Is Vote-buying Effective?
Evidence from a Field Experiment in West Africa

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Appendix – Additional results and robustness

The results in Tables A1 to A4 are referred in the footnotes of the paper. Table A5 refers to the correlations between vote-buying by candidates at the July 2006 presidential elections and vote-buying by the parties at the March 2006 parliamentary elections. One can show clear correlations between Fradique de Menezes and MDFM, and Patrice Trovoada and MLSTP/ADI. This supports comparability of vote-buying between the parliamentary elections and the presidential elections in the year of 2006.

Table A1a: Differences across panel-survey drops and remaining individuals

		surveyed individuals	panel drops	difference
basic demographics	age	38.032	35.183	**-2.849** **(1.371)** 0.042**
	household size	5.371	4.740	**-0.630*** **(0.214)** 0.010***
	single	0.273	0.322	**0.049** **(0.044)** 0.254
	unmarried couple	0.634	0.575	**-0.060** **(0.045)** 0.208
	widow	0.040	0.025	**-0.015** **(0.016)** 0.386
	married	0.028	0.041	**0.013** **(0.013)** 0.304
	schooling over primary level	0.470	0.536	**0.065** **(0.048)** 0.200
	number of children	4.122	3.863	**-0.259** **(0.391)** 0.502
	children in primary school	0.492	0.433	**-0.059** **(0.047)** 0.220
	children in secondary school	0.276	0.247	**-0.029** **(0.044)** 0.520
	malaria in the household	0.471	0.442	**-0.028** **(0.041)** 0.528
nationality, ethnic group, and religion	STP nationality	0.966	0.984	**0.018** **(0.012)** 0.146
	CV nationality	0.030	0.007	**-0.023*** **(0.008)** 0.008***
	Forro	0.576	0.649	**0.073*** **(0.040)** 0.108
	Angolar	0.164	0.159	**-0.006** **(0.028)** 0.816
	Contratado	0.050	0.020	**-0.030*** **(0.011)** 0.006***
	Tonga	0.116	0.115	**-0.001** **(0.041)** 0.984
	Catholic	0.721	0.708	**-0.013** **(0.036)** 0.752
	non-religious	0.082	0.090	**0.008** **(0.022)** 0.714

Note: Standard errors of the difference reported in parentheses; these are corrected by clustering at the location (census area) level. Wild bootstrap p-values shown below the standard errors. This method follows Cameron et al. (2008), with null hypothesis imposed, weights -1 and 1, and 1000 replications. * significant at 10%; ** significant at 5%; *** significant at 1%.

Table A1b: Differences across panel-survey drops and remaining individuals

		surveyed individuals	panel drops	difference
occupation	agriculture	0.114	0.046	-0.069*** (0.018) 0.002***
	public administration	0.030	0.036	0.006 (0.013) 0.722
	industry	0.037	0.063	0.026 (0.017) 0.148
	construction	0.042	0.069	0.027 (0.018) 0.148
	commerce	0.264	0.247	-0.017 (0.036) 0.624
	transport	0.004	0.017	0.012 (0.009) 0.152
	education	0.022	0.021	-0.001 (0.011) 0.942
	health	0.007	0.022	0.015* (0.009) 0.058*
	household work	0.254	0.198	-0.056* (0.032) 0.074*
	unemployed	0.183	0.214	0.031 (0.047) 0.544
expenditure and property	expenditure/day (USD)	5.156	5.182	0.026 (0.176) 0.926
	land	0.490	0.379	-0.112*** (0.042) 0.020**
	house	0.569	0.469	-0.101** (0.042) 0.048**
	car	0.039	0.044	0.005 (0.014) 0.716
	cattle	0.434	0.350	-0.084* (0.046) 0.084*
	any property	0.788	0.685	-0.102** (0.045) 0.038**
	took a loan	0.132	0.169	0.037 (0.028) 0.150

Note: Standard errors of the difference reported in parentheses; these are corrected by clustering at the location (census area) level. Wild bootstrap p-values shown below the standard errors. This method follows Cameron et al. (2008), with null hypothesis imposed, weights -1 and 1, and 1000 replications. * significant at 10%; ** significant at 5%; *** significant at 1%.

