

Industrialization, Foreign Aid, and Urban-Rural Divide in Access to Clean Water

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Research Question

How might foreign aid influence the distribution of basic public services between urban and rural areas?

Background

- **Foreign Aid** as important resource for public goods and services provision
 - The literature focuses on how aid affects the **levels** of provision; fungibility; Inconclusive.
 - This study focuses on how aid shapes the **distribution** of the same basic public good.

Background

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 - The literature focuses on how aid affects the **levels** of provision; fungibility; Inconclusive.
 - This study focuses on how aid shapes the **distribution** of the same basic public good.
- **Access to Clean water** as a basic public service with important environmental and public health implications
 - Urban biased output manifests in many developing countries
 - Engineering and Operational complexity concerning rural provision
 - This study focuses on **political** drivers.

Theoretical Framework

- Distribution of public services provision involves **political choice**
 - Allocation in favor of politically salient constituents
 - Allocation to enhance political stability

Theoretical Framework

- Distribution of public services provision involves political choice
- **Dilemma** faced by governments in **industrializing** economies
 - **Urban manufacturing salience** increases urban economic and political clout :
Urban-biased spending **for political survival**
 - Urban-biased provision accelerates migration to urban areas: **Excessive urban population growth** and **urban inequality**
 - Urban elites reluctant to pay the new costs of public service expansion: Intra-urban conflicts potentially **destabilizing**

Theoretical Framework

- Distribution of public services provision involves political choice
- Dilemma faced by governments in industrializing countries
- **Foreign aid** relaxed the dilemma
 - Non-Tax based revenue
 - Allows recipient governments to engage in urban-biased provision without passing on the cost to urban middle class
 - Relaxes resource constraints; Mitigates destabilizing potentials of urban-biased provision

Theoretical Framework

- Distribution of public services provision involves political choice
- Dilemma faced by governments in industrializing countries
- Foreign aid relaxed the dilemma
- **Urban bias accentuated**
- **Rural provision further neglected**

Hypotheses

- H1: Foreign aid accentuates the effect of manufacturing salience on urban-biased public service provision.
- H2: Foreign aid accentuates the effect of manufacturing salience on rural public service reduction.

Empirical Analysis

112 Aid recipient countries for the period 1991-2010.

- **Urban Biased Provision:** The difference between urban **clean water** access rate (% of urban population) and rural clean water access rate (% of rural population)

Is there really a Dilemma?

- Manufacturing salience (manufacturing value added % of GDP) leads to urban-biased provision.
- Urban-biased provision leads to excess urban population growth (the difference between urban and rural population growth rate) and may lead to urban poverty (% of urban population).

| DV: | Urban-Biased Provision | Excess Urban Population Growth | | Urban Poverty | |
|----------------------------------|------------------------|--------------------------------|---------|---------------------|---------|
| | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 |
| Manufacturing Salience (t-1:t-4) | 0.302** | -0.006 | -0.055 | 0.108 | 0.286 |
| Urban Biased Provision (t-1:t-4) | | 0.036** | | 0.528** | |
| Urban Biased Provision (t-5:t-9) | | | 0.031** | | 0.489** |
| GDP per capita | -11.208** | 0.629* | 0.915** | -3.051 ⁺ | -3.381* |
| Urban Concentration | 0.235** | -0.084 | -0.039 | 0.199* | 0.301** |
| Excess Urban Population Growth | 0.002 | | | | |
| . | . | . | . | . | . |
| . | . | . | . | . | . |
| Observations | 2081 | 2045 | 1672 | 272 | 256 |
| (Country) | (112) | (114) | (114) | (79) | (79) |

Main Analysis: Bringing in Foreign Aid

How does foreign aid condition the effect of manufacturing salience on distribution of public services?

