Aid Flows and Incumbency Advantage: Evidence from NGO Projects in Uganda

Online Appendix

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January 20, 2021

Contents

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Appendix A: Supplemental Descriptives

Table A.1: Share of Projects by Implementor and Sector for the Full and Election Year Samples

	Full Sample			Election Years		
	Govt	NGO	Count	Govt	NGO	Count
Health	7%	93%	248	9%	91%	143
Agriculture/Extension	13%	87%	109	0%	100%	75
Education	66%	34%	99	67%	33%	63
Government and Civil Society	61%	39%	88	63%	37%	86
Water and Sanitation	37%	63%	52	47%	53%	36
Transportation Infrastructure	100%	0%	34	100%	0%	29
Social Infrastructure	85%	15%	27	0%	100%	1
Energy	100%	0%	17	100%	0%	14
Business/Trade Development	83%	17%	6	80%	20%	5
Total	37%	63%	680	38%	62%	452

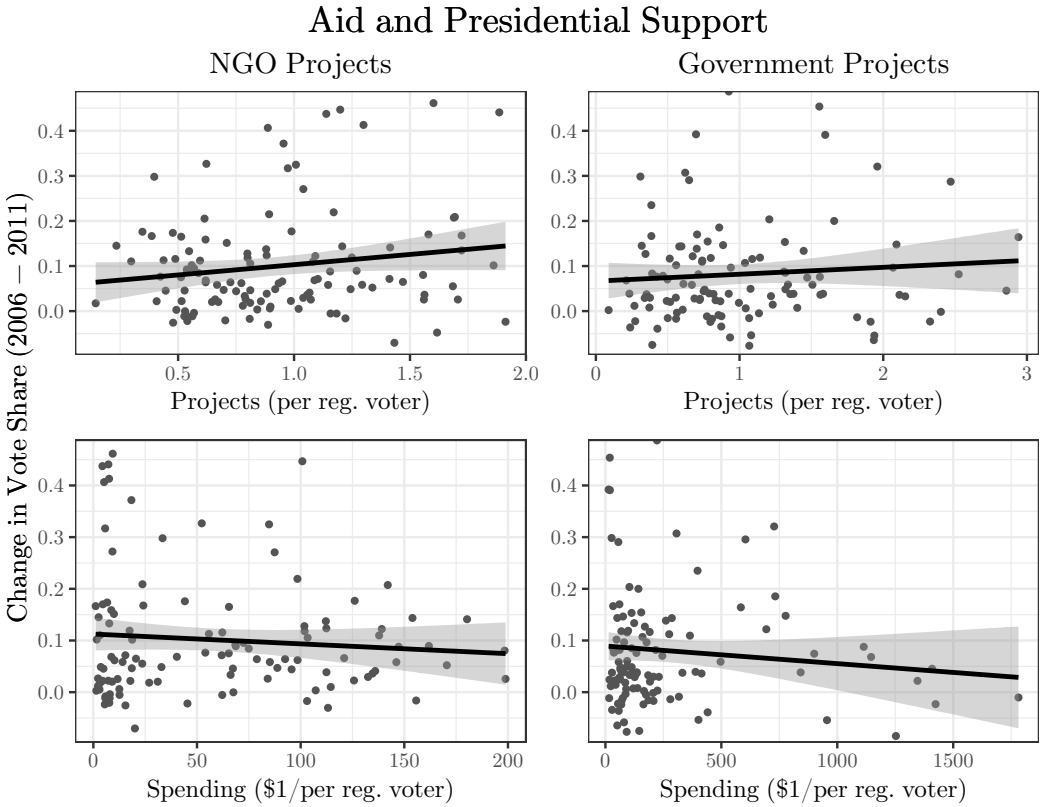

Figure A.1: This figure presents parish-level aid activity (projects that were active during an election year) and change in the incumbent President's vote share between the 2006 and 2011 elections. Aid Spending is measured as $1 per registered voter and Aid Projects is measured as the number of projects per 2,000 registered voters. Outlier values are removed (95^{th} percentile).

Appendix B: LASSO Variable Selection

This section describes the LASSO variable selection model discussed in the Research Design and Mechanisms & Alternative Explanations sections of the main text. I match parish-level data on aid project with more than 50 variables from administrative and satellite data, election data, and the 2002 Uganda census and use Least Absolute Shrinkage and Selection Operator (LASSO) regression with cross validation to identify predictors of project locations. Because I include variables from the 2006 election, I restrict the sample of aid projects to those that were initiated after the 2006 election but before the 2011 election. After removing all observations with missing data on any of these variables, there are 120 parishes out of 4,106 that received some type of NGO project and 102 that received some type of government project.

B.1 Full List of LASSO Variables

The variables in this analysis measure need (ex. poverty index, literacy, the presence of government extension services), convenience (ex. distance to nearest town, road density), social characteristics (ethnic and religious fractionalization, conflict), and political characteristics. There is considerable disagreement in the literature over how socio-economic factors influence the allocation of aid. While aid is often intended to benefit the most needy, Briggs (2018b) and Briggs (2018a) use subnational data on aid projects and survey data in African countries to show that aid flows to relatively wealthy areas. By contrast, using the number of NGOs registered in Kenya's districts and data capturing economic, social, and political characteristics from a variety of sources, Brass (2012) finds evidence that NGOs locate their projects according to both convenience (population density, road density, urbanization, proximity to the capital) and need (HIV prevalence, lack of access to health care). In contrast, Odokonyero et al. (2018) use the location of health aid projects and panel survey data and find no evidence that aid is targeted to needier or wealthier communities in Uganda.

Political
President Swing Parish (2006 Vote Share > .40 & <.60)
President Core Parish (2006 Vote Share > .60)
Incumbent MP Swing Parish (2006 Vote Share > .40 & <.60)
Incumbent MP Core Parish (2006 Vote Share > .60)
Population share co-ethnic with president
2006 Voter Turnout

Geographic
Distance to the nearest town
Distance to district headquarters
Population density
Distance to nearest oil discovery
Road density
Average village road access

Economic
Poverty index
Nightlight density
Literacy
Average years of education
Number of markets per village (crop, animal)
Population share unemployed
Population share in services
Population share in animal rearing
Population share in crop farming
Population share in fishing
Population share in produce trading
Population share in goods trading

Service Delivery
Distance to nearest health facility
Distance to nearest school
Distance to nearest water source
Share of villages with micro-finance services
Extension programs per village (crop, animal, fish)

Social Characteristics
Religious fractionalization
Ethnic fractionalization
Average age
Population share male
Prevalence of widow inheritance (scale)
Prevalence of rape (scale)
Prevalence of child abuse (scale)

Conflict
Number of cattle rustling events
Number of rebel activity events

Natural Events
Number of natural disaster events
Number of animal disease outbreaks
Number of crop disease outbreaks
Number of human disease epidemics

Contents of Poverty Index
Average number of rooms per HH
Average roof type (ordinal)
Average wall type (ordinal)
Average floor type (ordinal)
Average cooking method (ordinal)
Average lighting type (ordinal)
Average water source (ordinal)
Average toilet type (ordinal)
Average bathing type (ordinal)
Population share owning motorcycle
Population share owning TV
Population share owning radio
Population share owning cell-phone
Population share owning telephone

B.2 LASSO Results

Out of sample performance suggests that unpenalized regression does lead to overfitting, with unpenalized OLS including all variables performing worse than an empty model including only the intercept (the full model returns an MSE of 0.00521 compared to 0.00515 for the empty model). However, LASSO performs only slightly better than the empty model (MSE of 0.00514 compared to 0.00515), suggesting that none of our observable parish characteristics are very helpful at predicting NGO project allocation. Despite the wealth of high-quality

measures of political, economic, and social characteristics of parishes and the extremely disaggregated measure of aid project locations, these analyses do not find strong support for any of the factors that have previously been shown to drive the geographic distribution of foreign aid or NGO activity at the subnational level.

There is weak evidence that both NGO and government-implemented aid projects are targeted based on need and convenience. When repeating this analysis using logistic regression and a binary independent variable, the variables retained by the model at the optimal value of λ are similar, but the LASSO model underperforms the empty model containing only the intercept (0.030303 compared to 0.0293848), suggesting that the model is overfit. Similarly for models predicting the allocation of government-implemented projects, the LASSO model with the optimal λ also underperforms the empty regression model. Given the geographic precision, this is not surprising.

These results corresponds with findings from Fruttero and Gauri (2005), who use a household survey in Bangladesh and find no evidence that NGOs respond to need or avoid duplicating the efforts with other NGOs. Rather, NGOs only attempt to expand their own coverage into new areas. Similarly, Jayne et al. (2001) find that food aid from government and NGOs in Ethiopia is mostly determined by inertia (spatially continuous) rather than chronic need. Previous studies used higher administrative units such as districts in Kenya (n=70) and Zambia (n=118) or distances from 25–50 kilometers. Uganda contained almost 5,000 parishes during my sample period. Due to the difference in units being analyzed, my results do not invalidate previous findings. However, I do take this as a evidence that the geographic distribution of foreign aid is plausibly orthogonal to political characteristics at the parish level.

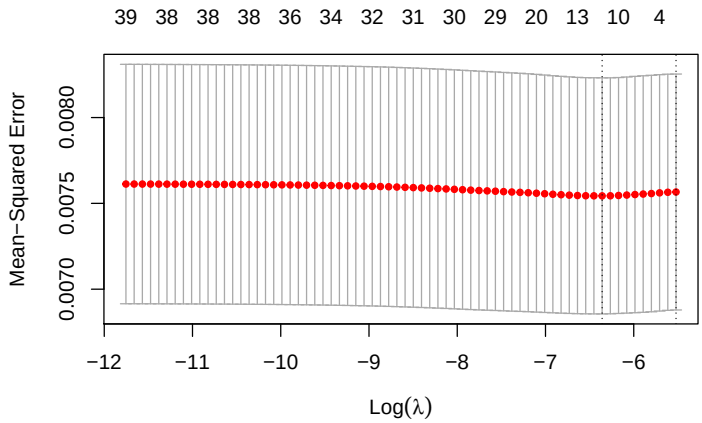

Figure B.1: LASSO MSE across range of lambda values. Dashed grey lines indicate the value lambda that returns the lowest MSE and the value lambda that returns the lowest MSE plus one standard error.

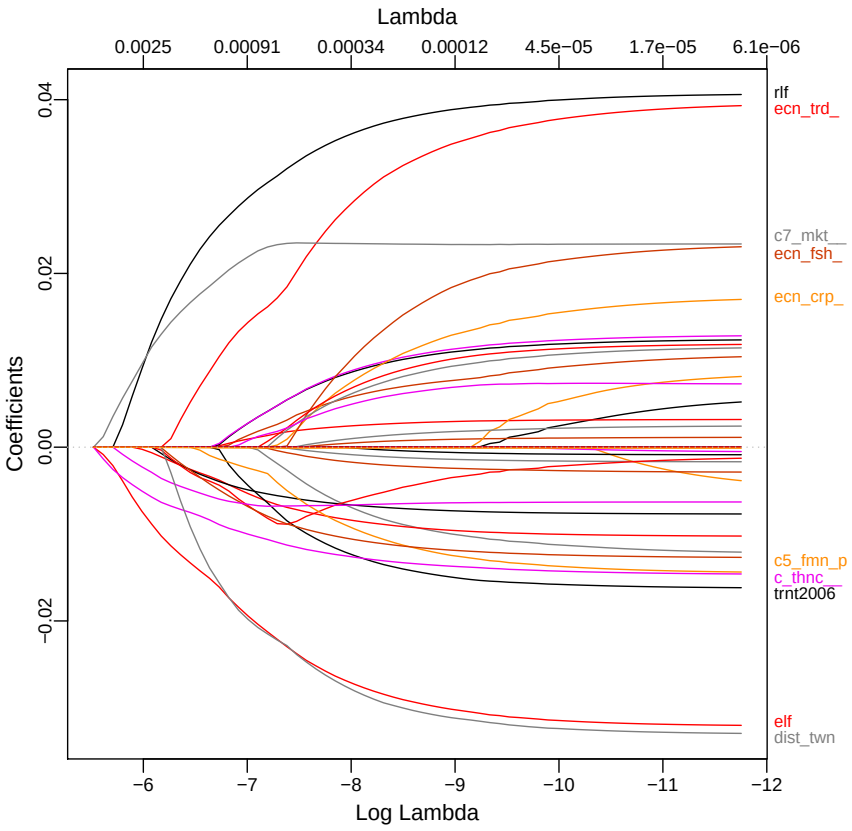

Figure B.2: LASSO regression coefficient plot for predicting the allocation of NGO-implemented aid projects

