

Appendix A: Polls of Fear? Electoral Violence, Incumbent Strength, and Voter Turnout in Côte d'Ivoire

Sebastian van Baalen*

Department of Peace and Conflict Research, Uppsala University

January 4, 2023

*Associate Senior Lecturer. Email: sebastian.van-baalen@pcr.uu.se.

A1 Overview of Variables in the Analysis

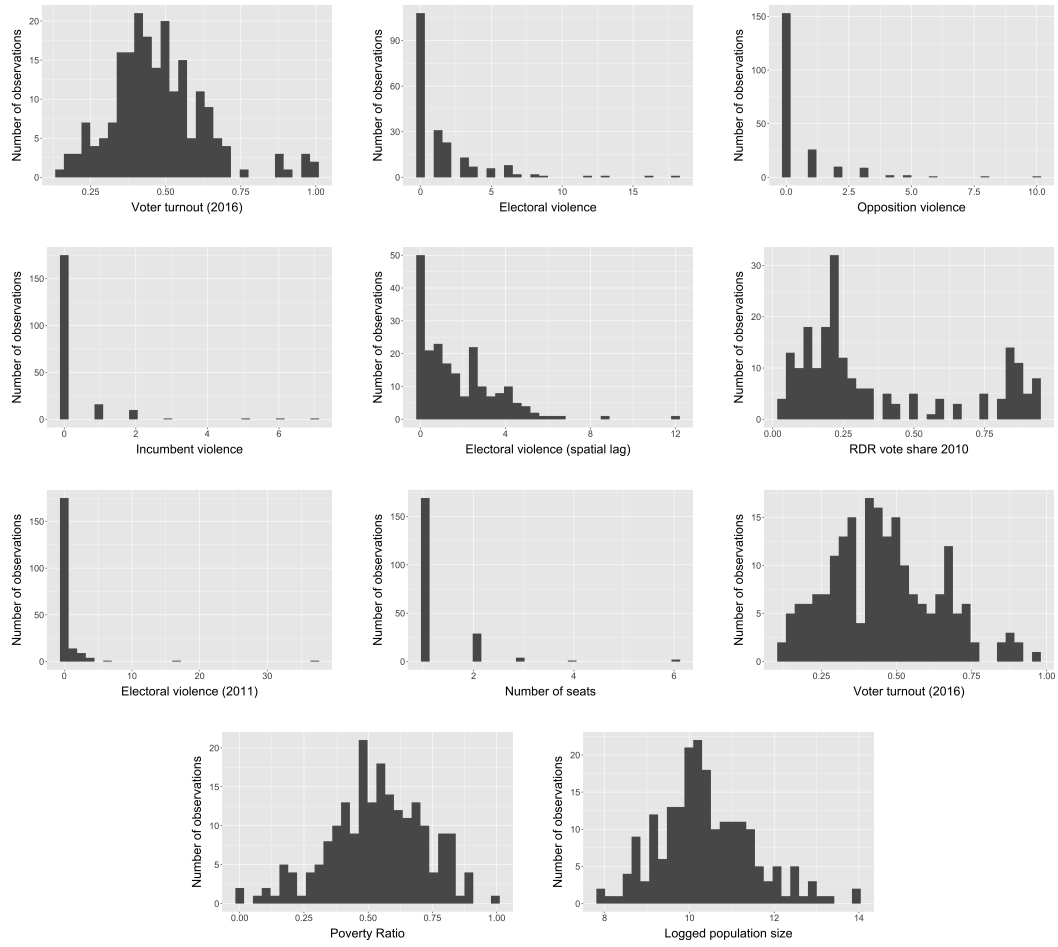


Figure A1: Histograms of all variables included in the analysis

Table A1: Descriptive statistics

Statistic	N	Mean	St. Dev.	Min	Median	Max
Voter turnout	205	0.48	0.16	0.14	0.46	0.99
Electoral violence (all)	205	1.56	2.70	0	0	18
Opposition violence	205	0.56	1.34	0	0	10
Incumbent violence	205	0.28	0.88	0	0	7
Severe violence	205	0.38	1.11	0	0	11
Electoral violence (spatial lag)	205	1.74	1.80	0.00	1.29	12.00
Incumbent strength	205	0.37	0.29	0.04	0.23	0.94
Electoral violence (2011)	205	0.54	2.91	0	0	37
Number of seats	205	1.24	0.67	1	1	6
Voter turnout (2016)	205	0.45	0.18	0.11	0.44	0.96
Poverty ratio	205	0.53	0.19	0.00	0.54	0.99
Logged population size	205	10.39	1.12	7.85	10.25	13.88

