Online Appendix for "Surrounded and Threatened: How Neighborhood Composition Reduces Ethnic Voting Through Intimidation"*

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Abstract

Ethnic voting is an important phenomenon in the political lives of numerous countries. In the present paper, we propose a theory explaining why ethnic voting is more prevalent in certain localities than in others and provide evidence for it. We argue that local ethnic geography affects ethnic voting by making voters of an ethnicity that finds itself in the minority fear intimidation by their ethnic majority neighbors. We provide empirical evidence for our claim using the data from the round 4 of the Afrobarometer survey in Ghana to measure the voters' beliefs that they are likely to face intimidation during electoral campaigns. Using geocoded data from rounds 3 and 4 of the Afrobarometer, as well as data from the Ghana Demographic and Health Survey, we find no evidence for local public goods provision as an alternative mechanism.

Keywords: Voter Intimidation, ethnic voting, neighborhood composition.

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A1.1 Alternative Measure of Voters' Concerns

As an alternative measure of the voters' concern about political intimidation and freedom of political expression, we conduct factor analysis on the variables *Intimidation* and *Careful* and obtain the new variable *Factor*. Using the variable *Factor* in the analysis, we find that the interaction of the belief that one has to be careful in political expression, fear of political intimidation and the percentage of Akans in the 30 km radius has a statistically significant impact on vote choice only for non-Akan respondents. On balance, our results are consistent with Akans employing political intimidation to induce non-Akans to vote for the NPP.

A1.2 The Impact of the Size of the Surrounding Group

How does the size of the surrounding ethnicity affect the propensity of the members of other ethnicities to change their vote choice due to the fear of political intimidation? We show that, conditional on intimidation, there is a positive relationship between the share of Akans in a neighborhood and the probability of voting for the NPP.

To establish this, we estimate the predicted support for the NPP across all possible values of *Akan30*. We do not find any relationship between the share of Akans in a neighborhood and the probability of voting for the NPP for respondents who fear intimidation "Not at all" and believe they "Never" have to be careful about what they say about politics. In contrast, for respondents who fear intimidation "A lot" or believe that

they "Always" have to be careful about what they say about politics, all our models predict that as the share of Akans in a neighborhood grows large, the support for the NPP will increase as well. The increase in the predicted support as we move from low to high shares of Akans in a neighborhood is more dramatic for respondents who both fear intimidation a lot and believe they should always be careful in political speech. Figures A3 – A6 in the Appendix present the results.

A1.3 The Presence of Local Public Goods: DHS Dataset

In order to make sure that our finding that the percentage of Akans in the neighborhood does not impact local public goods provision is robust to using different datasets, we use the 2008 Ghana Demographic and Health Survey (DHS) as an alternative source of the measures of local public goods provision. Because measuring demographic and health indicators is the primary purpose of the DHS, we expect the measures of such indicators recorded in the DHS to be more accurate than those in the Afrobarometer. We geocode the enumeration areas included in round 4 of the Afrobarometer and, using the geocoded references, we match the enumeration areas in round 4 of the Afrobarometer to the closest enumeration areas in the DHS, matching only the enumeration areas that are no more than 20 kms apart.[1][2]

Because the DHS does not directly measure the presence of local public goods, we use questions from the DHS that can serve as plausible proxies for local public goods. We use

[1]Using the data shared by the Afrobarometer project, which includes localities names for round 4, we geocode the enumeration areas for that round using multiple sources, among them: Google Maps, GeoNames, and the Fallingrain Global Gazetteer.

[2]Distance is defined as the length of the shortest curve between two points along the surface of the Earth. For implementation see the `R` package `gmt`.

two variables as proxies for the presence of a hospital in an area: *Delivery in a hospital* and *Antenatal care in a hospital*.[3] We argue that distance to a hospital and whether the family has the means to pay for the use of health facilities are the main determinants of whether a woman gives birth to a child in a hospital rather than at home and whether she receives antenatal care in a hospital. Because we control for poverty, the proportion of births in the area given in a hospital in likely to be a good proxy for the presence of a hospital easily accessible by the residents in the area. As table A28 shows, our results are robust to the use of the DHS data. That is, the percentage of Akans in the neighborhood does not have an impact on the presence of local public goods.[4]

A1.4 The Expectations of Local Public Goods Provision

We have found that the presence of local public goods and the dynamics of local public goods provision have no impact on the vote choice and are not correlated with the percentage of Akans in the neighborhood. We now explore the possibility that expectations of receiving local public goods in the future, and not the local public goods that are already present in

[3]The wording of the question used to construct the variable *Delivery in a hospital* is as follows: "Where did you give birth to (NAME of son/daughter)?" The response options are: 1. At home; 2. Someone else's home; 3. Public sector hospital (includes government hospitals, and health centers); 4. Private sector hospital. We recoded categories 1 and 2 as 0, and 3 and 4 as 1. The wording of the question used to construct the variable *Antenatal care in a hospital* is as follows: "Where did you receive antenatal care for this pregnancy?" The response categories and the recoding labels are the same as for *Delivery in a hospital*. Both questions ask about the pregnancies that a woman experienced in the 5 years before the survey. If a woman experienced more than one pregnancy in the 5 year period prior to the survey, we focus on the most recent pregnancy.

[4]Our results are robust to different definitions of closeness between enumeration areas such as using cutoffs of 10 or 15 km instead of 20 km. The results with alternative cutoffs are available from the authors upon request.

an area, drive the vote choice.[5]

Ideally, we would like to have access to a variable that measures citizens' expectations of access to local public goods in the event that the NPP or the NDC candidate wins. Since neither the Afrobarometer nor any other surveys that we are aware of ask this question, we use the questions in the Afrobarometer that can plausibly proxy for expectations of local public goods provision. In particular, we use the following questions:

1. "In your opinion, how likely is it that you could get together with others and make: Your elected Assembly man/woman listen to your concerns about a matter of importance to the community?" and,
2. "In your opinion, how likely is it that you could get together with others and make: Your Member of Parliament listen to your concerns about a matter of importance to the community?"

The responses to these questions are coded so that 0 means "Not at all likely", 1 means "Not very likely", 2 means "Somewhat likely" and 3 means "Very likely."

Since access to local public goods is likely to be important to the community, the belief of the citizens that they can make their representatives listen to their concerns about such matters can plausibly be interpreted as expectations that they will receive local public goods in the future. To further establish that the above questions are reasonable proxies

[5]It seems implausible that expectations of receiving local public goods are in no way connected to the actual presence of local public goods and the dynamics of local public goods provision, since, should voters find that the reality does not match their expectations, they are likely to adjust their expectations. Yet incorrect expectations may persist in the short term, or measurements of the expectations of local public goods provision may be more precise than measurements of the presence or dynamics of local public goods. For this reason, we examine the relationship between expectations of receiving local public goods and vote choice.

for expectations of local public goods provision, we now explain in greater detail how these officials are involved in public goods provision.

The District Assemblies are responsible for overall development of each district. The District Assemblies' Common Fund (DACF) is the main source of revenue for the District Assemblies (DAs), providing funds for 80-90% of their spending. The head of each DA, the District Chief Executive, is appointed by the president. In addition, the president appoints no less than 30% of the DA members. The rest of the DA members are elected (Banful 2009).

DA members can exercise substantial discretion in choosing in which localities and how the development projects are implemented. For example, the National Community and Sanitation Programme is implemented as follows (Useche 2016). First a village submits a proposal for a new rural water project to the District Assembly. If the proposal is accepted, then the village forms the Water and Sanitation Committee. This committee works with the DA to implement the project.

The involvement of MPs in initiating and influencing the implementation of local development projects is also extensive. Scholars note that "MPs . . . go out of their way and use every possible means to provide community development benefits to their constituents as a key strategy to get re-elected" (Lindberg 2010, 128). Moreover, MPs often initiate development projects in response to requests from individual citizens and communities. Lindberg (2010, 128) writes that "MPs have some public resources (the DACF share, HIPC funds) which they often use for school buildings, toilets, roofing sheets, scholarships and

boreholes, depending on the needs in the area" and that "MPs also use a lot of time lobbying ministers and top-level bureaucrats to bring development projects to their constituencies."

Additionally, we use the following question: "Do you approve or disapprove of the way the following people have performed their jobs over the past twelve months, or haven't you heard enough about them to say: The President." The responses are coded so that 1 means "Strongly Disapprove", 2 means "Disapprove", 3 means "Approve", and 4 means "Strongly Approve."

If the president is favoring his co-ethnics in the distribution of local public goods, the beneficiaries of such favoritism should be more likely to approve of the president, either because they have benefited from the favoritism themselves or because they have heard that their co-ethnics benefited and expect to benefit in the future. The use of *Presidential Approval* to infer whether local public goods were expected and provided here relies on the assumption that such expectations are at least partially correct. This assumption seems plausible, since, should the reality consistently fail to match the voters' beliefs, they are likely to adjust their beliefs.

We repeat the analysis above using the proxies for expectations of local public goods provision instead of the variables measuring local public goods provision. Tables A31 - A34 in the Appendix show the results. We find that the interaction of the proxies with the percentage of Akans in the neighborhood has no impact on the intention to vote for the NPP candidate. The variables *Can make councillor listen* and *Can make MP listen* have no impact on the vote choice. The variable *Presidential Approval* raises the probability of

expressing intention to vote for the NPP only in the areas where the percentage of Akans in the neighborhood is zero, which suggests that the expectations of public goods provision by the NPP are not related to the share of Akans in the neighborhood.

Additionally, as table A35 in the Appendix shows, we find that the percentage of Akans in the neighborhood has no statistically significant impact on the proxies for expectations of local public goods provision.