Appendix C: Entropy Balance Results

Table C.1: Balance between variables selected by LASSO after applying entropy balance weights

	Treatment = NGO			Treatment = Govt		
	Treatment Mean	Control Mean	EBM Control Mean	Treatment Mean	Control Mean	EBM Control Mean
NRM Share	0.610	0.602	0.610	0.625	0.602	0.625
Distance: school	-2.301	-2.571	-2.303	-2.529	-2.569	-2.529
Pres Co-ethnic	0.099	0.110	0.099	0.106	0.109	0.106
Road access	-1.246	-1.243	-1.245	-1.220	-1.244	-1.220
RLF	0.581	0.546	0.580	0.549	0.546	0.549
ELF	0.307	0.276	0.307	0.228	0.278	0.228
Animal rearing	0.030	0.046	0.030	0.020	0.046	0.020
Trade: produce	0.047	0.025	0.047	0.029	0.025	0.029
Market: crops	0.116	0.088	0.116	0.119	0.088	0.119
Micro-finance	0.431	0.322	0.431	0.297	0.323	0.297
Animal extension	0.566	0.552	0.566	0.475	0.553	0.475
Distance: town	0.059	0.088	0.059	0.082	0.088	0.082
Nightlights	37.368	7.581	37.256	3.824	7.982	3.826

Table C.2: Balance between theoretically specified variables after applying entropy balance weights

	Treatment = NGO			Treatment = Govt		
	Treatment Mean	Control Mean	EBM Control Mean	Treatment Mean	Control Mean	EBM Control Mean
Log Population	8.503	8.332	8.503	8.582	8.325	8.582
Age	20.419	20.422	20.419	20.228	20.432	20.228
Gender	0.496	0.499	0.496	0.496	0.499	0.496
Literacy	0.481	0.440	0.481	0.432	0.442	0.432
Unemployment	0.016	0.012	0.016	0.010	0.012	0.010
Education	2.370	2.352	2.370	2.365	2.351	2.365
Agriculture Share	0.204	0.244	0.204	0.258	0.242	0.258
Manufacturing Share	0.007	0.006	0.007	0.006	0.006	0.006
Services Share	0.054	0.029	0.054	0.029	0.030	0.029
ELF	0.299	0.277	0.299	0.234	0.281	0.234
Pres Co-ethnic	0.101	0.109	0.101	0.111	0.108	0.111
Poverty Index	0.143	-0.021	0.143	0.019	-0.018	0.019

Appendix D: Regression Tables

This section provides tables for the results presented in the main text, with and without spatial lags.

D.1 Fixed Effects (2006–2016)

Table D.1: Effect of Aid Projects on Presidential Support (Fixed Effects; 2006–2016)

	Dependent variable:							
	Margin				Share			
NGO	0.032^{***}	0.0002^{*}	0.036^{***}	0.041^{***}	0.018^{***}	0.0002^{**}	0.020^{***}	0.023^{***}
	(0.011)	(0.0001)	(0.010)	(0.011)	(0.005)	(0.0001)	(0.005)	(0.006)
Govt	0.031^{***}	0.00003	0.025^{*}	0.022	0.013^{**}	0.00001	0.011	0.007
	(0.011)	(0.00004)	(0.015)	(0.015)	(0.006)	(0.00002)	(0.007)	(0.008)
2011 X Share	-0.940^{***}	-0.940^{***}	-0.940^{***}	-0.902^{***}	-0.438^{***}	-0.438^{***}	-0.438^{***}	-0.409^{***}
	(0.016)	(0.016)	(0.016)	(0.030)	(0.009)	(0.009)	(0.009)	(0.015)
2016 X Share	-1.053^{***}	-1.053^{***}	-1.054^{***}	-1.065^{***}	-0.517^{***}	-0.517^{***}	-0.517^{***}	-0.523^{***}
	(0.018)	(0.018)	(0.018)	(0.031)	(0.009)	(0.009)	(0.009)	(0.015)
Independent Var.	Projects	Spending	Binary	Binary	Projects	Spending	Binary	Binary
Matching	No	No	No	Yes	No	No	No	Yes
Observations	13,572	13,572	13,572	12,365	13,572	13,572	13,572	12,365
Adjusted R^2	0.872	0.872	0.872	0.916	0.876	0.876	0.876	0.919

Standard errors are clustered at the parish level. *p<0.1; **p<0.05; ***p<0.01

Table D.2: Effect of Aid Projects on Presidential Support (Spatial Lag Fixed Effects; 2006–2016)

	Dependent variable:							
	Margin				Share			
NGO	0.024**	0.0002	0.032***	0.035***	0.015***	0.0001	0.019***	0.020***
	(0.011)	(0.0002)	(0.010)	(0.012)	(0.005)	(0.0001)	(0.005)	(0.006)
NGO 1SL	0.017**	0.0002**	0.013	0.011	0.008**	0.0001***	0.006	0.008
	(0.007)	(0.0001)	(0.008)	(0.018)	(0.004)	(0.00004)	(0.004)	(0.010)
NGO 2SL	0.002	0.00003*	0.022***	0.012	0.002**	0.00002*	0.014***	0.007
	(0.002)	(0.00002)	(0.007)	(0.010)	(0.001)	(0.00001)	(0.004)	(0.006)
Govt	0.033***	0.00003	0.031**	0.027*	0.015**	0.00001	0.015*	0.010
	(0.011)	(0.00004)	(0.015)	(0.016)	(0.006)	(0.00002)	(0.008)	(0.008)
Govt 1SL	0.011*	0.00004**	0.005	0.004	0.006*	0.00002*	0.003	0.003
	(0.006)	(0.00002)	(0.009)	(0.009)	(0.003)	(0.00001)	(0.005)	(0.005)
Govt 2SL	0.007***	0.00001	0.023***	0.021**	0.003***	0.00001*	0.012***	0.011**
	(0.002)	(0.00001)	(0.007)	(0.009)	(0.001)	(0.00000)	(0.004)	(0.005)
2011 X Share	−0.945***	−0.946***	−0.946***	−0.908***	−0.440***	−0.442***	−0.441***	−0.413***
	(0.016)	(0.016)	(0.016)	(0.030)	(0.009)	(0.009)	(0.009)	(0.015)
2016 X Share	−1.059***	−1.056***	−1.059***	−1.076***	−0.519***	−0.518***	−0.519***	−0.528***
	(0.018)	(0.018)	(0.018)	(0.032)	(0.009)	(0.009)	(0.009)	(0.016)
Independent Var.	Projects	Spending	Binary	Binary	Projects	Spending	Binary	Binary
Matching	No	No	No	Yes	No	No	No	Yes
Observations	13,391	13,395	13,391	12,207	13,391	13,395	13,391	12,207
Adjusted R^2	0.873	0.872	0.873	0.916	0.876	0.876	0.877	0.919

Standard errors are clustered at the parish level. *p<0.1; **p<0.05; ***p<0.01

D.2 Difference-in-Differences (2006–2011)

Table D.3: Effect of Aid Projects on Presidential Support (Difference-in-Differences; 2006–2011)

	Dependent variable:							
	Margin				Share			
NGO	0.035**	0.0003	0.030*	0.035**	0.022**	0.0002**	0.019**	0.020**
	(0.018)	(0.0002)	(0.018)	(0.016)	(0.009)	(0.0001)	(0.009)	(0.009)
Govt	0.020	−0.00003	0.004	0.005	0.007	−0.00002	0.001	−0.001
	(0.016)	(0.0001)	(0.022)	(0.018)	(0.008)	(0.00003)	(0.011)	(0.011)
2011 X Share	−0.940***	−0.939***	−0.939***	−0.918***	−0.437***	−0.438***	−0.437***	−0.420***
	(0.019)	(0.019)	(0.019)	(0.019)	(0.010)	(0.010)	(0.010)	(0.011)
Independent Var.	Projects	Spending	Binary	Binary	Projects	Spending	Binary	Binary
Matching	No	No	No	Yes	No	No	No	Yes
Observations	9,069	9,061	9,069	8,265	9,069	9,061	9,069	8,265
Adjusted R^2	0.904	0.904	0.904	0.937	0.902	0.902	0.902	0.937

Standard errors are clustered at the parish level. *p<0.1; **p<0.05; ***p<0.01

Table D.4: Effect of Aid Projects on Presidential Support (Spatial Lag Difference-in-Differences; 2006–2011)

	Dependent variable:							
	Margin				Share			
NGO	0.031	0.0002	0.034*	0.042**	0.020**	0.0001	0.022**	0.024***
	(0.019)	(0.0002)	(0.019)	(0.017)	(0.010)	(0.0001)	(0.009)	(0.009)
NGO 1SL	0.019	0.0002*	0.005	0.004	0.010	0.0001**	0.003	0.002
	(0.012)	(0.0001)	(0.014)	(0.012)	(0.006)	(0.0001)	(0.007)	(0.007)
NGO 2SL	0.005	0.00004	0.032***	0.026**	0.003**	0.00002	0.019***	0.016***
	(0.003)	(0.00003)	(0.012)	(0.011)	(0.002)	(0.00001)	(0.006)	(0.006)
Govt	0.021	−0.00003	0.010	0.014	0.008	−0.00002	0.004	0.004
	(0.016)	(0.0001)	(0.022)	(0.019)	(0.008)	(0.00003)	(0.012)	(0.011)
Govt 1SL	0.005	0.00000	−0.008	−0.004	0.002	−0.00000	−0.004	−0.002
	(0.010)	(0.00003)	(0.014)	(0.013)	(0.005)	(0.00002)	(0.007)	(0.007)
Govt 2SL	0.003	0.00001	0.014	0.023**	0.002	0.00000	0.007	0.012**
	(0.004)	(0.00001)	(0.010)	(0.010)	(0.002)	(0.00001)	(0.005)	(0.005)
2011 X Share	−0.944***	−0.948***	−0.945***	−0.927***	−0.439***	−0.443***	−0.440***	−0.424***
	(0.019)	(0.019)	(0.019)	(0.020)	(0.010)	(0.010)	(0.010)	(0.011)
Independent Var.	Projects	Spending	Binary	Binary	Projects	Spending	Binary	Binary
Matching	No	No	No	Yes	No	No	No	Yes
Observations	8,939	8,898	8,939	8,152	8,939	8,898	8,939	8,152
Adjusted R^2	0.906	0.905	0.906	0.938	0.903	0.903	0.904	0.938

Standard errors are clustered at the parish level. *p<0.1; **p<0.05; ***p<0.01

D.3 Difference-in-Differences (2006–2016)

Table D.5: Effect of Aid Projects on Presidential Support (Difference-in-Differences; 2006–2016)

	Dependent variable:							
	Margin				Share			
NGO	0.040*	0.0004	0.048***	0.051***	0.021**	0.0002	0.025***	0.028***
	(0.021)	(0.001)	(0.018)	(0.019)	(0.011)	(0.0003)	(0.009)	(0.010)
Govt	0.031**	0.00002	0.024	0.030*	0.013**	0.00001	0.011	0.011
	(0.012)	(0.00004)	(0.016)	(0.017)	(0.006)	(0.00002)	(0.008)	(0.009)
2011 X Share	−0.942***	−0.942***	−0.942***	−0.921***	−0.439***	−0.439***	−0.439***	−0.423***
	(0.016)	(0.016)	(0.016)	(0.017)	(0.009)	(0.009)	(0.009)	(0.010)
2016 X Share	−1.053***	−1.054***	−1.054***	−1.050***	−0.517***	−0.517***	−0.517***	−0.512***
	(0.018)	(0.018)	(0.018)	(0.019)	(0.009)	(0.009)	(0.009)	(0.010)
Independent Var.	Projects	Spending	Binary	Binary	Projects	Spending	Binary	Binary
Matching	No	No	No	Yes	No	No	No	Yes
Observations	13,448	13,456	13,448	12,248	13,448	13,456	13,448	12,248
Adjusted R^2	0.871	0.871	0.871	0.900	0.875	0.875	0.875	0.903

