Aid, Institutions and Economic Growth in Sub-Saharan Africa
Heterogeneous Donors and Heterogeneous Responses

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Outline

1 Introduction
   - Justifications for Development Aid
   - The Effectiveness Debate
   - Research Gaps

2 Methodology
   - Model Specification
   - Estimation Techniques

3 Data

4 Results
   - Stationarity & Cointegration Tests
   - Aggregate Aid from DAC-Donors
   - Heterogeneity within DAC-Donors
   - Chinese Aid

5 Conclusion
1. Introduction

Justifications for Development Aid

Focus on development aid as opposed to military or humanitarian/disaster aid, though the borders are blurred.

Aid for:

- Physical Capital
- Human Capital
- Governance, Institutions
- Trade

In general, aid is needed to give LDCs a ‘big-push’ out of poverty-trap.

In practice, recipient needs, donor political & commercial interests, shared benefits of development in LDCs and recipient performance, all matter.
The Effectiveness Debate

Debate goes back to its early days.

Generations of the aid-effectiveness debate:

- Aid $\to$ Saving/Investment ($\to$ Growth): Cross-sectional; Linear relationship; aid taken as exogenous.

- Aid $\to$ Growth: similar to the first

- Aid $\to$ Growth (but also (rarely) Education, Infant Mortality): Panel data; endogeneity; non-linearity; deep parameters (policy, institutions, geography).

- Aid $\to$ Intermediary variables $\to$ Growth: ‘Opening the black box’.
The Effectiveness Debate

Unconditionally effective:

Conditionally effective:

Ineffective

Harmful
Research Gaps

Three (3) issues:

- Aid (donor) heterogeneity,
- Recipient heterogeneity,
- Institutional intermediation: Aid $\rightarrow$ Institutions $\rightarrow$ Growth
Research Gaps

i) Aid (donor) heterogeneity:

Differences in the nature of aid:

Differences between donors:
- Heterogeneity within the ‘traditional’ donors
  - Wako (2011): Bilateral vs. Multilateral Donors
  - Okada & Samreth (2012): US, UK, Japan, France & multilateral aid
  - Brazys (2013): Aid for Trade (AfT) from 19 OECD-members. No recipient from SSA

  - Differences between ‘Old’ and ‘New’ donors
    - McCormick (2008): China & India vs. ‘Old’ donors (Potential!)
    - Moyo (2009): Compares China & the West
Research Gaps

ii) Recipient heterogeneity:
- Common practice: including regional dummies.
- Heterogeneity in slope parameters:
  - Aid → Income, not interested in the reverse relationship
  - not interested in the role of institutions.
  - ignored order of integration of variables – possibility of spurious results.

iii) Intermediary variables:
- Bourguignon & Sundberg (2007): Aid → Policy, governance, institutions → Growth – Theoretical!
- Arndt et al. (2011): considered investment and human capital, not seen the roles of policy, institutions and governance.
2. Methodology

Model Specification

ARDL: a dynamic relationship

\[
g\text{GDPPC}_{it} = \alpha_0 + \sum_{l=1}^{p} \alpha_1 \text{GDPPC}_{it-l} + \sum_{l=0}^{p} \alpha_2 \text{Aid}_{it-l} + \sum_{l=0}^{p} \alpha_3 \text{Inst}_{it-l} + \eta_{it} \\
\text{Inst}_{it} = \beta_0 + \sum_{l=1}^{p} \beta_1 \text{Inst}_{it-l} + \sum_{l=0}^{p} \beta_2 \text{GDPPC}_{it-l} + \sum_{l=0}^{p} \beta_3 \text{Aid}_{it-l} + \varepsilon_{it} \\
\text{Aid}_{it} = \gamma_0 + \sum_{l=1}^{p} \gamma_1 \text{Aid}_{it-l} + \sum_{l=0}^{p} \gamma_2 \text{GDPPC}_{it-l} + \sum_{l=0}^{p} \gamma_3 \text{Inst}_{it-l} + \zeta_{it}
\]
Rearranging Equation 1 gives an ECM representation:

\[ \Delta gGDPPC_{it} = \gamma_0 + \alpha_i \left( gGDPPC_{it-1} - \beta_2 i Aid_{it-1} - \beta_3 i Inst_{it-1} \right) + \sum_{l=1}^{p-1} \gamma_{1li} \Delta gGDPPC_{it-l} + \sum_{l=0}^{p-1} \gamma_{2li} \Delta Aid_{it-l} + \sum_{l=0}^{p-1} \gamma_{3li} \Delta Inst_{it-l} + \mu_{it}. \] (4)

The Aid and Institution equations are similarly reparameterized.
Estimation Techniques

- Three techniques for non-stationary, cross-sectionally dependent dynamic panels:
  1. Dynamic Fixed Effects – all parameters assumed homogenous
  2. Pooled Mean Group – short-run parameters and error-correction coefficient are heterogenous
  3. Mean Group – all parameters heterogenous (not much better than running separate time-series)

- Hausman test applied to the pairs: MG & DFE, and MG & PMG.

- Dynamic Common Correlated Effects estimator also used to better account for CD.
3. Data

1. Definition of Variables and Data Source:
   
   - **Economic Growth:**
     \[
     \text{grGDPPC}_t = 100 \times \frac{\text{Real GDPPC}_t - \text{Real GDPPC}_{t-1}}{\text{Real GDPPC}_{t-1}}.
     \]
     World Bank: WDI

   - **Aid:** \( \text{NAT} = \text{NODA} - \text{Interest repayments} - \text{Cancellation of Non-ODA loans.} \) (Share of GDP).
     Roodman (2005)

   - **Institutional Quality:** Average of Civil Liberties & Political Rights.
     Freedom House

2. Coverage: 1980-2013, 43 SSA countries
4. Results

Stationarity & Cointegration Tests

Stationarity:

- grGDPPC, NAT & Institution are mix of I(0) & I(1).
- RGDPPC is a mix of I(1) & I(2).