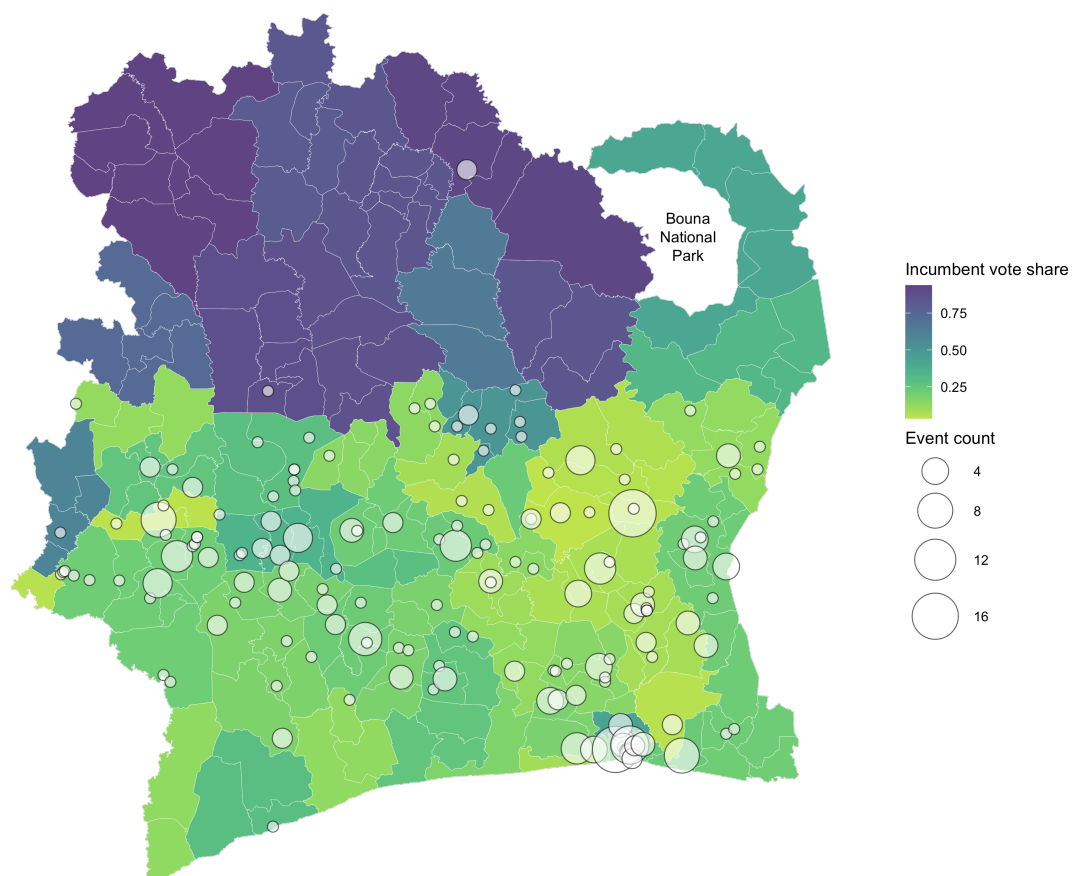


Figure A2: Spatial distribution of electoral violence and incumbent strength (2010) by voting district.

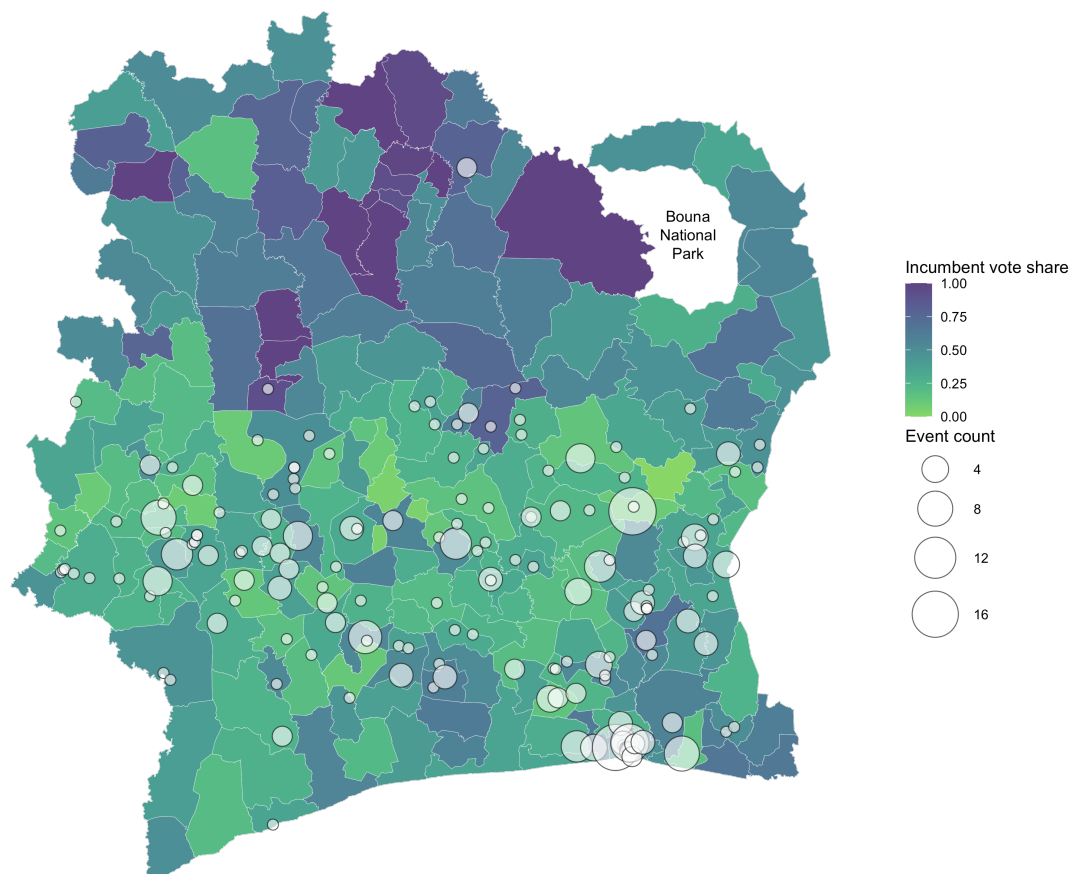


Figure A3: Spatial distribution of electoral violence and incumbent strength (2021) by voting district.

A2 Diagnosing the Interaction Effect

Multiplicative interaction models rely on two assumptions. First, interaction models assume that the interaction effect is linear, that is, that the change in the effect of the independent variable on the dependent variable is constant across the whole range of the moderator. Second, interaction models rely on sufficient common support for producing marginal effects, meaning that there is sufficient variation in the independent variable across different values of the moderator. When this is not the case, conditional marginal effects estimates rely on extrapolation or interpolation of the functional form for combinations of the independent and moderating variables for which there is little or no data (Hainmueller, Mummolo, and Xu, 2019). I assess these potential issues using the diagnostic tools provided by Hainmueller, Mummolo, and Xu (2019) and executed through the `interflex` package in R.

