion under JnNURM
Source: JnNURM UIG, 2012b, 2012a; Sharma, 2013

All the cities being compared in this research were part of JnNURM in Category B. An overview of the level of completion of reforms, both at the local and state level, across these cities does not yield any interesting findings, except Patna's and its state's especially poor reform implementation up until 2012 which adds to Patna's poor performance in multiple other comparisons made in this paper.

Though the scheme meant to increase the amount of private funding for urban development, the volume of grants and loans made available to ULBs led to the diminution of municipal bond activity, as is evident in the sharp decline of bond issuances in 2006. The overall expert consensus on JnNURM is that it did not deliver either the required investment or improvements in services (HPEC, 2011). However, understanding if cities' experience of JnNURM has any impact on their current municipal bond issue capability would necessitate deeper analysis.

Convergence

The Smart Cities Mission seeks convergence with other central and state government schemes and states that, "…there is a strong complementarity between the Atal Mission for Rejuvenation and Urban Transformation (AMRUT) and Smart Cities Mission in achieving urban transformation. While AMRUT follows a project-based approach, the Smart Cities Mission follows an area-based strategy. Similarly, great benefit can be derived by seeking convergence of other Central and State Government Programs/Schemes with the Smart Cities Mission" (Dwivedi *et al.*, 2020). Indore's recent bond issue demonstrates this type of convergence. Given that all cities being compared in this paper have been included in the Smart Cities Mission, AMRUT, as well as JnNURM, it is clear that some cities, like Patna, are not able to capitalize on the basic convergence of being included in these development programs. The scale of funding that cities are able to access through these programs, which in turn is dependent on their ability, may better explain this diversity of outcomes.

The wider implications of development programs prescribing such convergence relates to the accentuation of the uneven landscape of programmatic support across Indian cities. Urban development policies, like JnNURM, Smart Cities Mission, and AMRUT, have shown notable disregard for the development of small towns in India, which is evident from their limited inclusion within the scope of these programs (Naik, 2019). Even among cities of a similar scale as Indore, the dynamics of all these programs allow richer and politically more powerful cities and states to capture more funding.

Technical Capacity

There is a significant overlap between the cities that have issued bonds since 2017 and those that issued bonds prior to 2006—four of the ten recent issuers, i.e. Hyderabad, Indore, Vishakhapatnam, and Ahmedabad, are cities that previously accessed the municipal bond market. They also represent the rare cases where ULBs engaged in multiple bond issues in a context where the dominant practice is a single exploratory issuance. These four ULBs are relatively diverse in terms of demographics, politics, and finances (in terms of octroi levying vs. non-octroi levying history), and belong to different credit rating categories. The readiness of these ULBs in responding to the current municipal bond environment suggests that they may have accrued certain capacities and experiences during their initial forays into the municipal bond market, leading to organizational knowledge which they are able to leverage to this today. These capacities and experiences could pertain to regular disclosure of financial and accounting information, fiscal planning, preparation and implementation of infrastructure projects, determining the opportune moments to access the market, coordinating efforts across diverse entities, and enforcing the stipulations outlined in bond-related documents (Sheikh and Asher, 2012). Another possible explanation for this overlap—despite the change in political, bureaucratic, regulatory, and policy landscape between the two periods in question—could be that there is something inherently different about these cities which makes them more likely to successfully issue bonds, like preexisting strong finances. However, Indore itself is a good example to show that this is not the case—upto 2008, IMC was rated BBB for its weak financial profile and its second bond issue attempt failed due to concerns surrounding credit quality.

The case of Ahmedabad, as depicted by Srikumar (2010), is important to understand how frequent issuances can raise a municipal corporation's resource raising skills and catalyze the institutionalization of far reaching performance improvements. AMC mobilized a total of Rs.5580 crores through five bond offerings in the years 1998, 2002, 2004, 2005, and 2019. The escrowed mechanism, involving octroi revenue from diverse collection points (until 2007 when it was abolished in Gujarat) and property tax revenue, are evidence of how AMC was efficient in utilizing its existing revenue resources to enhance creditworthiness without needing to rely on state government guarantees. As of early to mid-2000s, AMC's borrowing trends showed a preference for bond finance over bank finance as a tool of price determination, and its experience with four successful bond issues has facilitated capacity among AMC staff and instilled investor confidence in AMC's ability to effectively use bond proceeds and fulfill bond obligations punctually. This period also saw an increase in the capital investments undertaken by AMC, while using bonds to bridge the gap in funding, thus allowing the added benefit of credit ratings and oversight by rating agencies in monitoring the project implementation schedules. Simultaneously, AMC introduced reforms such as unit-based approach for property tax calculation, e-governance tools for enhanced transparency, and double-entry accrual-based accounting system. The evolution of AMC's treasury management is evident in how the organization utilized its call option in the second and third issues to repay the investors before the end of tenor given the prevailing interest rate environment and its own internal accruals. All these factors played a significant role in shaping the perception that AMC is dedicated to enhancing the delivery of infrastructure and services and in increasing investor confidence.