Cointegration:

- grGDPPC, NAT & Institution are cointegrated.
- The use of GDPPC in level entails spurious results!
Aggregate Aid from DAC-Donors

AID

Economic Growth

Institutional Quality

Each comes with bad news (from aid)

From ‘Poverty-Trap’ to ‘Aid-Poverty Trap’
### Table 4: Growth, Institutional and Total Effects of Aid

<table>
<thead>
<tr>
<th>Donor</th>
<th>grGDPPC</th>
<th>Institution</th>
<th>Total Effect*</th>
</tr>
</thead>
<tbody>
<tr>
<td>France</td>
<td>−</td>
<td>−</td>
<td>−</td>
</tr>
<tr>
<td>Canada</td>
<td>−</td>
<td>−</td>
<td>−</td>
</tr>
<tr>
<td>Germany</td>
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<td>Italy</td>
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<td>Finland</td>
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</tr>
<tr>
<td>Japan</td>
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<tr>
<td>Luxembourg</td>
<td>0</td>
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<tr>
<td>Austria</td>
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<td>Denmark</td>
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<td>Sweden</td>
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<tr>
<td>Belgium</td>
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<td>?</td>
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<tr>
<td>Australia</td>
<td>+</td>
<td>−</td>
<td>?</td>
</tr>
<tr>
<td>Portugal</td>
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<td>+</td>
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<tr>
<td>UK</td>
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<td>0</td>
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<tr>
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<tr>
<td>New Zealand</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
</tbody>
</table>

*This is based on the signs of the effects from the previous two columns.

Denmark and the USA are among the donors that performed, respectively, less and more than expected. For a detailed characterization of each donor, see Table A13.

In a nutshell, there is a clear heterogeneity in the effectiveness of aid among the 'traditional' donors. With the exception of a few cases (remarkably for Denmark and the USA, but also for Belgium and Austria), the results here are either as expected or at least plausible with the donor rankings and characterizations in the literature.

### 5.4 Growth and Institutional Effects of Chinese Aid

The final question the study intends to address is: How does aid from China compare with aid from traditional donors in terms of effectiveness? In general, the data for Chinese aid are scarce to allow a similar level of investigation as undertaken above. However, given the current state of affairs in international development (research), it is imperative to say whatever data allow regarding this important ‘new’ donor.

To begin with some words of warning, data on China’s aid to Africa are not from the Roodman (2005) dataset, and thus are not the preferred net aid transfer (NAT). Besides, what exactly constitutes aid in the case of China is not clearly defined as in the case of DAC donors. To complicate things further, unlike the DAC aid, the data are not from official sources, but rather from media reports. It is, however, the best at hand thanks to the efforts of Strange et al. (2013).

The aid data of Strange et al. (2013) are in 2009 US dollars, and cover the period 2000-2012. As usual, the GDP comes from the World Bank’s WDI. Aid from China to Africa (data available for 21 countries) ranges from 0 to 46.5% of recipient’s GDP, and is about 2.59% on average. The maximum value of 46.5% is for Ghana in 2010, followed by Mozambique in 2010 (= 22.7%).
Heterogeneity within DAC-Donors

These results are related to the following ‘aid quality’ donor ratings:

- Birdsall et al. (2010): maximizing efficiency, transparency & learning, fostering institutions, reducing the burden on recipients.

- Ghosh and Kharas (2011): Transparency

- Knack et al. (2011): selectivity, alignment, harmonization, specialization

- Easterly and Williamson (2011): Aid agency practices

- CGD: Commitment to Development Index (CDI)
Heterogeneity within DAC-Donors

Highly consistent with donor-quality literature:
- Ireland, Netherlands, Norway
- France, Canada, Italy, Finland

Less clear but reconcilable:
- UK, Australia, Portugal, Sweden, New Zealand, Switzerland
- Japan, Luxembourg, Germany,
- Spain, Austria, Belgium

Difficult to reconcile:
- Denmark, USA
Chinese Aid

Data:

- From media reports, not from official sources
- Not NAT
- Ambiguity in what constitutes aid
- Short time span (2000-2012)
- Small sample size (10 recipients).

Source: Strange et al. (2013).
Chinese Aid

Conflicting news (coming from Chinese aid)?
5. Conclusion

1. Aggregate aid from ‘traditional’ donors has:
   - a robust non-positive growth effect.
   - a robust negative institutional quality effect.

2. Disaggregation reveals mixed results:
   - + Ireland, Netherlands, Norway, New Zealand, Switzerland, UK, USA
   - – France, Canada, Finland, Italy, Japan, Luxembourg, Germany
   - 0 Denmark, Spain and Austria
   - ? Sweden, Australia, Portugal, Belgium

3. Chinese aid: positive growth effect, negative institutional effect. Similar to Australian, Swedish and Belgian aid.

A universal/outright praise or disapproval of aid is wrong!
Policy Implications

- Generally, smaller donors performed better than the bigger ones. 
  \[\Rightarrow\] Quality matters more than quantity

- Comparing performances of donors with mixed quality scores, **specialization** and **alignment** seem to matter more than other dimensions of quality.
Thank You!