Methodology: Data Extrapolation for Cities without Data

Certain Urban Local Governments (ULGs) had incomplete data records for some fiscal years, which posed challenges in conducting a comprehensive analysis. To address this, a systematic extrapolation methodology was applied to estimate missing values and ensure a complete and consistent dataset for all years under analysis.

For cities where direct revenue data was not available, figures were extrapolated using **the average revenue per capita of the population category to which the city belongs**. This ensures that every city is represented in the dataset, while maintaining comparability across different population category.

Example:

In the one million to four million (1M–4M) population category, there are 36 cities in total. For the financial year 2020- 21, revenue data was available for 31 cities, while 5 cities had no reported data.

To ensure full coverage, extrapolation was performed as follows:

1. Step 1 – Base Data
   We used the existing total revenue data of the 31 cities in the 1M–4M category.
2. Step 2 – Per Capita Calculation
   The per capita revenue was calculated by dividing the total revenue of these 31 cities by their combined population.
3. Step 3 – Extrapolation
   For each of the 5 cities without data, revenue was estimated by multiplying their population by the average per capita revenue derived in Step 2.

Illustrative Example

Total revenue of 31 cities: ₹372,000 Crore
Combined population of 31 cities: 62 million
Per capita revenue = ₹372,000 crore ÷ 62 million = ₹6,000 per person
For a city with 1.2 million people and no data, estimate revenue will be:
1.2 million * ₹6,000 = ₹7,200 Crore

In case of any further queries, please reach out to data@cityfinance.in