Indore's experience with the municipal bond market prior to 2006, alongside the capacity built due to this experience and its history of financial reform can similarly help explain, at least to some extent, the organization's current levels of activity in the municipal bond market. Technical support for the recent green bond issue also came, to a large extent, from ISCDL, the SPV set up for the Smart Cities Mission.

During the preliminary phase of the FIRE(D) project, the role of SPVs in mobilizing debt through municipal bonds was envisioned based on the experience of the US, where a joint sector SPV with better creditworthiness and market reputation compared to the government entity was used as financing vehicle for specific projects. There were additional benefits to this approach: the borrowing could remain "off the books" for the government body, thus preserving its debt ratios, and the SPV could leverage the financial strength of other equity holders to ease access to debt markets while reducing the cost of capital (Mehta, 1996). However, SPVs have not played the protagonist in municipal bond issuances in India thus far (or their role is not as publicized). A less direct, yet crucial, role can be seen emerging for the SPVs established for implementing smart city projects.

SEBI's 2019 updates to the ILDM regulations eased restrictions on the type of body that can issue municipal bonds. One such amendment intending to provide greater flexibility for fund raising was the permission for SPVs, set up as limited companies under the Smart Cities Mission, to issue bonds (Shirole and Deo, 2020). Previously, this debt financing method was solely accessible to entities categorized as municipalities under the relevant articles of the Constitution of India or corporate municipal bodies established as subsidiaries of these municipalities. Despite this update, SPVs have not yet taken this approach. However, some of the recent issuances, including Indore's green bonds, provide evidence that the SPV of the corresponding "smart city" has played a significant role in the creation of the project(s) for which municipal bonds were issued. Indeed, some of these projects are categorized under the Mission's initiatives. Moreover, ISCDL's role in project creation and management becomes obvious in the light of the fact that the first tender document seeking consultants for 100MW solar power plants, including the one at Jalud which if the project for which Indore's green bonds were issued, was floated by ISCDL back in 2020 (ISCDL, 2020).

At a glance, this process seems like the inverse of the aforementioned vision where SPVs facilitate fund raising for projects defined by the municipality, but the lack of data and the continuously evolving landscape of the municipal bond market prevents a deeper analysis on the exact role of these SPVs, and how those in other Mission cities differ from ISCDL.

SPVs are also well positioned to augment the capacities of municipal corporations in the bond issue process. Specific to the recent bond issuance by Indore, ISCDL also provided critical technical capacity necessary not only for the formulation of the project and its funding mechanism, but also for the overall management of the bond issue. The process involved extensive collaboration between the employees of ISDCL and IMC, but it is unclear how the work was divided between these entities. It is also likely that ISDCL's greater flexibility, compared to IMC, in recruiting and contracting consultants was beneficial to the implementation of the issuance, especially given the need for various competencies and additional workload which lie outside the traditional scope of municipal employees. This flexibility may explain the aforementioned tender document, where consultants for the solar project are being hired through ISDCL and not IMC. The significant involvement of ISDCL and the many consultants involved in the bond issue process, raises questions around capacity building at IMC—are these actors complementing the skills of IMC employees in terms of bridging a gap in the short-term; or helping IMC envision long-term capacity building; or displacing existing municipal corporation jobs/skills and leaving it in a weaker position post-engagement? This needs to be investigated further, so as to inform the design of the implementation process in a way that is beneficial to the ULB in the long-term.

The importance of building technical competence within the ULB's management and financial practices is particularly emphasized in the case of Ahmedabad's first bond issue, where "professionalization" (Varma, 2023) of the municipal corporation's workforce was cited a key factor in enabling the issuance. Prior to Ahmedabad's first bond issue, AMC revised its recruitment rules to allow merit based (as opposed to seniority based) promotions and recruit forty chartered accountants and business management graduates to key administrative and operational positions (Vaidya and Johnson, 2001). This recruitment effort was made possible by the strengthening of AMC's finances based on octroi collection; persistent negotiations between the then Municipal Commissioner, Keshav Varma, and the Mayor, because the political class needed convincing about the initiative's benefits; support from USAID's FIRE(D) project; and encouraging buy-in from citizens for AMC's endeavors through sustained communications efforts which kept the public abreast of the corporation's infrastructure and service improvement works (Varma, 2023).

