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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- **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 politically 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).

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<tbody>
<tr>
<td></td>
<td>Model 1</td>
<td>Model 2</td>
<td>Model 3</td>
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<tr>
<td>Manufacturing Salience (t-1:t-4)</td>
<td>0.302**</td>
<td>-0.006</td>
<td>-0.055</td>
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<tr>
<td>Urban Biased Provision (t-1:t-4)</td>
<td></td>
<td>0.036**</td>
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<tr>
<td>Urban Biased Provision (t-5:t-9)</td>
<td></td>
<td></td>
<td>0.031**</td>
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<tr>
<td>GDP per capita</td>
<td>-11.208**</td>
<td>0.629*</td>
<td>0.915**</td>
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<td>Urban Concentration</td>
<td>0.235**</td>
<td>-0.084</td>
<td>-0.039</td>
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<td>Excess Urban Population Growth</td>
<td>0.002</td>
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<tr>
<td>Observations</td>
<td>2081</td>
<td>2045</td>
<td>1672</td>
</tr>
<tr>
<td>(Country)</td>
<td>(112)</td>
<td>(114)</td>
<td>(114)</td>
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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.

\[
\text{UrbanBiasedProvisions}_{it} = \gamma_1 \text{Aid}_{i,t-1} + \gamma_2 \text{ManufacturingSalience}_{i,t-1} \\
+ \gamma_3 \text{Aid} \times \text{ManufacturingSalience}_{i,t-1} \\
+ X_{i,t-1} \beta_1 + \alpha_i + \epsilon_{it} \ldots 
\] (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.

![Graph showing the marginal effect of manufacturing salience on rural clean water access rate with foreign aid as a percentage of GDP.](chart.png)
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.