

Election Type and the Logic of Pre-Election Violence: Evidence from Zimbabwe¹

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Election violence is often conceptualized as a form of coercive campaigning, but the literature has not fully explored how electoral institutions shape incentives for competition and violence. We argue that the logic of subnational electoral competition – and with it incentives for violence – differs in presidential and legislative elections. In presidential elections, *national-level* considerations dominate incentives for violence. Presidential elections are usually decided by winning a majority of votes in a single, national district, incentivizing parties to demobilize voters with violence in strongholds. In contrast, election violence is subject to *district-level* incentives in legislative elections. District-level incentives imply that parties focus on winning the majority of districts, and therefore center violent campaigning on the most competitive districts. We test our argument with georeferenced, constituency-level data from Zimbabwe, a case that fits our scope conditions of holding competitive elections, violence by the incumbent, and majoritarian electoral rule. We find that most violence takes place in strongholds in presidential elections, especially in opposition strongholds. In contrast, competitive constituencies are targeted in legislative contests.

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Introduction

Election campaigns are often characterized by a mix of licit and illicit campaign strategies, particularly in countries in the Global South. An emerging literature is investigating the subnational determinants of both types of strategies. Recent work on licit campaigning explores the subnational geography of rallies, large public meetings, candidate visits, and promotional materials, among others (Fox, 2018; Langston and Rosas, 2018; Rauschenbach, 2015). Work on illicit campaigning examines practices of vote buying, intimidation, and violence as part of electoral campaigns (Gonzalez-Ocantos et al., 2012; Gutiérrez-Romero, 2014; Rauschenbach and Paula, 2019). We connect these literatures by incorporating electoral institutions into our theory on the subnational logic of campaigning with violence.

The core insight of our paper is that electoral institutions, in particular election type, determine which subnational locations will be targeted with violence. In presidential elections, *national-level incentives* dominate. In such elections, candidates must win a majority of votes across a single national district, and it therefore does not really matter where a candidate wins those votes. Rather than focusing on districts that are competitive, parties will employ violence in other parties' strongholds to demobilize rival party voters. In rival party strongholds, parties have the greatest chance of demobilizing their opponents' supporters while also minimizing the risk of targeting their own supporters. In contrast, in legislative elections with single-member districts (SMD) (which are common in Africa), *district-level* incentives dominate campaigns, since candidates and their parties must focus on winning individual districts. Violence, just like regular campaign activities, should therefore be concentrated in the most competitive districts.

Our research makes three contributions. First, we develop a theory of election violence that takes seriously the logic of election campaigns. Although pre-election violence is typically conceptualized as a form of coercive campaigning (Birch, Daxecker and Höglund, 2020), prior work has largely privileged non-electoral and non-institutional explanations. In line with the national- and district-level logics sketched out above, we develop divergent predictions for patterns of violence in presidential and legislative elections. We test them empirically in Zimbabwe, a country that fits our scope conditions of holding minimally competitive elections, a violent incumbent party, and majoritarian electoral rule. As a competitive authoritarian regime, the incumbent in Zimbabwe has advantages in the use of violence over the opposition and we therefore center our theory on incumbents' incentives for violence (Levitsky and Way 2002, 2020); however, we discuss implications for countries with greater opposition capacity for violence after presenting our results. Until 2008, Zimbabwe also held legislative and

presidential elections on separate dates, allowing us to distinguish district- vs. national-level logics while holding many confounders constant. We find that legislative elections experience more violence in competitive districts than in strongholds, while strongholds rather than competitive constituencies are targeted in presidential elections. Distinguishing among strongholds, we find that opposition strongholds experience most violence in presidential contests. In the empirical section and the appendix, we discuss and address threats to causal inference, validate independent and dependent variables, and present additional model specifications. Our results are consistent across many robustness tests.

Second, we develop empirical expectations at the constituency-level, i.e. the theoretically most relevant units. Past work on election violence has often focused on competitiveness at the level of the election or the level of the voter (Gutiérrez-Romero, 2014; Hafner-Burton, Hyde and Jablonski, 2014). An aggregate analysis is per definition unable to tell us why violence happens in some locations but not others. A focus on individuals, on the other hand, is problematic because it assumes that perpetrators can target voters individually and ignores that violence intends to intimidate beyond the immediate target. Joining an emerging literature on the subnational determinants of election violence (see Birch, Höglund, and Daxecker, 2020), our argument focuses on electoral districts and the partisan makeup of those districts. We theorize about the actors and units most relevant for the decisions being taken (Arjona, 2019, p. 215), i.e. incumbents considering the use of violence.

Third, we contribute to work on campaigning, in particular other forms of voter demobilization. The literature on campaigning is primarily case-specific and rarely aims to generalize beyond those cases. Our argument on the divergent logic of targeting in presidential and legislative elections is applicable to other forms of demobilization that vary subnationally, such as negative campaigning (Lau and Rovner, 2009; Walter et al., 2013), restrictions on voting rights (Biggers and Hanmer, 2017), or procedural problems on polling day (Harris, 2021; Pettigrew, 2017).

