Ethno-political Competition and Pre-Election Violence in Africa

Paper prepared for the January 2016 ENCoRe meeting

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January 15, 2016

Abstract

This paper explores the effect of ethno-political competition on violence preceding elections in Africa. It argues that victims of pre-election violence can be targeted with comparative ease where voting preferences are aligned with ethnic identities, increasing incentives for violent campaigns where the margin of victory is expected to be small. Polarization between politically relevant ethnic groups is found to drive increases in the monthly number of riots in the run-up to national elections, in particular presidential elections. An analysis of survey data indicates that members of ethnic groups with greater support for opposition parties fear campaign violence more than members of ethnic groups associated with the incumbent. This effect is stronger in countries that exhibit a high degree of polarization between politically relevant ethnic groups.

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I thank Lars-Erik Cederman and Scott Desposato, as well as Yannick Pengl, Nora Keller, Philipp Hunziker, Nils-Christian Bormann, Manuel Vogt, Alexandra Müller-Crepon for their helpful comments on this paper.

1 Introduction

Just as elections in the early days of US democracy came along with broken bones and bonfires,¹ they continue to do so in many parts of the world. Ethnic cleansing marked the path to the first Kenyan multi-party election in 1992, Hindu-Muslim riots destroy life and livelihoods before elections in India, and electoral tensions regularly escalate in Guinea, Togo, and Nigeria. Beyond these incidents, Goldsmith (2015) reports that elections in about a third of African multiparty regimes are marked by a significant increase in levels of collective violence. Based on the observation that much of pre-election violence has an ethnic character, I argue in this paper that political competition between ethnic groups is an important driver of campaign-related violence.

Stripping representative democracy of its very foundation, the free delegation of powers, it is surprising to note that campaign violence remains an understudied topic in comparison to other election-related phenomena (Höglund, 2009). Where violence against ordinary citizens is instigated by electoral candidates, it can increase their vote-share through polarization (Dercon & Gutiérrez-Romero, 2012; Horowitz, 2001; Wilkinson, 2004), as well as the death, displacement, or intimidation of opposing voters (Bratton, 2008; Collier & Vicente, 2014; Klopp, 2001; Steele, 2011). Preelection violence can thus be understood as 'campaign expenditure' (Wilkinson & Haid, 2009) with the greatest marginal return in contested elections. Consequently, Hafner-Burton, Hyde & Jablonski (2013) and Salehyan & Linebarger (2014) show that campaign periods around contested elections exhibit a higher level of pre- and post-electoral violence than elections that are won by wide margins. In addition, Kuhn (2015) reports that elections might be more violent where voting pattern follows ethnic cleavages but neglects the effects of the closeness of an election.

Although providing solid theoretical insights into competition-induced pre-election violence, the extant quantitative literature does not model the phenomenon as a rise in the level of violence before elections which is increasing in the fierceness of competition. As a result, it is empirically unknown whether polities with competitive elections generally exhibit higher levels of social unrest, or whether political competition leads to increasing levels of conflict only before elections. Furthermore, the literature does not address differences in the level of pre-election violence which can be expected to arise from the type of the electoral contest and the nature of political cleavages given a certain level of political competition. Since much (though not all) of the observed campaign violence in multi-ethnic societies has an ethnic character, this paper analyses the impact of political competition between ethnic groups as a driver of collective pre-election violence.

Agreeing with the existing literature that pre-election violence is most likely where elections are expected to be close and the valuation of the office up for elec-

¹See (Rapoport & Weinberg, 2000).

tion is high, I argue that the ethnicization of political preferences increases incentives to resort to campaign violence. Politicized ethnic markers allow the perpetrators of campaign violence to identify their targets, while non-ethnicized political identities are much harder to recognize. I thus expect campaigns to be most violent in countries that exhibit a high degree of polarization of politically mobilized groups. I hypothesize that this effect is stronger before presidential elections, given their high stakes and nationally polarizing effects as compared to legislative elections. As the supposed mechanism consists in the ethnic targeting of voters, I predict that citizen's fear of pre-election violence is most associated with the average political preference of their ethnic group where polities are ethno-politically polarized.

An analysis of monthly riot counts in Africa between 1990 and 2013 supports the first argument. Elections are preceded by a greater increase in the number of riots where polities are polarized between politically relevant ethnic groups than where they are not. This effect is only discernible for presidential, but not legislative elections. On the individual level, there is clear evidence for campaign violence being targeted at ethnic groups that support the political opposition. This effect is increasing in the degree of a country's ethno-political polarization. Throughout, fixed effects estimations ensure that only cross-national variation in within-country differences across time and social space are used to test my hypotheses.

2 A theory of ethnic pre-election violence

In what follows, I present three theoretical propositions on the underlying drivers of pre-election violence, from which I then deduct the hypotheses to be tested in the next section.

Pivotality of violence: The literature on pre-election violence strongly suggests that violent campaigns are most likely where elections are expected to be close (Hafner-Burton, Hyde & Jablonski, 2013; Salehyan & Linebarger, 2014; Wilkinson, 2004). The underlying logic very much resembles the one made in the literature on campaign spending. Here, Cox & Munger (1989)² argue that candidates and their supporters maximize the marginal impact of their efforts by spending most money and energy where electoral competition is fierce. As peaceful campaigns, pre-election violence comes with a substantial price tag attached. It takes time to be planned, violent agents have to be paid in cash (Brass, 2011) or with benefits upon victory (Berenschot, 2011), there is a risk of being punished before or after the election, and violence might backfire by turning away some supporters of its instigator (Hafner-Burton, Hyde & Jablonski, 2013). If victory is unlikely, few are willing to do the bloody work or to invest their money and political capital in violence. And few are the incentives to turn to violence in the first place when elections are sure to be

²See also Erikson & Palfrey (2000).

won. I therefore expect that pre-election violence is most prevalent if elections are expected to be close.

The prize to be won: If pre-election violence follows the strategic interests of electoral candidates and their supporters, it follows that its intensity increases in the value of the office up for election (Salehyan & Linebarger, 2014). The willingness of candidates and their supporters to engage in the planning and execution of violence which comes with physical, political, and juridical risks is likely to be directly related to the material benefits of an electoral victory. Such a victory brings power and monetary resources for her and patronage goods for her supporters. As the value of this prize depends on the office up for election, it follows that the greater the power of the office, the higher the likelihood of pre-election violence.

Ethnic voting and violence: The selection of victims is one major problem faced by planners and perpetrators of pre-election violence targeted at ordinary citizens. To target their opponents effectively, perpetrators need reliable information about the likelihood of individuals to vote for their opponent. Under the threat of violence, potential victims will try everything to deceive their perpetrators, eventually leaving no clearly identifiable targets. Where parties have ethnically defined constituencies and voters distribute their votes accordingly, the identification of targets is easier. In contrast to political ideologies, ethnic identities are often recognizable by individuals' physical appearance, language, name, or certain cultural knowledge such as religious verses. Chandra (2004) argues that citizens use ethnic markers to identify whom to vote for.³ I adapt this logic to argue that politicians and their henchmen use the same markers to identify their voters in ethnicized polities to maximize the effectiveness of pre-election violence. The need for such ethnic targeting explains the frequency with which rioting crowds use language and religion tests to identify their targets (Horowitz, 2001).

Beyond facilitating the targeting of victims of pre-election violence, the ethnicization of politics increases the risk of violent campaigns by raising the material and ideological stakes of electoral campaigns. The material stakes in ethnicized elections increase through citizens' expectation of sometimes considerable ethnic favoritism after the election. The ideological counterpart of such favoritism is ethno-nationalism and the associated fear of a potential dissociation of the ethnos and the nation upon an electoral defeat. In the same way ethno-nationalism is regarded a driver of ethnic civil wars (Cederman, Gleditsch & Buhaug, 2013) and post-electoral uprisings of

³See also Fearon (1999) on political elites that ethnically target the distribution of public services to their supporters.

⁴Co-ethnicity with power-holders is found to affect individuals' health and education (Franck & Rainer, 2012), general well-being measured by nightlights (Hodler & Raschky, 2014), property rights (Marx & Stoker, 2013), or even contract enforcement (Sanchez de la Sierra & Mutakumura, 2015).

