

Supplementary Appendix

Jablonski, Ryan. "How Aid Targets Votes: The Impact of Electoral Incentives on Foreign Aid Distribution" *World Politics*

Version: April 30, 2013

1. Alternative Specifications

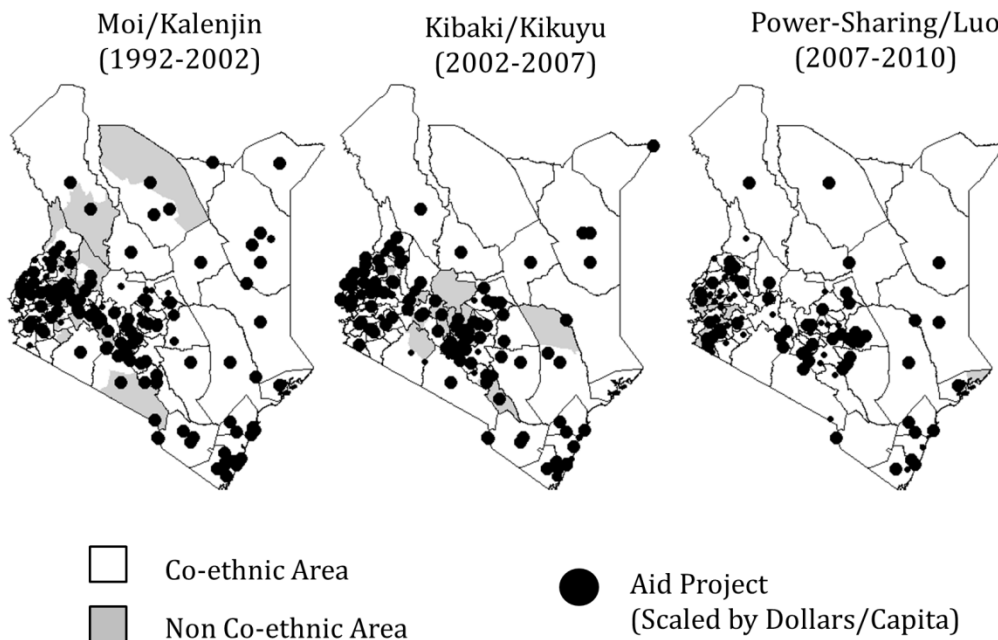


Figure A 1: Map of Foreign Aid Projects by Co-Ethnicity

Each dot indicates the location of a World Bank or African Development Bank project as coded by author.

Table A 1: The Effect of Incumbent Support and Ethnicity on Aid Allocation

	(1)	(2)
Victory Margin	0.12** 0.04	
Co-Ethnic Constituency		0.10+ 0.05
Bilateral Aid per Capita (log)	-0.59** 0.03	-0.59** 0.03
Multilateral Aid per Capita (log)	0.35** 0.03	0.34** 0.03
Tax Revenue (log)	0.70** 0.15	0.69** 0.15
GDP (log)	-1.21** 0.25	-1.20** 0.25
Area (log square km.)	0.15** 0.02	0.15** 0.02
ELF	0.16 0.11	0.17 0.11
Infant Mortality (log)	0.46** 0.15	0.57** 0.15
Percent in Poverty	-0.61** 0.11	-0.61** 0.12
Population (log)	0.01 0.05	0.01 0.06
Observations	3,753	3,762
R-Squared	0.23	0.23

⁺p<0.1; *p<0.05; **p<0.01. Constituency clustered standard errors in parentheses. Estimated using a linear model with constituency-level random-effects, regime fixed-effects, and time trends.

Table A 2: The Effect of Co-Ethnicity and Victory Margin by Donor

	(1) World Bank	(2) World Bank	(3) AfDB	(4) AfDB
Victory Margin	0.25** 0.05		0.05* 0.02	
Co-Ethnic Constituency		0.28** 0.06		0.11** 0.03
Observations	3,753	3,762	3,762	3,753
R-Squared	0.11	0.11	0.09	0.09

⁺p<0.1; *p<0.05; **p<0.01. Constituency clustered standard errors in parentheses. Estimated using a linear model with constituency-level fixed-effects, regime fixed-effects, and time trends. Standard errors are clustered by constituency. Included, but not shown, are controls for *Percent Poverty*, *Population (log)*, and *National Tax Revenue*. Other time and regime invariant controls are removed due to co-linearity with the fixed effects.

Table A 3: Alternative Coding for Aid Project Locations

	(1) Precise Only	(2) Precise Only	(3) Scaled Sq. Km	(4) Scaled Sq. Km
Victory Margin	0.18** 0.05		0.22** 0.04	
Co-Ethnic Constituency		0.31** 0.08		0.32** 0.05
Observations	3,753	3,762	3,762	3,762
R-Squared	0.05	0.05	0.04	0.04

⁺p<0.1; *p<0.05; **p<0.01. Constituency clustered standard errors in parentheses. Model 1 and 2 drops projects whose location cannot be identified at a district or constituency level. Model 3 and 4 scale provincial and district projects by land area rather than by population. Estimated using a linear model with constituency-level fixed-effects, regime fixed-effects, and time trends. Standard errors are clustered by constituency. Included, but not shown, are controls for *Percent Poverty*, *Population (log)*, and *National Tax Revenue*. Other time and regime invariant controls are removed due to co-linearity with the fixed effects.