Standard errors are clustered at the parish level. *p<0.1; **p<0.05; ***p<0.01

Table D.6: Effect of Aid Projects on Presidential Support (Spatial Lag Difference-in-Differences; 2006–2016)

	Dependent variable:							
	Margin				Share			
NGO	0.026	0.0003	0.038**	0.040**	0.015	0.0001	0.021**	0.022**
	(0.021)	(0.001)	(0.018)	(0.019)	(0.011)	(0.0003)	(0.009)	(0.010)
NGO 1SL	0.017**	0.0002**	0.011	0.010	0.008**	0.0001**	0.005	0.005
	(0.007)	(0.0001)	(0.008)	(0.009)	(0.004)	(0.00004)	(0.004)	(0.005)
NGO 2SL	0.002	0.00003*	0.023***	0.015**	0.002**	0.00002*	0.014***	0.010**
	(0.002)	(0.00002)	(0.007)	(0.007)	(0.001)	(0.00001)	(0.004)	(0.004)
Govt	0.033***	0.00003	0.030*	0.037**	0.014**	0.00001	0.014*	0.015
	(0.012)	(0.00004)	(0.016)	(0.017)	(0.006)	(0.00002)	(0.008)	(0.009)
Govt 1SL	0.012*	0.00004*	0.005	0.008	0.006*	0.00002*	0.003	0.005
	(0.007)	(0.00002)	(0.009)	(0.010)	(0.003)	(0.00001)	(0.005)	(0.005)
Govt 2SL	0.007***	0.00001	0.023***	0.026***	0.003***	0.00001*	0.012***	0.014***
	(0.002)	(0.00001)	(0.007)	(0.007)	(0.001)	(0.00000)	(0.004)	(0.004)
2011 X Share	−0.947***	−0.948***	−0.948***	−0.930***	−0.441***	−0.443***	−0.442***	−0.427***
	(0.017)	(0.017)	(0.017)	(0.017)	(0.009)	(0.009)	(0.009)	(0.010)
2016 X Share	−1.059***	−1.056***	−1.059***	−1.059***	−0.519***	−0.518***	−0.519***	−0.516***
	(0.018)	(0.018)	(0.018)	(0.020)	(0.009)	(0.009)	(0.009)	(0.010)
Independent Var.	Projects	Spending	Binary	Binary	Projects	Spending	Binary	Binary
Matching	No	No	No	Yes	No	No	No	Yes
Observations	13,270	13,282	13,270	12,093	13,270	13,282	13,270	12,093
Adjusted R^2	0.872	0.871	0.872	0.900	0.875	0.875	0.876	0.903

Standard errors are clustered at the parish level. *p<0.1; **p<0.05; ***p<0.01

Appendix E: Imprecisely Coded Projects

In this section, I estimate separate models using both precisely (parish and lower) and imprecisely coded aid projects (between parish and district). I count each parish within larger administrative units as having received the project. For measures of spending, I divide project spending equally among each parish contained in the larger unit. Because the district level is the highest level at which the treatment is assigned, I include district (n = 56) fixed effects and cluster standard errors at the district level.

Table E.1 presents results for models using both the number of active projects per 2,000 registered voters and a binary treatment with entropy balance weighting. Looking at results for the two measures of support for the president (vote share and win margin), coefficients for NGO projects are positive, substantively meaningful, and frequently significant while coefficients for government projects are negative, small and uniformly insignificant. Interpreting the NGO project coefficient in column 3, an increase of two active projects for every 2,000 registered voters in a parish (a value that lies near the 40^{th} percentile of the distribution) would predict a 1.4% increase in the incumbent president's win margin. Turning to the EBM estimates in column 6 (using an un-normalized binary treatment measure), receiving at least one project in a parish would predict a 3.5% increase in the president's win margin. Looking at results for voter turnout, the coefficient are positive, large, and significant for the base model, while the coefficient turns negative and insignificant when matching is applied. Table E.2 presents results for models using the total spending per registered voter in each parish. Coefficients for NGO spending are unstable across specifications, imprecisely estimated, and uniformly insignificant across all outcome variables.

Table E.1: Effect of Aid Projects on Presidential Support (District)

	Dependent variable:					
	Share		Margin		Turnout	
NGO Projects	0.002*	0.016	0.007**	0.035*	0.003***	−0.008
	(0.001)	(0.011)	(0.003)	(0.021)	(0.001)	(0.009)
Govt Projects	−0.001	−0.002	−0.001	−0.005	0.002	−0.017*
	(0.002)	(0.009)	(0.004)	(0.018)	(0.001)	(0.010)
Matching	No	Yes	No	Yes	No	Yes
Observations	13,080	12,150	13,080	12,150	13,086	12,154

Note: *p<0.1; **p<0.05; ***p<0.01
Standard errors are clustered at the district level.

Table E.2: Effect of Aid Projects on Presidential Support (District)

	Dependent variable:		
	Share	Margin	Turnout
NGO Spending	0.00005	0.001	−0.0001
	(0.0003)	(0.001)	(0.0003)
Govt Spending	0.00000	0.00002	0.00000
	(0.00004)	(0.0001)	(0.00004)
Observations	13,010	13,010	13,016

Note: *p<0.1; **p<0.05; ***p<0.01
Standard errors are clustered at the district level.

Appendix F: Foreign Aid Effectiveness

I present a theory of credit attribution in which powerful national politicians receive credit for NGO projects due to citizens' uncertainty over the role incumbents play in the presence of these projects. If citizens reward government actors for access to NGO services, it must be the case that citizens value these services. To validate this assumption, I provide evidence that higher levels of NGO activity are associated with improved health outcomes. I focus on health service delivery for several reasons. Health is the most salient political issue in Uganda and the sector with the most NGO activity by a wide margin (Brass et al., 2018). This is partially attributable to the prioritization of health interventions by donor countries. In 2014, DAC countries provided $137.2 billion in Official Development Assistance (ODA) to

developing countries, with the largest share of this funding going to health (29% for health, followed by infrastructure at 16%). While the theory I present is not limited to health service delivery, my focus on the health sector reflects the reality of NGO activities on the ground.

To estimate the relationship between funding to NGOs and health outcomes in Uganda, I use data on the location of NGO-implemented health projects. Using the data described in the main text, I restrict the sample to NGO-implemented health projects that were geo-tagged at the village-level. I look specifically at projects that started after 2005 and were completed by 2013. This sample includes 23 distinct project locations, 17 of which were implemented by an NGO. Donors included Japan, Austria, and the United States, and the median project disbursement was $79,329 (2011 constant USD). To capture the relative size of these projects, I use the total disbursements for each project as the independent variable. The majority of these projects involved upgrades to existing NGO-operated health facilities or health-related outreach to local communities in areas including HIV-prevention and treatment. I match data on the location of aid projects with nationally representative survey data on health outcomes from the Uganda National Panel Survey. The survey contains four waves (2005, 2009, 2010/2011, and 2013) and tracks more than 68,000 individuals from more than 3,000 households distributed over 322 enumeration areas.

To estimate a causal effect, I use a difference-in-differences design to assess the relationship between proximity to NGO projects and disease prevalence and disease burden. For each individual in each wave of the survey data, I use the year in which the survey was administered (2005, 2009, 2010, 2011, or 2013) to identify their proximity to aid projects that were started after 2005 and completed before the survey was administered. This yields a panel dataset that uses the first year of the panel as a baseline and measures the size of nearby projects during each year of the survey. For each respondent, I calculate the total project spending within six treatment bandwidths (5km, 10km, 15km, 20km, 25km, 30km) for every year of the survey. To increase interpretability, I multiply spending by $100,000, which is slightly larger than the average project in the database (mean = $84,000).

This research resembles that of Odokonyero et al. (2018), though I make several improvements to the data and estimation strategy. First, my analysis isolates NGO-implemented projects specifically rather than considering all foreign aid projects captured by AidData. I also add additional project locations not coded in the original dataset. For example, one project in the dataset was the rehabilitation of two NGO-run health facilities. While the original dataset had this project coded at the district level, I matched the location of each facility using a geo-tagged census of health facilities from the Uganda Ministry of Health. This process doubled the number of projects within 5km of a survey enumeration site. I also correct two massive errors in the AidData dataset that Odokonyero et al. (2018) failed to detect. Specifically, two projects in the dataset are incorrectly listed as costing more than $233,000,000 and $83,000,000. However, project documentation from the Japanese International Cooperation Agency reveals that these projects cost $233,000 and $83,000, respectively.

I also limit the analysis to a more plausible range of distances to health projects. As Odokonyero et al. (2018) note, 98% of respondents that fell sick during the 30 days prior to an interview reported traveling less than 30km for treatment, 92% of these respondents reported traveling less than 10km, and 80% of respondents reported traveling less than 5km. Despite this, the authors follow Kotsadam et al. (2018) in basing their results on the effect of aid projects up to 50km away. If the relationship between NGO projects and health outcomes is causal, I expect the size of effects to deteriorate rapidly after 5km. Odokonyero et al. (2018) also exclude the first wave of the survey without justification and limit their analysis to projects that were started after 2011 rather than coding projects according to the specific year in which they were active.

Odokonyero et al. (2018) also code individuals as being treated as long as a project was initiated before the year the survey was administered. Given that all but one of the projects in their more limited dataset was a health facility upgrade, it is unlikely that these projects would generate community-level improvements in health outcomes multiple years before their

completion.[1] I instead focus on projects that were *completed* prior to the survey year. Finally, Odokonyero et al. (2018) only consider the effect of NGO projects on whether an individual had fallen-in in the 30 days prior to the survey and — for the subset of the population that had fallen ill in both the baseline and treatment periods — how many days they had missed work as a result. I expand this analysis to consider two additional variables measuring the severity of illnesses: whether an individual had fallen *seriously* ill in the 30 days prior to the survey (measured as whether the individual reported that the illness warranted medical attention, regardless of whether medical attention was actually obtained) and — for the subset of the population that had fallen ill — whether they reported that the illness was too mild to warrant medical attention.

To estimate the relationship between NGO service delivery and health outcomes, I estimate the following difference-in-differences model for each of the four outcome variables:

$$\mathrm{Y}_{it} = \delta_i + \lambda_t + \beta_1 \mathrm{NGO}_{it} + \gamma_v(\mathrm{village}_v \times \mathrm{trend}_t) + X_{it}\beta + \epsilon_{it} \tag{1}$$

Y_{it} is the outcome variable, δ_i and λ_t are individual and year fixed effects, and NGO_{it} is a dynamic treatment variable. This variable measures the sum of NGO project spending within each treatment bandwidth multiplied by a binary variable that takes a value of zero for survey years that occur prior to the completion of each project within the specified bandwidth. Therefore, this dynamic treatment variable is the takes the place of the Post_{it} variable in the difference-in-differences framework.[2] $\mathrm{village}_v \times \mathrm{trend}_t$ are village-specific time trends and $X_{it}\beta$ are coefficients for an optional matrix of control variables. Standard errors

[1] This is somewhat different from the logic of political credit, where NGO projects may signal incumbent valence or targeting as soon as a project is announced to voters.

[2] I look at the subset of HH that had no NGO project in the 2005 baseline. I then calculate the count of NGO projects within 5km of each HH for each survey year after 2005 (2009, 2010, 2011, 2013). These counts are additive, so a HH that had 0 projects that were completed prior to 2005, 2009, or 2010, one project completed before 2011, and a second project completed after 2011 but before 2013 would have treatment values of: 0, 0, 0, 1, 2).

are clustered at the household level.

The majority of treated individuals in the dataset have at least two pre-treatment observations, reducing concerns about a violation of the parallel trends assumption. To avoid spillover effects from imprecisely coded projects, the main specification drops all observations from districts that received projects coded at a less precise geographic level during the sample period. To avoid spillovers from precisely coded projects implemented by government, I exclude all observations within each treatment bandwidth from a government-implemented aid project. I also run models with and without excluding observations from respondents that were located within 15km of the treatment bandwidth. For example, when estimating the effects of being within 5km of an NGO project, I exclude respondents that were located more than 5km but less than 20km from the project.