A1.5 Additional Tables

In this section we present additional figures and tables that we refer to in the paper as follows:

Figures:

Figure A1: Distribution of the fear of political intimidation expressed by Afrobarometer respondents

Figure A2: Distribution of the belief that people have to be careful of what they say about politics

Figure A3: The probability of voting for the NPP by share of Akans in 30 km radius without controlling for *Intimidation* and *Careful*

Figure A4: The probability of voting for the NPP by share of Akans in 30 km radius, maximum and minimum levels of *Intimidation*

Figure A5: The probability of voting for the NPP by share of Akans in 30 km radius, maximum and minimum levels of *Careful*

areas, 5 km radius (Factor: Intimidation and Careful)

Table A11: The impact of being surrounded by Akans - for non-Akan and Akan respondents (Careful)

Table A12: The impact of being surrounded by Akans - for non-Akan and Akan respondents (Intimidation)

Table A13: The impact of being surrounded by Akans - for non-Akan and Akan respondents (Intimidation and Careful)

Table A14: The impact of being surrounded by Akans - for non-Akan and Akan respondents (Factor: Intimidation and Careful)

Table A15: The impact of roads and being surrounded by Akans on the intention to vote for NPP, 30 and 5 km radius (Careful)

Table A16: The impact of roads and being surrounded by Akans on the intention to vote for NPP, 30 and 5 km radius (Intimidation)

Table A17: The impact of roads and being surrounded by Akans on the intention to vote for NPP, 30 and 5 km radius (Intimidation and Careful)

Table A18: The impact of roads and being surrounded by Akans on the intention to vote for NPP, 30 and 5 km radius (Factor: Intimidation and Careful)

Table A19: The impact of schools and being surrounded by Akans on the intention to vote for NPP, 30 and 5 km radius (Careful)

Table A20: The impact of schools and being surrounded by Akans on the intention to vote for NPP, 30 and 5 km radius (Intimidation)

Figure A1: Distribution of the fear of political intimidation expressed by Afrobarometer respondents

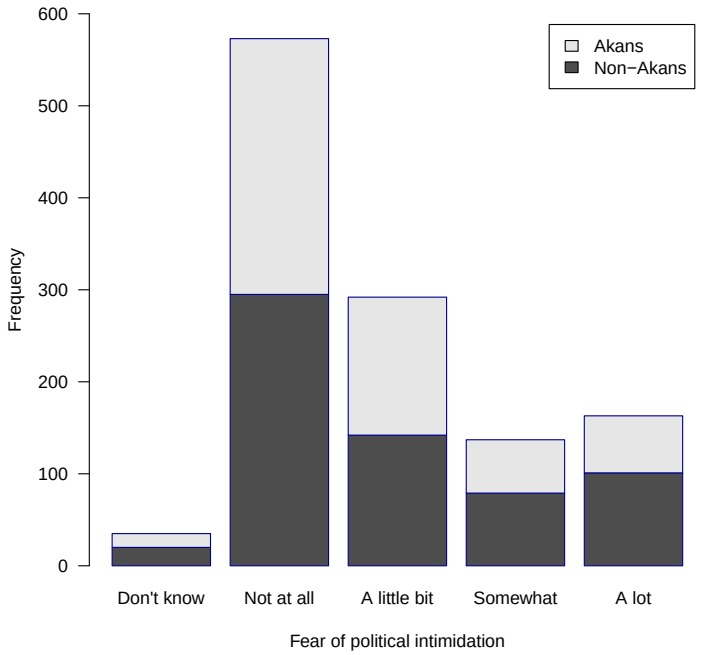


Figure A2: Distribution of the belief that people have to be careful of what they say about politics

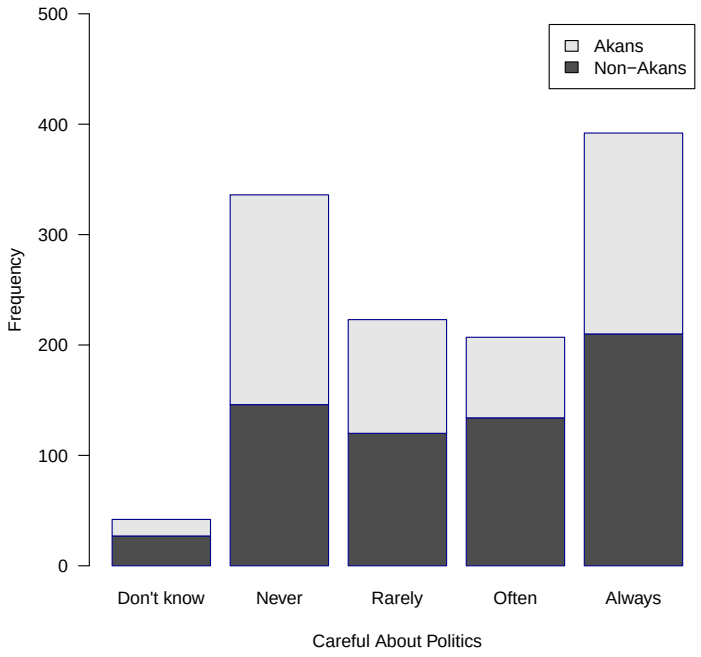
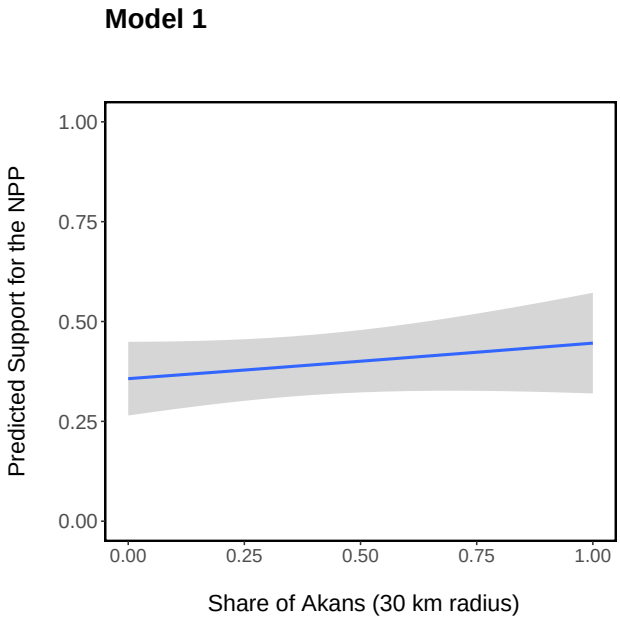
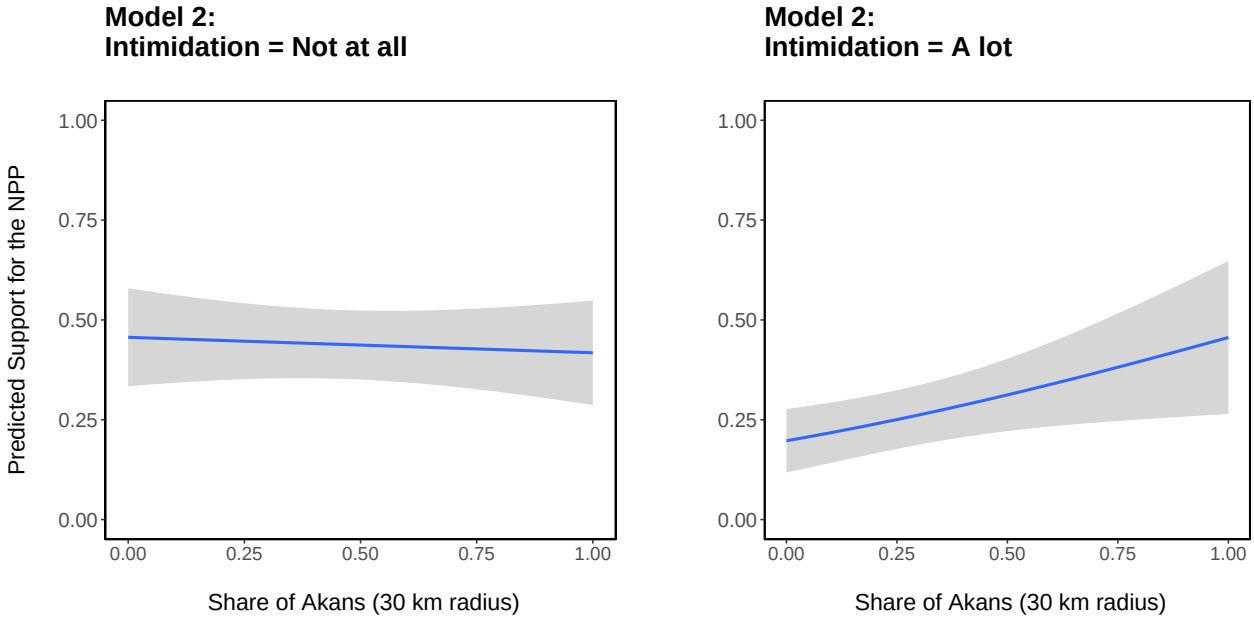


Figure A3: Probability of voting for the NPP by share of Akans in 30 km radius without controlling for either *Intimidation* or *Careful*