Table A2: Regressions of main survey outcomes using multiple imputation

dependent variable ------>		vote-buying impact on voting	voting in conscience	vote-buying frequency	vote-buying by incumbent	vote-buying by challenger	vote price	turnout	voting for incumbent	voting for challenger
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
treatment effect	coefficient	**-0.356*** **	**0.246** **	**-0.167** **	**-0.052**	**-0.079** **	**-4.193**	**-0.054*** **	**0.072***	**-0.075** **
	standard error	**(0.089)**	**(0.099)**	**(0.081)**	**(0.043)**	**(0.039)**	**(11.831)**	**(0.019)**	**(0.043)**	**(0.038)**
mean dep. variable (control)		-0.054	0.049	-0.028	0.610	0.623	81.652	0.930	0.621	0.307
number of observations		1,275	1,275	1,275	1,275	1,275	1,275	1,275	1,275	1,275

Note: All regressions use multiple imputation by chained equations based on OLS. Imputation for each dependent or independent variable employs district dummies and individual controls only. 10 imputations are used. Dependent variables are z-scores (1-3), binary (4-5 and 7-9), and monetary value (6). All regressions regard level specifications. They include district dummies and individual controls. Individual controls are demographic characteristics (see Table 1), which include age, gender, household size, marital status dummies, education, number of children, nationality, ethnic group, and religion dummies, occupation dummies, expenditure, and property dummies. Standard errors reported; these are corrected by clustering at the location (census area) level. * significant at 10%; ** significant at 5%; *** significant at 1%.

Table A3: The effect of electoral competition on vote-buying

dependent variable ------>		vote-buying frequency	vote-buying by incumbent	vote-buying by challenger	vote price
		(1)	(2)	(3)	(4)
electoral competition	coefficient	**0.189***	**0.118*****	**0.105*****	**-13.383**
	standard error	**(0.109)**	**(0.043)**	**(0.037)**	**(19.893)**
	p-value wild bootstrap	0.098*	0.018**	0.016**	0.806
urban	coefficient	**0.052**	**-0.051**	**-0.097****	**-30.472**
	standard error	**(0.117)**	**(0.055)**	**(0.048)**	**(34.186)**
	p-value wild bootstrap	0.760	0.542	0.394	0.840
mean dep. variable (control)		0.002	0.618	0.631	82.323
r-squared adjusted		0.037	0.050	0.047	0.014
number of observations		983	962	962	472

Note: Electoral competition is based on the absolute of the difference between the scores of MDFM (FM's supporting party) and MLSTP+ADI (PT's supporting parties) at the parliamentary elections (location averages). Urban is binary. All regressions are OLS. Dependent variables are z-scores (1), binary (2-3), and monetary value (4). All regressions regard level specifications. They include district dummies, the treatment dummy, and individual controls. Individual controls are demographic characteristics (see Table 1), which include age, gender, household size, marital status dummies, education, number of children, nationality, ethnic group, and religion dummies, occupation dummies, expenditure, and property dummies. Standard errors reported; these are corrected by clustering at the location (census area) level. Wild bootstrap method follows Cameron et al. (2008), with null hypothesis imposed, weights -1 and 1, and 1000 replications. * significant at 10%; ** significant at 5%; *** significant at 1%.

Table A4: Treatment interacted with demographics: heterogeneous effects of the campaign