'sore losers' (Cederman, Gleditsch & Hug, 2013) it is likely to increase the likelihood of pre-election violence.

Hypotheses: These theoretical propositions directly lead to the main hypothesis that ethno-political competition increases the risk of pre-election violence, in particular before presidential elections. This mechanism is mirrored in the increase of violence before the 2010 presidential election in Guinea which marked the end of a post-coup military interregnum that had ruled the country since 2008. Throughout its post-colonial history, ethnic struggles for power between three ethnic groups, the Malinké (30%), Peulh (40%), and Soussou (20%) have marked the political system (Girardin et al., 2015) and at times led to pre-election violence (Horowitz, 2001). This was no different in 2010, when the presidency was fiercely contested between Cellou Dalein Diallo, an ethnic Peulh, and Alpha Condé, an ethnic Malinké. Already in late 2009, the Malinké-dominated military forces had killed at least 109 people in a massacre of predominantly ethnic Peulhs rallying for democracy and allegedly supporting Diallo's party UFDG.⁵ Subsequent clashes between partisans of both candidates took on an inter-ethnic character, with Malinkés groups attacking ethnic Peulh (Carter Center, 2010). Shortly before the runoff, the International Committee of the Red Cross reported that 2'800 ethnic Peulh had been displaced within two days only. Many more took precautions and left their homes (CNN, 2010). In this tense, ethnically polarized atmosphere, the final vote was won closely by Alpha Condé with 52.5% of the votes (International Crisis Group, 2011).

Adapting the concept of ethnic polarization used in the literature on civil wars (Montalvo & Reynal-Querol, 2005), I argue that the fiercest ethno-political competition occurs in countries with only two politically mobilized ethnic groups of equal size. Competition decreases with the number of politically mobilized ethnic groups in a country and their heterogeneity in size. Hence, the fierceness of ethno-political competition can be approximated by a measure of ethno-political polarization.

For empirical purposes, 'pre-election violence' has to be defined so as to distinguish it from a generally high level of violence in a country. Pre-election violence is therefore defined in empirical terms as an *increase in the level of violence in the months preceding an election*. I thereby assume that the electoral incentives for violence rise as elections come closer (Goldsmith, 2014). This is consistent with the idea that campaign violence aims to influence citizens' behavior on election day.

Hypothesis 1 Ethno-political competition increases the rise of the level of violence in the run-up to elections.

There are two reasons to expect Hypothesis 1 not to hold uniformly across all types of elections. First, I argue above that pre-election violence increases in the

⁵The UN Commission set up to investigate the event could not 'confirm whether this discrimination was based on the victims' ethnicity [...] or their political affiliation [...]' (UN Security Council, 2009, 40-41).

value of the office up for election. Because presidents, especially in developing countries, most often enjoy more discretion over resources than legislators (van de Walle, 2003), presidential campaigns can be expected to be more violent than legislative campaigns (Salehyan & Linebarger, 2014; Straus & Taylor, 2012). This coincides with Linz's (1990, 56) argument that "[t]he zero-sum game in presidential regimes raises the stakes of presidential elections and inevitably exacerbates their attendant tension and polarization." Second, presidential elections most often treat an entire country as one constituency. Thus, national-level ethno-political polarization will be dominant in shaping the contest. Legislative elections follow a different logic. Under proportional voting they entail competition between parties that might cut across ethno-political cleavages (Huber, 2012), reducing political competition between ethnic groups. Furthermore the greater fractionalization of the political land-scape might induce political competition in many non-polarized settings. Under majoritarian voting, local rather than national-level political competition shapes incentives for electoral violence (Kasara, 2014).

Hypothesis 2 Ethno-political competition increases the rise of the level of violence in the run-up to presidential elections to a greater extent than before legislative elections.

Since the first two hypotheses are rooted on the macro-level, they are not suitable to test the presumed causal mechanism leading from ethno-political competition to pre-election violence in much detail. I therefore turn towards the victims of violent campaigns to test whether there is evidence for pre-election targeting of politicized ethnic groups. Scholars of campaign violence mostly argue that incumbents are responsible for the bulk of violence before elections because they have control over the police (Wilkinson, 2004), local patronage networks used for mobilization (Berenschot, 2011), and the judiciary (Straus & Taylor, 2012).⁷ Consistent with this argument, Straus & Taylor (2012) report that the government (opposition) was the sole perpetrator of pre-election violence in 88 (2) out of 122 cases in Sub-Sahara Africa between 1990 and 2008.⁸

If the incumbent and the opposition count on the support of specific ethnic groups and if ethnic markers are used for targeting pre-election violence, one must expect differences between the rates of victimization of members of different ethnic groups. Irrespective of individual political preferences, incumbents likely employ more pre-election violence against ethnic groups that have a greater tendency to vote for the opposition than against those generally favoring themselves. In line with Hy-

⁶See also Eifert, Miguel & Posner (2010).

⁷But see Collier & Vicente (2011, 2014) who argue that the opposition is more likely to be engages in pre-election violence. However, the authors do not explicitly model the asymmetry of the costs of pre-election violence arising from incumbents' executive control.

⁸This is not to argue that groups associated with the opposition do not engage in violence at all – violence might also be retributive, as in 1991 Kenya (Throup & Hornsby, 1998) or committed by terrorists without access to political institutions (Aksoy, 2014).

pothesis 1, one cannot expect this relationship between ethnic political preferences and individual-level victimization to be uniform across political settings. Rather, following the argument that campaign violence is induced by ethno-political competition, one should expect the effect of pro-government preferences associated with ethnic groups to increase with the intensity of ethno-political competition within a polity. Where ethnic groups do not compete over political power, ethnic targeting of voters is expected to be absent. In contrast, where the political field is polarized between politically mobilized ethnic groups, ethnic targeting of voters will be among the campaign strategies of political elites.

Hypothesis 3 An individual's likelihood to experience pre-election violence decreases with the support for the incumbent government among its co-ethnics. This relationship is stronger in ethno-politically polarized countries.

3 Analysis

Since the above hypotheses speak to two levels of analysis, I first present the empirical test of Hypotheses 1 and 2 drawing on country-level data. Subsequently, I use survey data to test the argument that pre-election violence is targeted at ethnic groups associated with opposition parties.

3.1 Ethno-political competition and pre-election riots

Before embarking upon testing Hypotheses 1 and 2, one further clarification has to be made for empirical purposes. The two hypotheses are referring to the generic concept of the 'level of violence' in a country which I predict to rise with the proximity of an upcoming election. In the following country-level analysis, I focus on riots as a subset of collective violence. Riots are organized or spontaneous events with several, partially unorganized participants 'intending to cause injury to people or property' (Salehyan et al., 2012). As riots carry a comparatively low risk of punishment they are oftentimes incited with electoral goals in mind (Horowitz, 2001; Wilkinson, 2004). In comparison, perpetrators run higher risks of persecution after an electoral defeat if pre-election violence is carried out directly by security forces or paramilitary organizations. This clarification being made, I proceed by describing the empirical strategy employed below.

Data and empirical strategy

The unit of analysis is the country-month of all African countries with a population greater than .5 million between 1990 and 2013. The monthly setup of the data is crucial for modeling the hypothesized rise in the number of riots preceding elections (cf. Cederman, Gleditsch & Buhaug, 2013; Salehyan & Linebarger, 2014).

The dependent variable of the analysis is the count of riots per month. Data on riots comes from the Social Conflict in Africa Dataset (SCAD; Salehyan et al., 2012). As the data is based on media reports, its inaccuracies (Weidmann, 2014) might give rise to a media bias leading to a higher likelihood of a riot being reported during election times when a country is in the spotlight of international reporters. In addition, close elections (and preceding riots) are likely to be covered more extensively than elections with predetermined victories. I will therefore cross-validate the results using ACLED data (1997–2013; Raleigh et al., 2010) which is based on a much broader set of news reports. Furthermore, I test the consistency of the results against the conclusions drawn on the micro-level in the next section.

