A New Scramble for Africa and the Developing World? An Analysis of Chinese and Indian Development Projects

Gerda Asmus, Vera Z. Eichenauer, Andreas Fuchs, and Brad Parks

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Indian and Chinese aid projects (2006-2014)
Motivation

- Donor countries use aid to foster their interests
- One of India’s primary motivations for foreign aid is competition with China
  - Ministry of External Affairs (MEA) started its aid program after the Sino-Indian War 1962
  - Chinese and Indian aid programs in the Pacific seek to influence “voting [in] multilateral fora especially the UN.” (Zhang and Shivakumar 2017: 265)
  - “[Indian] aid is clearly influenced by the need to keep countries, other than Pakistan, from drifting further into China’s strategic and economic orbit.” (Sridharan 2014)
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Does India increase its aid to compete with Chinese aid?

Interpretation: A positive coefficient on Chinese aid could represent . . .

1. Aid competition between China and India
   ▶ E.g., India increases aid in response to a surge in Chinese aid to constrain India

2. Aid imitation of China by India
   ▶ E.g., India observes China's (development) success and builds similar projects

3. Herding
   ▶ E.g., unobserved need (disease outbreak), unobserved commercial opportunities, government change . . .

▶ We will distinguish between 1. and 2. using sectoral data (finished coding last week)
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India’s Official Finance Dataset

▶ This paper introduced the geocoded project-level dataset on Indian aid
▶ Two Indian government institutions provide aid to developing countries

1. Indian Ministry of External Affairs (MEA)
   → Political aid (Official Development Assistance (ODA)-like)
2. Export-Import (Exim) Bank of India
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Variable of interest: China’s aid

AidData’s China’s Official Finance Dataset (Dreher et al. 2017; Strange et al. 2017)

- Project-level dataset of Chinese aid worldwide
- Currently geocoded for Africa only
- Open-source data collection methodology
Top 10 recipient countries

<table>
<thead>
<tr>
<th>INDIA</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Nepal (127)</td>
<td>Cambodia (168)</td>
</tr>
<tr>
<td>Afghanistan (107)</td>
<td>Zimbabwe (126)</td>
</tr>
<tr>
<td>Myanmar (88)</td>
<td>Pakistan (123)</td>
</tr>
<tr>
<td>Bhutan (82)</td>
<td>Angola (114)</td>
</tr>
<tr>
<td>Sri Lanka (67)</td>
<td>Tanzania (100)</td>
</tr>
<tr>
<td>Bangladesh (65)</td>
<td>Ghana (98)</td>
</tr>
<tr>
<td>Maldives (44)</td>
<td>Kenya (91)</td>
</tr>
<tr>
<td>Laos (21)</td>
<td>Ethiopia (87)</td>
</tr>
<tr>
<td>Liberia (20)</td>
<td>Liberia (85)</td>
</tr>
<tr>
<td>Ghana (17)</td>
<td>Zambia (82)</td>
</tr>
</tbody>
</table>
Comparison of Indian and Chinese aid

Note: Correlation in 2010: $\rho = .4$
Regression model

- **Two levels of analysis**
  1. Cross-country analysis worldwide
  2. Subnational (province-level) analysis

- We proceed in two steps
  1. OLS with year- and country-fixed effects
  2. 2SLS with year- and country-fixed effects

- **Main variables**
  1. Dependent variable: # Indian aid projects (logged)
  2. Variable of interest: # Chinese aid projects (logged and lagged)
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Establishing causality

Endogeneity of Chinese activities to Indian aid

- Reverse causality: Beijing responds to India’s aid around the world
- Omitted variables: unobserved factors could lead to herding and dispersion (e.g., countries’ stance on China-India border conflicts)

Instrumental variable strategy

- \((\text{Total number of Chinese aid projects in } t-1) \times \text{Average probability of receiving aid}\)
- Works like diff-in-diff: compares regular aid recipients to less frequent aid recipients (as in Nunn & Qian 2014)
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Control variables

- **Country-level controls** (Fuchs and Vadlamannati 2013)
  - India’s political interest
    - Geographic distance (logged)
    - Voting alignment in UN General Assembly
    - Commonwealth membership
  - Cultural affinity
    - Number of Indian diaspora in recipient country (logged)
  - India’s economic interest
    - Indian exports (logged)

- **Recipient country characteristics**
  - Economic need: GDP per capita (logged), population (logged), disaster-affected people (logged)
  - Economic attractiveness: mineral exports (logged), debt-to-GDP ratio
  - Political situation: democracy and conflict dummies
Main results

<table>
<thead>
<tr>
<th>Ln(# of Indian projects)</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ln(# of Chinese projects, t-1)</td>
<td>0.0095</td>
<td>0.9155**</td>
<td>0.8486**</td>
<td>0.1743</td>
</tr>
<tr>
<td></td>
<td>[0.028]</td>
<td>[0.359]</td>
<td>[0.345]</td>
<td>[0.122]</td>
</tr>
<tr>
<td>Covariates</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Number of observations</td>
<td>970</td>
<td>970</td>
<td>970</td>
<td>970</td>
</tr>
<tr>
<td>Number of recipient countries</td>
<td>108</td>
<td>108</td>
<td>108</td>
<td>108</td>
</tr>
<tr>
<td>Kleibergen-Paap F stat.</td>
<td>12.04</td>
<td>12.04</td>
<td>12.04</td>
<td>12.04</td>
</tr>
<tr>
<td>K-P LM stat. p-val.</td>
<td>0.00268</td>
<td>0.00268</td>
<td>0.00268</td>
<td>0.00268</td>
</tr>
<tr>
<td>Year FE</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Country FE</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>DV: Indian projects</td>
<td>MEA + Exim</td>
<td>MEA</td>
<td>Exim</td>
<td></td>
</tr>
<tr>
<td>Instrument</td>
<td>Av. Prob. * Ln(# CHN projects, t-1)</td>
<td></td>
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Indian and Chinese aid the subnational level
Concluding remarks and next steps

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  - India uses aid to compete with Chinese aid
    → To do: exclude imitation interpretation
  - 1% increase in Chinese projects increases Indian projects by 0.9%
  - Competition at the national level driven by MEA (“political” competition) rather than by Exim (“economic” competition)

- What’s next?
  - Does China react to Indian aid?
  - Placebo tests with “ex ante” competition
  - Geographical heterogeneity, especially Asia region
  - Sectoral heterogeneity, especially infrastructure and energy
  - Global subnational analysis
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Thanks for your attention!

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Chinese and Indian projects by region and type