dependent variable ------>			vote-buying impact on voting	voting in conscience	vote-buying frequency	turnout	voting for incumbent	voting for challenger
			(1)	(2)	(3)	(4)	(5)	(6)
basic demographics	age	coefficient	0.002	-0.001	0.006	-0.005**	-0.003	-0.001
		standard error	(0.006)	(0.004)	(0.007)	(0.002)	(0.003)	(0.002)
		p-value wild bootstrap	0.776	0.720	0.418	0.030**	0.406	0.558
	schooling over primary level	coefficient	0.009	-0.318**	-0.121	0.124*	-0.002	0.098
		standard error	(0.177)	(0.156)	(0.173)	(0.067)	(0.092)	(0.072)
		p-value wild bootstrap	0.988	0.030**	0.514	0.118	0.992	0.216
ethnic group	angolar	coefficient	0.458***	-0.073	0.211	0.020	0.229	-0.233
		standard error	(0.177)	(0.214)	(0.208)	(0.076)	(0.139)	(0.176)
		p-value wild bootstrap	0.030**	0.738	0.332	0.786	0.350	0.452
	tonga	coefficient	-0.149	0.532	-0.446**	0.048	0.210**	-0.168*
		standard error	(0.270)	(0.340)	(0.204)	(0.108)	(0.107)	(0.095)
		p-value wild bootstrap	0.580	0.174	0.046**	0.648	0.074*	0.116
occupation	commerce	coefficient	-0.421***	0.010	-0.454***	-0.029	-0.044	0.006
		standard error	(0.120)	(0.180)	(0.168)	(0.037)	(0.060)	(0.059)
		p-value wild bootstrap	0.010***	0.958	0.032**	0.446	0.470	0.900
	public admin	coefficient	0.824***	0.226	0.255	0.007	-0.087	0.068
		standard error	(0.299)	(0.356)	(0.364)	(0.040)	(0.214)	(0.217)
		p-value wild bootstrap	0.040**	0.564	0.572	0.834	0.710	0.776
property	land	coefficient	0.130	-0.270*	0.070	-0.000	-0.101	0.108
		standard error	(0.130)	(0.159)	(0.169)	(0.053)	(0.071)	(0.080)
		p-value wild bootstrap	0.332	0.120	0.676	0.992	0.232	0.246
	house	coefficient	0.224	-0.416**	0.244	-0.004	-0.069	0.059
		standard error	(0.138)	(0.169)	(0.174)	(0.066)	(0.099)	(0.083)
		p-value wild bootstrap	0.134	0.006***	0.216	0.918	0.526	0.496

Note: All regressions are OLS. Dependent variables are z-scores (1-3), and binary (4-6). Each coefficient corresponds to a different level specification of the indicated dependent variable on treatment, demographic variable of interest, and interaction of treatment with the demographic variable of interest (coefficient shown). In addition, all regressions include district dummies and individual controls. Individual controls are demographic characteristics (see Table 1), which include age, gender, household size, marital status dummies, education, number of children, nationality, ethnic group, and religion dummies, occupation dummies, expenditure, and property dummies. Standard errors reported; these are corrected by clustering at the location (census area) level. Wild bootstrap method follows Cameron et al. (2008), with null hypothesis imposed, weights -1 and 1, and 1000 replications. * significant at 10%; ** significant at 5%; *** significant at 1%.

Table A5: Correlations between vote-buying by the candidates (presidential elections) and the different parties (parliamentary elections)

			fm	pt	mdfm	mlstp	adi
			(1)	(2)	(3)	(4)	(5)
correlations	fm		1.000				
	pt		0.926	1.000			
	mdfm		0.762	0.792	1.000		
	mlstp		0.618	0.699	0.930	1.000	
	adi		0.594	0.642	0.939	0.861	1.000
partial effects	mdfm	coefficient	**0.153*** **	**0.079**			
		standard error	**(0.059)**	**(0.056)**			
		p-value wild bootstrap	0.012	0.154			
	mlstp	coefficient	**0.069**	**0.168** **			
		standard error	**(0.084)**	**(0.070)**			
		p-value wild bootstrap	0.454	0.016			
	adi	coefficient	**0.062**	**0.053**			
		standard error	**(0.084)**	**(0.083)**			
		p-value wild bootstrap	0.542	0.592			
	mean dep. variable (control)		0.623	0.646			
	r-squared adjusted		0.068	0.070			
	number of observations		973	973			

Note: Correlations are for control locations only. Partial effects come from OLS regressions of vote-buying by presidential candidate (fm or pt) during the presidential elections on vote-buying by the main parties (mdfm, mlstp, and adi) during the parliamentary elections (all binary variables), controlling for district dummies and treatment. Standard errors reported; these are corrected by clustering at the location (census area) level. Wild bootstrap method follows Cameron et al. (2008), with null hypothesis imposed, weights -1 and 1, and 1000 replications. * significant at 10%; ** significant at 5%; *** significant at 1%.