The models estimated include two main independent variables and their interaction. The first is the time to the next, upcoming election, counted in months. The timing of elections as well as other election-related variables used for robustness checks are retrieved from the National Elections Across Democracy and Autocracy dataset (NELDA v3; 1989-2010; Hyde & Marinov, 2012). To increase the sample size, I have updated the variables needed here to include all elections up to October 2014. The data allows for a distinction between legislative and executive elections which is used to test Hypothesis 2. For each country-month, I construct the variable time.to.elec by counting the months to the closest future election (months.to.elec) and then taking their inverse after adding a 1 to not divide by 0 in election months. Thus, $time.to.elec = (months.to.elec + 1)^{-1}$. This leads to a functional form of the model in which violence increases exponentially as elections come closer. Such a steady rise of the marginal effect of the proximity of an election is more realistic and flexible than the simple pre-election dummy used by Salehyan & Linebarger (2014) and Wilkinson (2004).9 To not confuse dynamics in non-electoral autocracies with those in states with elections, all country-months which are within a temporal distance of more than five years from the next upcoming election are dropped from the sample.

The second independent variable captures ethno-political polarization and is interacted with the variable *time.to.elec*. It is based on the Ethnic Power Relations data (EPR-ETH, 1946-2013, Cederman, Wimmer & Min, 2010; Vogt et al., 2015) which codes all politically relevant ethnic groups in states with a population greater than .5 million.¹⁰ Using the information on the size of each politically relevant ethnic group, I build a measure of national ethno-political polarization following Esteban

⁹Robustness checks using different different exponential factors between -0.1 and -2 reveal that the substantive insights from the results reported below are robust to different exponential specifications.

¹⁰Ethnicity is defined as being rooted in subjective perceptions of social groups based on their cultural, historical, or phenotypical heritage (Weber, 1978). Political relevance implies that (1) 'at least one politically relevant actor claims to represent the interests of the group in the national political arena' or that (2) the group is systematically and politically discriminated against (Cederman, Wimmer & Min, 2010).

& Ray (1994) as well as Montalvo & Reynal-Querol (2005).¹¹

Given the EPR-ETH coding rules, it seems plausible to assume that average voting patters observed within groups differ across ethnic groups, in that they likely entail more support for one, ethnically mobilizing, party or candidate. Although a more gradual measure of ethno-political competition taking into account individuals' political preferences and inter-ethnic alliances would provide a better match to the theory, such a measure is not available to date. With its coding based on political relevance, the EPR-ETH-based polarization index comes closest to such a measure.¹²

The main interest of the analysis lies in the pre-election change in the number of riots from one month to another, motivating the use of country-year fixed effects. They eliminate all heterogeneity in the data which is constant within country-years, serving a triple purpose. First, the fixed-effects ensure that only the change in the number of riots as compared to yearly means is captured by the variables of interest - this change is exactly what is understood as the pre-election rise in the level of violence. Second, they reduce the caveat of omitted variables that simultaneously influence the occurrence of an election in one year and the number of riots preceding it. 13 This includes as an approximation most socio-economic factors on the macrolevel. Third, the fixed effects also alleviate the problem of temporal autocorrelation of riots as they hold the intermediate and distant past of each observation constant. To account for short-term temporal autocorrelation, I include the lagged number of riots in the three months preceding an observation as controls. ¹⁴ In combination with the fixed effects, this makes the models estimated akin to first difference estimations, where the coefficients of interest capture the variables' effect on the change in the number of riots over time.

Due to overdispersion the data on riot counts likely violates the assumption of the equality of the conditional mean and variance underlying the standard poisson model.¹⁵ Given that a true fixed-effects negative binomial model is not available

The scale of ethnic group is relative to all politically relevant groups in a country. The index is set to 0 if a country over .5 million inhabitants does not have any politically mobilized ethnic groups. Dropping the respective countries from the sample does not change the results reported below; see Supplementary Information.

¹²Somewhat similar measures would include either pure ethnic polarization as used by Montalvo & Reynal-Querol (2005) or Huber's (2012) indeces for group and party voting polarization. While the first do not take into account the political relevance of ethnic groups, Huber's measures underestimate ethno-political polarization where nominal ethnic groups form coalitions in the political space. Furthermore, The EPR-ETH data circumvents a possible bias of reports of political preferences in survey data needed to build Huber's indeces.

¹³It is thus assumed that the timing of elections is considerably more exogenous within years than across years.

¹⁴See also see also Salehyan & Linebarger (2014). Adding a lag of the fourth of fifth order or dropping the third or second-order lags does not change the results. See Supplementary Information.

¹⁵Another choice would therefore be a negative binomial model with fixed-dispersion parameters as proposed by Hausman, Hall & Griliches (1984). However, this model does not take full account of time-invariant heterogeneity between the groups (Allison & Waterman, 2002; Guimarães, 2008). Adding country-year dummies to the model as proposed by Allison & Waterman (2002) would lead to the problem of too many incidental parameters.

(Allison & Waterman, 2002), a fixed effects poisson estimation with standard errors robust to overdispersion and clustered on the level of country-years is estimated. ¹⁶

The identification strategy of the effect of the time to the next upcoming election in interaction with ethno-political polarization is based on two assumptions. First, I assume that elections are timed well in advance so that short-term changes in the monthly number of riots before an election are a result of them approaching, rather than that the timing of an election is influenced by riots. The fixed-effects control for yearly heterogeneity at the country level, affecting both riots and the timing of elections. However, as the Arab Spring or the frequent adjournment of elections show, the timing of elections can still be caused by riots in the short term. A robustness check using only the time to elections taking place at their due date tests this objection. The second assumption is that factors influencing a general proneness of a country to pre-election violence do not cause its ethnopolitical polarization. This claim can be substantiated by the observation that the number and composition of politically relevant ethnic groups in a country are quite constant in post-colonial history (Wucherpfennig, Hunziker & Cederman, 2015).

Results and discussion

The main results of the fixed-effects poisson regression testing Hypotheses 1 and 2 are presented in Table 1. The first model supports the prediction that the number of riots observed in a country rises as elections approach. It appears that the number of riots rises by a factor of 2.5 as we move from two years before an election to the election month. A predicted by Hypothesis 2, the observed escalation of violence before elections is driven by ethno-political polarization (Model 2). The interaction effect of the time to election × ethno-political polarization indicates that the rise of the number of riots before elections increases in the political competition between ethnic groups in a country (Figure 1). While those countries with very low levels of ethnic competition do not experience an increase in riots over the months preceding an election, the rise of violence becomes steeper the more polarized politically relevant ethnic groups are. For highest levels of ethno-political competition, the model predicts an escalation of the number of riots by a factor of 6 between 24 and 0 months before and election.

Adding more detail, models 3 and 4 in Table 1 support Hypothesis 2. National-level ethno-political competition is associated with an increase in the number of riots only in the run-up to presidential but not before legislative elections (dashed lines in Figure 1). The effect of ethno-political polarization on violence in the run-up to executive elections is greater than its average effect before all elections. The respective coefficient is, however, marked by somewhat more uncertainty (p < 0.1). The result is consistent with the argument that candidates are most likely to violently

 $^{^{16}}$ Wooldridge (2010, 651) shows that such standard errors 'are valid under *any* conditional variance assumption.' See also Wooldridge (1999).

Table 1: Ethno-political polarization and pre-election riots

	(1) Riots (SCAD)	(2) Riots (SCAD)	(3) Riots (SCAD)	(4) Riots (SCAD)
Time to election (all)	0.886*** (0.196)	-0.127 (0.501)		
Time to election (all) \times				
Ethno-political polarization		1.798** (0.709)		
Time to election (Pres.)			-0.465 (0.913)	
Time to election (Pres.) \times				
Ethno-political polarization			2.396* (1.230)	
Time to election (Legis.)				0.706^* (0.361)
Time to election (Legis.) \times				,
Ethno-political polarization				0.269
				(0.581)
$riots_{t-1}, riots_{t-2}, riots_{t-3}$	Yes	Yes	Yes	Yes
Fixed effect	country-year	country-year	country-year	country-year
Observations	6459	6459	5075	6220
χ^2	93.29	117.2	68.72	46.10

Robust standard errors in parenthesis

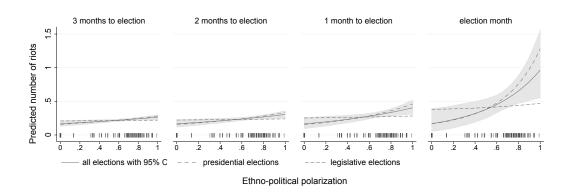


Figure 1: Predicted number of riots and ethno-political polarization in pre-election months

Note: Figure indicates the number of riots from a within-sample prediction of Models 2 to 4 in Table 1 in relation to ethno-political polarization over the 3 months preceding an election and the month of an election. Shaded areas represent the 95% confidence interval off Model 2. Country-year fixed effects are set to the grand mean (-1.75) and lagged riots to 0. Sample observations are indicated by small bars.