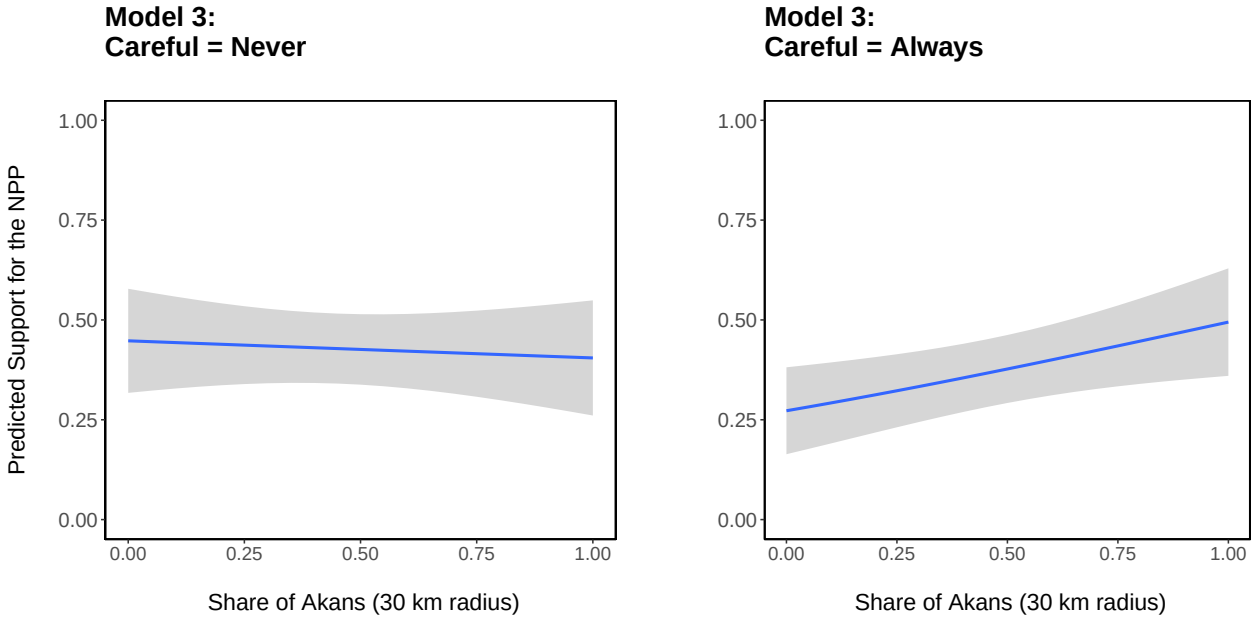
Predicted Support for the NPP (blue line) with the corresponding 95% confidence interval (shaded gray region). Model 1 does not include interaction terms. In addition, the following controls are included: indicators for major ethnic groups in Ghana (Akans, Ewe, Dagomba), gender, perception of the economy, poverty, local level of development and indicators for a central region and for urban and rural areas. Unless noted otherwise, continuous variables held at means and binary variables held at median values. Standard errors obtained via the delta method and clustered by enumeration area in parentheses.

Figure A4: Probability of voting for the NPP by share of Akans in 30 km radius, maximum and minimum levels of *Intimidation*



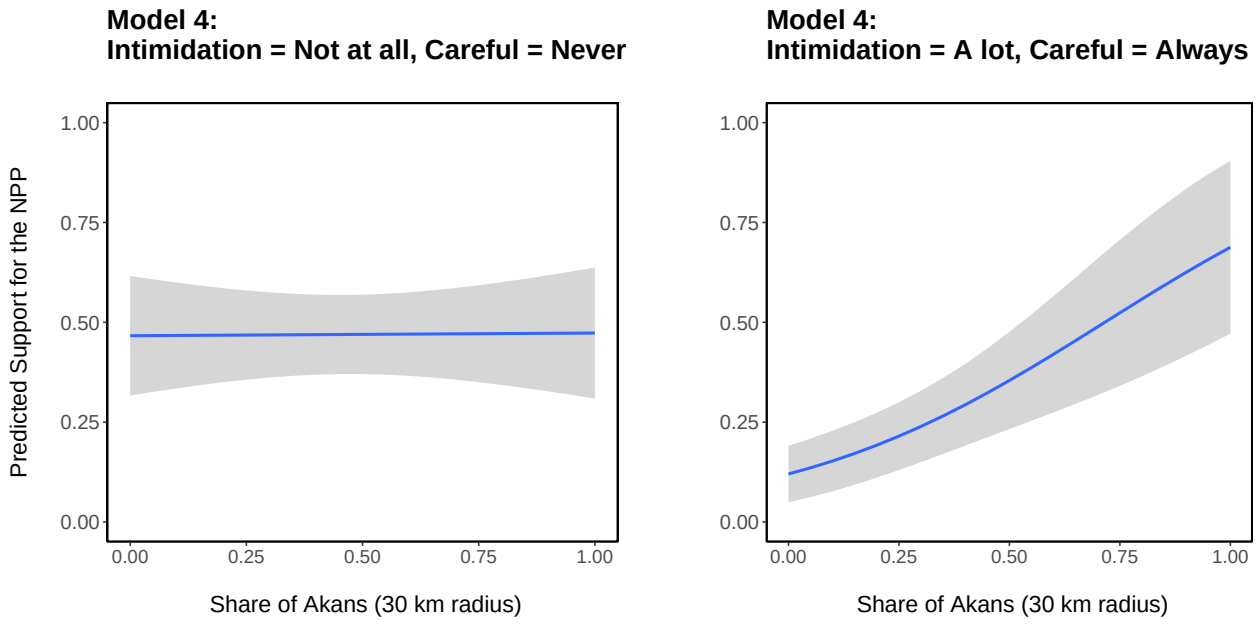
Predicted Support for the NPP (blue line) with the corresponding 95% confidence interval (shaded gray region). Model 2 includes an interaction term for *Akan30* and *Intimidation*. In the plot on the left (right) *Intimidation* is fixed at "Not at all" ("A lot"). In addition, the following controls are included: indicators for major ethnic groups in Ghana (Akans, Ewe, Dagomba), gender, perception of the economy, poverty, local level of development and indicators for a central region and for urban and rural areas. Unless noted otherwise, continuous variables held at means and binary variables held at median values. Standard errors obtained via the delta method and clustered by enumeration area in parentheses.

Figure A5: Probability of voting for the NPP by share of Akans in 30 km radius, maximum and minimum levels of *Careful*



Predicted Support for the NPP (blue line) with the corresponding 95% confidence interval (shaded gray region). Model 3 includes an interaction term for *Akan30* and *Careful*. In the plot on the left (right) *Careful* is fixed at "Never" ("Always"). In addition, the following controls are included: indicators for major ethnic groups in Ghana (Akans, Ewe, Dagomba), gender, perception of the economy, poverty, local level of development and indicators for a central region and for urban and rural areas.Unless noted otherwise, continuous variables held at means and binary variables held at median values. Standard errors obtained via the delta method and clustered by enumeration area in parentheses.

Figure A6: Probability of voting for the NPP by share of Akans in 30 km radius, maximum and minimum levels of *Careful* and *Intimidation*



Predicted Support for the NPP (blue line) with the corresponding 95% confidence interval (shaded gray region). Model 4 includes interaction terms for *Akan30* and *Intimidation*, as well as for *Akan30* and *Careful*. In the plot on the left (right) *Intimidation* and *Careful* are fixed at "Not at all" and "Never" ("A lot" and "Always"), respectively. In addition, the following controls are included: indicators for major ethnic groups in Ghana (Akans, Ewe, Dagomba), gender, perception of the economy, poverty, local level of development and indicators for a central region and for urban and rural areas. Unless noted otherwise, continuous variables held at means and binary variables held at median values. Standard errors obtained via the delta method and clustered by enumeration area in parentheses.

Table A1: Summary Statistics (Afrobarometer Data, round 4)

	Weighted Mean	Std. Dev.	Min	Max
Vote NPP	0.45	0.50	0	1
% Akan in 5km	0.48	0.29	0.01	0.94
% Akan in 30km	0.48	0.31	0.01	0.96
Akan	0.45	0.50	0	1
Ewe	0.15	0.36	0	1
Dagomba (Mole-Dagbon)	0.07	0.25	0	1
Male	0.50	0.50	0	1
Economy approval	3.21	1.07	1	5
Poverty	0.00	1.00	-1.12	1.85
Urban	0.20	0.40	0	1
Central Region	0.08	0.28	0	1
Local level of development	-0.08	1.00	-1.14	2.99
Political Intimidation	0.90	1.08	0	3
Careful	1.56	1.22	0	3
Health Clinics	0.58	0.49	0	1
Schools	0.92	0.28	0	1
Roads	0.43	0.50	0	1
Presidential Approval	3.27	1.29	1	9
Make MP listen	2.06	2.13	0	9
Make Councilor listen	2.20	1.83	0	9
Number of Observations	1200			

Weighted means and standard deviations are obtained using the post-stratification weights included in the Afrobarometer surveys.

Table A2: The impact of percent Akan in the 30 km radius on the intent to vote for NPP without and with intimidation (Weighted Analysis)

	(1)			
	No Interactions			
Marginal Effect of *Akan30*	0.033			
Standard Error	(0.079)			
	(2)			
	Intimidation:			
	Not at all	A little bit	Somewhat	A lot
Marginal Effect of *Akan30*	-0.104	0.019	0.128	0.220**
Standard Error	(0.084)	(0.072)	(0.086)	(0.110)
	(3)			
	Careful:			
	Never	Rarely	Often	Always
Marginal Effect of *Akan30*	-0.052	0.010	0.069	0.125
Standard Error	(0.106)	(0.081)	(0.076)	(0.094)
	(4)			
	Intimidation and Careful:			
	Not at all, Never	Not at all, Always	A lot, Never	A lot, Always
Marginal Effect of *Akan30*	-0.026	-0.159	-0.128	0.499***
Standard Error	(0.123)	(0.124)	(0.184)	(0.133)

Model (1) does not include interaction terms. Model (2) includes an interaction term for *Akan30* and *Intimidation*. Model (3) includes an interaction term for *Akan30* and *Careful*. Model (4) includes interaction terms for *Akan30* and *Intimidation*, as well as for *Akan30* and *Careful*. Table A38 in the appendix shows additional results from model (4), providing marginal effects of *Akan30* conditional on different combinations of the levels of *Intimidation* and *Careful*. All models include the following additional controls: indicators for major ethnic groups in Ghana (Akans, Ewe, Dagomba), gender, perception of the economy, poverty, local level of development and indicators for a central region and for urban and rural areas. The coefficients presented in the table are marginal effects with continuous variables held at means and binary variables held at median values. Standard errors obtained via bootstrap (500 bootstrap samples) and clustered by enumeration area in parentheses. *** p<0.01, ** p<0.05, * p<0.10.

Table A3: The impact of being surrounded by Akans in all, rural and urban areas, 30 km radius

	Vote for NPP		
	All	Rural	Urban
Akan30	−0.175	−0.436	3.092***
	(0.442)	(0.421)	(0.572)
Careful	−0.257**	−0.246**	−0.243
	(0.111)	(0.112)	(0.439)
Akan30 × Careful	0.378**	0.424**	−0.107
	(0.176)	(0.178)	(0.646)
Constant	−0.909**	−0.739*	−3.340***
	(0.383)	(0.403)	(0.636)
Observations	1,133	904	229

Robust standard errors clustered by enumeration area in parentheses. All the specifications include the following additional controls: indicators for major ethnic groups in Ghana (Akans, Ewe, Dagomba), gender, perception of the economy, poverty, local level of development and indicators for a central region and for urban and rural areas.
*** p<0.01, ** p<0.05, * p<0.10
Logit coefficients shown in the table.