Table A 4: Alternative Coding for Dependent Variable

	(1) DV= Log(Aid)	(2) DV= Log(Aid)	(3) DV= Log(Aid/ TotalAid)	(4) DV= Log(Aid/ Total Aid)
Victory Margin	1.04** 0.17		0.001 ⁺ 0.0005	
Co-Ethnic Constituency		1.13** 0.25		0.002** 0.001
Observations	3,753	3,762	3,357	3,366
R-Squared	0.19	0.19	0.01	0.01

⁺p<0.1; *p<0.05; **p<0.01. Constituency clustered standard errors in parentheses. Model 1 and 2 show the effect of Victory Margin and Co-Ethnicity on the amount of aid in a constituency unscaled by population. Model 3 and 4 show the effect of Victory Margin and Co-Ethnicity on the share of overall aid going to a constituency in a year. All models are estimated using a linear model with constituency-level fixed-effects, regime fixed-effects, and time trends. Included, but not shown, are controls for *Percent Poverty*, *Population (log)*, and *National Tax Revenue*. Other time and regime invariant controls are removed due to co-linearity with the fixed effects.

Table A 5: Additional Control Variables

	(1) Only Fixed Effects	(2) Only Fixed Effects	(3) Year Fixed Effects	(4) Year Fixed Effects
Victory Margin	0.17** 0.04		0.09* 0.04	
Co-Ethnic Constituency		0.26** 0.06		0.22** 0.06
Observations	3,981	3,990	3,753	3,762
R-Squared	0.09	0.09	0.40	0.40

⁺p<0.1; *p<0.05; **p<0.01. Constituency clustered standard errors in parentheses. Model 1 and 2 exclude all controls except for constituency fixed effects, regime fixed effects and a time trend. Model 3 and 4 include year fixed effects in addition to constituency fixed effects.

Table A 6: Alternative Coding of Independent Variable

	(1)	(2)
Victory Margin	1.12**	-0.07
	0.31	1.15
(Victory Margin) ²		1.32
		1.24
Observations	3,753	3,753
R-Squared	0.19	0.19

⁺p<10%; *p<5%; **p<1%; ***p<0.1%. Constituency clustered standard errors in parentheses. All models are estimated using a linear model with constituency-level fixed-effects, regime fixed-effects, and time trends. Included, but not shown, are controls for *Percent Poverty*, *Population (log)*, and *National Tax Revenue*.

Table A 7: Alternative Coding of Ethnic Variables

	(1) Co-Ethnic Percent	(2) No Co-Ethnic Constituencies
Victory Margin	0.19**	0.15*
	0.05	0.06
Co-Ethnic Percent	0.002**	
	0.001	
Observations	3,753	3,193
R-Squared	0.12	0.09

⁺p<10%; *p<5%; **p<1%; ***p<0.1%. Constituency clustered standard errors in parentheses. Model 1 shows the effect of *Victory Margin* after controlling for the estimated percentage of co-ethnics in a constituency. Model 2 shows the effect of *Victory Margin* on a sample that excludes cases in which *Co-Ethnic Constituency* equals zero. All models are estimated using a linear model with constituency-level fixed-effects, regime fixed-effects, and time trends. Included, but not shown, are controls for *Percent Poverty*, *Population (log)*, and *National Tax Revenue*.

2. Coding Rules for Foreign Aid Data

The methodology for coding is based upon the methodology set forth in Strandow et al¹. For each project, researchers read over publically available project documents from the World Bank or the African Development Bank. For completed projects, researchers primarily relied on Project Completion Documents published after a project has been closed. These documents provide extensive detail about how a project was implemented and where a project was located. When a project completion document is not available, researchers instead rely on Project Information documents or Project Evaluation Documents which also provide detailed information and maps on the location of project benefits.

¹ 2010.

Once the location(s) of a project have been identified, each location is given a location code as follows: ²

1 = The coordinates corresponds to an exact location, such as a populated place or a hill.

2 = The location is mentioned in the source as being “near”, in the “area” of, or up to 25 km away from an exact location. The coordinates refer to that adjacent, exact, location. In the case of Kenya, this most often refers to constituency-level projects.

3 = The location is, or is analogous to, a second order administrative division (ADM2), such as a district, municipality or commune. In the case of Kenya, this refers to a district.

4 = The location is, or is analogous to, a first order administrative division (ADM1), such as a province, state or governorate.