^{*} p < 0.1, ** p < 0.05, *** p < 0.01

mobilize on and reinforce pre-existing ethnic cleavages before executive elections, since these are most valued and polarizing. Although Model 4 indicates a rise in the number of riots before legislative elections as well, this development is unaffected by ethno-political polarization at the national level.

In response to several objections that might be raised against these results, a series of robustness checks is reported in the Appendix. Model 2 from Table 1 on riots preceding all kinds of elections is used as the baseline specification throughout. All robustness checks lead to equivalent results for models of riots in the run-up to presidential elections only (see Supplementary Information). First, the variable for the time to the next election is highest in election months, months in which I cannot distinguish pre- from post-election riots. Model 1 in Table 5 therefore discards all election months, thereby eliminating this caveat. The resulting estimates are associated with smaller standard errors than at the baseline and indicate that the number of riots decreases as elections come closer in non-polarized countries.¹⁷ This effect becomes positive in countries above a ethno-political polarization index of about .5. At the maximum degree of polarization, the effect is of similar size as the one reported above.

Furthermore, the timing of elections might be affected by riots preceding them, reversing the direction of causality and leading to biased estimates. Hence, Model 2 in Table 5 includes only months preceding elections that have been neither early nor late compared to their scheduled date. The results indicate a slight, but insignificant increase of the coefficients' size. This bolsters the conjecture that the proximity of upcoming elections lead to incentives for turning to riotous campaign tactics in ethno-politically polarized states.

In Model 3 in Table 5, I use riot counts from ACLED to mitigate concerns about (1) the robustness of the results to changes in the coding of the independent variable (Hegre & Sambanis, 2006) and (2) media bias which is suspected to be particularly strong in the international media SCAD is based on. ACLED, being based on a much bigger sample of national and international news reports covered from 1997 to 2013, is likely to be less affected by such media bias. The results do not change substantively through this change. The coefficient of the interaction effect of the time to election \times ethno-political polarization is significant and slightly greater in size than in the baseline model. This difference might be due to the day-based coding of ACLED which leads to higher riot-counts than the episode-based coding in the SCAD data.

But is the reported effect really due to ethno-political polarization, rather than caused by the direct effects of one of its correlating components – either pure ethnic or pure party polarization? To answer this question, Model 4 in Table 5 includes two

 $^{^{17}}$ See also Goldsmith (2015) who reports that elections in some countries are preceded by periods of comparative calm.

 $^{^{18}\}mathrm{The}$ respective data comes from the NELDA data (Hyde & Marinov, 2012) and the hand-coded extension.

additional interaction terms of the time to the next election, one with an index of pure ethnic polarization, ¹⁹ and one with countries' polarization of political parties, which is based on their share of seats in parliament. ²⁰ Neither pure ethnic polarization, nor party polarization heighten the level of pre-election violence. Rather, the pre-election increase in the number of riots is driven by the intersection of political competition and ethnic polarization, proxied by the index of ethno-political polarization. The respective coefficient is slightly greater than in the baseline specification and and associated with less uncertainty.

As explained above, the poisson model, even with robust standard errors, might not take into account distinctive patterns of overdispersion of the dependent variable clustered in country-years.²¹ Therefore, results of a negative binomial model with country-year dispersion parameters are reported in Table 6. The respective coefficients are very similar to the baseline specification and associated with smaller standard errors.

Another bias might come from the rather rigid country-year fixed effects in the context of maximum-likelihood estimation which leads to the exclusion of observations from country-years without any variation on the dependent variable. A fixed-effects OLS of the natural logarithm of the number of riots + 1 (Model 2) circumvents this caveat, producing results in line with those reported above. The use of country-year fixed effects is further justified by Models 3 and 4 in Table 6 which show results from poisson regressions for sole country fixed effects. I use these weaker controls in the estimation of the rise in the number of riots before (1) all and (2) only regular elections. The results do not show significant differences between polarized and non-polarized societies before all elections, but, importantly, corroborate the previous results with regards to elections held at their regular date. This points to the validity of the argument in favor of country-year fixed effects since they limit the bias introduced by omitted variables and reverse causality where riots influence the timing of elections.

3.2 Ethnic targeting of pre-election violence

The results of the previous country-level analysis point towards a positive effect of ethno-political polarization, and thus ethnic competition, on the increase in the number of riots preceding presidential elections. I can therefore not reject Hypotheses 1 and 2. However, given that the number of riots used as the dependent variable does not allow for distinguishing ethnic from non-ethnic violence, it remains unclear whether the observed campaign-related violence has the expected ethnic character.

¹⁹The respective data is taken from Montalvo & Reynal-Querol (2005) and based on the World Christian Encyclopedia.

²⁰I again use Esteban and Ray's (1994) polarization formula and feed it with the World Bank's data on political institutions (Beck et al., 2001). Using Laakso's (1979) effective number of political parties as an alternative measure of party competition does not affect the results.

 $^{^{21}\}mathrm{See}$ Hausman, Hall & Griliches (1984) and footnote 15.

For the conceptualized causal mechanism to hold true, it is necessary to explore whether the targeting of campaign violence is ethnically biased. This question is subject to inquiry in the next section.

Data and empirical strategy

Hypothesis 3 states that individuals belonging to ethnic groups with low support for the incumbent government experience higher levels of pre-election violence than those surrounded by co-ethnics supporting the government. Such ethnic targeting is predicted to be most common in polities exhibiting fierce ethno-political competition. In order to test the hypotheses comprehensively, I analyze Afrobarometer data (rounds 4 & 5, Afrobarometer, 2015) from 28 African states on the fear of respondents to become a victim of campaign-related violence. Since the fear of campaign violence will be oftentimes caused either by past experiences or expectations of violence for the future, it is used as a proxy for individual-level victimization for which no cross-national data is available. The standardized questionnaire of the two Afrobarometer rounds includes the following question: 'During election campaigns in this country, how much do you personally fear becoming a victim of political intimidation or violence?' The ordinal answers range in four steps from 'not at all' to 'a lot'.

The main independent variable measures the average support for the incumbent president among the co-ethnics of an individual. The variable is constructed for each ethnic group and survey round. I use respondents' language to construct ethnic groups, since (1) the respective information is expected to exhibit least political bias and because (2) language is one of the ethnic markers observable to perpetrators of pre-election violence making its use consistent with my theory. In the next step, I aggregate respondents' preferences in hypothetical presidential elections within each ethnic group. I distinguish between supporters of the incumbent and opposition candidates by linking Afrobarometer responses to data on incumbent presidents contained in the World Bank Data on Political Institutions (Beck et al., 2001). As the latter data is only available up until 2012, missing values have been handcoded for 2013 to complete the sample.²² The final measure of the support for the government within each ethnic group is derived as the fraction of the number of its members with a preference for the president over all members. Since the empirical focus is on within-country comparisons, the measure is only constructed for countries with at least two ethnic groups enumerated by Afrobarometer.²³

To prevent omitted variable bias, it is important to distinguish between the effect of personal political preferences and those generally associated with an individual's ethnic group. To this intent, the individual-level support for the president is added

²²The monarchies Lesotho and Morocco are dropped from the sample. Where a survey was conducted between December and January, I used data from the later year.