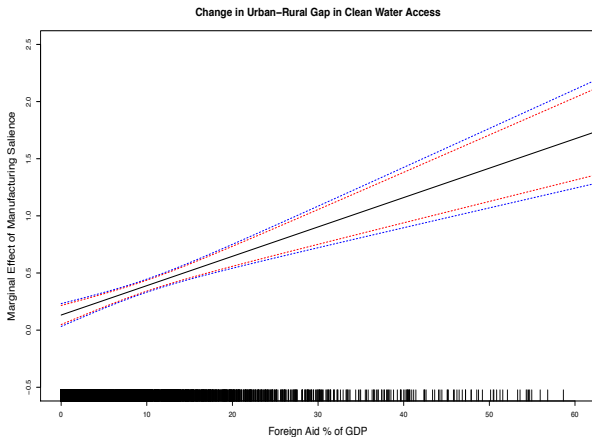
- **Foreign Aid:** Official Development Assistance (% GDP)
- **Interaction term** between Manufacturing Salience and Foreign Aid
- All right hand side variables in historic 5yr moving averages, lagged by 1 year.

$$\begin{aligned} \text{UrbanBiasedProvisions}_{it} = & \gamma_1 \text{Aid}_{i,t-1} + \gamma_2 \text{ManufacturingSalience}_{i,t-1} \\ & + \gamma_3 \text{Aid} * \text{ManufacturingSalience}_{i,t-1} \\ & + \mathbf{X}_{i,t-1} \boldsymbol{\beta}_1 + \alpha_i + \varepsilon_{it} \quad \dots \end{aligned} \quad (1)$$

- Robustness Checks: **Different types of foreign aid** (Water and Sanitation Aid, Multilateral Aid, IMF/IBRD Aid), **Aid per capita**

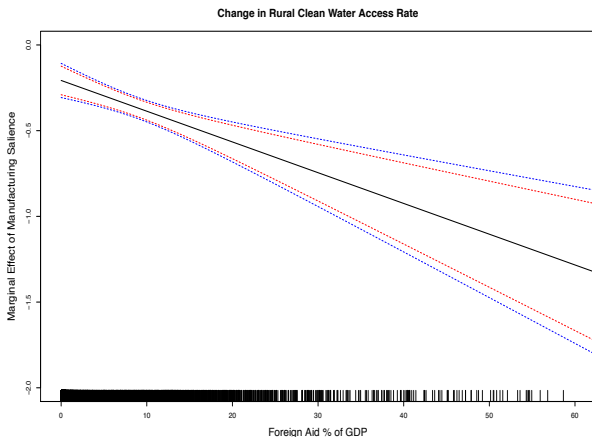
Findings: Marginal Effect of Manufacturing Salience

H1: Foreign aid accentuates the positive effect of manufacturing salience on urban-biased provision.

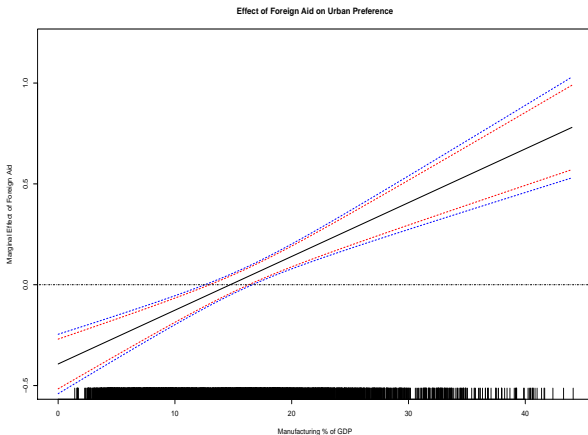


Findings: Marginal Effect of Manufacturing Salience

H2: Foreign aid accentuates the negative effect of manufacturing salience on rural clean water access rate.



Alternative Mechanism: Do donors always prefer urban provision?



Conclusion

- Despite all the good intentions, foreign aid may widen the urban-rural access gap in basic public goods and services.
- The publicness of public goods and services should not be assumed.