The graph in the upper panel in Figure A4 shows the marginal effect of a one unit increase in electoral violence on voter turnout across the range of incumbent strength. The error bars represent the three terciles of incumbent strength. The plot suggests that the moderating effect of incumbent strength on the association between electoral violence and voter turnout is somewhat nonlinear in the sense that the moderating effect is stronger at very high values of incumbent strength. However, this result is expected given the theoretical argument, as the likelihood that voters believe that their vote matters should decrease exponentially with incumbent strength: an increase in the incumbent’s vote support from 10% to 20% likely matters less than an increase from 50% to 60%. The lower panel in Figure A4, which relies on kernel estimates, produce similar results. Thus, while the conditional effect reported in the main article is somewhat curvilinear, there is no evidence that the conditional effect is ever positive.

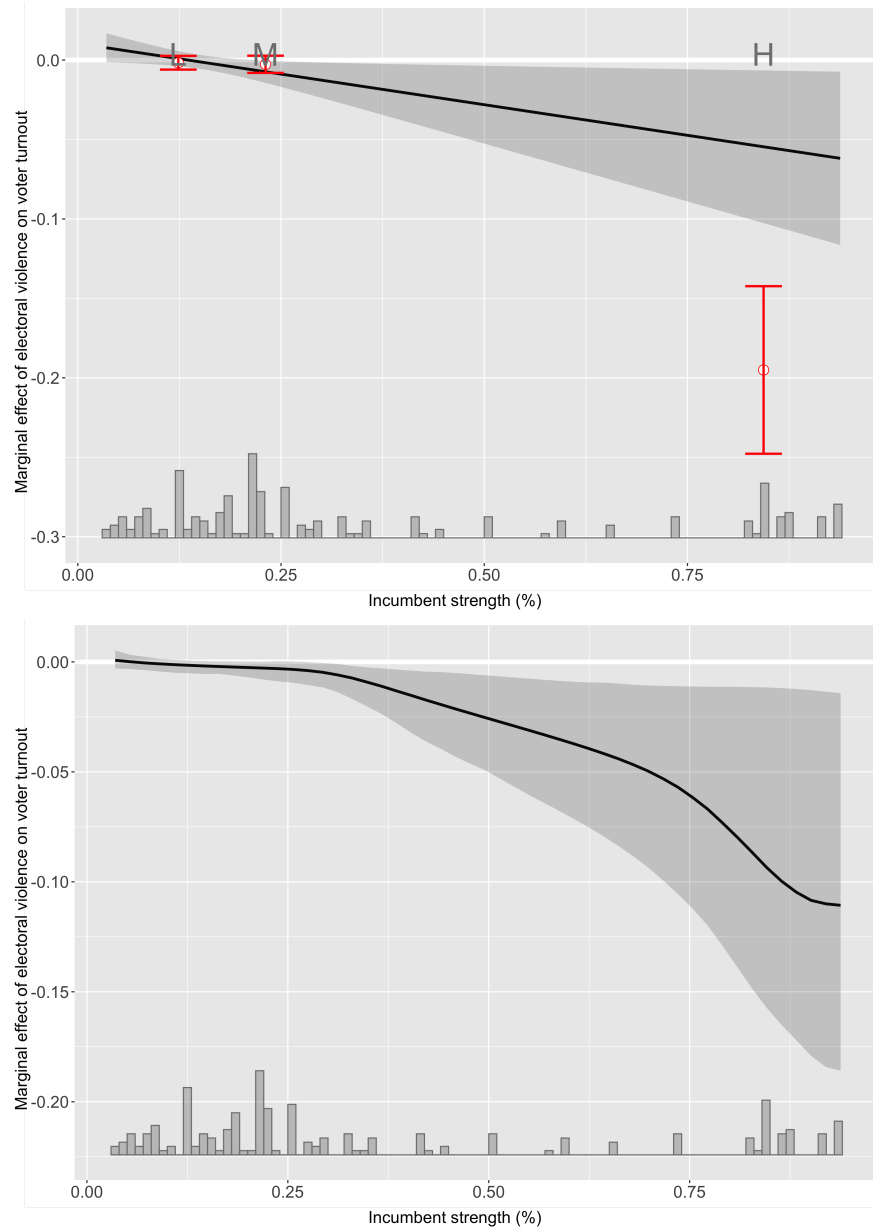


Figure A4: All panels illustrate the marginal effect of a one unit increase in electoral violence on voter turnout when holding all continuous variables at their mean and all categorical variables at their mode, and with the distribution of incumbent strength superimposed. The upper panels both use the `interflex` binning estimator to assess marginal effects, whereas the lower panels use the kernel estimator. The left-side panels use the standard incumbent strength variable as the moderator, whereas the right-side panels use the squared incumbent strength variable.

A3 Pre-processing the Data With Matching

I match voting districts with at least one electoral violence event to voting districts with no events using CEM matching (Iacus, King, and Porro, 2012). As outlined in the main text, the covariates used for the matching procedure are *incumbent strength* and *electoral violence (spatial lag)*. I conducted the matching in R using the `MatchIt` package (Ho et al., 2011). Table A2 shows pre- and post-matching balance statistics for the matching on the binary measure of electoral violence for all covariates, with covariates excluded from the matching procedure in parentheses. The balance diagnostics indicate that the matching significantly improves the balance between treated and untreated observations. Both covariates included in the matching procedure have a post-matching standardised mean difference of less than 0.1 and variance ratio close to 1, both of which indicate good balance (Ho et al., 2007). In addition, the balance diagnostics suggest that the matching also improves the balance between treated and untreated observations for covariates not included in the matching procedure.

