The Political Economy of Bad Data:
Evidence from African Survey & Administrative Statistics

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Center for Global Development
Outline

Seeing like a donor, seeing like a state

Fooled by the state
  - Immunization & pay-for-performance aid
  - Consumer price inflation

Fooling the state
  - Agriculture output & incentive compatibility
  - School enrollment & the abolition of user fees

Conclusion
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Seeing like a donor

Aid conditionality in a P-A framework

▷ Moral hazard: Donor (P) offers gov’t (A) a contract to help the poor. Can’t observe policy effort.

Data policy implications

▷ Independent verification of results
▷ More high-quality, harmonized household survey data on poverty, CMR, learning, etc.
Seeing like a state

Weak state capacity
- Reasonable to assume African states can implement desired reforms?

Data policy implications
- Administrative data linked to lower units of political accountability
- Incentive compatibility in data collection
Seeing like a donor...
Seeing like a donor... seeing like a state?
### Tanzania agricultural data sources

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GAVI pay-for-performance

- As of 2000, GAVI paid eligible countries $20 per incremental child immunized for DTP3.
- Compare: (i) changes over time, (ii) in WHO vs DHS data, (iii) before/after 2000, (iv) for DTP vs measles.

\[
\Delta V_{cdt}^{WHO} = \beta_0 + \beta_1 \Delta V_{cdt}^{DHS} + \beta_2 I[t \geq 2000] + \beta_3 I[d = DTP3] + \beta_4 I[t \geq 2000] \times I[d = DTP3] + \varepsilon_{cdt}
\]
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Measles vaccination rates: WHO vs DHS

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Ratio of WHO to DHS coverage

DTP3 vaccination rates: WHO vs DHS

Ratio of WHO to DHS coverage


Chad Madagascar Mali Nigeria Burkina Faso Democratic Republic of the Congo Ethiopia Ethiopia Ethiopia Gabon Mali Mauritania Niger Nigeria Nigeria Sierra Leone Zimbabwe
Vaccination rates: Regression summary

1. Single diff: DTP3 immunization 13% higher after 2000 in admin data.

2. Double diff: That increase was 4.6% faster in admin than survey data.

3. Triple diff: That increase in the discrepancy was 2.3% larger in DTP3 than measles.

4. Quadruple diff: Moving from levels to changes over time, jump in DTP3 discrepancy 4.5% faster per annum than measles.
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Two price series

Official CPI
- Rare: high-frequency economic indicator in LICs.
- Highly politicized, highly technical
- Typically based on market surveys (urban bias)

National poverty lines
- Based on independent survey data
- CBN line $\approx$ CPI for poor
Tanzania: Poverty

Poverty headcount (%)

2000 2001 2002 2003 2004 2005 2006 2007

Dollar-a-day poverty, PPP
National poverty
Tanzania: Prices

Price index 2000-2007

- Official CPI, 5.7% annual inflation
- Survey deflator, 9.8% annual inflation
Tanzania: Poverty

Poverty headcount (%)

Dollar-a-day poverty, PPP
National poverty


Poverty headcount (%): 84.6, 67.9, 35.7, 33.4, 20.0

National poverty: 67.9, 33.4

Dollar-a-day poverty, PPP: 84.6, 67.9, 35.7, 33.4, 20.0

Graph showing the decrease in poverty headcount from 2000 to 2007.
Tanzania: GDP

Per capita GDP in PPP, 4.2% annual growth
Revised using survey deflators, 1.8% annual growth
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Tanzanian agricultural: FAO annual data, several crops
Tanzanian agricultural: Surveys contradict FAO data & each other
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## Changes in primary school enrollment

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**Ave.: Africa**

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**Ave.: Other**

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Kenya: primary enrollment

Net primary enrollment (%) vs. Year (1995-2010)
Kenya: primary enrollment

Net primary enrollment (%)

1995 2000 2005 2010
Rwanda: primary enrollment
## Primary school enrollment rates

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Primary school enrollment rates: Regression summary

Sample of 46 surveys spanning 21 African countries before/after abolition of user fees.

1. Single diff: Enrollment level 15% higher after FPE in admin data.
2. Double diff: Enrollment changes also 15% faster after FPE in admin data.
3. Triple diff: That acceleration was 10% faster in admin than survey data.
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Post-2015 agenda:

▶ Emphasis on new, survey-based, global monitoring system needs complementary system of incentive-compatible administrative data systems. Otherwise we can monitor but not implement.

How could this work?

▶ One idea: Design surveys to cross-validate administrative systems. Bigger disaggregated samples, linked to facility surveys.