²³This leads to dropping Tunisia and Egypt from the sample.

to not feel close to any party. This approach allows for differentiating in a conservative manner between fear emerging on the basis of individual attitudes, and fear which is incited as ethnic groups associated with the opposition are targeted collectively before elections. Beyond omitted variables, the fear of campaign violence might reversely cause negative preferences for the current government. Controlling for factors that influence the severity of this bias might alleviate the problem and provide information about its impact. Such factors can consist in the atmosphere of an interview, characteristics of the interviewer, and social pressure put upon a respondent. These are included in a robustness check.

As all analyzed survey responses are nested within country-rounds of the Afrobarometer, I use an ordinal logit²⁴ with country-round dummies. Hence, the model only captures differences in the level of fear between members of different ethnic groups that inhabit the same country at the same point in time. It thereby accounts for omitted variables that are constant on the country-year level. Standard errors are clustered on the level of regions throughout to reflect the spatial clustering of ethnic groups and the regional interdependence of observations. Given that there is a great variety in the number of survey rounds and observations available for each country, each respondent is weighted by the inverse of the number of respondents from his or her country.²⁵ Thus, all countries in the sample receive equal weight in the regression analysis. The weighting allows for drawing consistent internationally comparative inferences and reduces the caveat of a biased sample that emerges from the practice of Afrobarometer to conduct more and larger surveys in relatively safe countries.

Results and discussion

Table 2 shows that, in the average country in the sample, individuals from ethnic groups associated with low levels of support for the incumbent president fear campaign violence more than members of ethnic groups with higher levels of support. Consistent with Hypothesis 3, this effect appears to be particularly strong in ethno-politically polarized states. It is slightly reversed in non-polarized countries.

To present the results in more detail, consider first Model 1 in Table 2. It is almost empty and includes only country-round dummies and the indicator of the support for the incumbent president among respondents' ethnic kin. As predicted, the latter's coefficient is negative, implying that the fear of campaign violence decreases in co-ethnics' average support for the incumbent president. The effect de-

²⁴Long (1997) claims that the proportional odds assumption underlying the ordinal logit is frequently violated, leading to inconsistent regression estimates. The results from a generalized ordinal logistic regression do not vary substantively from those reported below; see Supplementary Information.

 $^{^{25} \}rm{For}$ an equivalent approach in the usage of large, cross-country survey samples of diverging size see Franck & Rainer (2012) and Eifert, Miguel & Posner (2010).

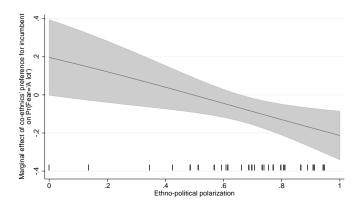


Figure 2: Marginal effect of co-ethnics' preferences for incumbent on fear and ethnopolitical polarization.

Note: Figure indicates the change in the marginal effect of co-ethnics' preference for the incumbent government on the probability of the response 'a lot of fear' over observed values of ethno-political polarization. Estimates are derived from Model 3 in Table 2. Shaded areas represent the 95% confidence interval. Covariates are fixed to urban female respondents in 2013 Guinea with low education, no preference for the incumbent, and an age of 33. Sample observations are indicated by small bars.

creases in size but remains significant in Model 2 when individual-level predictors, especially those on personal political attitudes, are added. This evidence corroborates the hypothesis that campaign violence is targeted at ethnic groups associated with anti-incumbent preferences as collectives irrespective of the political attitudes of individual group members. As expected, individual-level preferences for the opposition are associated with more fear of campaign violence too.

Model 3 then explores the cross-national heterogeneity of this pattern. In line with the finding that ethno-political competition intensifies pre-election violence, ethnic targeting of supporters of the opposition seems most prevalent in ethno-politically polarized countries (Figure 2).²⁶ In non-polarized states however, there are signs for an unexpected opposite effect. Here, members of ethnic groups that are associated with high support for the government fear campaign violence more than the average population (p < 0.1).

To specify the substantive size of the effect of co-ethnics' political preferences on the fear of violence in polarized societies, Figure 3 contains predicted probabilities for the four ordinal levels of fear in ethno-politically polarized Guinea. Consistent with the descriptions of ethnic targeting before the Guinean presidential election in 2010, the emerging effect is sizeable. As one moves from no to full support for the incumbent president among a respondent's co-ethnics, the probability of her responding to have 'a lot' of fear of campaign violence drops by about 15% (from 53% to 38%).

To check the robustness of these results, I conduct a number of additional anal-

 $^{^{26}}$ Mauritius and Cape Verde are excluded from the sample here, as they have a population below .5 million.

Table 2: Co-ethnics' support for incumbent and fear of campaign violence

	(1)	(2)	(3)
	Fear	Fear	Fear
Support for incumbent (%)			
(linguistic co-ethnics)	-0.604^{***}	-0.388^{**}	0.845^{*}
, -	(0.153)	(0.156)	(0.444)
Support for incumbent (%)			
(linguistic co-ethnics) \times			
Ethno-political polarization			-1.709^{**}
			(0.700)
Support for incumbent			
(individual; dummy)		-0.272^{***}	-0.283^{***}
		(0.0322)	(0.0322)
No political preference (dummy)		-0.105^{***}	-0.106^{***}
		(0.0338)	(0.0342)
Age		-0.00808***	-0.00790^{***}
		(0.000742)	(0.000763)
Education		-0.0281^*	-0.0222
		(0.0170)	(0.0173)
Urban (dummy)		-0.0620^*	-0.0591
		(0.0375)	(0.0375)
Female (dummy)		0.139^{***}	0.144^{***}
		(0.0185)	(0.0189)
Country-round fixed effects	Yes	Yes	Yes
Weights	country	country	country
Observations	72076	71079	67459
χ^2	1618.7	2044.7	1880.0

Standard errors clustered at the regional level in parenthesis.

Cut-off points are surpressed.

^{*} p < 0.1, ** p < 0.05, *** p < 0.01.

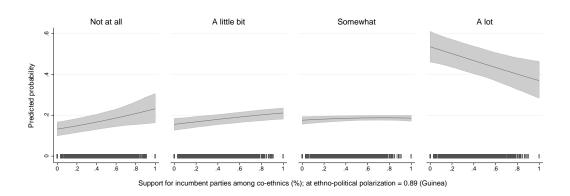


Figure 3: Fear of becoming a victim of campaign violence and co-ethnics' political preferences.

Note: Figure indicates the predicted probabilities of all responses to the question: "How much do you fear becoming a victim of campaign violence in this country." Probabilities are estimates using Model 2 in Table 2. Shaded areas represent the 95% confidence interval. Covariates are fixed to urban female respondents in 2013 Guinea with low education, no preference for the incumbent, and an age of 33. Sample observations are indicated by small bars.

yses presented in Table 7 (Appendix). First, I test whether the results are sensitive to the use of ethnic self-identifications rather than languages for the construction of ethnic groups. It appears that they are not. All coefficients remain very similar in size and significance. Model 3 in Table 7 controls for a number of potentially ommitted variables. First, the spatial clustering of ethnic groups and campaign-violence might bias the results. At the local level, sounder state institutions and economic development might lead to higher levels of support for the government as well as lower levels of campaign violence. To control for such a relation, I include indicators of respondents' mean support for the incumbent president within each district sampled by the Afrobarometer and of the local presence of infrastructure and state institutions.²⁷ I furthermore add variables that proxy the quality of each interview to limit the caveat of the fear of violence reversely causing respondents to report a preference for the incumbent president.²⁸ The estimated coefficients of interest remain very similar in size and variance. There is thus no sign that reverse causality or omitted local factors affect the results.

Hence, the conclusion can be drawn that, in the average country analyzed, respondents are more fearful of becoming victims of campaign violence if their ethnic kin exhibits lower support rates for the incumbent government. Given that this effect is independent from political preferences at the individual and local level, the picture is in line with the theoretical argument that ethnic identities associated with political preferences are used as a heuristic to target ethnic groups as collectives in ethno-politically contested elections.