Recently, the India and US forged another technical cooperation around municipal bonds. In 2022, the Office of Technical Assistance of the US Treasury Department helped Vadodara issue its first municipal bond which was priced at a low yield of 7.15%, the lowest so far in India's bond market. It also assisted Pune with their first issue in 2017—this bond marked the new wave of municipal bond issues. It plans to support 5 other cities in floating their maiden bonds (Sharma, 2020).

Conclusion

Explaining Indore's Municipal Bond Activity

In a context where municipal corporations lack financial autonomy, a well-developed municipal bond market is absent, and ULBs are struggling to project creditworthiness, Indore's case offers an opportunity to study how a city of its scale and GDP was able to access commercial financing, not once but twice since the resurgence of the municipal bond market in 2017.

The external factors contributing to Indore's municipal bond activity can be understood as enabling conditions or pressures for performance or both:

- Political alignment across all levels of the government leading to a "synergy" is very useful in gaining much needed support for municipal bonds and to allay concerns around political risks at least in the short term. It is also a pressure to some extent, since it leads to the sub-national governments being more susceptible to development goals set at the national level.
- Programmatic pressure arises from the structuring of the incentive driven national government scheme as a competitive first-come first-serve offer, where rewards are tied to the quantum of bond financing raised. It is likely that this pressure is not felt or is considerably reduced among less resourced ULBs that find themselves unable to compete.
- Relatedly, fear of missing out (FOMO) is a pressure that plays out both in relation to missing out on the policy window as well as missing out on the opportunity to showcase Indore's fund raising abilities through a unique public placement of green bonds—the latter was a chance to make news as a pioneering move by a ULB, and given the added costs and unclear dividends (besides citizen participation in infrastructure financing) associated with a public offering, optics seems to explain this particular bond issue to some extent.
- Another important condition leading to an enabling environment is the convergence of funding from the Smart Cities Mission, AMRUT, and Swachh Bharat Mission. The section on programmatic landscape shows how bigger and better performing ULBs are able to access funds through various national programs for financing their infrastructure needs. Indore's latest bond issue builds upon this convergence to initiate a project that speaks to all these programs: raising funds through capital markets to fund green infrastructure for the city's water supply needs.

Although these are compelling factors in explaining Indore's recent municipal bond activity, they are not unique to Indore. The city's potential to capitalize on the window resulting from the alignment of the above pressures and enabling conditions can be further understood by looking into the internal factors pertaining to the ability/capacity of the issuer:

- IMC's financial position is far superior compared to the selected cities of a similar GDP and scale. Data from the last three financial years shows how Indore has a higher budget, revenue, expenditure, and surplus, compared to Lucknow and Patna. Moreover, its own revenue share is higher, combined with better property tax collection.
- The history of municipal reform at IMC shows an early effort at improving accounting, tax administration and collection (both property tax and services charges), record keeping, and data accessibility. IMC's first issue from 2001 allowed it to engage in this space and invest in reforms and capacity building necessary for that issuance.
- Technical assistance from USAID was important to building the skills and capacities for the above initiatives. Furthermore, Indore's three successful bond issues benefited from technical support from USAID, ISCDL, and a multitude of consultants operating in the municipal bond ecosystem. However, it is unclear if the latest issue contributed to internal technical capacities at the municipality, given the heavy involvement of ISCDL which seems to have been managing the overall issue as well as the relationships with private consultants.
- State level support in the form of revenue sharing is much higher compared to other cities in the analysis. Statutory provisions for accounting reform as well as empowerment of the political and bureaucratic leaders are also significant, but not extraordinary compared to some other states of the selected cities.
- Indore benefitted from multiple terms of enterprising leadership, both political and bureaucratic, since the emergence of India's municipal bond market. The mobilization of efforts towards its maiden issuance resulted from such leadership, notably from the Mayor and the Municipal Commissioner, despite the city's poor financial profile at the time. In recent history, IMC employees credit Municipal Commissioner Manish Singh for spearheading the city's noteworthy sanitation and solid waste management (SWM) efforts.
- Active public participation is widely cited as one of the most crucial reasons for Indore's renowned sanitation and SWM successes. This is helped by IMC's efforts in communicating public initiatives, including the green bond issue which was widely publicized pre-placement by the Mayor and the Additional Commissioner/CEO of ISCDL in order to invite investor

engagement with the issue. The communication strategy was timed well to take advantage of the NRI and Global Investor Summit which Indore hosted in January, as well as the release of the union budget which emphasized municipal bonds, also in January.