Table A3 shows the results of the main analysis (Model 1–3 in Table 1 in the main text) for the matched sample. Since the matching procedure limits meaningful variation in the count of electoral violence events, all models use an electoral violence dummy as the independent variable. The results remain robust, meaning that the interaction term remains negative and statistically significant, albeit at a lower level of significance ($p \approx 0.08$). Figure A5 further confirms that the effect size also remains robust when using the matched sample. Comparing voting districts with and without electoral violence for districts with high incumbent strength (mean + 1 SD) decreases the predicted turnout rate by 11 percentage points (from 48% to 37%). Thus, while matching decreases the significance of the results somewhat (which is to be expected given the small sample size), the matching procedure suggests that the results are not an artefact of non-random treatment assignment.

Table A2: Balance of covariates before and after matching on electoral violence

Pre-matching balance	Means treated	Means control	Std. mean diff.	Variance ratio	eCDF mean	eCDF max
Incumbent strength	0.2153	0.5150	-1.9781	0.2248	0.2718	0.4739
Electoral violence (spatial lag)	2.4900	1.0746	0.7635	1.6180	0.2648	0.4988
(Electoral violence (2011))	0.8557	0.2500	0.1565	5.8441	0.0473	0.1527
(Number of seats)	1.3299	1.1667	0.2274	1.3441	0.0349	0.1559
(Voter turnout (2016))	0.3788	0.5232	-0.9501	0.7688	0.2391	0.4049
(Poverty ratio)	0.4733	0.5876	-0.6275	1.1009	0.1809	0.3244
(Logged population size)	10.7882	10.0341	0.6903	1.1566	0.1957	0.3065
Post-matching balance	Means treated	Means control	Std. mean diff.	Variance ratio	eCDF mean	eCDF max
Incumbent strength	0.2060	0.2128	-0.0451	1.0534	0.0263	0.1213
Electoral violence (spatial lag)	2.0894	2.1571	-0.0365	0.8648	0.0391	0.0993
(Electoral violence (2011))	0.9268	0.1190	0.2087	42.9571	0.0537	0.1737
(Number of seats)	1.3171	1.0762	0.3357	4.3525	0.0460	0.1928
(Voter turnout (2016))	0.3834	0.4162	-0.2162	1.4924	0.0727	0.1795
(Poverty ratio)	0.4703	0.5780	-0.5912	0.8601	0.1797	0.3310
(Logged population size)	10.7989	10.2138	0.5355	1.2583	0.1434	0.2716

Table A3: Fractional regression of voter turnout and electoral violence (matched sample)

	(1)	(2)	(3)
Electoral violence (dummy)	−0.21** (0.08)	−0.06 (0.05)	0.10 (0.10)
Incumbent strength		−0.11 (0.23)	0.25 (0.22)
Electoral violence (spatial lag)		−0.01 (0.02)	−0.01 (0.02)
Past electoral violence		−0.02** (0.003)	−0.02** (0.003)
Number of seats		0.02 (0.05)	0.02 (0.05)
Past voter turnout		1.50** (0.33)	1.66** (0.27)
Poverty ratio		0.17 (0.14)	0.15 (0.14)
Logged population size		−0.15** (0.04)	−0.13** (0.04)
Electoral violence (dummy) x Incumbent strength			−0.82 [†] (0.47)
Constant	−0.21** (0.07)	0.61 (0.50)	0.24 (0.43)
McFadden's Adjusted R2	0.00	−0.02	−0.04
Observations	165	165	165
Akaike Inf. Crit.	166.32	169.55	172.67

Note:

Robust standard errors in parentheses

[†] p < 0.1, * p < 0.05, ** p < 0.01

All models include CEM weights.

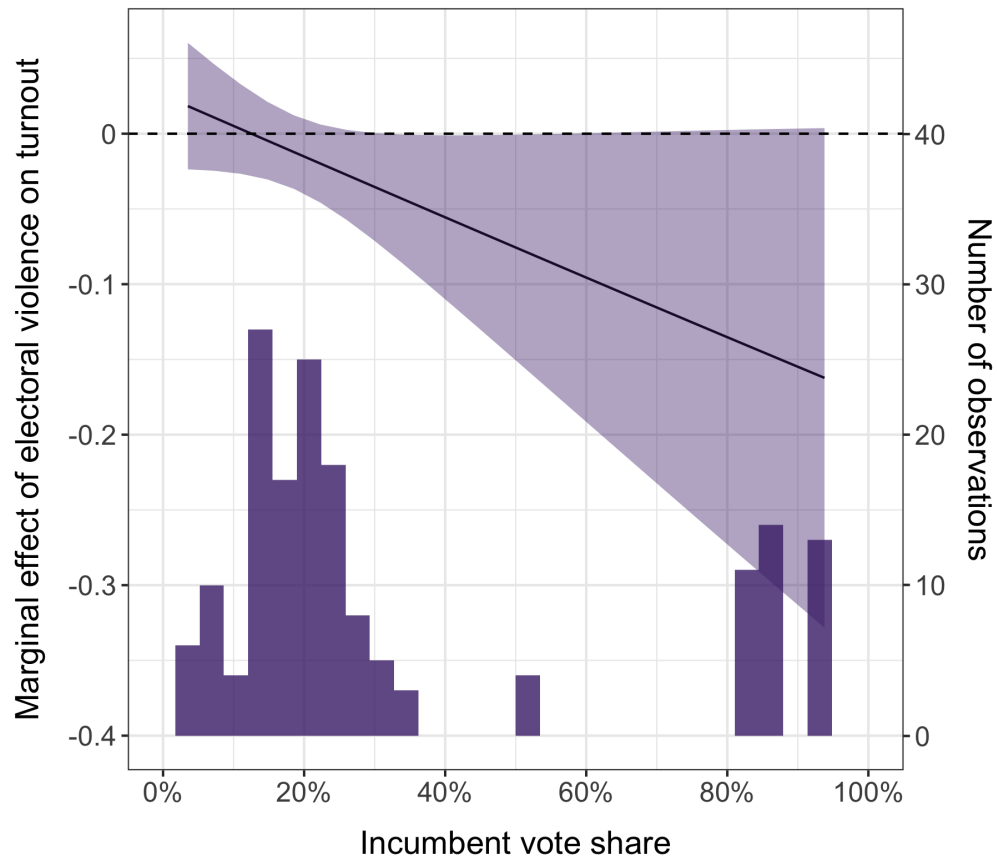


Figure A5: The figure shows the marginal effect of electoral violence on turnout across the observed range of incumbent strength when using the matched sample, where the horizontal dashed line represents the null effect, and with the distribution of incumbent strength superimposed.