Following Odokonyero et al. (2018), I estimate each model with and without covariates measuring household consumption on health-related goods and services, the amount of household consumption on food, whether individuals in a household use a mosquito net at night, access to water (distance from the household to a water source), individual's age, and welfare proxies including whether every individual in the household owns two pairs of clothes, whether every individual in the household owns a pair of shoes, and the number of rooms in the household. Although I present these results to maximize comparability with Odokonyero et al. (2018), they are measured post-treatment and are likely to bias the results. Estimates excluding these covariates are intended for causal interpretation.

F.1 Results: Aid-flows and Health Outcomes in Uganda

Figure F.1 provides strong evidence for a positive effect of NGO service delivery projects on three out of four health outcomes. Being within 5km of an NGO health project with $100,000 in disbursements reduces the likelihood of reporting an illness by about 9% and a severe illness by about 11%. For individuals that reported an illness in the thirty days prior to both the baseline and at least one treatment wave of the survey, being within 5km of an NGO health project increased the chances that respondents reported that the illness

occurring during the treatment period was mild by about 8% over illnesses reported in the baseline survey. For individuals that reported an illness, being within 5km of an NGO health project does not have an effect on the length of time an illness caused an absence from the respondent's normal activities. Figure F.2 presents these results without excluding those within 15km of the bandwidth

These results provide evidence that proximity to an NGO health project improved health outcomes on three out of four measures. As expected, these effects dissipate for individuals living further than 5km from a project. Because 80% of individuals in the sample reported traveling less than 5km to receive health care, evidence that the effect disappears for individuals living more than 5km from a project — but are still likely to share many social and economic characteristics — is indicative of a causal effect.

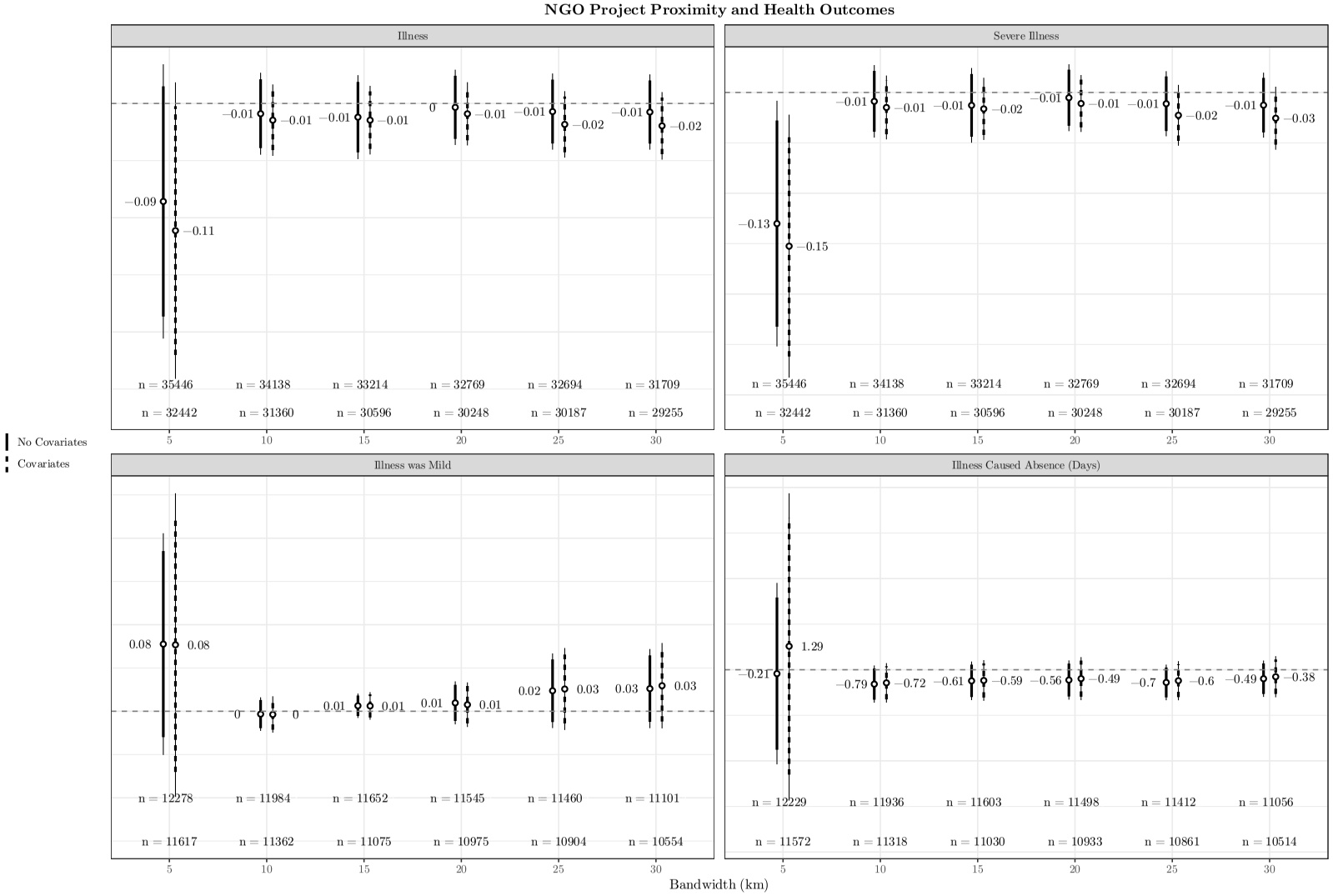

Figure F.1: Difference-in-differences models estimating the effect of proximity to an NGO health service delivery project on health outcomes at the individual level. Treatment bandwidths range from 5–30km. The size of NGO projects is measured by disbursements in 2011 constant USD. All models include individual fixed effects, and standard errors are clustered at the household level. To avoid spillover effects from imprecisely coded projects, the main specification drops all observations from districts that received projects coded at a higher-level during the sample period. To avoid spillovers from precisely coded projects, I also exclude observations from respondents that were located within 15km of the treatment bandwidth.

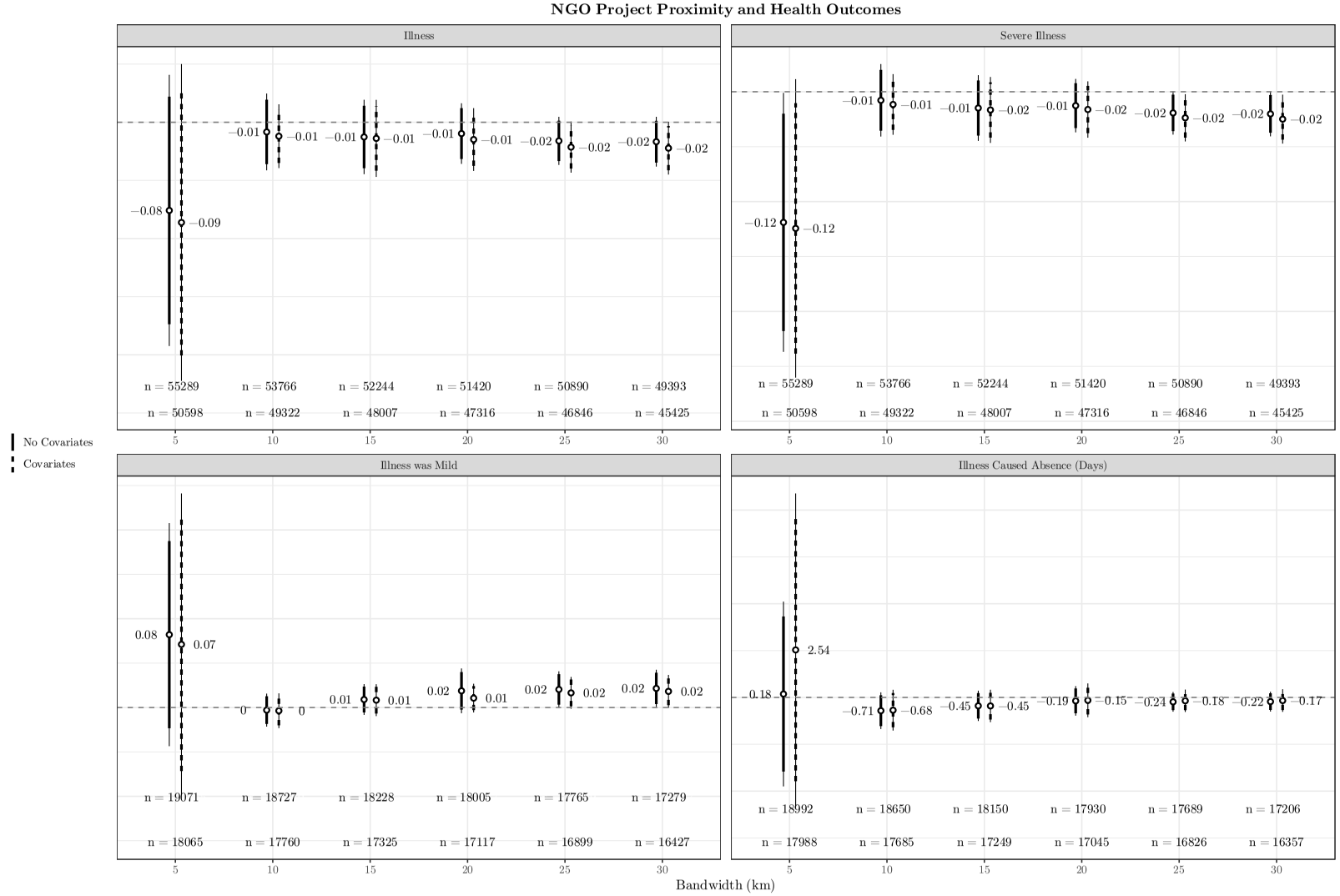

Figure F.2: Difference-in-differences models estimating the effect of proximity to an NGO health service delivery project on health outcomes at the individual level. Treatment bandwidths range from 5–30km. The size of NGO projects is measured by disbursements in 2011 constant USD. All models include individual fixed effects, and standard errors are clustered at the household level.

Appendix G: Foreign Aid and Presidential Campaigning

To further investigate the political geography of of aid project allocation, I use new data from Ugandan newspaper articles that documents (a) all incidences in which the president made an explicit promise to contribute to development of a specific district (rather then the country as a whole), and (b) all visits that the president made to specific districts during the campaign period. These data were collected for both 2005 (the campaign period for the February 2006 general elections) and for 2010 (the campaign period for the February 2011 general elections). A team of coders were employed to identify distinct events (visit or promise) from Ugandan newspaper reports in the years 2005 and 2010.[3] To keep the number of districts constant despite the creation of new districts during that period, we matched each 2010 rump district to its 2006 district. At the time of the 2006 general election, there were 72 districts plus Kampala.

G.1 Presidential Campaign Promises

To estimate whether districts that receive campaign promises from the President during election campaign periods are more likely to have active aid projects during the subsequent election, I estimate OLS models regressing the count of aid projects and the sum of aid spending for projects that were active during the 2006 and 2011 elections on the count of campaign promises made by the President to each district during the campaign for each election. The dependent variables are measured as both the count of aid projects and the sum of aid spending using only precisely geotagged projects (parish or lower) and less precisely geotagged projects (district or lower). All models contain year fixed effects and standard errors are clustered at the district level. There is no evidence that districts where the President targetss campaign promises are more likely to receive more aid projects or spending for either NGO or government implemented projects. This reinforces evidence that the President has little control over the geographic allocation of foreign aid.

[3] A detailed description of the coding scheme, data sources, and descriptive information on the data is available on request.