4 Conclusion

Based on the observation that much of the pre-election violence experienced in multiethnic societies has an ethnic character, I have here presented an argument of how ethnic voting facilitates the targeting of opposition voters and thereby increases the odds of violent campaigns. The associated empirical tests show that pre-election increases in the number of riots is highest in African countries that are polarized between politically relevant groups. Such escalations of violence induced by ethnopolitical competition are discernible only before presidential elections, being the most polarizing events and promising the office of highest value in Africa. Data on the fear of citizens to fall victim to campaign-related violence indicates that

²⁷This indicator is based on the first component of a principal component analysis of 10 items of the Afrobarometer (eigenvalue=3.45), indicating whether an enumeration area has: access to electricity, water, sewage, and cell phone coverage, a post office, a school, a police station, a clinic, and market stalls. All variables load primarily on the first component. Adding each indicator as a dummy to the model does not significantly change the results.

²⁸I control for the presence of bystanders (family and non-family members) as well as co-ethnicity with the interviewer (in terms of language). To capture the trust of the interviewee in the survey, I also include 13 dummy variables capturing the most prevalent answers to the last question of each interview: "Who do you think sent us to do this interview?" Dummies are created for each answer named by at least 1% of the sample and the category 'others'.

members of ethnic groups with low support for the incumbent president are more heavily targeted before elections than their government-supporting counterparts. This relationship is strongest in ethno-politically polarized countries, while being slightly reversed in non-polarized countries.

Adding to the literature on electoral violence, this paper demonstrates that the type of political competition and the office up for election are important determinants of violent campaigns. It shows that where competitive politics are intractably linked to ethnic identities, polarizing elections can induce violence against ethnic groups associated with the opposition and hollow out the democratic promise of a free delegation of powers.

References

- Afrobarometer (2015) Afrobarometer Data. Available at http://www.afrobarometer.org.
- Aksoy, Deniz (2014) Elections and the Timing of Terrorist Attacks. *The Journal of Politics* 76(04): 899–913.
- Allison, Paul D & Richard P Waterman (2002) Fixed-effects negative binomial regression models. *Sociological Methodology* 32(1): 247–265.
- Beck, Thorsten; George Clarke; Alberto Groff; Philip Keefer & Patrick Walsh (2001) New tools in comparative political economy: The Database of Political Institutions. *The World Bank Economic Review* 15(1): 165–176.
- Berenschot, Ward (2011) The Spatial Distribution of Riots: Patronage and the Instigation of Communal Violence in Gujarat, India. World Development 39(2): 221–230.
- Brass, Paul R (2011) The production of Hindu-Muslim violence in contemporary India. Washington: University of Washington Press.
- Bratton, Michael (2008) Vote buying and violence in Nigerian election campaigns. *Electoral Studies* 27(4): 621–632.
- Carter Center (2010) Observing the 2010 Presidential Elections in Guinea. Final Report. Atlanta: Carter Center.
- Cederman, L.-E; Kristian S Gleditsch & Halvard Buhaug (2013) *Inequality, Grievances, and Civil War.* Cambridge: Cambridge University Press.
- Cederman, L.-E; Kristian S Gleditsch & Simon Hug (2013) Elections and Ethnic Civil War. Comparative Political Studies 46(3): 387–417.
- Cederman, L.-E; Andreas Wimmer & Brian Min (2010) Why do ethnic groups rebel? New data and analysis. *World Politics* 62(1): 87–119.
- Chandra, Kanchan (2004) Why Ethnic Parties Succeed. Cambridge: Cambridge University Press.
- CNN (2010) Guinea violence, intimidation displaces thousands, officials say. Retreived on 5.2.2015 from http://edition.cnn.com/2010/WORLD/africa/11/02/quinea.violence/.
- Collier, Paul & Pedro C Vicente (2011) Violence, bribery, and fraud: the political economy of elections in Sub-Saharan Africa. *Public Choice* 153(1-2): 117–147.
- Collier, Paul & Pedro C Vicente (2014) Votes and Violence: Evidence from a Field Experiment in Nigeria. The Economic Journal 124(574): 327–355.
- Cox, Gary W & Michael C Munger (1989) Closeness, expenditures, and turnout in the 1982 US House elections. The American Political Science Review 83(1): 217–231.
- Dercon, Stefan & Roxana Gutiérrez-Romero (2012) Triggers and Characteristics of the 2007 Kenyan Electoral Violence. World Development 40(4): 731–744.

- Eifert, Ben; Edward Miguel & Daniel N Posner (2010) Political competition and ethnic identification in Africa. American Journal of Political Science 54(89): 494–510.
- Erikson, Robert S & Thomas R Palfrey (2000) Equilibria in campaign spending games: Theory and data. *American Political Science Review* 94(3): 595–609.
- Esteban, J.-M & Debraj Ray (1994) On the Measurement of Polarization. *Econometrica* 62(4): 819–851.
- Fearon, James D (1999) Why ethnic politics and 'pork' tend to go together. *Unpublished Working Paper*.
- Franck, Raphaël & Ilia Rainer (2012) Does the Leader's Ethnicity Matter? Ethnic Favoritism, Education, and Health in Sub-Saharan Africa. American Political Science Review 106(02): 294–325.
- Girardin, Luc; Philipp Hunziker; L.-E Cederman; N.-C Bormann & Manuel Vogt (2015) GROWup Geographical Research On War, Unified Platform. *ETH Zurich*. http://growup.ethz.ch.
- Goldsmith, Arthur A (2014) Electoral Violence in Africa Revisited. *Terrorism and Political Violence* 2014(September): 1–20.
- Goldsmith, Arthur A (2015) Elections and civil violence in new multiparty regimes: Evidence from Africa. *Journal of Peace Research*.
- Guimarães, Paulo (2008) The fixed effects negative binomial model revisited. *Economics Letters* 99(1): 63–66.
- Hafner-Burton, Emilie M; Susan D Hyde & Ryan S Jablonski (2013) When Do Governments Resort to Election Violence? *British Journal of Political Science* 44(01): 149–179.
- Hausman, Jerry; Bronwyn H Hall & Zvi Griliches (1984) Econometric models for count data with an application to the patents-R&D relationship. *NBER Technical Paper Series No.* 17.
- Hegre, Håvard & Nicolas Sambanis (2006) Sensitivity analysis of empirical results on civil war onset. Journal of conflict resolution 50(4): 508-535.
- Hodler, Roland & Paul A Raschky (2014) Regional Favoritism. The Quarterly Journal of Economics 129(2): 995–1033.
- Höglund, Kristine (2009) Electoral Violence in Conflict-Ridden Societies: Concepts, Causes, and Consequences. *Terrorism and Political Violence* 21(3): 412–427.
- Horowitz, Donald L (2001) The deadly ethnic riot. Berkeley: University of California Press.
- Huber, John D (2012) Measuring Ethnic Voting: Do Proportional Electoral Laws Politicize Ethnicity? American Journal of Political Science 56(4): 986–1001.
- Hyde, Susan D & Nikolay Marinov (2012). Codebook for the National Elections Across Democracy and Autocracy (NELDA) Dataset. Version 3.