A4 Placebo Test

One concern is that the results are driven by competitiveness rather than incumbent strength. While I argue that voters in voting districts where the incumbent is stronger are less resilient to electoral violence, the incumbent strength variable also captures less competitive areas. As competitiveness promotes higher turnout (Maeda, 2016), the results may reflect that voters in noncompetitive (rather than more incumbent-dominated) districts are less resilient to electoral violence. I therefore conduct a placebo test that compares the moderating effect of incumbent strength to the moderating effect of competitiveness on the effect of electoral violence on turnout. To assess the moderating effect of *competitiveness*, I follow Vampa (2020: 92) and create a score by using a formula that captures both the absolute and relative vote share of the winner in the first round of the 2010 presidential elections. The formula accounts for the fact that an election can be uncompetitive in both absolute and relative terms, either because the winner captures a very large vote share (e.g. 90%), or because the winner is significantly stronger than its main competitor (e.g. wins by a 30 percentage points margin). The formula to calculate the score is:

$$\text{Winner's dominance} = \text{Absolute dominance} * \text{Relative dominance} = s_i * \left(\frac{s_i}{c_i}\right) \quad (1)$$

where s is the winner's vote share in voting district i and c is the runner-up's vote share in voting district i . Hence, a voting district where the winner won 60% of the votes and the runner-up 40% would have a score of 0.9, whereas a voting district where the winner won 60% but the runner-up only 10% would have a score of 3.6. The observed score ranges from 0.33 to 33.49, where higher scores indicate lower competitiveness.

The results are reported in Table A4 and show that competitiveness has neither a direct effect on turnout, nor moderates the effect of electoral violence on turnout in a substantial way. Thus, as per my argument, the placebo test suggests that voters were more resilient to electoral violence where the opposition was stronger regardless of the district's competitiveness.

Table A4: Placebo test

	(1)	(2)
Electoral violence	0.01 (0.02)	0.12** (0.04)
Competitiveness	0.02 [†] (0.01)	0.01 (0.01)
Incumbent strength		0.39** (0.13)
Electoral violence (spatial lag)	-0.01 (0.01)	0.002 (0.01)
Past electoral violence	-0.02** (0.01)	-0.01* (0.01)
Number of seats	0.02 (0.05)	0.05 (0.06)
Past voter turnout	2.04** (0.40)	1.99** (0.36)
Poverty ratio	0.22 (0.14)	0.22 [†] (0.13)
Logged population size	-0.11* (0.04)	-0.10* (0.04)
Electoral violence x Competitiveness	-0.01 (0.01)	-0.02** (0.01)
Electoral violence x Incumbent strength		-0.52** (0.14)
Constant	-0.08 (0.56)	-0.33 (0.51)
McFadden's Adjusted R2	0.16	0.16
Observations	205	205
Akaike Inf. Crit.	235.19	235.21

Note:

Robust standard errors in parentheses

† p < 0.1, * p < 0.05, ** p < 0.01

A5 Robustness Checks

Disaggregating Electoral Violence by Timing

In the analysis in the main text, I pool all electoral violence events occurring throughout the studied time period. It is however possible that the effect is more pronounced for electoral violence that took place closer to the 6 March 2021 legislative election. Thus, I disaggregate the electoral violence event variable into two separate measures: a count of pre-electoral violence events that occurred before or on the day of the presidential election (1 August–31 December), and a count of post-electoral violence events that occurred after the presidential election (1 November–6 March). The results are reported in Table A5. Model 1 suggests that neither pre- nor post-electoral violence alone has any effect on voter turnout when interacted with incumbent strength. This result indicates that the effect in the main analysis is driven by the *combined* exposure to both pre- and post-electoral violence.

Table A5: Disaggregating electoral violence by timing

Pre-electoral violence	0.05 (0.04)
Post-electoral violence	0.52** (0.15)
Incumbent strength	0.004 (0.01)
Electoral violence (spatial lag)	−0.01 (0.01)
Past electoral violence	0.04 (0.07)
Number of seats	0.06 (0.07)
Past voter turnout	1.85** (0.40)
Poverty ratio	0.22 (0.13)
Logged population size	−0.12** (0.04)
Pre-electoral violence x Incumbent strength	−0.35 (0.24)
Post-electoral violence x Incumbent strength	−0.32 (0.38)
Constant	−0.003 (0.55)
McFadden's Adjusted R2	0.15
Observations	205
Akaike Inf. Crit.	236.77

Note:

Robust standard errors in parentheses

† $p < 0.1$, * $p < 0.05$, ** $p < 0.01$

Using a Dichotomous Independent and Moderating variable

Both the independent variable and the moderator are right-skewed (see histograms above), which can generate biased estimates in multiplicative interaction models (Hainmueller, Mumolo, and Xu, 2019: 166). To ensure that the results are not driven by a few high values on the independent or moderating variable, I estimate models with simple dummy variables for electoral violence and incumbent strength. The incumbent stronghold variable takes the value one for voting districts where the RDR captured half or more of the votes in 2010, and zero for all other districts. The results are reported in Table A6 and demonstrate that the results remain robust and substantially significant, suggesting that the results are not driven by the skewed distribution of the independent variable and moderator.