Table A4: The impact of being surrounded by Akans in all, rural and urban areas, 30 km radius

	Vote for NPP		
	All	Rural	Urban
Akan30	−0.157	−0.309	1.293
	(0.387)	(0.393)	(1.067)
Political intimidation	−0.409***	−0.412***	−0.833
	(0.112)	(0.114)	(0.624)
Akan30 × Political intimidation	0.461**	0.417**	1.622*
	(0.192)	(0.196)	(0.922)
Constant	−0.827**	−0.640*	−2.625***
	(0.369)	(0.387)	(0.907)
Observations	1,141	912	229

Robust standard errors clustered by enumeration area in parentheses. All the specifications include the following additional controls: indicators for major ethnic groups in Ghana (Akans, Ewe, Dagomba), gender, perception of the economy, poverty, local level of development and indicators for a central region and for urban and rural areas.
*** p<0.01, ** p<0.05, * p<0.10
Logit coefficients shown in the table.

Table A5: The impact of being surrounded by Akans in all, rural and urban areas, 30 km radius

	Vote for NPP		
	All	Rural	Urban
Akan30	0.027	−0.265	2.905***
	(0.498)	(0.495)	(0.928)
Political intimidation	−0.158	−0.181	−0.276
	(0.157)	(0.158)	(1.082)
Careful	−0.057	−0.056	−0.112
	(0.145)	(0.146)	(0.631)
Careful × Political intimidation	−0.134*	−0.127*	−0.115
	(0.076)	(0.075)	(0.473)
Akan30 × Political intimidation	−0.312	−0.294	0.188
	(0.274)	(0.281)	(1.785)
Akan30 × Careful	−0.067	0.007	−0.515
	(0.225)	(0.227)	(0.828)
Akan30 × Careful × Political intimidation	0.432***	0.395***	0.579
	(0.136)	(0.136)	(0.851)
Constant	−0.823**	−0.623	−3.198***
	(0.406)	(0.425)	(0.775)
Observations	1,116	890	226

Robust standard errors clustered by enumeration area in parentheses. All the specifications include the following additional controls: indicators for major ethnic groups in Ghana (Akans, Ewe, Dagomba), gender, perception of the economy, poverty, local level of development and indicators for a central region and for urban and rural areas.
*** p<0.01, ** p<0.05, * p<0.10
Logit coefficients shown in the table.

Table A6: The impact of being surrounded by Akans in all, rural and urban areas, 30 km radius

	Vote for NPP		
	All	Rural	Urban
Akan30	0.575*	0.400	2.835*
	(0.331)	(0.317)	(1.462)
Factor	−0.843***	−0.851***	−0.966
	(0.206)	(0.211)	(0.963)
Akan30 × Factor	1.068***	1.098***	0.991
	(0.340)	(0.356)	(1.528)
Constant	−1.434***	−1.236***	−3.598***
	(0.344)	(0.363)	(0.943)
Observations	1,116	890	226

Robust standard errors clustered by enumeration area in parentheses. All the specifications include the following additional controls: indicators for major ethnic groups in Ghana (Akans, Ewe, Dagomba), gender, perception of the economy, poverty, local level of development and indicators for a central region and for urban and rural areas.
*** p<0.01, ** p<0.05, * p<0.10
Logit coefficients shown in the table.

Table A7: The impact of being surrounded by Akans in all, rural and urban areas, 5 km radius

	Vote for NPP		
	All	Rural	Urban
Akan5	−0.154	−0.365	1.822*
	(0.554)	(0.534)	(1.109)
Careful	−0.286**	−0.264*	−0.684
	(0.218)	(0.135)	(0.488)
Akan5 × Careful	0.434**	0.455**	0.676
	(0.218)	(0.221)	(0.720)
Constant	−0.926**	−0.764*	−2.517***
	(0.432)	(0.478)	(0.709)
Observations	1,133	904	229

Robust standard errors clustered by enumeration area in parentheses. All the specifications include the following additional controls: indicators for major ethnic groups in Ghana (Akans, Ewe, Dagomba), gender, perception of the economy, poverty, local level of development and indicators for a central region and for urban and rural areas.
*** p<0.01, ** p<0.05, * p<0.10
Logit coefficients shown in the table.

Table A8: The impact of being surrounded by Akans in all, rural and urban areas, 5 km radius

	Vote for NPP		
	All	Rural	Urban
Akan5	−0.114	−0.231	0.956
	(0.453)	(0.465)	(1.104)
Political intimidation	−0.425***	−0.418***	−0.851
	(0.124)	(0.128)	(0.533)
Akan5 × Political intimidation	0.502**	0.435*	1.706**
	(0.215)	(0.223)	(0.754)
Constant	−0.855**	−0.674	−2.376***
	(0.403)	(0.421)	(0.851)
Observations	1,141	912	229

Robust standard errors clustered by enumeration area in parentheses. All the specifications include the following additional controls: indicators for major ethnic groups in Ghana (Akans, Ewe, Dagomba), gender, perception of the economy, poverty, local level of development and indicators for a central region and for urban and rural areas.
*** p<0.01, ** p<0.05, * p<0.10
Logit coefficients shown in the table.

Table A9: The impact of being surrounded by Akans in all, rural and urban areas, 5 km radius

	Vote for NPP		
	All	Rural	Urban
Akan5	−0.007	−0.211	1.380
	(0.647)	(0.656)	(1.378)
Political intimidation	−0.164	−0.160	−0.515
	(0.184)	(0.187)	(0.806)
Careful	−0.084	−0.061	−0.718
	(0.175)	(0.177)	(0.664)
Careful × Political intimidation	−0.134	−0.138	0.115
	(0.088)	(0.087)	(0.386)
Akan5 × Political intimidation	−0.314	−0.350	0.804
	(0.335)	(0.348)	(1.405)
Akan5 × Careful	−0.018	0.011	0.536
	(0.279)	(0.283)	(0.910)
Akan5 × Careful × Political intimidation	0.444***	0.428***	0.147
	(0.161)	(0.161)	(0.757)
Constant	−0.819*	−0.647	−2.302***
	(0.475)	(0.495)	(0.819)
Observations	1,116	890	226

Robust standard errors clustered by enumeration area in parentheses. All the specifications include the following additional controls: indicators for major ethnic groups in Ghana (Akans, Ewe, Dagomba), gender, perception of the economy, poverty, local level of development and indicators for a central region and for urban and rural areas.
*** p<0.01, ** p<0.05, * p<0.10
Logit coefficients shown in the table.

Table A10: The impact of being surrounded by Akans in all, rural and urban areas, 5 km radius

	Vote for NPP		
	All	Rural	Urban
Akan5	0.660*	0.467	3.029**
	(0.380)	(0.365)	(1.495)
Factor	−0.917***	−0.908***	−1.574
	(0.230)	(0.238)	(1.044)
Akan5 × Factor	1.226***	1.210***	2.165
	(0.390)	(0.416)	(1.591)
Constant	−1.485***	−1.273***	−3.600***
	(0.353)	(0.368)	(0.997)
Observations	1,116	890	226

Robust standard errors clustered by enumeration area in parentheses. All the specifications include the following additional controls: indicators for major ethnic groups in Ghana (Akans, Ewe, Dagomba), gender, perception of the economy, poverty, local level of development and indicators for a central region and for urban and rural areas.
*** p<0.01, ** p<0.05, * p<0.10
Logit coefficients shown in the table.

Table A11: The impact of being surrounded by Akans for non-Akan and Akan respondents

	Non-Akan		Akan	
Akan30	−0.783		0.399	
	(0.733)		(0.874)	
Akan5		−1.061		1.152
		(0.845)		(1.018)
Careful	−0.253**	−0.305**	−0.540**	−0.442
	(0.118)	(0.145)	(0.267)	(0.314)
Akan30 × Careful	0.563*		0.695*	
	(0.298)		(0.371)	
Akan5 × Careful		0.646*		0.606
		(0.340)		(0.458)
Constant	−0.633	−0.491	−0.694	−1.214
	(0.500)	(0.565)	(0.769)	(0.834)
Observations	601	601	532	532

Robust standard errors clustered by enumeration area in parentheses. All the specifications include the following additional controls: indicators for major ethnic groups in Ghana (Ewe, Dagomba), gender, perception of the economy, poverty, local level of development and indicators for a central region and for urban and rural areas.
*** p<0.01, ** p<0.05, * p<0.10
Logit coefficients shown in the table.

Table A12: The impact of being surrounded by Akans for non-Akan and Akan respondents

	Non-Akan		Akan	
Akan30	−0.542		1.266	
	(0.499)		(0.868)	
Akan5		−0.732		2.098***
		(0.530)		(0.773)
Political intimidation	−0.460***	−0.486***	−0.161	−0.066
	(0.123)	(0.137)	(0.428)	(0.342)
Akan30 × Political intimidation	0.678**		0.102	
	(0.321)		(0.559)	
Akan5 × Political intimidation		0.645**		−0.002
		(0.329)		(0.478)
Constant	−0.468	−0.367	−1.300*	−1.858***
	(0.469)	(0.504)	(0.770)	(0.681)
Observations	609	609	532	532

Robust standard errors clustered by enumeration area in parentheses. All the specifications include the following additional controls: indicators for major ethnic groups in Ghana (Ewe, Dagomba), gender, perception of the economy, poverty, local level of development and indicators for a central region and for urban and rural areas.

*** p<0.01, ** p<0.05, * p<0.10

Logit coefficients shown in the table.