- International Crisis Group (2011) Guinea: Putting the Transition Back on Track. Crisis Group Africa Report No. 178.
- Kasara, Kimuli (2014) Electoral Geography and Conflict: Examining the Redistricting through Violence in Kenya. Working Paper, Columbia University.
- Klopp, Jacqueline M (2001) "Ethnic Clashes" and Winning Elections: The Case of Kenya's Electoral Despotism. Canadian Journal of African Studies 35(3): 473–517.
- Kuhn, Patrick M (2015) Do contentious elections trigger violence. In: Pippa Norris; Richard W. Frank & Ferran Martínez i Coma (eds.) Contentious Elections. From Ballots to Barricades. New York: Routledge, 89–110.
- Laakso, Markku & Rein Taagepera (1979) Effective number of parties: A measure with application to West Europe. *Comparative Political Studies* 12(1): 3–27.
- Linz, Juan J (1990) The perils of presidentialism. Journal of Democracy 1(1): 51–69.
- Long, Scott (1997) Regression models for categorical and limited dependent variables. Thousand Oaks: Sage.
- Marx, Benjamin & Thomas M Stoker (2013) The Political Economy of Ethnicity and Property Rights in Slums: Evidence from Kenya. *Unpublished Working Paper*.
- Montalvo, José G & Marta Reynal-Querol (2005) Ethnic polarization, potential conflict, and civil wars. *American Economic Review* 95(3): 796–816.
- Raleigh, Clionadh; Andrew Linke; Håvard Hegre & Joakim Karlsen (2010) Introducing ACLED: An Armed Conflict Location and Event Dataset. *Journal of Peace Research* 47(5): 651–660.
- Rapoport, David C & Leonard Weinberg (2000) Elections and violence. *Terrorism and Political Violence* 12(3 & 4): 15–50.
- Salehyan, Idean; Cullen S Hendrix; Jesse Hamner; Christina Case; Christopher Linebarger; Emily Stull & Jennifer Williams (2012) Social Conflict in Africa: A New Database. *International Interactions* 38(4): 503–511.
- Salehyan, Idean & Christopher Linebarger (2014) Elections and Social Conflict in Africa, 1990-2009. Studies in Comparative International Development 2014(August).
- Sanchez de la Sierra, Raul & Jean-Paul Z Mutakumura (2015) Contract Enforceability and Ethnic Institutions in East Congo. *Unpublished Working Paper*.
- Steele, Abbey (2011) Electing Displacement: Political Cleansing in Apartado, Colombia. Journal of Conflict Resolution 55(3): 423–445.
- Straus, Scott & Charlie Taylor (2012) Democratization and Electoral Violence in Sub-Saharan Africa, 1990-2008. In: Dorina A. Bekoe (ed.) *Voting in Fear. Electoral Violence in Sub-Saharan Africa*. Washington: United States Institute of Peace, 15–38.
- Throup, David & Charles Hornsby (1998) Multi-party politics in Kenya: The Kenyatta & Moi States & the triumph of the system in the 1992 election. Oxford: James Currey.

- UN Security Council (2009) Report of the International Commission of Inquiry mandated to establish the facts and circumstances of the events of 28 September 2009 in Guinea. S/2009/693.
- van de Walle, Nicolas (2003) Presidentialism and clientelism in Africa's emerging party systems. The Journal of Modern African Studies 41(2): 297–321.
- Vogt, Manuel; N.-C Bormann; Seraina Rüegger; L.-E Cederman; Philipp M Hunziker & Luc Girardin (2015) Integrating Data on Ethnicity, Geography, and Conflict: The Ethnic Power Relations Dataset Family. *Journal of Conflict Resolution, forthcoming*.
- Weber, Max (1978) Economy and society: An outline of interpretive sociology. Berkeley: University of California Press.
- Weidmann, Nils B (2014) On the Accuracy of Media-based Conflict Event Data. *Journal of Conflict Resolution* 2014(April): 1–21.
- Wilkinson, Steven I (2004) Votes and violence. Cambridge: Cambridge University Press.
- Wilkinson, Steven I & Christopher J Haid (2009) Ethnic Violence as Campaign Expenditure: Riots, Competition, and Vote Swings in India. Working paper, University of Chicago.
- Wooldridge, Jeffrey M (1999) Distribution-free estimation of some nonlinear panel data models. *Journal of Econometrics* 90(1): 77–97.
- Wooldridge, Jeffrey M (2010) Econometric analysis of cross section and panel data. Cambridge: MIT Press.
- Wucherpfennig, Julian; Philipp Hunziker & L.-E Cederman (2015) Who Inherits the State? Colonial Rule and Post-Colonial Conflict. *Unpublished Working Paper*.

Appendix

Table 3: Summary statistics: country-months

	count	mean	sd	min	max
Riots (SCAD)	13524	0.23	0.88	0.00	34.00
Riots (ACLED)	9612	0.63	3.88	0.00	127.00
Time to election (all)	11177	0.11	0.19	0.02	1.00
Time to election (Pres.)	8624	0.09	0.16	0.02	1.00
Time to election (Legis.)	10863	0.09	0.16	0.02	1.00
Time to election (regular)	6738	0.10	0.18	0.02	1.00
Ethno-political polarization	13524	0.59	0.31	0.00	0.99
Party polarization	11400	0.55	0.32	0.00	1.00
Ethnic polarization	12096	0.54	0.18	0.02	0.90

Table 4: Summary statistics: survey data

	count	mean	sd	min	max
	Count	шеан	su	111111	IIIax
Fear	81445	1.02	1.17	0.00	3.00
Support for incumbent (%)					
(linguistic co-ethnics)	73248	0.40	0.23	0.00	1.00
Support for incumbent (%)					
(self-identified co-ethnics)	69474	0.40	0.23	0.00	1.00
Ethno-political polarization	77814	0.58	0.27	0.00	0.95
Support for incumbent					
(individual; dummy)	79119	0.38	0.49	0.00	1.00
No political preference (dummy)	79119	0.31	0.46	0.00	1.00
Age	80685	36.86	14.49	18.00	110.00
Education	81303	2.40	0.93	1.00	4.00
Urban (dummy)	80761	0.63	0.48	0.00	1.00
Female (dummy)	81445	0.50	0.50	0.00	1.00
Support for incumbent (%)					
(district)	73353	0.39	0.26	0.00	1.00
EA infrastructure	76825	-0.00	1.86	-3.49	3.11
Same language as interviewer	81445	0.50	0.50	0.00	1.00
Family present	81445	0.18	0.39	0.00	1.00
Non-family present	81445	0.14	0.35	0.00	1.00
Others influenced respondent	81320	0.04	0.19	0.00	1.00
Respondent checked w/ others	81374	0.05	0.21	0.00	1.00

Table 5: Robustness checks: Ethno-political polarization and pre-election riots

	(1) Riots (SCAD)	(2) Riots (SCAD)	(3) Riots (ACLED)	(4) Riots (SCAD)
Time to election (all)	-2.434*** (0.892)		-0.250 (0.911)	-0.152 (0.719)
Time to election (all) \times	, ,		,	,
Ethno-political polarization	4.630***		2.393**	2.261***
	(1.412)		(1.072)	(0.837)
int_party_pol_all				-0.232
				(0.485)
Time to election (all) \times				
Ethnic polarization				-0.270
				(1.125)
Time to election (regular)		-0.431		
		(0.700)		
Time to election (regular) ×		0.150**		
Ethno-political polarization		2.170**		
		(1.010)		
Robustness check	w/o elec. months	regular elec.	ACLED	controls
$riots_{t-1}, riots_{t-2}, riots_{t-3}$	Yes	Yes	Yes	Yes
Fixed effect	country-year	country-year	country-year	country-year
Observations	5937	3857	4659	5451
χ^2	49.72	83.07	51.37	67.91

Robust standard errors in parenthesis * p < 0.1, ** p < 0.05, *** p < 0.01

Table 6: Robustness checks: Ethno-political polarization and pre-election riots

	(1) Riots (SCAD)	$ \begin{array}{c} (2) \\ \ln(\text{Riots} + 1) \end{array} $	(3) Riots (SCAD)	(4) Riots (SCAD)
Ethno-political polarization	0.0278		-0.0460	0.806
	(0.706)		(0.917)	(1.717)
Time to election (all)	0.0637	0.0877	0.879***	
	(0.273)	(0.0591)	(0.275)	
Time to election (all) \times				
Ethno-political polarization	1.608***	0.182**	0.650	
	(0.421)	(0.0841)	(0.538)	
Time to election (regular)	, ,	, ,	, ,	0.547**
				(0.269)
Time to election (regular) ×				
Ethno-political polarization				1.048*
-				(0.564)
Constant	1.343***	0.105***		` ,
	(0.396)	(0.00488)		
Robustness check	NegBin	OLS	country FE	country FE
$riots_{t-1}$, $riots_{t-2}$, $riots_{t-3}$	Yes	Yes	Yes	Yes
Fixed effect	country-year	country-year	country	country
Observations	$64\overline{59}$	10851	10851	6389
χ^2	134.3		1302.2	5484.5

Robust standard errors in parenthesis * p < 0.1, ** p < 0.05, *** p < 0.01

Table 7: Robustness checks: Co-ethnics' support for incumbent and fear of campaign violence