Table A6: Fractional regression using a dichotomous independent and moderating variable)

	(1)	(2)	(3)
Electoral violence (dummy)	−0.60** (0.08)	−0.14* (0.06)	−0.06 (0.04)
Incumbent stronghold (dummy)		0.21** (0.08)	0.30** (0.09)
Electoral violence (spatial lag)		0.001 (0.01)	0.001 (0.01)
Past electoral violence		−0.02** (0.01)	−0.02** (0.01)
Number of seats		0.03 (0.06)	0.04 (0.06)
Past voter turnout		1.99** (0.41)	2.00** (0.36)
Poverty ratio		0.17 (0.14)	0.20 (0.13)
Logged population size		−0.12* (0.05)	−0.12** (0.04)
Electoral violence (dummy) x Incumbent stronghold (dummy)			−0.52* (0.26)
Constant	0.18** (0.06)	0.11 (0.62)	0.02 (0.53)
McFadden's Adjusted R2	0.06	0.17	0.16
Observations	205	205	205
Akaike Inf. Crit.	261.91	232.84	233.49

Note:

Robust standard errors in parentheses

† p < 0.1, * p < 0.05, ** p < 0.01

Using a Different Measure of Electoral Violence

In the main analysis, I operationalise electoral violence as the number of pre-electoral violence events in the voting district, regardless of whether those events resulted in bodily harm. One concern with this operationalization is that electoral violence that results in bodily harm has a different effect on voter turnout than electoral violence that does not result in bodily harm. To assuage the concern that the results are dependent on the inclusion of low-severity events that did not result in bodily harm, I re-estimate the models in the main text using a measure of electoral violence that records the total number of reported deaths and injuries in the voting district. This variable ranges from 0 to 300. The average voting district saw 3.77 deaths/injuries, whereas the median district saw none at all. The results are reported in Table A7 and remain robust.

Table A7: Using A Different Measure of Electoral Violence

	(1)	(2)	(3)
Electoral violence severity	−0.002 (0.002)	0.0002 (0.0004)	0.002** (0.001)
Incumbent strength		0.45** (0.14)	0.45** (0.14)
Electoral violence (spatial lag)		−0.001 (0.01)	−0.001 (0.01)
Past electoral violence		−0.02** (0.01)	−0.02** (0.01)
Number of seats		0.02 (0.06)	0.03 (0.06)
Past voter turnout		1.92** (0.42)	1.89** (0.42)
Poverty ratio		0.23 [†] (0.14)	0.23 [†] (0.14)
Logged population size		−0.14** (0.05)	−0.14** (0.05)
Electoral violence severity x Incumbent strength			−0.03* (0.01)
Constant	−0.09* (0.04)	0.14 (0.65)	0.15 (0.64)
McFadden's Adjusted R2	−0.01	0.17	0.16
Observations	205	205	205
Akaike Inf. Crit.	282.01	232.51	234.39

Note:

Robust standard errors in parentheses

[†] p < 0.1, * p < 0.05, ** p < 0.01

Excluding Uncertain Electoral Violence Events

Another issue with the analysis could be that the independent variable includes violent events unrelated to the elections. Following the coding rules of ECAV, incidents of violence that took place between 1 August 2020 and 6 March 2021 were only included in the dataset if they intended to either affect the electoral process or arose in the context of electoral competition (Daxecker, Amicarelli, and Jung, 2019: 716). I further included an ordinal variable in the dataset that records the type of inference that underlies the decision to include the event in the dataset. The vast majority (87%) of the included events were clearly related to the presidential or legislative election campaigns or processes, for instance, because the involved agents publicly stated an intention to prevent the polls from taking place, or because the targets of violence were people or institutions linked to the electoral process, such as candidates, polling stations, or election officials. Some events that had less clear connections to the electoral process or electoral competition were also included, but given a special code that indicates whether the event description included vague references to electoral dynamics (8%), or lacked references to electoral dynamics but appeared contextually related to the electoral contest (4%). For robustness purposes, I run all main models using an independent variable that only includes electoral violence events in the first category. Including only electoral violence events coded as clearly related to the electoral campaign or process decreases the mean number of events per voting district from 1.56 to 1.366 and limits the observed range from 0–18 events to 0–14 events. The results are reported in Table A8 and remain robust.

Table A8: Excluding uncertain electoral violence events

	(1)	(2)	(3)
Electoral violence	−0.11** (0.02)	−0.01 (0.01)	0.05 [†] (0.03)
Incumbent strength		0.42** (0.14)	0.52** (0.15)
Electoral violence (spatial lag)		0.0005 (0.01)	0.004 (0.01)
Past electoral violence		−0.01* (0.01)	−0.01 (0.01)
Number of seats		0.03 (0.06)	0.05 (0.07)
Past voter turnout		1.92** (0.42)	1.89** (0.38)
Poverty ratio		0.22 (0.14)	0.21 (0.13)
Logged population size		−0.13** (0.05)	−0.12** (0.04)
Electoral violence x Incumbent strength			−0.39* (0.17)
Constant	0.05 (0.05)	0.12 (0.64)	−0.06 (0.53)
McFadden's Adjusted R2	0.04	0.17	0.17
Observations	205	205	205
Akaike Inf. Crit.	268.81	232.29	232.95

Note:

Robust standard errors in parentheses

† p < 0.1, * p < 0.05, ** p < 0.01

Using Alternative Measures of Incumbent Strength

The incumbent strength measure that I use in the main analysis is a simple measure of the incumbent's vote share in the first round of the 2010 presidential election. There are however other ways of measuring incumbent strength. I therefore re-estimate the full model using three alternative measures of incumbent strength: the incumbent's margin of victory in the first round of the 2010 presidential election (Model 1); a measure that combines the incumbent's absolute and relative strength in the first round of the 2010 presidential election, calculated using the formula presented in Section A4 (Model 2); and the incumbent's vote share in the 2021 legislative election (Model 3). Note that the results in Model 3 should be interpreted with caution, as the moderating variable here could have been influenced by the electoral violence. The results are reported in Table A9 and remain robust.