Table A13: The impact of being surrounded by Akans for non-Akan and Akan respondents

	Non-Akan		Akan	
Akan30	−0.571		1.371	
	(0.778)		(1.041)	
Akan5		−0.985		2.088*
		(0.928)		(1.223)
Careful	−0.054	−0.106	−0.260	−0.307
	(0.155)	(0.190)	(0.417)	(0.465)
Political intimidation	−0.207	−0.240	1.067	0.798
	(0.163)	(0.195)	(0.929)	(0.880)
Akan30 × Careful	0.090		0.124	
	(0.352)		(0.552)	
Akan5 × Careful		0.216		0.170
		(0.405)		(0.658)
Akan30 × Political intimidation	−0.636		−1.897	
	(0.626)		(1.210)	
Akan5 × Political intimidation		−0.438		−1.684
		(0.582)		(1.251)
Careful × Political intimidation	−0.129	−0.120	−0.479	−0.316
	(0.080)	(0.092)	(0.415)	(0.404)
Akan30 × Careful × Political intimidation	0.579**		0.889*	
	(0.256)		(0.538)	
Akan5 × Careful × Political intimidation		0.473*		0.767
		(0.241)		(0.584)
Constant	−0.445	−0.261	−1.212	−1.646*
	(0.509)	(0.601)	(0.887)	(0.962)
Observations	593	593	523	523

Robust standard errors clustered by enumeration area in parentheses. All the specifications include the following additional controls: indicators for major ethnic groups in Ghana (Ewe, Dagomba), gender, perception of the economy, poverty, local level of development and indicators for a central region and for urban and rural areas.
*** p<0.01, ** p<0.05, * p<0.10
Logit coefficients shown in the table.

Table A14: The impact of being surrounded by Akans for non-Akan and Akan respondents

	Non-Akan		Akan	
Akan30	0.447		1.596**	
	(0.397)		(0.660)	
Akan5		0.246		2.178***
		(0.442)		(0.656)
Factor	−0.931***	−1.051***	−0.771	−0.572
	(0.228)	(0.262)	(0.596)	(0.593)
Akan30 × Factor	1.616***		0.859	
	(0.586)		(0.803)	
Akan5 × Factor		1.741***		0.676
		(0.628)		(0.850)
Constant	−1.160**	−1.096**	−1.664***	−1.999***
	(0.471)	(0.475)	(0.610)	(0.586)
Observations	593	593	523	523

Robust standard errors clustered by enumeration area in parentheses. All the specifications include the following additional controls: indicators for major ethnic groups in Ghana (Ewe, Dagomba), gender, perception of the economy, poverty, local level of development and indicators for a central region and for urban and rural areas.
*** p<0.01, ** p<0.05, * p<0.10
Logit coefficients shown in the table.

Table A15: The impact of roads and being surrounded by Akans on the intention to vote for the NPP, 30 and 5 km radius

	Vote for NPP			
	(1)	(2)	(3)	(4)
Akan30	0.335		−0.213	
	(0.358)		(0.490)	
Akan5		0.604		−0.038
		(0.377)		(0.612)
Road	0.057	0.214	0.091	0.255
	(0.327)	(0.360)	(0.352)	(0.393)
Careful			−0.254**	−0.275**
			(0.111)	(0.135)
Akan30 × Road	0.070		0.066	
	(0.503)		(0.528)	
Akan5 × Road		−0.259		−0.282
		(0.571)		(0.615)
Akan30 × Careful			0.378**	
			(0.177)	
Akan5 × Careful				0.421*
				(0.221)
Constant	−1.300***	−1.429***	−0.964**	−1.051**
	(0.355)	(0.355)	(0.411)	(0.456)
Observations	1,172	1,172	1,133	1,133

Robust standard errors clustered by enumeration area in parentheses.
All the specifications include the following additional controls: indicators for major ethnic groups in Ghana (Akans, Ewe, Dagomba), gender, perception of the economy, poverty, local level of development and indicators for a central region and for urban and rural areas.
*** p<0.01, ** p<0.05, * p<0.10
Logit coefficients shown in the table.

Table A16: The impact of roads and being surrounded by Akans on the intention to vote for the NPP, 30 and 5 km radius

	Vote for NPP			
	(1)	(2)	(3)	(4)
Akan30	0.335		−0.221	
	(0.358)		(0.414)	
Akan5		0.604		−0.058
		(0.377)		(0.468)
Road	0.057	0.214	−0.016	0.122
	(0.327)	(0.360)	(0.319)	(0.347)
Political intimidation			−0.410***	−0.422***
			(0.112)	(0.122)
Akan30 × Road	0.070		0.144	
	(0.503)		(0.482)	
Akan5 × Road		−0.259		−0.148
		(0.571)		(0.545)
Akan30 × Political intimidation			0.463**	
			(0.193)	
Akan5 × Political intimidation				0.497**
				(0.214)
Constant	−1.300***	−1.429***	−0.827**	−0.908**
	(0.355)	(0.355)	(0.383)	(0.410)
Observations	1,172	1,172	1,141	1,141

Robust standard errors clustered by enumeration area in parentheses. All the specifications include the following additional controls: indicators for major ethnic groups in Ghana (Akans, Ewe, Dagomba), gender, perception of the economy, poverty, local level of development and indicators for a central region and for urban and rural areas.

*** p<0.01, ** p<0.05, * p<0.10

Logit coefficients shown in the table.

Table A17: The impact of roads and being surrounded by Akans on the intention to vote for the NPP, 30 and 5 km radius

	Vote for NPP			
	(1)	(2)	(3)	(4)
Akan30	0.335		0.002	
	(0.358)		(0.535)	
Akan5		0.604		0.120
		(0.377)		(0.693)
Road	0.057	0.214	0.085	0.246
	(0.327)	(0.360)	(0.340)	(0.375)
Political intimidation			−0.159	−0.168
			(0.157)	(0.184)
Careful			−0.055	−0.078
			(0.145)	(0.175)
Akan30 × Road	0.070		0.040	
	(0.503)		(0.504)	
Akan5 × Road		−0.259		−0.305
		(0.571)		(0.580)
Careful × Political intimidation			−0.134*	−0.130
			(0.076)	(0.088)
Akan30 × Political intimidation			−0.311	
			(0.272)	
Akan30 × Careful			−0.066	
			(0.225)	
Akan30 × Careful × Political intimidation			0.431***	
			(0.136)	
Akan5 × Political intimidation				−0.311
				(0.335)
Akan5 × Careful				−0.026
				(0.281)
Akan5 × Careful × Political intimidation				0.439***
				(0.162)
Constant	−1.300***	−1.429***	−0.873**	−0.936*
	(0.355)	(0.355)	(0.427)	(0.495)
Observations	1,172	1,172	1,116	1,116

Robust standard errors clustered by enumeration area in parentheses. All the specifications include the following additional controls: indicators for major ethnic groups in Ghana (Akans, Ewe, Dagomba), gender, perception of the economy, poverty, local level of development and indicators for a central region and for urban and rural areas.
*** p<0.01, ** p<0.05, * p<0.10
Logit coefficients shown in the table.

Table A18: The impact of roads and being surrounded by Akans on the intention to vote for the NPP, 30 and 5 km radius

	Vote for NPP			
	(1)	(2)	(3)	(4)
Akan30	0.441		0.551	
	(0.370)		(0.369)	
Akan5		0.728		0.751*
		(0.403)		(0.420)
Road	0.175	0.346	0.080	0.223
	(0.348)	(0.384)	(0.342)	(0.389)
Factor			−0.837***	−0.899***
			(0.340)	(0.228)
Akan30 × Road	−0.074		0.042	
	(0.523)		(0.510)	
Akan5 × Road		−0.430		−0.264
		(0.598)		(0.586)
Akan30 × Factor			1.065***	
			(0.340)	
Akan5 × Factor				1.203***
				(0.389)
Constant	−1.375***	−1.520***	−1.476***	−1.576***
	(0.379)	(0.383)	(0.366)	(0.371)
Observations	1,116	1,116	1,116	1,116

Robust standard errors clustered by enumeration area in parentheses. All the specifications include the following additional controls: indicators for major ethnic groups in Ghana (Akans, Ewe, Dagomba), gender, perception of the economy, poverty, local level of development and indicators for a central region and for urban and rural areas.
*** p<0.01, ** p<0.05, * p<0.10
Logit coefficients shown in the table.

Table A19: The impact of schools and being surrounded by Akans on the intention to vote for the NPP, 30 and 5 km radius

	Vote for NPP			
	(1)	(2)	(3)	(4)
Akan30	0.106		−0.639	
	(0.677)		(0.696)	
Akan5		0.577		−0.361
		(0.694)		(0.748)
School	−0.123	−0.023	−0.339	−0.263
	(0.284)	(0.322)	(0.299)	(0.333)
Akan30 × School	0.293		0.506	
	(0.692)		(0.659)	
Careful			−0.261**	−0.290**
			(0.108)	(0.131)
Akan5 × School		−0.062		0.235
		(0.720)		(0.694)
Akan30 × Careful			0.382**	
			(0.173)	
Akan5 × Careful				0.436**
				(0.215)
Constant	−1.155***	−1.324***	−0.600	−0.691
	(0.399)	(0.442)	(0.414)	(0.454)
Observations	1,172	1,172	1,133	1,133

Robust standard errors clustered by enumeration area in parentheses.
All the specifications include the following additional controls: indicators for major ethnic groups in Ghana (Akans, Ewe, Dagomba), gender, perception of the economy, poverty, local level of development and indicators for a central region and for urban and rural areas.
*** p<0.01, ** p<0.05, * p<0.10
Logit coefficients shown in the table.

Table A20: The impact of schools and being surrounded by Akans on the intention to vote for the NPP, 30 and 5 km radius

	Vote for NPP			
	(1)	(2)	(3)	(4)
Akan30	0.106		−0.562	
	(0.677)		(0.757)	
Akan5		0.577		−0.265
		(0.694)		(0.776)
School	−0.123	−0.023	−0.248	−0.156
	(0.284)	(0.322)	(0.303)	(0.340)
Political intimidation			−0.417***	−0.430***
			(0.113)	(0.125)
Akan30 × School	0.293		0.432	
	(0.692)		(0.715)	
Akan5 × School		−0.062		0.163
		(0.720)		(0.727)
Akan30 × Political intimidation			0.474**	
			(0.195)	
Akan5 × Political intimidation				0.509**
				(0.218)
Constant	−1.155***	−1.324***	−0.593	−0.713
	(0.399)	(0.442)	(0.455)	(0.513)
Observations	1,172	1,172	1,141	1,141

Robust standard errors clustered by enumeration area in parentheses. All the specifications include the following additional controls: indicators for major ethnic groups in Ghana (Akans, Ewe, Dagomba), gender, perception of the economy, poverty, local level of development and indicators for a central region and for urban and rural areas.