Table G.1: Effect of Presidential Campaign Promises on Aid Activity

	Dependent variable:							
	NGO Count		NGO Spending		Govt Count		Govt Spending	
Promises	−0.030	3.169	−1.784	−25.487	−0.032	2.571	−9.812	58.058
	(0.030)	(3.193)	(4.266)	(17.176)	(0.021)	(2.455)	(18.651)	(80.643)
Voters	0.00001*	0.0002	0.001*	0.004***	0.00001***	0.001***	0.005	0.013**
	(0.00000)	(0.0002)	(0.0004)	(0.001)	(0.00000)	(0.0002)	(0.004)	(0.006)
Constant	−0.526	−15.984	−57.045	−235.097**	−0.191	8.214	−195.900	−177.664
	(0.388)	(20.815)	(42.449)	(111.538)	(0.224)	(18.502)	(263.119)	(649.513)
DV	Parish	District	Parish	District	Parish	District	Parish	District
Observations	146	146	146	146	146	146	146	146

Note: *p<0.1; **p<0.05; ***p<0.01

G.2 Presidential Campaign Visits

To estimate whether the President was more likely to visit districts with more aid activity in attempt to claim credit or associate himself with aid projects, I estimate OLS and negative binomial models for the count of campaign visits made by the President to each district during the campaign for the 2006 election. The independent variables are measured as both the count of aid projects and the sum of aid spending using only precisely geotagged projects (parish or lower) and less precisely geotagged projects (district or lower). All models contain year fixed effects and standard errors are clustered at the district level. There is no evidence that the President is more likely to make campaign visits to districts that receive more projects or spending for either NGO or government implemented projects. This reinforces evidence that the President does not actively claim credit for foreign aid projects.

Table G.2: Effect of Aid Activity on Presidential Campaign Visits

	Dependent variable:							
	Presidential Campaign Visits							
NGO Count	0.029	−0.001	0.0005	0.0002				
	(0.102)	(0.102)	(0.002)	(0.002)				
NGO Spend					0.001	0.0001	−0.001**	−0.0003
					(0.001)	(0.001)	(0.0003)	(0.0003)
Govt Count	−0.359	−0.113	−0.002	−0.0003				
	(0.254)	(0.254)	(0.004)	(0.004)				
Govt Spend					−0.001	−0.0001	0.00000	0.00000
					(0.0003)	(0.0003)	(0.0001)	(0.0001)
Voters	0.00003***	0.00001	0.00003***	0.00001	0.00003***	0.00001	0.00003***	0.00001
	(0.00001)	(0.00001)	(0.00001)	(0.00001)	(0.00001)	(0.00001)	(0.00001)	(0.00001)
Constant	1.672**	0.654	1.768**	0.718	1.673**	0.715	1.511**	0.621
	(0.667)	(0.667)	(0.728)	(0.728)	(0.649)	(0.649)	(0.746)	(0.746)
IV	Parish	Parish	District	District	Parish	Parish	District	District
Model	OLS	N Binom	OLS	N Binom	OLS	N Binom	OLS	N Binom
Observations	146	146	146	146	146	146	146	146
Note:								*p<0.1; **p<0.05; ***p<0.01

Appendix H: Members of Parliament

In this section, I present results for models regressing support for incumbent Members of Parliament on NGO and government implemented aid projects with and without spatial lags.

H.1 Fixed Effects (2006–2016)

Table H.1: Effect of Aid Projects on Incumbent MP Support (Fixed Effects; 2006–2016)

	Dependent variable:							
	Margin				Share			
NGO	−0.005	0.00005	0.024	−0.016	−0.00005	−0.0003	0.012	0.001
	(0.066)	(0.001)	(0.067)	(0.067)	(0.037)	(0.001)	(0.037)	(0.038)
Govt	0.043	0.00002	0.016	0.094	0.026	0.00003	0.018	0.064
	(0.073)	(0.0001)	(0.078)	(0.092)	(0.041)	(0.0001)	(0.046)	(0.059)
2011 X Share	0.109*	0.110*	0.109*	0.196**	0.096***	0.098***	0.096***	0.131***
	(0.064)	(0.064)	(0.064)	(0.090)	(0.034)	(0.034)	(0.034)	(0.046)
2016 X Share	−0.068	−0.068	−0.068	−0.066	−0.014	−0.014	−0.014	0.017
	(0.068)	(0.068)	(0.068)	(0.097)	(0.038)	(0.038)	(0.038)	(0.056)
Independent Var.	Projects	Spending	Binary	Binary	Projects	Spending	Binary	Binary
Matching	No	No	No	Yes	No	No	No	Yes
Observations	8,904	8,904	8,904	8,161	8,904	8,904	8,904	8,161
Adjusted R^2	0.059	0.059	0.059	0.456	0.131	0.131	0.131	0.529

Standard errors are clustered at the parish level. *p<0.1; **p<0.05; ***p<0.01

Table H.2: Effect of Aid Projects on Incumbent MP Support (Spatial Lag Fixed Effects; 2006–2016)

	Dependent variable:							
	Margin				Share			
NGO	−0.031	−0.0005	−0.007	−0.015	−0.014	−0.001	−0.002	0.002
	(0.067)	(0.001)	(0.068)	(0.072)	(0.038)	(0.001)	(0.038)	(0.040)
NGO 1SL	0.033	0.001	0.035	−0.076	0.017	0.0002	0.014	−0.033
	(0.034)	(0.001)	(0.042)	(0.097)	(0.020)	(0.0003)	(0.024)	(0.046)
NGO 2SL	−0.013	−0.0002*	−0.074**	−0.027	−0.004	−0.0001	−0.028	0.001
	(0.008)	(0.0001)	(0.033)	(0.048)	(0.005)	(0.0001)	(0.019)	(0.025)
Govt	0.048	0.00001	0.013	0.097	0.030	0.00003	0.019	0.069
	(0.074)	(0.0001)	(0.078)	(0.091)	(0.042)	(0.0001)	(0.047)	(0.059)
Govt 1SL	0.021	−0.0001	−0.005	0.022	0.011	−0.00001	−0.004	0.009
	(0.040)	(0.0001)	(0.044)	(0.058)	(0.026)	(0.0001)	(0.026)	(0.035)
Govt 2SL	0.007	−0.00003	−0.001	−0.011	0.006	−0.00001	0.011	0.004
	(0.012)	(0.00004)	(0.033)	(0.043)	(0.007)	(0.00002)	(0.019)	(0.024)
2011 X Share	0.113*	0.131**	0.121*	0.198**	0.095***	0.107***	0.098***	0.125***
	(0.065)	(0.065)	(0.065)	(0.088)	(0.035)	(0.035)	(0.035)	(0.046)
2016 X Share	−0.080	−0.069	−0.082	−0.076	−0.020	−0.015	−0.022	0.011
	(0.068)	(0.068)	(0.068)	(0.090)	(0.038)	(0.038)	(0.038)	(0.055)
Independent Var.	Projects	Spending	Binary	Binary	Projects	Spending	Binary	Binary
Matching	No	No	No	Yes	No	No	No	Yes
Observations	8,789	8,798	8,789	8,059	8,789	8,798	8,789	8,059
Adjusted R^2	0.056	0.062	0.056	0.445	0.130	0.137	0.130	0.520

Standard errors are clustered at the parish level. *p<0.1; **p<0.05; ***p<0.01

H.2 Difference-in-Differences (2006–2011)

Table H.3: Effect of Aid Projects on Incumbent MP Support (Difference-in-Differences; 2006–2011)

	Dependent variable:							
	Margin				Share			
NGO	−0.021	−0.001	−0.072	−0.117	0.007	−0.0005	−0.022	−0.039
	(0.134)	(0.002)	(0.136)	(0.149)	(0.075)	(0.001)	(0.075)	(0.080)
Govt	0.084	0.0001	0.082	0.209	0.033	0.0001	0.045	0.104
	(0.108)	(0.0004)	(0.125)	(0.154)	(0.062)	(0.0002)	(0.073)	(0.094)
2011 X Share	0.153*	0.156*	0.154*	0.157	0.124***	0.125***	0.124***	0.139***
	(0.082)	(0.082)	(0.082)	(0.101)	(0.044)	(0.044)	(0.044)	(0.054)
Independent Var.	Projects	Spending	Binary	Binary	Projects	Spending	Binary	Binary
Matching	No	No	No	Yes	No	No	No	Yes
Observations	6,120	6,117	6,120	5,627	6,120	6,117	6,120	5,627
Adjusted R^2	0.089	0.087	0.089	0.475	0.165	0.164	0.165	0.547

Standard errors are clustered at the parish level. *p<0.1; **p<0.05; ***p<0.01

Table H.4: Effect of Aid Projects on Incumbent MP Support (Spatial Lag Difference-in-Differences; 2006–2011)

	Dependent variable:							
	Margin				Share			
NGO	−0.057	−0.002	−0.107	−0.160	−0.011	−0.001	−0.035	−0.054
	(0.149)	(0.002)	(0.143)	(0.150)	(0.083)	(0.001)	(0.079)	(0.078)
NGO 1SL	0.042	0.0002	0.025	−0.022	0.027	0.0002	0.012	−0.012
	(0.076)	(0.001)	(0.090)	(0.102)	(0.042)	(0.001)	(0.049)	(0.056)
NGO 2SL	0.003	0.0001	−0.033	−0.051	0.010	0.0001	0.015	0.010
	(0.019)	(0.0002)	(0.072)	(0.084)	(0.010)	(0.0001)	(0.040)	(0.046)
Govt	0.096	0.0002	0.084	0.221	0.041	0.0001	0.052	0.119
	(0.112)	(0.0004)	(0.127)	(0.150)	(0.064)	(0.0002)	(0.074)	(0.091)
Govt 1SL	0.051	0.0001	0.075	0.162	0.020	0.00003	0.034	0.085
	(0.061)	(0.0001)	(0.070)	(0.100)	(0.038)	(0.0001)	(0.041)	(0.057)
Govt 2SL	−0.005	−0.0001*	−0.037	−0.001	−0.002	−0.00005	−0.011	0.012
	(0.018)	(0.0001)	(0.056)	(0.076)	(0.011)	(0.00003)	(0.031)	(0.042)
2011 X Share	0.150*	0.172**	0.157*	0.152	0.119***	0.129***	0.119***	0.124**
	(0.084)	(0.084)	(0.085)	(0.104)	(0.045)	(0.045)	(0.046)	(0.055)
Independent Var.	Projects	Spending	Binary	Binary	Projects	Spending	Binary	Binary
Matching	No	No	No	Yes	No	No	No	Yes
Observations	6,027	6,022	6,027	5,547	6,027	6,022	6,027	5,547
Adjusted R^2	0.086	0.106	0.087	0.471	0.171	0.186	0.169	0.547

Standard errors are clustered at the parish level. *p<0.1; **p<0.05; ***p<0.01

H.3 Difference-in-Differences (2006–2016)

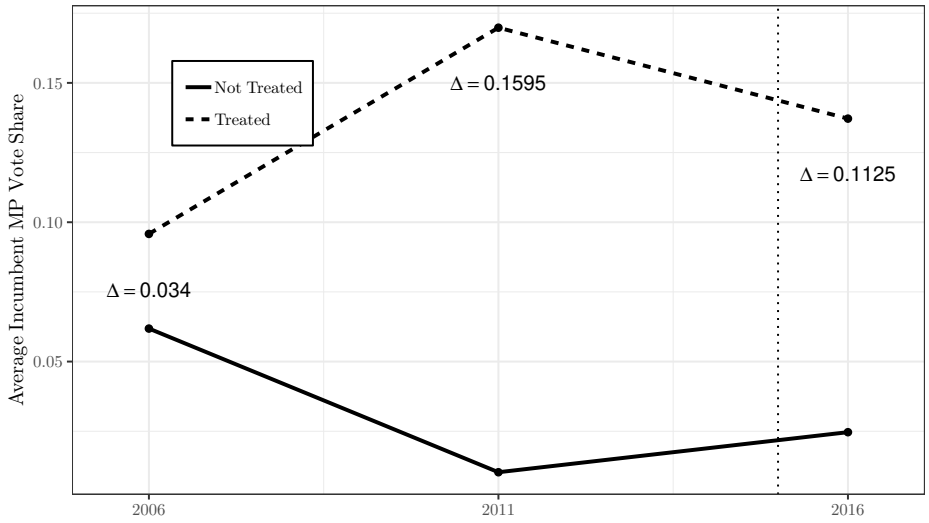

Figure H.1: Trends in the incumbent MP vote share for parishes that did not have an NGO project in either 2006 or 2011. Treated parishes had a project in 2016 while not treated parishes did not. Δ indicates the absolute value of the difference between the average value of the outcome.