Table A9: Using alternative measures of incumbent strength

	(1)	(2)	(3)
Electoral violence	-0.06*	-0.01	0.04 [†]
	(0.03)	(0.01)	(0.02)
Incumbent margin of victory (2010)	0.30**		
	(0.08)		
Incumbent dominance (2010)		0.02*	
		(0.01)	
Incumbent vote share (2021)			0.74**
			(0.26)
Electoral violence (spatial lag)	0.01	-0.01	-0.003
	(0.01)	(0.01)	(0.01)
Past electoral violence	-0.01	-0.01*	-0.01*
	(0.01)	(0.01)	(0.01)
Number of seats	0.05	0.01	0.03
	(0.06)	(0.05)	(0.06)
Past voter turnout	1.85**	2.31**	1.77**
	(0.41)	(0.39)	(0.43)
Poverty ratio	0.21	0.15	0.32*
	(0.13)	(0.13)	(0.14)
Logged population size	-0.13**	-0.07 [†]	-0.15**
	(0.05)	(0.04)	(0.05)
Electoral violence x Incumbent margin of victory (2010)	-0.12*		
	(0.05)		
Electoral violence x Incumbent dominance (2010)		-0.06**	
		(0.01)	
Electoral violence x Incumbent vote share (2021)			-0.16*
			(0.07)
Constant	0.29	-0.53	0.18
	(0.60)	(0.54)	(0.63)
McFadden's Adjusted R2	0.17	0.17	0.16
Observations	205	205	205
Akaike Inf. Crit.	232.74	231.07	235.28

Note:

Robust standard errors in parentheses

† p < 0.1, * p < 0.05, ** p < 0.01

Excluding Voting Districts With Irregular Results

A concern when analysing official election results in countries marred by electoral violence is that the results are a result of vote rigging. This may present a challenge for estimating the association between electoral violence and voter turnout. Vote rigging in the form of stealing or adding votes may, for instance, be more common in voting districts that experienced violence in the pre-election period, and thereby confound the results. While election observers deemed the 2021 legislative elections in Côte d'Ivoire to have been generally free and fair (EISA and The Carter Center, 2021), there are some irregularities. One issue is that the sum of all reported vote shares does not equal 100% in all voting districts due to invalid ballots. Although some invalid ballots are to be expected, some voting districts have a comparatively large share of invalid ballots that may be a result of vote rigging. In addition, some voting districts have a sum of vote shares greater than 100%. Although this may be due to miscalculation and registration by election officials, it is also possible that some of these results are a function of ballot stuffing.

I address this concern in two ways. First, I examine whether electoral violence or any of the control variables are associated with irregular results, using a measure that captures by how many percentage points the results differ either upwards or downwards from 100%. The results are reported in Table A10 and demonstrate that electoral violence is not associated with irregular results. The only covariate with a statistically significant effect on irregular vote shares is logged population size, suggesting that irregular vote shares were more common in less populous areas. The size of irregular vote shares across more and less populous voting districts is however small: an increase in logged population size from the minimum to the maximum decreases misreporting of votes by about 2 percentage points. Second, to ensure that the results are not driven by voter turnout rates in voting districts with comparatively irregular results, I re-estimate the main models in the main text on a sample that excludes all voting districts with a total vote share greater than 100% or an invalid vote share larger than two standard deviations (2.38 percentage points). The resulting sample includes 158 out of the 205 voting districts. The results are reported in Table A11 and remain robust.

Table A10: Linear regression of invalid ballots

	<i>Dependent variable:</i>
	Share of invalid ballots
Electoral violence	−0.0001 (0.0003)
Incumbent strength	0.0004 (0.003)
Electoral violence (spatial lag)	−0.0003 (0.0005)
Past electoral violence	0.0001 (0.0003)
Number of seats	0.001 (0.001)
Past voter turnout	−0.01 (0.01)
Poverty ratio	0.01 (0.005)
Logged population size	−0.002* (0.001)
Constant	0.04** (0.01)
Observations	205
R ²	0.07
Adjusted R ²	0.04

Note:

Normal standard errors in parentheses

† p < 0.1, * p < 0.05, ** p < 0.01

Table A11: Excluding voting districts with irregular results

	(1)	(2)	(3)
Electoral violence	−0.09** (0.02)	−0.005 (0.01)	0.05 [†] (0.03)
Incumbent strength		0.60** (0.19)	0.70** (0.20)
Electoral violence (spatial lag)		−0.003 (0.01)	0.001 (0.01)
Past electoral violence		−0.02* (0.01)	−0.01 (0.01)
Number of seats		0.03 (0.06)	0.07 (0.07)
Past voter turnout		1.68** (0.49)	1.64** (0.44)
Poverty ratio		0.38* (0.16)	0.34* (0.16)
Logged population size		−0.15* (0.06)	−0.14** (0.05)
Electoral violence x Incumbent strength			−0.37* (0.17)
Constant	0.01 (0.06)	0.28 (0.75)	0.16 (0.64)
McFadden's Adjusted R2	0.02	0.14	0.13
Observations	158	158	158
Akaike Inf. Crit.	208.25	184.05	184.68

Note:

Robust standard errors in parentheses

† p < 0.1, * p < 0.05, ** p < 0.01

Including Region-level Fixed Effects

All main models include a battery of control variables to account for possible confounders of electoral violence and voter turnout. There may, however, still be concerns about omitted variable bias. I therefore replicate all main models using region-level fixed effects. The 31 regions are Côte d'Ivoire's second-level administrative subdivision. As most of the third-level administrative subdivisions known as departments include only one voting district, regions constitute the most appropriate level for fixed effects regression. The results are reported in Table A12 and remain robust.