*** p<0.01, ** p<0.05, * p<0.10

Logit coefficients shown in the table.

Table A21: The impact of schools and being surrounded by Akans on the intention to vote for the NPP, 30 and 5 km radius

	Vote for NPP			
	(1)	(2)	(3)	(4)
Akan30	0.106		−0.598	
	(0.677)		(0.799)	
Akan5		0.577		−0.460
		(0.694)		(0.895)
School	−0.123	−0.023	−0.392	−0.334
	(0.284)	(0.322)	(0.327)	(0.360)
Political intimidation			−0.195	−0.200
			(0.168)	(0.194)
Careful			−0.070	−0.099
			(0.143)	(0.173)
Careful × Political intimidation			−0.122	−0.121
			(0.078)	(0.089)
Akan30 × School	0.293		0.640	
	(0.692)		(0.705)	
Akan5 × School		−0.062		0.450
		(0.720)		(0.739)
Akan30 × Political intimidation			−0.262	
			(0.286)	
Akan5 × Political intimidation				−0.260
				(0.346)
Akan30 × Careful			−0.051	
			(0.224)	
Akan5 × Careful				0.002
				(0.277)
Akan30 × Careful × Political intimidation			0.417***	
			(0.140)	
Akan5 × Careful × Political intimidation				0.425***
				(0.164)
Constant	−1.155***	−1.324***	−0.438	−0.492
	(0.399)	(0.442)	(0.501)	(0.577)
Observations	1,172	1,172	1,116	1,116

Robust standard errors clustered by enumeration area in parentheses. All the specifications include the following additional controls: indicators for major ethnic groups in Ghana (Akans, Ewe, Dagomba), gender, perception of the economy, poverty, local level of development and indicators for a central region and for urban and rural areas.
*** p<0.01, ** p<0.05, * p<0.10
Logit coefficients shown in the table.

Table A22: The impact of schools and being surrounded by Akans on the intention to vote for the NPP, 30 and 5 km radius

	Vote for NPP			
	(1)	(2)	(3)	(4)
Akan30	0.097		0.086	
	(0.678)		(0.650)	
Akan5		0.434		0.345
		(0.683)		(0.656)
School	−0.251	−0.204	−0.416	−0.358
	(0.321)	(0.353)	(0.325)	(0.354)
Factor			−0.871***	−0.941***
			(0.210)	(0.233)
Akan30 × School	0.357		0.547	
	(0.686)		(0.682)	
Akan5 × School		0.166		0.361
		(0.714)		(0.699)
Akan30 × Factor			1.105***	
			(0.345)	
Akan5 × Factor				1.256***
				(0.395)
Constant	−1.066**	−1.198***	−1.067***	−1.176***
	(0.418)	(0.453)	(0.405)	(0.437)
Observations	1,116	1,116	1,116	1,116

Robust standard errors clustered by enumeration area in parentheses.
All the specifications include the following additional controls: indicators for major ethnic groups in Ghana (Akans, Ewe, Dagomba), gender, perception of the economy, poverty, local level of development and indicators for a central region and for urban and rural areas.
*** p<0.01, ** p<0.05, * p<0.10
Logit coefficients shown in the table.

Table A23: The impact of health clinics and being surrounded by Akans on the intention to vote for the NPP, 30 and 5 km radius

	Vote for NPP			
	(1)	(2)	(3)	(4)
Akan30	0.261		−0.470	
	(0.428)		(0.499)	
Akan5		0.725		0.180
		(0.462)		(0.620)
Health clinic	−0.116	0.092	−0.224	−0.040
	(0.292)	(0.294)	(0.307)	(0.321)
Careful			−0.291***	−0.327**
			(0.110)	(0.134)
Akan30 × Health clinic	0.374		0.604	
	(0.442)		(0.454)	
Akan5 × Health clinic		−0.028		0.243
		(0.463)		(0.494)
Akan30 × Careful			0.418**	
			(0.176)	
Akan5 × Careful				0.485**
				(0.219)
Constant	−1.348***	−1.579***	−0.904**	−1.043**
	(0.405)	(0.417)	(0.430)	(0.483)
Observations	1,140	1,140	1,101	1,101

Robust standard errors clustered by enumeration area in parentheses. All the specifications include the following additional controls: indicators for major ethnic groups in Ghana (Akans, Ewe, Dagomba), gender, perception of the economy, poverty, local level of development and indicators for a central region and for urban and rural areas.
*** p<0.01, ** p<0.05, * p<0.10
Logit coefficients shown in the table.

Table A24: The impact of health clinics and being surrounded by Akans on the intention to vote for the NPP, 30 and 5 km radius

	Vote for NPP			
	(1)	(2)	(3)	(4)
Akan30	0.261		−0.218	
	(0.428)		(0.470)	
Akan5		0.725		0.162
		(0.462)		(0.536)
Health clinic	−0.116	0.092	−0.066	0.129
	(0.292)	(0.294)	(0.292)	(0.306)
Political intimidation			−0.377***	−0.377***
			(0.109)	(0.119)
Akan30 × Health clinic	0.374		0.352	
	(0.442)		(0.437)	
Akan5 × Health clinic		−0.028		−0.024
		(0.463)		(0.472)
Akan30 × Political intimidation			0.409**	
			(0.189)	
Akan5 × Political intimidation				0.419**
				(0.207)
Constant	−1.348***	−1.579***	−0.957**	−1.150**
	(0.405)	(0.417)	(0.432)	(0.476)
Observations	1,140	1,140	1,109	1,109

Robust standard errors clustered by enumeration area in parentheses. All the specifications include the following additional controls: indicators for major ethnic groups in Ghana (Akans, Ewe, Dagomba), gender, perception of the economy, poverty, local level of development and indicators for a central region and for urban and rural areas.

*** p<0.01, ** p<0.05, * p<0.10

Logit coefficients shown in the table.

Table A25: The impact of health clinics and being surrounded by Akans on the intention to vote for the NPP, 30 and 5 km radius

	Vote for NPP			
	(1)	(2)	(3)	(4)
Akan30	0.261		−0.207	
	(0.428)		(0.565)	
Akan5		0.725		0.054
		(0.462)		(0.735)
Health clinic	−0.116	0.092	−0.140	0.049
	(0.292)	(0.294)	(0.306)	(0.333)
Careful			−0.112	−0.154
			(0.144)	(0.174)
Political intimidation			−0.148	−0.142
			(0.159)	(0.187)
Careful × Political intimidation			−0.116	−0.111
			(0.076)	(0.087)
Akan30 × Health clinic	0.374		0.508	
	(0.442)		(0.452)	
Akan5 × Health clinic		−0.028		0.143
		(0.463)		(0.505)
Akan30 × Political intimidation			−0.322	
			(0.274)	
Akan5 × Political intimidation				−0.350
				(0.338)
Akan30 × Careful			0.002	
			(0.224)	
Akan5 × Careful				0.074
				(0.278)
Akan30 × Careful × Political intimidation			0.403***	
			(0.136)	
Akan5 × Careful × Political intimidation				0.408**
				(0.160)
Constant	−1.348***	−1.579***	−0.864*	−0.999*
	(0.405)	(0.417)	(0.459)	(0.546)
Observations	1,140	1,140	1,084	1,084

Robust standard errors clustered by enumeration area in parentheses. All the specifications include the following additional controls: indicators for major ethnic groups in Ghana (Akans, Ewe, Dagomba), gender, perception of the economy, poverty, local level of development and indicators for a central region and for urban and rural areas.
*** p<0.01, ** p<0.05, * p<0.10
Logit coefficients shown in the table.

Table A26: The impact of health clinics and being surrounded by Akans on the intention to vote for the NPP, 30 and 5 km radius

	Vote for NPP			
	(1)	(2)	(3)	(4)
Akan30	0.211		0.363	
	(0.425)		(0.406)	
Akan5		0.675		0.726
		(0.473)		(0.475)
Health clinic	−0.156	0.041	−0.163	0.014
	(0.308)	(0.323)	(0.306)	(0.332)
Factor			−0.836***	−0.892***
			(0.211)	(0.237)
Akan30 × Health clinic	0.551		0.540	
	(0.456)		(0.451)	
Akan5 × Health clinic		0.174		0.197
		(0.495)		(0.504)
Akan30 × Factor			1.035***	
			(0.348)	
Akan5 × Factor				1.160***
				(0.399)
Constant	−1.372***	−1.604***	−1.502***	−1.682***
	(0.417)	(0.437)	(0.396)	(0.416)
Observations	1,084	1,084	1,084	1,084

Robust standard errors clustered by enumeration area in parentheses. All the specifications include the following additional controls: indicators for major ethnic groups in Ghana (Akans, Ewe, Dagomba), gender, perception of the economy, poverty, local level of development and indicators for a central region and for urban and rural areas.
*** p<0.01, ** p<0.05, * p<0.10
Logit coefficients shown in the table.

Table A27: The impact of neighborhood composition on local public goods provision, 30 and 5 km radius

	Road		School		Health clinic	
	(1)	(2)	(3)	(4)	(5)	(6)
NPP vote	1.477	1.467	−0.993	−0.785	−0.181	−0.070
	(1.036)	(1.023)	(1.851)	(1.765)	(1.112)	(1.116)
Akan30	−0.599		−3.015		−1.386	
	(1.197)		(1.785)		(1.340)	
Akan5		0.322		−0.121		−1.280
		(1.115)		(1.975)		(1.214)
Constant	−0.178	−0.508	2.738	0.899	0.300	0.206
	(1.729)	(1.709)	(2.475)	(2.465)	(1.613)	(1.606)
Observations	143	143	120	120	139	139

Robust standard errors in parentheses. All the specifications include the following additional controls: indicators for major ethnic groups in Ghana (Akans, Ewe, Dagomba), perception of the economy, poverty, local level of development and indicators for a central region and for urban and rural areas.
*** p<0.01, ** p<0.05, * p<0.10
Data collapsed to the means by enumeration area.
Logit coefficients shown in the table.