	(1) Fear	(2) Fear	(3) Fear	(4) Fear
Support for incumbent (%) (self-identified co-ethnics)	-0.352** (0.152)	0.847** (0.406)		
Support for incumbent (%) (self-identified co-ethnics) ×	,	1 .670***		
Ethno-political polarization		-1.672*** (0.639)		
Support for incumbent (%) (linguistic co-ethnics)		, ,	0.838* (0.451)	1.253** (0.552)
Support for incumbent (%)			(0.431)	(0.552)
(linguistic co-ethnics) × Ethno-political polarization			-1.623**	-2.285***
Etimo-pontical polarization			(0.703)	(0.885)
EA infrastructure			-0.00709	,
			(0.0113)	
Support for incumbent (%) (district)			-0.108	
(district)			(0.110)	
Same language as interviewer			0.0481	
Family present			$(0.0378) \\ 0.0516$	
ranny present			(0.0353)	
Non-family present			0.0932**	
Others in flavor and many and and			(0.0396) $0.255****$	
Others influenced respondent			(0.0688)	
Respondent checked w/ others			-0.0825	
			(0.0580)	
Robustness check	Ethnic self-id	Ethnic self-id	add. variables	w/out small groups
Country-round dummies	Yes	Yes	Yes	Yes
Individual-level controls	Yes	Yes	Yes	Yes
Weights Observations	country	country	country	country
Observations χ^2	67435 1947.4	65383 1888.1	61926 2301.9	51583 1905.1
λ	1341.4	1000.1	2001.9	1300.1

Standard errors clustered at the regional level in parenthesis. Cut-off points are surpressed. * p < 0.1, ** p < 0.05, *** p < 0.01.

Supplementary information

Table 8: Countries included in analyzed samples

$Level\ of\ analysis$	Country	Individuals
Dependent variable	Riots	Fear of campaign violence
Country		
Algeria	×	×
Angola	×	
Benin	×	×
Botswana	×	×
Burkina Faso	×	×
Burundi	×	×
Cameroon	×	×
Cape Verde		×
Central African Republic	×	
Chad	×	
Congo, Democratic Republic	×	
Congo, Republic	×	
Egypt, Arab Republic	×	
Ethiopia	×	
Gabon	×	
Ghana	×	×
Guinea	×	×
Guinea-Bissau	×	**
Ivory Coast	×	×
Kenya	×	×
Lesotho	×	^
Liberia	×	×
Libya	×	^
Madagascar	×	×
Malawi	×	×
Mali	×	×
Mauritania	×	^
Mauritius	^	×
Morocco	×	^
Mozambique	×	×
Namibia	×	×
		×
Niger Nigeria	×	
Rwanda	×	×
	×	V
Senegal Sierra Leone	×	×
	×	×
South Sudan	×	×
South Sudan	×	
Sudan	×	
Swaziland	×	
Tanzania	×	×
Togo	X	×
Tunisia	×	
Uganda	×	×
Zambia	×	×
Zimbabwe	×	X

Table 9: Robustness checks: Ethno-political polarization and pre-election riots

	(1) Riots (SCAD)	(2) Riots (SCAD)	(3) Riots (ACLED)	(4) Riots (SCAD)
Time to election (Pres.)	-3.435*** (1.074)		-0.0814 (1.403)	-1.041 (0.853)
Time to election (Pres.) ×	(1.014)		(1.400)	(0.000)
Ethno-political polarization	5.960*** (1.706)		2.899* (1.640)	2.983*** (1.099)
int_party_pol_exec	,		,	-0.551 (0.727)
Time to election (Pres.; reg.)		-1.278 (0.861)		` ,
Time to election (Pres.; reg.) \times		` ,		
Ethno-political polarization		3.604*** (1.232)		
Time to election (all) \times		` ,		
Ethnic polarization				1.104** (0.467)
Robustness check riots _{t-1} , riots _{t-2} , riots _{t-3}	w/o elec. months Yes	regular elec. Yes	ACLED Yes	controls Yes
Fixed effect	country-year	country-year	country-year	country-year
Observations	4780	3501	3637	4416
χ^2	42.13	49.33	42.61	58.67

Robust standard errors in parenthesis * p < 0.1, ** p < 0.05, *** p < 0.01

Table 10: Robustness checks: Ethno-political polarization and pre-election riots

Table 10: Robustness	споска. Дипо-ро	retear perarization	and pre election	1005
	(1) Riots (SCAD)	$ \begin{array}{c} (2) \\ \ln(\text{Riots} + 1) \end{array} $	(3) Riots (SCAD)	(4) Riots (SCAD)
Ethno-political polarization	-0.393 (0.821)			
Time to election (Pres.)	-0.0571 (0.411)	0.0926 (0.0823)	0.671 (0.639)	
Time to election (Pres.) ×	,	, ,	, ,	
Ethno-political polarization	1.954***	0.270**	1.048	
	(0.608)	(0.116)	(0.965)	
Time to election (Pres.; reg.)	,	,	,	-0.207 (0.495)
Time to election (Pres.; reg.) ×				()
Ethno-political polarization				2.074^{**} (0.852)
Constant	1.815^{***} (0.479)	$0.113^{***} (0.00502)$		(3.332)
Robustness check	NegBin	OLS	country FE	country FE
$riots_{t-1}$, $riots_{t-2}$, $riots_{t-3}$	Yes	Yes	Yes	Yes
Fixed effect	country-year	country-year	country	country
Observations	5075	8374	8374	5570
χ^2	100.1		2127.0	3388.9

Robust standard errors in parenthesis * p < 0.1, ** p < 0.05, *** p < 0.01

Table 11: Robustness checks: Ethno-political polarization and pre-election riots

	(1) Riots (SCAD)	(2) Riots (SCAD)	(3) Riots (SCAD)	(4) Riots (SCAD)
Time to election (all)	-0.0400 (0.500)	-0.139 (0.519)	-0.186 (0.557)	
Time to election (all) \times	,	` /	,	
Ethno-political polarization	1.611** (0.701)	1.813** (0.735)	1.885** (0.790)	
Time to election (Pres.)	,	,	, ,	-0.768 (0.913)
Time to election (Pres.) \times Ethno-political polarization				2.830** (1.237)
Riots t-1	0.0263*** (0.00772)	0.0387*** (0.00781)	0.0370*** (0.00720)	0.0247** (0.00668)
Riots t-2	(0.00772)	-0.0303**	-0.0337****	-0.0364**
Riots t-3		(0.0119) 0.00880 (0.00939)	(0.00673) $0.0145*$ (0.00775)	(0.00478) 0.00619 (0.00517)
Riots t-4		0.00389 (0.00916)	(0.00113)	(0.00317)
Riots t-5		-0.0265^{**} (0.0126)		
Robustness check	lags DV	lags DV	EPR_polar!=0	EPR_polar!=0
$riots_{t-1}$, $riots_{t-2}$, $riots_{t-3}$	No	Yes	Yes	Yes
Fixed effect	country-year	country-year	country-year	country-year
Observations	6481	6416	5703	4591
χ^2 AIC	78.13 6630.3	117.9 6535.0	138.0 5989.4	118.1 4710.5

Robust standard errors in parenthesis * p < 0.1, ** p < 0.05, *** p < 0.01

Table 12: Co-ethnics' support for incumbent and fear of campaign violence: generalized ordinal logit

		(1)				
		Fear				
	\geq A little bit	\geq Somewhat	= A lot			
Support for incumbent (%)						
(linguistic co-ethnics)	0.703*	0.753	0.966			
,	(0.425)	(0.462)	(0.605)			
Support for incumbent (%)	` ,	` '	, ,			
(linguistic co-ethnics) ×						
Ethno-political polarization	-1.482**	-1.641**	-1.806**			
	(0.687)	(0.675)	(0.875)			
Country-round dummies	Yes					
Individual-level controls	Yes					
Weights	country					
Observations	66344					
χ^2	13757.8					

Standard errors clustered at the regional level in parenthesis. Cut-off points are surpressed. * p < 0.1, ** p < 0.05, *** p < 0.01.