Table H.5: Effect of Aid Projects on Incumbent MP Support (Difference-in-Differences; 2006–2016)

	Dependent variable:							
	Margin				Share			
NGO	−0.090	0.002	0.020	−0.057	−0.051	0.00001	0.006	−0.019
	(0.111)	(0.005)	(0.118)	(0.113)	(0.062)	(0.002)	(0.065)	(0.065)
Govt	0.021	0.00001	−0.007	0.068	0.013	0.00002	−0.0001	0.035
	(0.085)	(0.0001)	(0.084)	(0.096)	(0.049)	(0.0001)	(0.049)	(0.058)
2011 X Share	0.102	0.105	0.104	0.130*	0.090***	0.092***	0.091***	0.114***
	(0.064)	(0.064)	(0.064)	(0.079)	(0.035)	(0.035)	(0.035)	(0.042)
2016 X Share	−0.069	−0.068	−0.067	0.010	−0.016	−0.015	−0.014	0.021
	(0.068)	(0.068)	(0.068)	(0.084)	(0.038)	(0.038)	(0.038)	(0.046)
Independent Var.	Projects	Spending	Binary	Binary	Projects	Spending	Binary	Binary
Matching	No	No	No	Yes	No	No	No	Yes
Observations	8,809	8,814	8,809	8,071	8,809	8,814	8,809	8,071
Adjusted R^2	0.057	0.057	0.056	0.223	0.128	0.128	0.128	0.306

Standard errors are clustered at the parish level. *p<0.1; **p<0.05; ***p<0.01

Table H.6: Effect of Aid Projects on Incumbent MP Support (Spatial Lag Difference-in-Differences; 2006–2016)

	Dependent variable:							
	Margin				Share			
NGO	−0.128	0.001	−0.024	−0.105	−0.072	−0.0001	−0.017	−0.047
	(0.102)	(0.005)	(0.117)	(0.107)	(0.059)	(0.002)	(0.065)	(0.064)
NGO 1SL	0.039	0.0005	0.039	0.073	0.020	0.0001	0.017	0.040
	(0.036)	(0.001)	(0.044)	(0.051)	(0.021)	(0.0003)	(0.024)	(0.029)
NGO 2SL	−0.014*	−0.0002	−0.076**	−0.083**	−0.005	−0.0001	−0.030	−0.028
	(0.008)	(0.0001)	(0.033)	(0.038)	(0.005)	(0.0001)	(0.019)	(0.021)
Govt	0.024	0.00000	−0.013	0.060	0.016	0.00002	0.0003	0.036
	(0.086)	(0.0001)	(0.085)	(0.097)	(0.049)	(0.0001)	(0.050)	(0.059)
Govt 1SL	0.014	−0.0001	−0.009	0.001	0.005	−0.00001	−0.007	−0.004
	(0.042)	(0.0001)	(0.044)	(0.055)	(0.027)	(0.0001)	(0.026)	(0.031)
Govt 2SL	0.008	−0.00003	0.001	0.018	0.007	−0.00000	0.013	0.023
	(0.012)	(0.00004)	(0.033)	(0.040)	(0.008)	(0.00002)	(0.019)	(0.022)
2011 X Share	0.108*	0.127*	0.117*	0.135*	0.090**	0.102***	0.093***	0.108**
	(0.065)	(0.065)	(0.066)	(0.080)	(0.035)	(0.035)	(0.035)	(0.042)
2016 X Share	−0.081	−0.068	−0.081	−0.008	−0.021	−0.015	−0.022	0.011
	(0.069)	(0.069)	(0.069)	(0.084)	(0.038)	(0.038)	(0.038)	(0.046)
Independent Var.	Projects	Spending	Binary	Binary	Projects	Spending	Binary	Binary
Matching	No	No	No	Yes	No	No	No	Yes
Observations	8,697	8,711	8,697	7,972	8,697	8,711	8,697	7,972
Adjusted R^2	0.053	0.059	0.054	0.208	0.127	0.134	0.127	0.294

Standard errors are clustered at the parish level. *p<0.1; **p<0.05; ***p<0.01

Appendix I: Voter Turnout

In this section, I present results for models regressing voter turnout on NGO and government implemented aid projects with and without spatial lags.

I.1 Turnout

Table I.1: Effect of Aid Projects on Voter Turnout (Fixed Effects; 2006–2016)

	Dependent variable:			
	Turnout			
NGO	−0.004	−0.0001	−0.010	−0.017**
	(0.007)	(0.0001)	(0.006)	(0.008)
Govt	0.005	−0.00001	0.003	0.001
	(0.006)	(0.00001)	(0.006)	(0.012)
2011 X Share	0.004	0.005	0.005	−0.001
	(0.007)	(0.007)	(0.007)	(0.011)
2016 X Share	−0.002	−0.002	−0.002	−0.017
	(0.008)	(0.008)	(0.008)	(0.012)
Independent Var.	Projects	Spending	Binary	Binary
Matching	No	No	No	Yes
Observations	13,580	13,580	13,580	12,370
Adjusted R^2	0.591	0.591	0.592	0.726

Standard errors are clustered at the parish level. *p<0.1; **p<0.05; ***p<0.01

Table I.2: Effect of Aid Projects on Voter Turnout (Spatial Lag Fixed Effects; 2006–2016)

	Dependent variable:			
	Turnout			
NGO	−0.003	−0.0001	−0.007	−0.012
	(0.007)	(0.0001)	(0.006)	(0.009)
NGO 1SL	−0.001	−0.00003	−0.003	−0.012
	(0.003)	(0.0001)	(0.004)	(0.011)
NGO 2SL	−0.001	−0.00001	−0.0004	0.002
	(0.001)	(0.00001)	(0.004)	(0.007)
Govt	0.005	−0.00001	0.003	0.002
	(0.006)	(0.00001)	(0.006)	(0.012)
Govt 1SL	0.003	−0.00001	0.001	−0.002
	(0.003)	(0.00001)	(0.004)	(0.005)
Govt 2SL	0.002	−0.00000	0.003	0.002
	(0.001)	(0.00000)	(0.003)	(0.004)
2011 X Share	0.003	0.005	0.003	−0.001
	(0.007)	(0.007)	(0.007)	(0.011)
2016 X Share	0.0001	−0.001	0.0003	−0.013
	(0.008)	(0.008)	(0.008)	(0.012)
Independent Var.	Projects	Spending	Binary	Binary
Matching	No	No	No	Yes
Observations	13,399	13,403	13,399	12,212
Adjusted R^2	0.589	0.584	0.589	0.722

Standard errors are clustered at the parish level. *p<0.1; **p<0.05; ***p<0.01

I.2 Difference-in-Differences (2006–2011)

Table I.3: Effect of Aid Projects on Voter Turnout (Difference-in-Differences; 2006–2011)

	Dependent variable:			
	Turnout			
NGO	−0.001	−0.0001	−0.004	−0.005
	(0.009)	(0.0001)	(0.009)	(0.010)
Govt	0.010	0.00001	0.008	0.003
	(0.007)	(0.00002)	(0.009)	(0.009)
2011 X Share	0.004	0.004	0.004	0.005
	(0.008)	(0.008)	(0.008)	(0.009)
Independent Var.	Projects	Spending	Binary	Binary
Matching	No	No	No	Yes
Observations	9,075	9,067	9,075	8,269
Adjusted R^2	0.666	0.666	0.666	0.766

Standard errors are clustered at the parish level. *p<0.1; **p<0.05; ***p<0.01

Table I.4: Effect of Aid Projects on Voter Turnout (Spatial Lag Difference-in-Differences; 2006–2011)

	Dependent variable:			
	Turnout			
NGO	−0.0005	−0.0001	−0.001	−0.002
	(0.010)	(0.0001)	(0.010)	(0.011)
NGO 1SL	−0.001	−0.00003	−0.008	−0.007
	(0.006)	(0.0001)	(0.007)	(0.008)
NGO 2SL	0.0004	−0.00002	0.007	0.005
	(0.001)	(0.00001)	(0.006)	(0.007)
Govt	0.011	0.00001	0.009	0.005
	(0.007)	(0.00002)	(0.009)	(0.009)
Govt 1SL	0.007	0.00001	0.002	0.001
	(0.005)	(0.00001)	(0.006)	(0.007)
Govt 2SL	0.001	0.00000	0.002	0.005
	(0.002)	(0.00000)	(0.005)	(0.006)
2011 X Share	0.002	0.004	0.003	0.003
	(0.008)	(0.008)	(0.008)	(0.009)
Independent Var.	Projects	Spending	Binary	Binary
Matching	No	No	No	Yes
Observations	8,945	8,904	8,945	8,156
Adjusted R^2	0.662	0.657	0.662	0.761

Standard errors are clustered at the parish level. *p<0.1; **p<0.05; ***p<0.01

I.3 Difference-in-Differences (2006–2016)

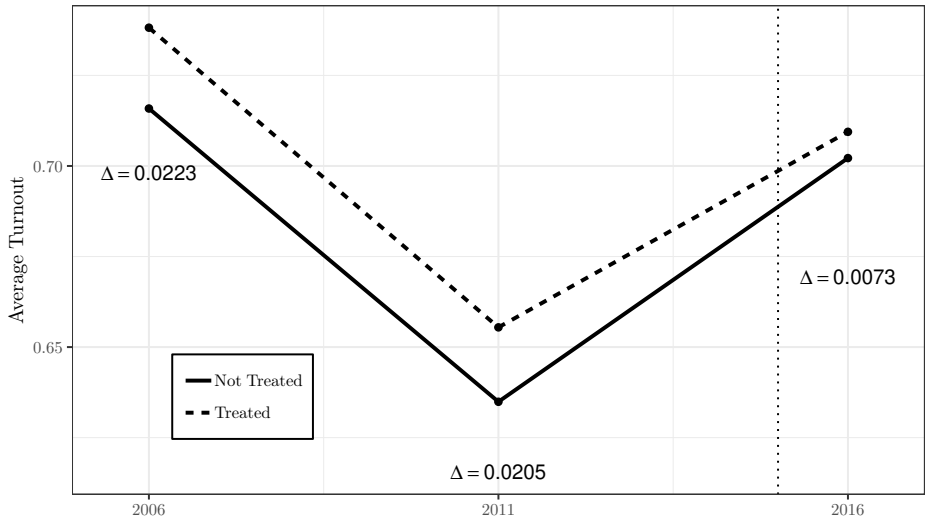

Figure I.1: Trends in the incumbent voter turnout for parishes that did not have an NGO project in either 2006 or 2011. Treated parishes had a project in 2016 while not treated parishes did not. Δ indicates the absolute value of the difference between the average value of the outcome.

Table I.5: Effect of Aid Projects on Voter Turnout (Difference-in-Differences; 2006–2016)

	Dependent variable:			
	Turnout			
NGO	−0.006	−0.0003	−0.012	−0.024*
	(0.012)	(0.0003)	(0.009)	(0.012)
Govt	0.005	−0.00001	0.002	−0.001
	(0.006)	(0.00001)	(0.007)	(0.014)
2011 X Share	0.005	0.005	0.005	0.005
	(0.007)	(0.007)	(0.007)	(0.008)
2016 X Share	−0.002	−0.002	−0.002	−0.016*
	(0.008)	(0.008)	(0.008)	(0.009)
Independent Var.	Projects	Spending	Binary	Binary
Matching	No	No	No	Yes
Observations	13,456	13,464	13,456	12,253
Adjusted R^2	0.589	0.589	0.589	0.606

Standard errors are clustered at the parish level. *p<0.1; **p<0.05; ***p<0.01

Table I.6: Effect of Aid Projects on Voter Turnout (Spatial Lag Difference-in-Differences; 2006–2016)

	Dependent variable:			
	Turnout			
NGO	−0.004	−0.0003	−0.009	−0.016
	(0.012)	(0.0003)	(0.010)	(0.012)
NGO 1SL	−0.002	−0.00004	−0.004	−0.013**
	(0.003)	(0.0001)	(0.004)	(0.006)
NGO 2SL	−0.0005	−0.00001	−0.0003	0.001
	(0.001)	(0.00001)	(0.004)	(0.004)
Govt	0.005	−0.00001	0.002	−0.0002
	(0.006)	(0.00002)	(0.007)	(0.014)
Govt 1SL	0.003	−0.00001	0.001	−0.001
	(0.004)	(0.00001)	(0.004)	(0.005)
Govt 2SL	0.001	−0.00000	0.003	0.004
	(0.001)	(0.00000)	(0.003)	(0.004)
2011 X Share	0.003	0.005	0.003	0.005
	(0.007)	(0.007)	(0.007)	(0.008)
2016 X Share	0.0002	−0.001	0.0004	−0.013
	(0.008)	(0.008)	(0.008)	(0.009)
Independent Var.	Projects	Spending	Binary	Binary
Matching	No	No	No	Yes
Observations	13,278	13,290	13,278	12,098
Adjusted R^2	0.587	0.582	0.587	0.605

Standard errors are clustered at the parish level. *p<0.1; **p<0.05; ***p<0.01

Appendix J: Government Projects

In this section, I provide tables reporting results for models estimating the effect of government-implemented aid projects on presidential support. These estimates differ from those presented in appendix D by matching on different independent variables (ngo vs government-implemented aid projects) and require different subsets of the data to achieve a difference-in-differences design (excluding parishes that received a government project in pre-treatment election years).