Table A28: The impact of neighborhood composition on local public goods provision (DHS Data), 30 and 5 km radius

	Delivery in a hospital		Antenatal care in a hospital	
	(1)	(2)	(3)	(4)
NPP vote	0.679	0.649	−0.248	−0.182
	(1.843)	(1.778)	(1.672)	(1.624)
Akan30	0.376		−0.445	
	(1.985)		(1.458)	
Akan5		1.588		−0.070
		(1.878)		(1.535)
Constant	−6.028	−5.783	5.116	5.112
	(4.743)	(4.829)	(3.535)	(3.495)
Observations	55	55	66	66

Robust standard errors in parentheses. All the specifications include the following additional controls: indicators for major ethnic groups in Ghana (Akans, Ewe, Dagomba), gender, perception of the economy, poverty, local level of development and indicators for a central region and for urban and rural areas.
*** p<0.01, ** p<0.05, * p<0.10
Data collapsed to the means by enumeration area.
Logit coefficients shown in the table.

Table A29: The impact of neighborhood composition on the dynamics of local public goods provision

	Road	School	Health clinic
	(1)	(2)	(3)
Vote for NPP	−0.814	−1.782	−1.814
	(1.287)	(3.438)	(1.357)
Akan30	0.336	−7.716*	−3.180**
	(1.307)	(4.005)	(1.491)
Constant	−0.486	13.219*	1.057
	(2.066)	(5.424)	(1.979)
Observations	107	79	107

The dependent variable takes a value of 1 if a local public good was present in the enumeration area in either 2008 or both 2005 and 2008; it takes a value of 0 if a local public good was present in the enumeration area neither in 2005 nor 2008.
Robust standard errors in parentheses. All the specifications include the following additional controls: indicators for major ethnic groups in Ghana (Akans, Ewe, Dagomba), gender, perception of the economy, poverty, local level of development and indicators for a central region and for urban and rural areas.
*** p<0.01, ** p<0.05, * p<0.10
Data collapsed to the means by enumeration area.
Logit coefficients shown in the table.

Table A30: The impact of neighborhood composition on the dynamics of local public goods provision: Results using different distances to match enumeration areas

	Road	Health clinic
	(1)	(2)
	Enumeration areas 5 km apart	
Akan30	5.783*	−5.278
	(3.293)	(4.102)
Observations	33	35
	Enumeration areas 10 km apart	
Akan30	1.132	−5.316
	(1.900)	(2.465)
Observations	49	53
	Enumeration areas 15 km apart	
Akan30	0.799	−2.192
	(1.888)	(1.719)
Observations	64	70

The dependent variable takes a value of 1 if a local public good was present in the enumeration area in either 2008 or both 2005 and 2008; it takes a value of 0 if a local public good was present in the enumeration area neither in 2005 nor 2008. All the specifications include the following additional controls: indicators for major ethnic groups in Ghana (Akans, Ewe, Dagomba), gender, perception of the economy, poverty, local level of development and indicators for a central region and for urban and rural areas.
Robust standard errors in parentheses.
*** p<0.01, ** p<0.05, * p<0.10
Data collapsed to the means by enumeration area.
Logit coefficients shown in the table.

Table A31: The impact of proxies for expectations of local public goods provision and being surrounded by Akans on the intention to vote for the NPP

	Vote for NPP					
	(1)	(2)	(3)	(4)	(5)	(6)
Akan30	0.662	0.057	0.405	−0.082	0.484	−0.433
	(0.451)	(0.534)	(0.406)	(0.519)	(0.716)	(0.944)
Can make councilor listen	0.091	0.079				
	(0.079)	(0.080)				
Akan30 × Can make councilor listen	−0.130	−0.110				
	(0.128)	(0.130)				
Careful		−0.262**		−0.260**		−0.222**
		(0.110)		(0.110)		(0.112)
Akan30 × careful		0.387**		0.380**		0.347*
		(0.174)		(0.175)		(0.176)
MP listen			0.056	0.074		
			(0.061)	(0.062)		
Akan30 × MP listen			−0.013	−0.043		
			(0.103)	(0.105)		
Presidential Approval					0.329***	0.339**
					(0.121)	(0.143)
Akan30 × Presidential Approval					−0.086	0.033
					(0.217)	(0.267)
Constant	−1.486***	−1.089***	−1.389***	−1.070**	−2.220***	−1.889***
	(0.401)	(0.435)	(0.374)	(0.422)	(0.435)	(0.507)
Observations	1172	1133	1172	1133	1172	1133

Robust standard errors clustered by enumeration area in parentheses. All the specifications include the following additional controls: indicators for major ethnic groups in Ghana (Akans, Ewe, Dagomba), gender, perception of the economy, poverty, local level of development and indicators for a central region and for urban and rural areas.
*** p<0.01, ** p<0.05, * p<0.10
Logit coefficients shown in the table.

Table A32: The impact of proxies for expectations of local public goods provision and being surrounded by Akans on the intention to vote for the NPP

	Vote for NPP					
	(1)	(2)	(3)	(4)	(5)	(6)
Akan30	0.662	0.122	0.405	−0.172	0.484	−0.133
	(0.451)	(0.478)	(0.406)	(0.458)	(0.716)	(0.773)
Can make councilor listen	0.091	0.087				
	(0.079)	(0.085)				
Akan30 × Can make councilor listen	−0.130	−0.129				
	(0.128)	(0.136)				
Political intimidation		−0.416***		−0.406***		−0.356***
		(0.114)		(0.113)		(0.111)
Akan30 × Political intimidation		0.474**		0.451**		0.418**
		(0.196)		(0.193)		(0.191)
MP listen			0.056	0.036		
			(0.061)	(0.066)		
Akan30 × MP listen			−0.013	0.013		
			(0.103)	(0.111)		
Presidential Approval					0.329***	0.317**
					(0.121)	(0.124)
Akan30 × Presidential Approval					−0.086	−0.041
					(0.217)	(0.221)
Constant	−1.486***	−1.029**	−1.389***	−0.910**	−2.220***	−1.783***
	(0.401)	(0.416)	(0.374)	(0.408)	(0.435)	(0.480)
Observations	1172	1141	1172	1141	1172	1141

Robust standard errors clustered by enumeration area in parentheses. All the specifications include the following additional controls: indicators for major ethnic groups in Ghana (Akans, Ewe, Dagomba), gender, perception of the economy, poverty, local level of development and indicators for a central region and for urban and rural areas.
*** p<0.01, ** p<0.05, * p<0.10
Logit coefficients shown in the table.

Table A33: The impact of proxies for expectations of local public goods provision and being surrounded by Akans on the intention to vote for the NPP

	Vote for NPP					
	(1)	(2)	(3)	(4)	(5)	(6)
Akan30	0.662	0.263	0.405	0.084	0.484	−0.421
	(0.451)	(0.576)	(0.406)	(0.568)	(0.716)	(0.956)
Can make councilor listen	0.091	0.078				
	(0.079)	(0.084)				
Akan30 × Can make councilor listen	−0.130	−0.117				
	(0.128)	(0.133)				
Political intimidation		−0.166		−0.161		−0.104
		(0.158)		(0.160)		(0.153)
Akan30 × Political intimidation		−0.299		−0.307		−0.383
		(0.274)		(0.275)		(0.263)
Careful		−0.063		−0.061		−0.027
		(0.143)		(0.142)		(0.146)
Akan30 × Careful		−0.056		−0.065		−0.109
		(0.222)		(0.220)		(0.221)
Careful × Political intimidation		−0.133*		−0.132*		−0.144*
		(0.076)		(0.076)		(0.079)
Akan30 × Careful × Political intimidation		0.430***		0.427***		0.462***
		(0.136)		(0.135)		(0.138)
MP listen			0.056	0.059		
			(0.061)	(0.061)		
Akan30 × MP listen			−0.013	−0.022		
			(0.103)	(0.103)		
Presidential approval					0.329***	0.293**
					(0.121)	(0.133)
Akan30 × Presidential approval					−0.086	0.110
					(0.217)	(0.260)
Constant	−1.486***	−0.995**	−1.389***	−0.953**	−2.220***	−1.715***
	(0.401)	(0.451)	(0.374)	(0.444)	(0.435)	(0.523)
Observations	1172	1116	1172	1116	1172	1116

Robust standard errors clustered by enumeration area in parentheses. All the specifications include the following additional controls: indicators for major ethnic groups in Ghana (Akans, Ewe, Dagomba), gender, perception of the economy, poverty, local level of development and indicators for a central region and for urban and rural areas.
*** p<0.01, ** p<0.05, * p<0.10
Logit coefficients shown in the table.

Table A34: The impact of proxies for expectations of local public goods provision and being surrounded by Akans on the intention to vote for the NPP

	Vote for NPP					
	(1)	(2)	(3)	(4)	(5)	(6)
Akan30	0.613	0.852	0.472	0.655	0.216	0.174
	(0.444)	(0.447)	(0.406)	(0.402)	(0.849)	(0.838)
Can make councilor listen	0.057	0.082				
	(0.078)	(0.082)				
Akan30 × Can make councilor listen	−0.084	−0.121				
	(0.127)	(0.133)				
Factor Analysis		−0.857***		−0.844***		−0.748***
		(0.208)		(0.205)		(0.215)
Akan30 × Factor		1.095***		1.060***		0.995***
		(0.342)		(0.339)		(0.351)
MP listen			0.060	0.067		
			(0.061)	(0.063)		
Akan30 × MP listen			−0.021	−0.035		
			(0.105)	(0.107)		
Presidential Approval					0.354**	0.307**
					(0.141)	(0.137)
Akan30 × Presidential Approval					0.004	0.064
					(0.261)	(0.257)
Constant	−1.429***	−1.630***	−1.426***	−1.586***	−2.270***	−2.263***
	(0.415)	(0.404)	(0.389)	(0.373)	(0.471)	(0.464)
Observations	1116	1116	1116	1116	1116	1116

Robust standard errors clustered by enumeration area in parentheses.All the specifications include the following additional controls: indicators for major ethnic groups in Ghana (Akans, Ewe, Dagomba), gender, perception of the economy, poverty, local level of development and indicators for a central region and for urban and rural areas.
*** p<0.01, ** p<0.05, * p<0.10
Logit coefficients shown in the table.