5 = The location can only be related to estimated coordinates, such as when a location lies between populated places; along rivers, roads and borders; more than 25 km away from a specific location; or when sources refer to parts of a country greater than ADM1 such as a National Park which spans across several provinces (e.g. Foret Classee de Gongon in Benin)

6 = The location can only be related to an independent political entity, meaning the pair of coordinates that represent a country. This includes aid that is intended for country-wide projects as well as larger areas that cannot be geo-referenced at a more precise level

7 = Unclear. The country coordinates are entered to reflect that sub-country information is unavailable. These cases are not included in the sample.

² Strandow et al. 2010.

8 = The location is estimated to be a seat of an administrative division (local capital) or the national capital. Projects are also coded as 8 if the money remains within ministries and government agencies. I exclude these projects from analysis.

In the case of projects that were open at the initiation of this research, I rely on existing data as coded by Findley et al.³. In the case of projects that were already closed, I and a series of research assistants coded the projects.

In order to estimate the amount of money going to each constituency, I add up the total value of each project going to a particular constituency⁴. In the case of projects that are distributed across a particular province or district, I assume that project benefit each individual citizen equally. In other words, I estimate the amount of aid going to each constituency i in year t as follows:

$$Aid_{it} = \sum (P1_t + P2_t) + \sum (P3_t * \frac{PopConstituency}{PopDistrict}) + \sum [(P4_t + P5_t) * \frac{PopConstituency}{PopProvince}]$$

Where PX_t is the value of an aid project with precision code X allocated in year t . Since most projects allocated at a provincial or district level are designed to benefit the population more or less equally, this is a relatively innocuous assumption. However, when this does not hold in practice, scaling by population may introduce some bias. For example, suppose a provincial project was distributed by land area rather than population. In such a case, I would likely overestimate the amount of aid going to small populous constituencies.

³ 2011.

⁴ In cases where projects go to multiple locations, it is frequently infeasible to determine how much of the total value of the project goes to each location. In these cases, I assume that each location benefits equally from the project.

The risk of such bias confounding my results is unlikely in a model with constituency fixed-effects, however I also address this issue directly. First, I re-estimate the results by scaling aid by land area instead of population (Supplementary Table A 3) and obtain substantively similar results. Second, I exclude provincial data from my sample and re-estimate my results. Since electoral and ethnic variation remains small within districts, any remaining bias is unlikely to introduce bias. Again my results remain consistent (Supplementary Table A 3).

3. Summary Ethnic Data

The following table shows the distribution of ethnic groups in each province using estimates from the 1989 Census and the 2003 and 2008 Demographic and Health (DHS) Surveys. The similarity in these distributions suggests that the DHS surveys provide an accurate assessment of the distribution of co-ethnic constituencies.

Table A 8: Ethnic Data from Census and DHS Surveys

Province	Embu Tribe		Kamba Tribe		Kikuyu		Meru		Kisii	
	Census	DHS	Census	DHS	Census	DHS	Census	DHS	Census	DHS
Central Province	0.2%	0.8%	1.8%	2.3%	93.8%	85.9%	0.4%	1.1%	0.3%	0.7%
Coast Province	0.1%	0.1%	6.9%	4.4%	3.2%	4.5%	0.4%	0.3%	0.4%	0.2%
Eastern Province	6.1%	9.1%	53.9%	41.5%	1.6%	9.6%	27.4%	28.6%	0.1%	0.1%
North Eastern Prov.	0.0%	0.0%	0.7%	0.0%	0.7%	0.0%	0.2%	0.0%	0.1%	0.0%
Nairobi	0.9%	0.9%	13.5%	14.0%	32.4%	32.0%	1.6%	2.5%	2.6%	2.7%
Nyanza Province	0.0%	0.0%	0.1%	0.4%	0.2%	0.6%	0.0%	0.2%	32.4%	33.4%
Rift Valley Province	0.1%	0.1%	0.9%	0.7%	19.3%	16.3%	0.3%	0.5%	2.5%	3.3%
Western Province	0.0%	0.1%	0.1%	0.3%	0.9%	1.6%	0.0%	0.1%	0.2%	0.9%

Province	Luhya Tribe		Mijikenda Tribe		Luo Tribe		Kalenjin Tribe	
	Census	DHS	Census	DHS	Census	DHS	Census	DHS
Central Province	1.2%	1.6%	0.0%	0.2%	0.9%	1.0%	0.2%	0.3%
Coast Province	3.0%	1.8%	54.3%	57.3%	4.5%	1.7%	0.2%	0.1%
Eastern Province	0.2%	0.4%	0.0%	0.3%	0.2%	0.4%	0.1%	0.6%
North Eastern Province	0.3%	0.0%	0.1%	0.0%	0.4%	0.1%	0.2%	0.0%
Nairobi	16.5%	12.1%	0.5%	5.2%	18.5%	14.5%	1.7%	3.1%
Nyanza Province	2.6%	5.9%	0.0%	0.0%	57.9%	57.3%	0.2%	0.2%
Rift Valley Province	9.7%	19.1%	0.1%	0.0%	3.9%	2.4%	46.4%	44.6%
Western Province	86.2%	79.7%	0.0%	0.2%	2.6%	11.3%	3.2%	3.1%