J.1 Fixed Effects (2006–2016)

Table J.1: Effect of Aid Projects on Presidential Support (Fixed Effects; 2006–2016)

	Dependent variable:							
	Margin				Share			
NGO	0.032***	0.0002*	0.036***	0.026	0.018***	0.0002**	0.020***	0.013
	(0.011)	(0.0001)	(0.010)	(0.020)	(0.005)	(0.0001)	(0.005)	(0.012)
Govt	0.031***	0.00003	0.025*	0.029	0.013**	0.00001	0.011	0.014
	(0.011)	(0.00004)	(0.015)	(0.022)	(0.006)	(0.00002)	(0.007)	(0.010)
2011 X Share	−0.940***	−0.940***	−0.940***	−0.727***	−0.438***	−0.438***	−0.438***	−0.331***
	(0.016)	(0.016)	(0.016)	(0.047)	(0.009)	(0.009)	(0.009)	(0.023)
2016 X Share	−1.053***	−1.053***	−1.054***	−0.858***	−0.517***	−0.517***	−0.517***	−0.427***
	(0.018)	(0.018)	(0.018)	(0.050)	(0.009)	(0.009)	(0.009)	(0.023)
Independent Var.	Projects	Spending	Binary	Binary	Projects	Spending	Binary	Binary
Matching	No	No	No	Yes	No	No	No	Yes
Observations	13,572	13,572	13,572	12,363	13,572	13,572	13,572	12,363
Adjusted R^2	0.872	0.872	0.872	0.927	0.876	0.876	0.876	0.934

Standard errors are clustered at the parish level. *p<0.1; **p<0.05; ***p<0.01

Table J.2: Effect of Aid Projects on Presidential Support (Spatial Lag Fixed Effects; 2006–2016)

	Dependent variable:							
	Margin				Share			
NGO	0.024**	0.0002	0.032***	0.019	0.015***	0.0001	0.019***	0.009
	(0.011)	(0.0002)	(0.010)	(0.021)	(0.005)	(0.0001)	(0.005)	(0.012)
NGO 1SL	0.017**	0.0002**	0.013	0.015*	0.008**	0.0001***	0.006	0.008*
	(0.007)	(0.0001)	(0.008)	(0.009)	(0.004)	(0.00004)	(0.004)	(0.005)
NGO 2SL	0.002	0.00003*	0.022***	0.020***	0.002**	0.00002*	0.014***	0.011***
	(0.002)	(0.00002)	(0.007)	(0.008)	(0.001)	(0.00001)	(0.004)	(0.004)
Govt	0.033***	0.00003	0.031**	0.033	0.015**	0.00001	0.015*	0.016
	(0.011)	(0.00004)	(0.015)	(0.023)	(0.006)	(0.00002)	(0.008)	(0.011)
Govt 1SL	0.011*	0.00004**	0.005	0.003	0.006*	0.00002*	0.003	0.003
	(0.006)	(0.00002)	(0.009)	(0.017)	(0.003)	(0.00001)	(0.005)	(0.008)
Govt 2SL	0.007***	0.00001	0.023***	0.014	0.003***	0.00001*	0.012***	0.008
	(0.002)	(0.00001)	(0.007)	(0.013)	(0.001)	(0.00000)	(0.004)	(0.006)
2011 X Share	−0.945***	−0.946***	−0.946***	−0.734***	−0.440***	−0.442***	−0.441***	−0.335***
	(0.016)	(0.016)	(0.016)	(0.047)	(0.009)	(0.009)	(0.009)	(0.022)
2016 X Share	−1.059***	−1.056***	−1.059***	−0.868***	−0.519***	−0.518***	−0.519***	−0.432***
	(0.018)	(0.018)	(0.018)	(0.051)	(0.009)	(0.009)	(0.009)	(0.023)
Independent Var.	Projects	Spending	Binary	Binary	Projects	Spending	Binary	Binary
Matching	No	No	No	Yes	No	No	No	Yes
Observations	13,391	13,395	13,391	12,205	13,391	13,395	13,391	12,205
Adjusted R^2	0.873	0.872	0.873	0.927	0.876	0.876	0.877	0.934

Standard errors are clustered at the parish level. *p<0.1; **p<0.05; ***p<0.01

J.2 Difference-in-Differences (2006–2011)

Table J.3: Effect of Aid Projects on Presidential Support (Difference-in-Differences; 2006–2011)

	Dependent variable:							
	Margin				Share			
NGO	0.035**	0.0003	0.030*	0.066***	0.022**	0.0002**	0.019**	0.036***
	(0.018)	(0.0002)	(0.018)	(0.016)	(0.009)	(0.0001)	(0.009)	(0.008)
Govt	0.019	−0.0001	−0.003	−0.021	0.006	−0.00003	−0.004	−0.011
	(0.018)	(0.0001)	(0.022)	(0.025)	(0.009)	(0.00003)	(0.012)	(0.012)
2011 X Share	−0.940***	−0.940***	−0.940***	−0.774***	−0.438***	−0.438***	−0.438***	−0.354***
	(0.019)	(0.019)	(0.019)	(0.023)	(0.010)	(0.010)	(0.010)	(0.012)
Independent Var.	Projects	Spending	Binary	Binary	Projects	Spending	Binary	Binary
Matching	No	No	No	Yes	No	No	No	Yes
Observations	9,054	9,045	9,054	8,249	9,054	9,045	9,054	8,249
Adjusted R^2	0.904	0.904	0.904	0.943	0.902	0.902	0.902	0.948

Standard errors are clustered at the parish level. *p<0.1; **p<0.05; ***p<0.01

Table J.4: Effect of Aid Projects on Presidential Support (Spatial Lag Difference-in-Differences; 2006–2011)

	Dependent variable:							
	Margin				Share			
NGO	0.031	0.0002	0.034*	0.067***	0.020**	0.0001	0.022**	0.037***
	(0.019)	(0.0002)	(0.019)	(0.017)	(0.010)	(0.0001)	(0.009)	(0.009)
NGO 1SL	0.019	0.0002*	0.005	0.014	0.010	0.0001**	0.003	0.007
	(0.012)	(0.0001)	(0.014)	(0.017)	(0.006)	(0.0001)	(0.007)	(0.009)
NGO 2SL	0.005	0.00004	0.031***	0.036***	0.003**	0.00001	0.019***	0.021***
	(0.003)	(0.00003)	(0.012)	(0.014)	(0.002)	(0.00001)	(0.006)	(0.007)
Govt	0.021	−0.0001	0.005	−0.013	0.008	−0.00003	0.001	−0.007
	(0.018)	(0.0001)	(0.023)	(0.025)	(0.009)	(0.00003)	(0.012)	(0.013)
Govt 1SL	0.005	−0.00000	−0.008	−0.018	0.002	−0.00000	−0.004	−0.008
	(0.010)	(0.00003)	(0.014)	(0.020)	(0.005)	(0.00002)	(0.007)	(0.010)
Govt 2SL	0.003	0.00001	0.013	0.003	0.002	0.00000	0.007	0.003
	(0.004)	(0.00001)	(0.010)	(0.015)	(0.002)	(0.00001)	(0.005)	(0.007)
2011 X Share	−0.945***	−0.949***	−0.945***	−0.784***	−0.440***	−0.443***	−0.440***	−0.359***
	(0.019)	(0.019)	(0.019)	(0.024)	(0.010)	(0.010)	(0.010)	(0.012)
Independent Var.	Projects	Spending	Binary	Binary	Projects	Spending	Binary	Binary
Matching	No	No	No	Yes	No	No	No	Yes
Observations	8,924	8,882	8,924	8,136	8,924	8,882	8,924	8,136
Adjusted R^2	0.906	0.905	0.906	0.945	0.903	0.903	0.904	0.949

Standard errors are clustered at the parish level. *p<0.1; **p<0.05; ***p<0.01

J.3 Difference-in-Differences (2006–2016)

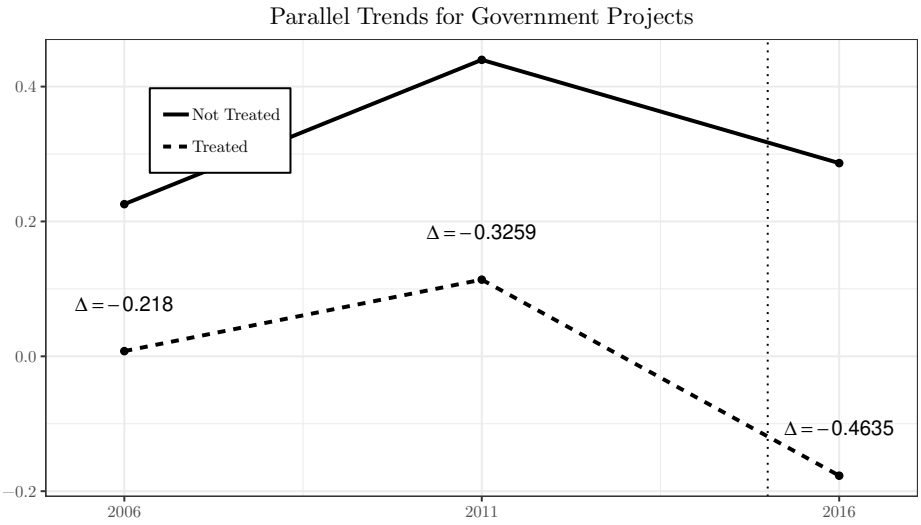

Figure J.1: Trends in the incumbent voter turnout for parishes that did not have an NGO project in either 2006 or 2011. Treated parishes had a project in 2016 while not treated parishes did not. Δ indicates the absolute value of the difference between the average value of the outcome.