Table A12: Fixed effects fractional regression

	(1)	(2)	(3)
Electoral violence	−0.05** (0.01)	−0.02* (0.01)	0.03 (0.02)
Incumbent strength		0.17 (0.20)	0.43 [†] (0.23)
Electoral violence (spatial lag)		0.01 (0.01)	0.01 (0.01)
Past electoral violence		−0.004 (0.01)	−0.0000 (0.01)
Number of seats		0.05 (0.08)	0.07 (0.08)
Past voter turnout		1.34* (0.53)	1.42** (0.51)
Poverty ratio		0.32* (0.15)	0.28 [†] (0.15)
Logged population size		−0.10* (0.05)	−0.10* (0.05)
Electoral violence x Incumbent strength			−0.33* (0.14)
Constant	−0.36** (0.04)	−0.17 (0.61)	−0.26 (0.58)
McFadden's Adjusted R2	−0.03	−0.05	−0.06
Observations	205	205	205
Akaike Inf. Crit.	286.31	294.49	296.03

Note:

Robust standard errors in parentheses

[†] p < 0.1, * p < 0.05, ** p < 0.01

Controlling for Voter Turnout in 2020

Another concern is that the results are driven not by electoral violence but by the opposition's decision to boycott the 2020 presidential election. In order to ascertain that this is not the case, I replicate all main models while controlling for voter turnout in the 2020 presidential election. As voting was interrupted in a number of voting districts and the results consequently invalidated by the electoral commission, the inclusion of this control variable decreases the number of observations from 205 to 188. The results are reported in Table A13 and remain robust.

Table A13: Controlling for voter turnout in 2020

	(1)	(2)	(3)
Electoral violence	−0.10** (0.02)	−0.01 (0.01)	0.09 [†] (0.05)
Incumbent strength		0.30* (0.15)	0.45** (0.15)
Electoral violence (spatial lag)		0.01 (0.01)	0.01 (0.01)
Past electoral violence		−0.01* (0.01)	−0.01 (0.01)
Number of seats		0.03 (0.06)	0.06 (0.07)
Voter turnout (2016)		1.79** (0.46)	1.83** (0.40)
Poverty ratio		0.24 (0.16)	0.25 [†] (0.15)
Logged population size		−0.15** (0.05)	−0.12** (0.04)
Voter turnout (2020)		0.26* (0.12)	0.19 [†] (0.11)
Electoral violence x Incumbent strength			−0.50* (0.23)
Constant	0.05 (0.05)	0.18 (0.66)	−0.17 (0.55)
McFadden's Adjusted R2	0.04	0.17	0.17
Observations	205	188	188
Akaike Inf. Crit.	268.73	212.29	212.21

Note:

Robust standard errors in parentheses

† p < 0.1, * p < 0.05, ** p < 0.01

Parsimonious Models

A final concern is that the results are an artefact of a high number of control variables relative to the number of observations. Such colloquially called “garbage can regressions” can yield misleading estimates (Achen, 2002, 2005). To ensure that my results do not depend on the high number of control variables, I conclude by presenting three very parsimonious models. The results are reported in Table A14. Model 1 includes only *incumbent strength* and the interaction term; Model 2 adds *past voter turnout*; and Model 3 adds *logged population size*. The results indicate similar patterns as in the main results.

Table A14: Parsimonious models

	(1)	(2)	(3)
Electoral violence	0.06** (0.02)	0.04 [†] (0.03)	0.05** (0.02)
Incumbent strength	1.13** (0.15)	0.45** (0.15)	1.01** (0.14)
Past voter turnout		2.38** (0.31)	
Logged population size			-0.27** (0.03)
Electoral violence x Incumbent strength	-0.68** (0.10)	-0.40* (0.17)	-0.42** (0.09)
Constant	-0.41** (0.06)	-1.29** (0.14)	2.40** (0.30)
McFadden's Adjusted R2	0.12	0.20	0.17
Observations	205	205	205
Akaike Inf. Crit.	245.09	224.32	233.11
<i>Note:</i>	Robust standard errors in parentheses ‡ p < 0.1, * p < 0.05, ** p < 0.01		

References

- Achen, Christopher H. (2002). “Toward a New Political Methodology: Microfoundations and ART”. *Annual Review of Political Science* 5 (1), pp. 423–250.
- (2005). “Let’s Put Garbage-Can Regressions and Garbage-Can Probits Where They Belong”. *Conflict Management and Peace Science* 22 (4), pp. 327–339.
- Daxecker, Ursula, Elio Amicarelli, and Alexander Jung (2019). “Electoral Contention and Violence (ECAV): A New Dataset”. *Journal of Peace Research* 56 (5), pp. 714–723.
- EISA and The Carter Center (Mar. 8, 2021). *International Election Observation Mission Côte d’Ivoire 2021 – Legislative Elections*. Preliminary Statement. Abidjan: Electoral Institute for Sustainable Democracy in Africa (EISA) and The Carter Center.
- Hainmueller, Jens, Jonathan Mummolo, and Yiqing Xu (2019). “How Much Should We Trust Estimates from Multiplicative Interaction Models? Simple Tools to Improve Empirical Practice”. *Political Analysis* 27 (2), pp. 163–192.
- Ho, Daniel, Kosuke Imai, Gary King, and Elizabeth A. Stuart (2011). “MatchIt: Nonparametric Preprocessing for Parametric Causal Inference”. *Journal of Statistical Software* 42 (8), pp. 1–28.
- Ho, Daniel E., Kosuke Imai, Gary King, and Elizabeth A. Stuart (2007). “Matching as Nonparametric Preprocessing for Reducing Model Dependence in Parametric Causal Inference”. *Political Analysis* 15 (3), pp. 199–236.
- Iacus, Stefano M., Gary King, and Giuseppe Porro (2012). “Causal Inference without Balance Checking: Coarsened Exact Matching”. *Political Analysis* 20 (1), pp. 1–24.
- Maeda, Ko (2016). “Voter Turnout and District-Level Competitiveness in Mixed-Member Electoral Systems”. *Journal of Elections, Public Opinion and Parties* 26 (4), pp. 452–469.
- Vampa, Davide (2020). “Developing a New Measure of Party Dominance: Definition, Operationalization and Application to 54 European Regions”. *Government and Opposition* 55 (1), pp. 88–113.