Notes on Replicability and Scalability

According to an official at ISCDL, Indore will begin to work with other cities to assist them in issuing municipal bonds. This transfer of knowledge between ULBs is a clear marker of IMC's recognition in this space and is an encouraging indicator of local capacity building in the public sector. However, as described above, Indore's successful issuances are not only a reflection of the ULB's skills and abilities, but also of the preconditions that made the accumulation of these capacities possible. This complicates the question of what Indore's experience means for the replicability and scalability of its relative success across proximate contexts.

The central government incentives (Smart Cities Mission, AMRUT, and JnNURM before them) are structured in competitive ways: as first- come, first-serve; or through competitive project/plan appraisal; or by being tied to the ability to undertake reforms. This surely benefits the better prepared/funded ULBs. Though the small scale of funds (compared to city budgets) raised through municipal bonds and the associated incentives are unlikely to cause a significant disruption in the landscape of support (national and state government funding) to ULBs, they do build on previous inequities and may give rise to others. ULBs' access to basic grants was also linked to municipal reforms at various points further increasing the inequality across contexts. JnNURM also displaced funds from ULBs in need through a competitive project based approach. This convergence of funds and technical capacity in more able cities is producing an uneven geography and forcing cities to compete on unequal footing, thus reproducing this inequality. Take for example, the cities that the US Department of Treasury will be assisting in issuing municipal bonds–5 of the 6 chosen cities are in the Smart Cities program.

One argument for the funding bias towards cities through these competitive structures is that this process performs the function of market selection and instills market rigor among the ULBs in the absence of an evolved municipal finance market. This was the approach taken by JnNURM when the municipal bond market was still in its early stages of development and this effectively erased the potential for any growth. The development of an active municipal bond market offers an opportunity to encourage well-resourced and more-able ULBs to look to market based financing, thus allowing the possibility to redirect central and state government funding towards weaker municipalities. So even Indore's experience may only be marginally replicable or scalable across ULBs of its size and GDP in the current environment, if more financially stronger ULBs can be encouraged to access market based financing, it can help induce a redistributive effect in the current urban financing pattern across cities and towns in India. Municipal bonds are not suitable for all cities, but ULBs that can raise debt through this method to bridge urban investment gaps should be encouraged/enabled to take this path.

The recent bond issues, despite their many shortcomings, signal a potential for helping improve financial management of ULBs is direct and indirect ways. However, the question of if this bond activity can be sustained in the long term depends on how the regulatory and programmatic landscape will evolve. The conditions that spurred the current phase of municipal bond development are tied to programs whose time periods are approaching completion. The national government renewed the incentives linked to raising finances through municipal bonds, after AMRUT was subsumed by AMRUT 2.0. The Smart Cities Mission which was expected to end this year has been extended until 2024 due to delays in project completion. The SPVs established for this mission will be dissolved at the end of that period, thus bringing up the question of how future municipal bond activity would be sustained–it is unclear whether any long-term capacity building occurred within the ULBs, particularly with respect to IMC and its recent bond issues, while working together with these SPVs.

Way Forward

Notwithstanding the uncertain future of the municipal bond market, the recent bond issue exercises do not quite speak to the market worthiness of the issuing authorities, since the issues would not have attracted investor confidence without the credit enhancement structures. However, given the underdeveloped stage of the municipal bond market, they represent a significant step towards these issuers becoming market worthy; in case the bond market activity persists in the future. Such a development is evident in the multiple forays of certain ULBs whose early issues carried more credit enhancement layers than their recent issues. Assessing these instruments as pilot efforts allows seeing the many flaws with these bonds as features of their early stages of development. From this perspective, persisting in the efforts to develop a municipal bond market can make this alternative mode of financing a reliable option for stronger ULBs to bridge funding gaps, as long as path dependency does not lead to the institutionalization of the pilot practices.

As it stands, issues concerning municipal bonds in India are not limited to the question of revenue generation, which is what this research focused on. One important issue is the ability of the ULB to manage expenditure efficiently such that the debt raised is utilized in a timely manner for the specified project. Since none of the recent issues have matured, it is difficult to analyze their spending efficiency and the status of the corresponding projects.

Another extremely pertinent question that needs further research is related to the question of equity in the disbursal of the funds raised. Though the projects being funded are all in the public interest and linked to infrastructure and service delivery improvements, it is important to delve into the demographics of the beneficiaries of these projects. An analysis of the geographic distribution of the projects being funded can help approximate the number of urban poor that are likely to benefit from them. Equity concerns become all the more crucial to tackle given that recent municipal bonds are being issued with the assistance of SPVs which are criticized for their lack of transparency and accountability. This is linked to the critical assessment of the Smart Cities Mission as a whole, where the Area Based Development approach is funneling funds to specific neighborhoods, thus concentrating development efforts in particular locations while displacing funds from vast urban geographies.

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