Table A35: The impact of neighborhood composition on proxies for the expectations of local public goods provision

	Can make councilor listen	Can make MP listen	Presidential Approval
	(1)	(2)	(3)
Vote for NPP	0.391	0.472*	0.703***
	(0.228)	(0.246)	(0.142)
Akan30	0.072	0.169	0.170
	(0.218)	(0.251)	(0.242)
Constant	4.792***	4.663***	3.820***
	(0.305)	(0.358)	(0.251)
R^2	0.216	0.223	0.547
Observations	143	143	143

Robust standard errors in parentheses. All the specifications include the following additional controls: indicators for major ethnic groups in Ghana (Akans, Ewe, Dagomba), gender, perception of the economy, poverty, local level of development and indicators for a central region and for urban and rural areas.
*** p<0.01, ** p<0.05, * p<0.10
Data collapsed to the means by enumeration area.

Table A36: The impact of being surrounded by Akans (30 km radius) by different levels of intimidation

	Vote for NPP			
	(1)	(2)	(3)	(4)
Akan30	−0.045	−0.490	−0.118	−0.092
	(0.409)	(0.768)	(0.431)	(0.485)
Intimidation=1	−0.339	−0.353	−0.334	−0.286
	(0.292)	(0.294)	(0.291)	(0.295)
Intimidation=2	−0.579	−0.587	−0.581	−0.490
	(0.368)	(0.370)	(0.367)	(0.359)
Intimidation=3	−1.358***	−1.390***	−1.360***	−1.270***
	(0.373)	(0.373)	(0.375)	(0.367)
Intimidation=1 × Akan30	0.044	0.063	0.029	−0.078
	(0.494)	(0.496)	(0.498)	(0.497)
Intimidation=2 × Akan30	0.606	0.624	0.609	0.474
	(0.648)	(0.654)	(0.647)	(0.640)
Intimidation=3 × Akan30	1.615*	1.665*	1.623*	1.472*
	(0.646)	(0.650)	(0.647)	(0.638)
School		−0.269		
		(0.309)		
School × Akan30		0.475		
		(0.708)		
Road			−0.019	
			(0.320)	
Road × Akan30			0.169	
			(0.486)	
Health clinic				−0.085
				(0.288)
Health clinic × Akan30				0.359
				(0.435)
Constant	−0.855*	−0.602	−0.857*	−0.982*
	(0.377)	(0.473)	(0.391)	(0.434)
Observations	1141	1141	1141	1109

Robust standard errors in parentheses. All the specifications include the following additional controls: indicators for major ethnic groups in Ghana (Akans, Ewe, Dagomba), gender, perception of the economy, poverty, local level of development and indicators for a central region and for urban and rural areas.
*** p<0.01, ** p<0.05, * p<0.10
Logit coefficients shown in the table.

Table A37: The impact of being surrounded by Akans (5 km radius) by different levels of intimidation

	Vote for NPP			
	(1)	(2)	(3)	(4)
Akan5	−0.001	−0.231	0.037	0.289
	(0.475)	(0.800)	(0.488)	(0.557)
Intimidation=1	−0.363	−0.376	−0.357	−0.308
	(0.323)	(0.325)	(0.324)	(0.330)
Intimidation=2	−0.587	−0.591	−0.582	−0.466
	(0.401)	(0.401)	(0.399)	(0.387)
Intimidation=3	−1.428***	−1.449***	−1.419***	−1.292**
	(0.408)	(0.407)	(0.404)	(0.395)
Intimidation=1 × Akan5	0.092	0.109	0.078	−0.050
	(0.547)	(0.550)	(0.555)	(0.555)
Intimidation=2 × Akan5	0.622	0.629	0.611	0.415
	(0.713)	(0.716)	(0.710)	(0.699)
Intimidation=3 × Akan5	1.810*	1.843*	1.797*	1.583*
	(0.729)	(0.732)	(0.724)	(0.708)
School		−0.189		
		(0.347)		
School × Akan5		0.246		
		(0.726)		
Road			0.111	
			(0.352)	
Road × Akan5			−0.101	
			(0.554)	
Health clinic				0.116
				(0.304)
Health clinic=1 × Akan5				−0.020
				(0.474)
Constant	−0.888*	−0.714	−0.938*	−1.181*
	(0.408)	(0.527)	(0.415)	(0.476)
Observations	1141	1141	1141	1109

Robust standard errors in parentheses. All the specifications include the following additional controls: indicators for major ethnic groups in Ghana (Akans, Ewe, Dagomba), gender, perception of the economy, poverty, local level of development and indicators for a central region and for urban and rural areas.
*** p<0.01, ** p<0.05, * p<0.10
Logit coefficients shown in the table.

Table A38: The impact of percent Akan in the 30 km radius on the intent to vote for NPP

	(4)			
	Intimidation = 0 and Careful = 0	*Intimidation = 0 and Careful = 1*	*Intimidation = 0 and Careful = 2*	*Intimidation = 0 and Careful = 3*
Marginal Effect *Akan30*	0.007	-0.010	-0.026	-0.042
Standard Error	(0.124)	(0.100)	(0.104)	(0.132)
	(4)			
	Intimidation = 1 and Careful = 0	*Intimidation = 1 and Careful = 1*	*Intimidation = 1 and Careful = 2*	*Intimidation = 1 and Careful = 3*
Marginal Effect *Akan30*	-0.068	0.019	0.105	0.189*
Standard Error	(0.106)	(0.085)	(0.082)	(0.098)
	(4)			
	Intimidation = 2 and Careful = 0	*Intimidation = 2 and Careful = 1*	*Intimidation = 2 and Careful = 2*	*Intimidation = 2 and Careful = 3*
Marginal Effect *Akan30*	-0.130	0.045	-0.223**	0.392***
Standard Error.	(0.117)	(0.094)	(0.089)	(0.101)
	(4)			
	Intimidation = 3 and Careful = 0	*Intimidation = 3 and Careful = 1*	*Intimidation = 3 and Careful = 2*	*Intimidation = 3 and Careful = 3*
Marginal Effect *Akan30*	-0.173	0.065	0.324***	0.555***
Standard Error	(0.137)	(0.115)	(0.112)	(0.116)

*** p<0.01, ** p<0.05, * p<0.10. Model (4) includes interaction terms for *Akan30* and *Intimidation* and *Akan30* and *Careful*. This table shows all the marginal effects of *Akan30* conditional on different combinations of the levels of *Intimidation* and *Akan30*. All models include the following additional controls: indicators for major ethnic groups in Ghana (Akans, Ewe, Dagomba), gender, perception of the economy, poverty, local level of development and indicators for a central region and for urban and rural areas. Note that the coefficients presented in the table are marginal effects with continuous variables held at means and binary variables held at median values.

A1.6 Polling Station-Level Analysis

A related paper by Ichino and Nathan (2013) uses both the individual-level Afrobarometer data and the polling station-level data in their analysis. We draw only on the individual-level Afrobarometer data in our main analysis, for several reasons.

First, there is no data on intimidation at the polling station-level, and thus we are not able to use the polling station-level data to test our hypothesis.

Second, even had there been data on intimidation at the polling station-level, the results using this data would have been of limited use, since aggregate data are not well-suited for testing individual-level hypotheses. As noted above, if, for example, a higher share of Akans in a neighborhood was associated with a higher percentage fearing intimidation and a higher percentage voting for the NPP at a polling station, we could not be sure whether it is the individuals being intimidated, or a different set of individuals entirely, that were voting for the NPP. Thus due to the ecological inference problem, using polling station-level data, we cannot tell whether neighborhood composition affects ethnic voting through intimidation.

Third, in our case, the aggregate polling station-level data does not have enough variation to precisely estimate the effects we are interested in. In particular, the only variables that vary at the polling-station level are the parties' vote share and the percentage of Akans in the neighborhood, while all the other variables vary at the enumeration area level. Furthermore, enumeration areas are contained in electoral districts. This makes it necessary to cluster standard errors by electoral districts to properly account for the uncertainty in our estimates. Since the number of clusters (22) is small, it is not sufficient to

use cluster-robust standard errors, and either cluster bootstrap or wild cluster bootstrap is needed. Cluster bootstrap cannot be implemented due to the lack of variation within clusters during the resampling. We thus use wild cluster bootstrap (Cameron, Gelbach and Miller 2008), which estimates the p-values for the coefficients based on the empirical distribution of the t-statistics. Wild cluster bootstrap overcomes the lack of within-cluster variation in the covariates by resampling the residuals instead.

We thus replicate the polling station-level analysis in the Ichino and Nathan (2013) paper using wild cluster bootstrap. Table A39 presents the results. We find that the coefficient on the percentage of Akans in a neighborhood is not statistically significant at the conventional level anymore in both of the specifications used by Ichino and Nathan (models (2) and (3) in table A39). We thus see that the polling station-level data does not allow us to estimate the effect of interest precisely once we properly account for the uncertainty in the estimates.

Table A39: Polling Station-Level Analysis: Brong-Ahafo region

	NPP Vote share		
	(1)	(2)	(3)
Share of Akans	0.386	0.286	0.325
	(0.003)	(0.003)	(0.016)
Share of Moledagbon	0.120	0.075	0.075
	(0.191)	(0.202)	(0.210)
Share of other ethnicities	0.228	0.260	0.265
	(0.185)	(0.072)	(0.055)
Public and semi-public employment	0.086	0.083	0.070
	(0.892)	(0.869)	(0.914)
Development	0.025	0.024	0.024
	(0.004)	(0.017)	(0.023)
Akan30		0.316	0.336
		(0.089)	(0.128)
Akan30 × Share of Akans			−0.055
			(0.724)
Observations	1590	1590	1590

p-values are in parentheses.
p-values are obtained using wild cluster bootstrap at the electoral district-level, with 1200 bootstrap sample.
Regression specifications include electoral district-level fixed effects.

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