

# SLUMS AND HOUSING SHORTAGES: A GENERALIZED EXPLANATION

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## Why do cities have slums?

Slums are almost a given in developing/poor countries. Because of this correlation we seem to draw a conclusion that slums are driven by poverty. However is this true? Economic growth seems to fuel more slums across the developing world. A common explanation is that there is rapid urbanization due to economic growth and the cities cannot manage to provide services.

## Present explanation for size of cities

- **Tiebout Model:** Residents are free to choose their communities, can move freely (at no cost) across towns, have perfect information, and there is equal financing of public goods. Mobile residents are free to choose where they live.
- **Glaeser Model:** Cities provide public goods and recover costs from residents. Marginal cost of public goods increase. A city grows till the marginal costs of public good exceeds the benefits from them.

## Why are East Asian Cities so dense?

City	Pop. Density	City	Pop. Density
Tokyo	4,751	New York	1,728
Taipei	8,570	Frankfurt	2,939
Singapore	11,279	Paris	3,878

Population Density in persons per square Kilometer

## An alternate explanation: Cross-subsidies

Cities have two types of residents:

1. **Net Revenue Positive Residents:** Residents who pay more in taxes than they collect in subsidies and private goods from the city government.
2. **Net Revenue Negative Residents:** Residents who collect benefits more than they pay in revenue to the city.

The Net Revenue Positive Resident are cross-subsidizing the Net Revenue Negative Residents. The objective function of a city government is then to *maximize the number of Net Revenue Positive Residents and minimize the number of Net Revenue Negative Residents*. At the least, no city government can survive for long if the total subsidies to the Net Revenue Negative residents exceed the revenue surplus generated from the Net Revenue Positive Residents.

## Strategies open to city governments

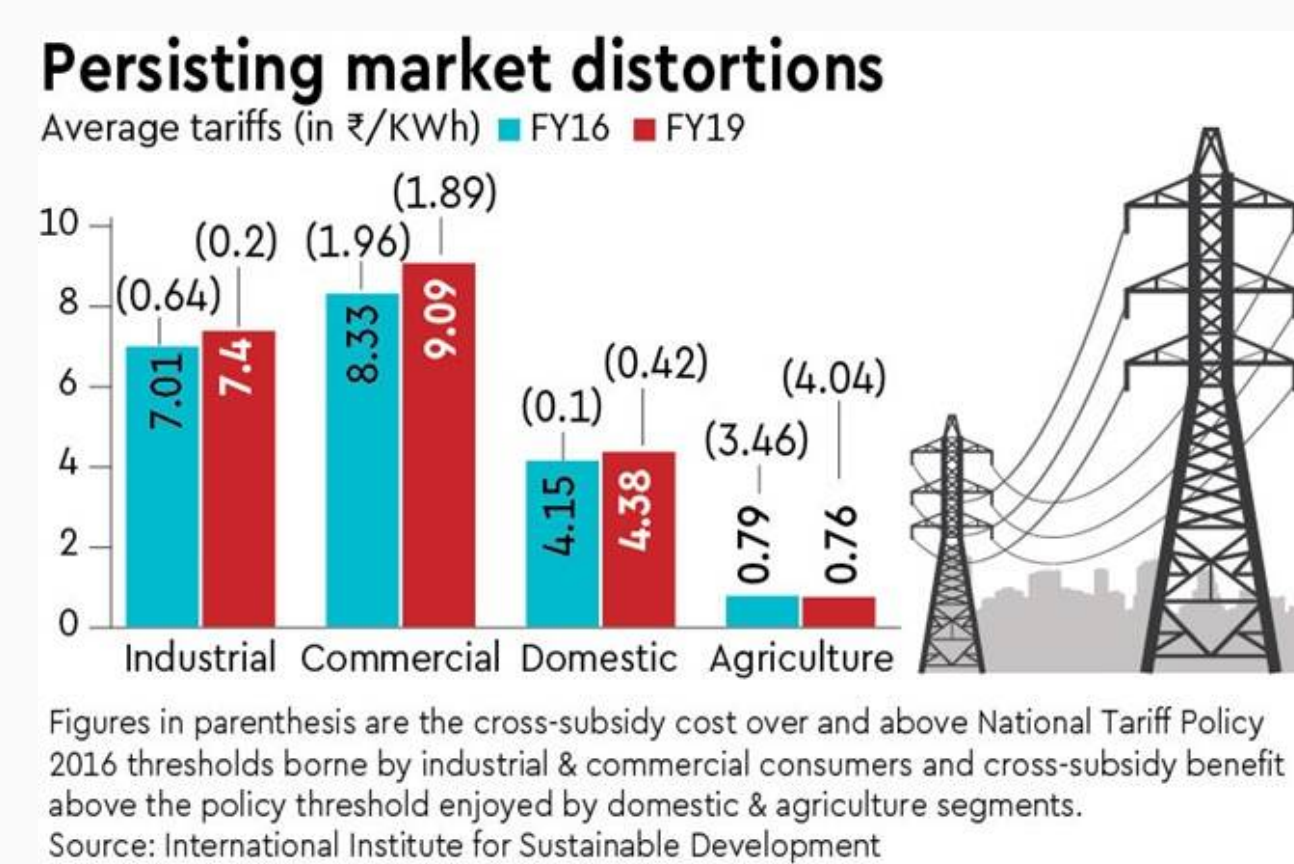
City governments, like any body driven by public choice theory can employ any or all of the following strategies:

1. Try to attract Net Revenue Positive Residents. *Huge subsidies to attract large corporations to relocate their headquarters*
2. Discourage Net Revenue Negative Residents. *Set zoning restrictions to increase property prices, thereby discouraging the poor from moving into the city*
3. Not recognize Net Revenue Residents as legal residents. *Deny access to formal housing and encourage informal housing with no access to urban services*
4. Formally prohibit some residents from obtaining benefits from the city; *The Chinese Hukou System*

## Slums as a revenue balancing strategy

- A city government makes a cross-subsidy model to finance delivery of *private goods* like: electricity, water, or primary education.
- At the beginning of the city, the proportion of Net Revenue Positive and Net Revenue Negative residents might balance the budget.
- There is a signal to prospective Net Revenue Negative Residents from the hinterland to migrate: Such residents get an income increase by relocating to the city.
- Net Revenue Negative Residents outnumber the Net Revenue Residents and the cross-subsidy model breaks down fiscally.
- The city government stops providing the subsidized private goods to the Net Revenue Negative Residents, usually by setting up barriers to becoming legal residents of the city.
- Such Net Revenue Negative Residents may still derive some income benefits from living in the city, so they are forced to move to housing without water, sanitation, or electricity. Others move out or do not come to the city.
- *Developing countries see slums and the Developed world sees urban population decline*

## Domestic users do not pay the cost of generating electricity



## Water more cross-subsidized than electricity in Mumbai

INCREASING CHARGES		
Water supply tariff (in Rs per 1,000 litres)		
Category	Existing Rates	New Rates
<b>Domestic users</b>		
i) Slums	3.49	3.68
ii) Hilly areas/advansi padas	3.87	4.08
ii) Societies & buildings	4.66	4.91
<b>Non-domestic users</b>		
i) Non-trading institutions	18.66	19.67
ii) Commercial institutions	34.99	36.88
iii) Industrial & commercial	46.65	49.16
iv) Racecourse & star hotels	69.98	73.75
v) Bottling plants	97.20	102.44

## Electricity Cross Subsidy

Many cities in the developing world (like India) have cross-subsidies for electricity. In the city, the cost for residential households is below production costs. Therefore, the number of households which can be provided electricity is not a function of the capacity/willingness to pay, but the number of commercial/industrial users in the city. The rest have to live in slums.

## Water Cross subsidies

Water production costs in Mumbai are around Rs. 20 per kiloliter, but slums are *legally entitled* to water at **81% discount**. The only way that the water supply can balance its budget is by refusing to connect slum-households to the water supply. There are simply not enough Revenue Positive Residents in Mumbai to subsidize close to 50% of the population living in slums at that level of discount.

## What about Chicago

In the U.S. there is no cross-subsidy for utilities. However, there is a significant cross-subsidy for school education funded through property taxes. The city needs 2.6 households to pay for one child's education. Effectively, *it is fiscally imprudent for the city to have more than one household in three with a child*. The more families with school-age children leave the City of Chicago, the better it is for the City finances. While the City cannot *directly prohibit* families from entering the city, zoning provides an indirect tool for achieving the same result.