Table J.5: Effect of Aid Projects on Presidential Support (Difference-in-Differences; 2006–2016)

	Dependent variable:							
	Margin				Share			
NGO	0.034^{***}	0.0003^{*}	0.037^{***}	0.042^{***}	0.019^{***}	0.0002^{**}	0.021^{***}	0.023^{***}
	(0.011)	(0.0001)	(0.011)	(0.012)	(0.006)	(0.0001)	(0.005)	(0.006)
Govt	0.039	-0.0001	-0.184^{*}	-0.137^{*}	-0.018	-0.00003^{*}	-0.093^{***}	-0.069^{**}
	(0.217)	(0.0001)	(0.098)	(0.074)	(0.083)	(0.00002)	(0.035)	(0.028)
2011 X Share	-0.940^{***}	-0.941^{***}	-0.941^{***}	-0.792^{***}	-0.439^{***}	-0.439^{***}	-0.439^{***}	-0.363^{***}
	(0.016)	(0.016)	(0.016)	(0.019)	(0.009)	(0.009)	(0.009)	(0.010)
2016 X Share	-1.054^{***}	-1.054^{***}	-1.055^{***}	-0.854^{***}	-0.517^{***}	-0.518^{***}	-0.518^{***}	-0.426^{***}
	(0.018)	(0.018)	(0.018)	(0.027)	(0.009)	(0.009)	(0.009)	(0.013)
Independent Var.	Projects	Spending	Binary	Binary	Projects	Spending	Binary	Binary
Matching	No	No	No	Yes	No	No	No	Yes
Observations	13,438	13,439	13,438	12,237	13,438	13,439	13,438	12,237
Adjusted R^2	0.871	0.871	0.872	0.881	0.875	0.875	0.875	0.887

Standard errors are clustered at the parish level. *p<0.1; **p<0.05; ***p<0.01

Table J.6: Effect of Aid Projects on Presidential Support (Spatial Lag Difference-in-Differences; 2006–2016)

	Dependent variable:							
	Margin				Share			
NGO	0.026**	0.0002	0.033***	0.036***	0.016***	0.0001	0.019***	0.021***
	(0.011)	(0.0002)	(0.011)	(0.012)	(0.006)	(0.0001)	(0.006)	(0.006)
NGO 1SL	0.017**	0.0002**	0.012	0.012	0.008**	0.0001**	0.006	0.005
	(0.007)	(0.0001)	(0.008)	(0.009)	(0.004)	(0.00004)	(0.004)	(0.005)
NGO 2SL	0.002	0.00004*	0.022***	0.019***	0.002**	0.00002*	0.014***	0.011***
	(0.002)	(0.00002)	(0.007)	(0.007)	(0.001)	(0.00001)	(0.004)	(0.004)
Govt	0.037	−0.0001	−0.184*	−0.140*	−0.019	−0.00003*	−0.092***	−0.070**
	(0.219)	(0.0001)	(0.098)	(0.075)	(0.084)	(0.00002)	(0.035)	(0.029)
Govt 1SL	0.012*	0.00004**	0.005	−0.004	0.006*	0.00002*	0.003	−0.002
	(0.007)	(0.00002)	(0.009)	(0.018)	(0.003)	(0.00001)	(0.005)	(0.009)
Govt 2SL	0.007***	0.00001	0.023***	0.011	0.003***	0.00001*	0.012***	0.007
	(0.002)	(0.00001)	(0.007)	(0.013)	(0.001)	(0.00000)	(0.004)	(0.006)
2011 X Share	−0.945***	−0.947***	−0.947***	−0.799***	−0.441***	−0.443***	−0.442***	−0.366***
	(0.016)	(0.016)	(0.017)	(0.019)	(0.009)	(0.009)	(0.009)	(0.010)
2016 X Share	−1.059***	−1.056***	−1.060***	−0.863***	−0.519***	−0.518***	−0.519***	−0.430***
	(0.018)	(0.018)	(0.018)	(0.028)	(0.009)	(0.009)	(0.009)	(0.013)
Independent Var.	Projects	Spending	Binary	Binary	Projects	Spending	Binary	Binary
Matching	No	No	No	Yes	No	No	No	Yes
Observations	13,257	13,263	13,257	12,079	13,257	13,263	13,257	12,079
Adjusted R^2	0.872	0.871	0.872	0.881	0.876	0.875	0.876	0.887

Standard errors are clustered at the parish level. *p<0.1; **p<0.05; ***p<0.01

Appendix K: Description of Original Data

K.1 Elections Data Panel Construction

Polling-station level returns are only available in .pdf format, so tabular data was extracted using the *pdfminer* tool for Python and software written by Lain Barr. Because there has been substantial proliferation of administrative units during the period under analysis, accurately matching election returns across elections at the parish level requires great care. The final dataset of election returns was created by matching polling stations names in presidential election returns from 2006, 2011, and 2016 to a list of polling station coordinates from 2016. This was accomplished by extracting tabular data from polling station level election returns from .pdf documents available from the electoral commission and matching these polling stations across years using a combination of regular expression name harmonization and approximate string matching.[4]

First, an attempt was made to match each polling station across all four datasets, beginning by matching stations in the 2016 coordinates dataset to stations in the 2016 returns dataset, and then matching the polling stations that were successfully matched between these datasets to the 2011 returns dataset, and then to the 2006 returns dataset. Second, the list of polling stations that had been matched across 2016 coordinates, 2016 returns, and 2011 returns - but that had not found a match among the 2006 returns - were added to the dataset. Following these exercises, the remaining unmatched polling stations from the 2006 returns dataset were matched directly to the stations matched between the 2016 returns and the 2016 coordinates datasets. The remaining unmatched stations from each election were then matched directly to the coordinates dataset. Finally, all stations that had been matched to coordinates were added to the final dataset.

The dataset is composed of the results from 7 rounds of matching exercises. Below is a list of the number of stations matched in each round.

[4]Tabular data extraction was performed in Python and matching was performed in R. Information on the specific modules, packages, and string matching algorithms used is available on request.

1. n=13,336 - Stations matched across all 4 dataframes
2. n=5,826 - Stations matched across 3 dataframes (2006 not matched)
3. n=5,029 - Stations matched across 2 dataframes (2006, 2011 not matched)
4. n=1,199 - Stations matched across 3 dataframes (2011 not matched)
5. n=341 - Stations matched across 2 dataframes (2016 returns, 2011 not matched)
6. n=763 - Stations matched across 2 dataframes (2016 returns, 2006 not matched)
7. n=152 - Stations matched across 3 dataframes (2016 returns not matched)

The lowest matching rate across election years was 2006, in which 76% of polling stations were matched to coordinates. This yields data for 94% of parishes existing in 2016, 89% of parishes existing in 2011, and 89% of parishes existing in 2006.

The coordinates for each station were then used to identify the administrative unit in which the polling station was located in 2002. These data were then collapsed to the parish level. After being merged with parish-level data from the 2002 census, the final dataset contains a total of 4,220 of the 4,839 parishes in the 2002 census data.

K.2 NGO Survey Details and Sampling

This section describes an original face-to-face household survey conducted in villages that participated in the Living Goods Randomized Control Trial evaluated by Nyqvist et al. (2018). The original study was a cluster randomized trial embedded in the roll-out of the Living Goods Community Health Promoter (CHP) program. Clusters correspond to villages, and branches correspond to headquarters that oversee operations within that district. Randomization was stratified by branch. To ensure that the CHP(s) in each village could access all households in their community, only villages with fewer than 400 households were eligible to receive the treatment. In 9 branches, randomization was balanced while in one zone randomization was unbalanced for operational purposes (2:1). This resulted in a sample of 115 treatment villages and 99 control villages. In 2014, a non-random phase-in of the intervention into control villages started. Of the 99 villages assigned to control status,

47 remained unexposed to the intervention in October 2018. Of the 115 original treatment villages, 4 villages ceased to have an active CHP after their CHPs died or moved away. I sample all 47 control villages that remained untreated and all 115 treated villages.

Five teams of four trained enumerators conducted the survey in four local languages between October 1 and November 31, 2018. Enumerators conducted between 3 and 4 surveys per day. Team leaders met with local councilors to create a list of households. Seven households were randomly selected for enumeration in treatment villages while 14 households were selected for enumeration in control villages. This imbalance accounts for the smaller number of control villages relative to treatment villages. Team leaders also met with the VHT in each village to draw up a list of households that had pregnancies during the intervention period. Because LG CHPs receive financial incentives to visit households with pregnant women or newborn babies, half of the households in each sample village were drawn from the full list of households and half were drawn from the list of households with at least one pregnancy. Within each household, either the male or female head of household was selected for enumeration. If the individual selected for enumeration could not be reached after two attempts, a replacement household was drawn randomly from the list.

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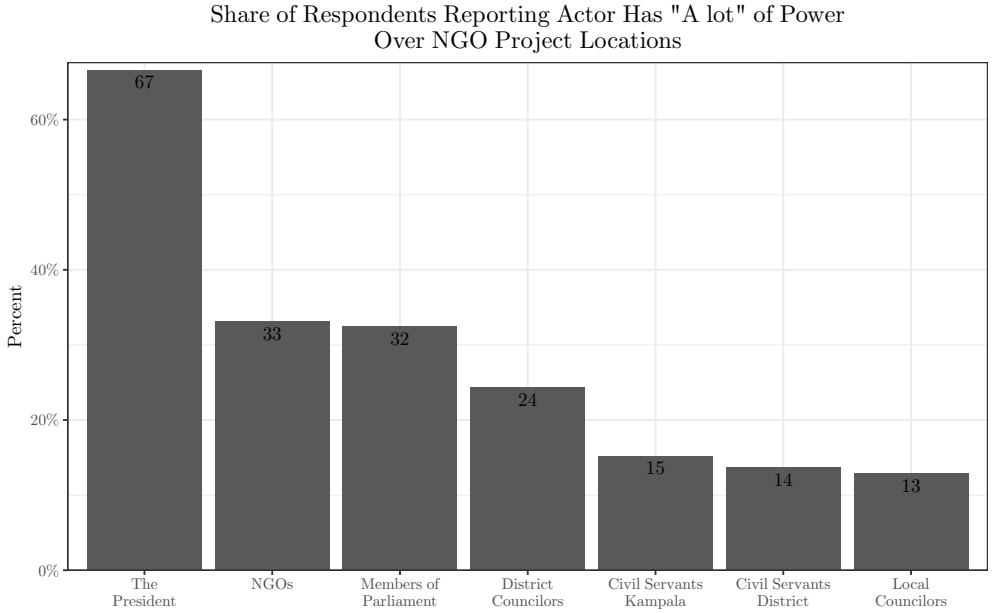

Figure K.1: Respondent perception of the power NGOs and government officials have over where NGOs locate their projects.

The original study demonstrates that the intervention had a positive impact on health outcomes and reached a substantial share of households. However, this does not imply that citizens were are that these were NGO services. Because CHPs sell health products for a small profit, it is possible that the program is perceived as for-profit rather than as an NGO. Interviews with CHPs suggest that respondents in treated communities are familiar with the LG brand and overwhelmingly see the CHP program as non-profit. CHPs emphasized repeatedly that the dramatically lower cost of medicines relative to private pharmacies serves as a clear indicator of the non-profit nature of the intervention. However, CHPs did report that some community members were aware that CHPs themselves earn income from the program and needed to be "sensitized" to the fact that the intervention does not generate profits. 49% of respondents in treatment villages report that the intervention is implemented by a non-profit organization compared to 26% that believe the program operates for-profit. Consistent with the information provided by CHPs, reporting contact with a CHP is positively correlated with knowledge that the CHP program is not-for-profit.

In the survey, I ask respondents to list the name and sector of all NGOs that have been

providing services in their village within the past 12 months. I also ask whether any members of the respondent's household have received services from these organizations *Never, Once or twice, More than twice, More than five times, or More than ten times.* Table K.1 reports the results taking these indicators as the dependent variable. Respondents in treatment villages report an average of about 0.2 more active health NGOs than those in control villages, but they do not report having more non-health NGOs. Respondents in treatment villages also report having substantially more contact with health NGOs, but no more contact with non-health NGOs relative to respondents in control villages. In Table K.2, I ask respondents to report whether the benefits of NGOs to their household and to their community has been *Not big at all, Not too big, Somewhat big or Very big.* In treatment villages, respondents report significantly greater benefits from NGOs for their household (though not for their community). This section provides strong evidence that respondents in treatment villages are aware of their access to NGO health services and report much higher levels of access than respondents in control villages.

Table K.1: Effect of CHP Intervention on Perceptions of NGO Activity

	Health NGOs				Non-Health NGOs			
	NGO Count		NGO Contact		NGO Count		NGO Contact	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Treatment	0.167***	0.175***	0.252***	0.233***	−0.023	−0.038	−0.057	−0.072
	(0.051)	(0.047)	(0.065)	(0.065)	(0.054)	(0.059)	(0.079)	(0.087)
Covariates	No	Yes	No	Yes	No	Yes	No	Yes
Observations	1,211	1,211	1,211	1,211	1,211	1,211	1,211	1,211

Standard errors are clustered at the village level. *p<0.1; **p<0.05; ***p<0.01

Table K.2: Effect of CHP Intervention on Perceptions of Benefits from NGOs

	Respondent's Household		Respondent's Community	
	(1)	(2)	(3)	(4)
Treatment	0.126**	0.119**	0.103*	0.096
	(0.051)	(0.055)	(0.060)	(0.066)
Covariates	No	Yes	No	Yes
Observations	1,205	1,205	1,162	1,162

Standard errors are clustered at the village level. *p<0.1; **p<0.05; ***p<0.01