The subnational determinants of election violence

An emerging literature recognizes the importance of local conditions for patterns of election violence. One subset of work examines how non-electoral characteristics – in particular land rights – become instrumentalized during elections. This work finds that land grievances create the conditions for violent mobilization during elections (Boone, 2011; Klaus and Mitchell, 2015; Klaus, 2020). Work on the competitiveness of elections and violence, on the other hand, puts election-specific factors at the forefront. Formal theoretical work expects that swing voters

should be targeted with violence (Chaturvedi, 2005; Collier and Vicente, 2011; Robinson and Torvik, 2009). Focusing on subnational units in various contexts, Asunka et al. (2019), Evéquoz (2019), Harvey (2016), and Wilkinson (2004) show that competitive subnational units experience more electoral violence. However, others find evidence of targeting in strongholds. Rauschenbach and Paula (2019) show that violence is used to demobilize voters in opposition strongholds in Sub-Saharan Africa, a finding Wahman and Goldring (2020) confirm for Zambia. And for at least some elections in Zimbabwe, LeBas (2006) and Fielding (2018) suggest that violence targeted incumbent strongholds in an attempt to intimidate intra-party rivals and consolidate the incumbent party. The evidence on electoral competitiveness and violence is thus mixed, and inconsistent with theoretical predictions.

An important insight from work on competitiveness is that the electoral importance of subnational units is crucial for decisions on targeting with violence. But with some exceptions (notably Daxecker 2020, Fjelde and Höglund 2016, Malik 2018, Müller-Crepon 2021), this literature has ignored the role of electoral institutions in determining which locations will be competitive under what conditions. The literature on traditional campaigning - while not focused on violence - provides valuable insight into how election type affects parties' campaign activities, in particular whether they focus on marginal constituencies or strongholds. Majoritarian electoral rule typically produces party systems with few effective parties. Such contexts incentivize party competition over independent voters, ignoring party supporters because these voters have few alternatives but supporting "their" party (Althaus, Nardulli and Shaw, 2002; Bowler and Farrel, 1992). Evidence from general elections in the United Kingdom - a country with SMD in legislative elections - shows that campaign activities focus on marginal districts (Fisher and Denver, 2009; Middleton, 2018).² These findings are also consistent with the few studies that emphasize local dynamics of violence in countries with majoritarian rule (Müller-Crepon 2021; Wilkinson 2004). In contrast, campaign dynamics in presidential elections have a more national orientation than in legislative elections. In these contests, campaigns may prioritize strongholds to demonstrate their popularity rather than potentially wasting time and resources in localities with fewer supporters (Langston and Rosas, 2018) and to mobilize supporters to turn out (Rauschenbach, 2015). Evidence from Ukrainian elections

² Most research on the subnational allocation of campaign resources focuses on the US. This work finds that campaign activity concentrates on highly and densely populated areas, where turnout fluctuates (Althaus, Nardulli & Shaw, 2002, p. 53), in swing states (Althaus, Nardulli & Shaw, 2002, p. 53), and in states that yield the greatest rewards in the electoral college (Bartels, 1985). While these findings are instructive for legislative elections elsewhere, the electoral college system used in U.S. presidential elections is unique, limiting generalizability. Other countries select presidents in a single national district.

confirms a constituency logic in legislative elections, while the presidential election followed a national logic (Birch, 2007). Different types of elections thus imply different logics of subnational campaigning. We develop the implications of this insight for campaigning with violence below.

Election type and incentives for violence

We aim to identify the subnational determinants of pre-election violence in competitive authoritarian regimes. In such regimes, elections are held regularly, but “incumbents routinely abuse state resources, deny the opposition adequate media coverage, harass opposition candidates and their supporters, and in some cases manipulate electoral results” (Levitsky and Way 2002, p. 53). Incumbents in competitive authoritarian regimes hence have advantages in the use of violence compared to the opposition, including control over the security forces, access to resources to contract nonstate armed groups for violence, and considerable influence over the judiciary, enabling them to escape or limit sanctions for violent behavior.³ Having controlled power for a long time, incumbents also have the party bases and coercive structures necessary to orchestrate violence throughout the country. Moreover, the dominance of incumbents reduces the risk of retaliation by the opposition, meaning that incumbents can allocate violence where they deem it most effective for their electoral strategy. Based on these characteristics of competitive authoritarian regimes, we expect that patterns of pre-electoral violence are predominantly a function of the incumbent’s campaign strategy.⁴ Our main theoretical intuition is that different types of elections have implications for incumbents’ subnational campaigns and how they allocate violence.

We conceptualize violence before or during elections as a strategy to demobilize voters. While violence could in principle be used for other purposes, including to mobilize party supporters, we follow the widely shared assumption that it is most rational for incumbents to use violence for demobilization.⁵ Our argument focuses on electoral districts and their partisan makeup as main units of analysis. Electoral districts are theoretically meaningful units of

³ While much of the literature expects that incumbents more often use violence, Collier and Vicente (2012) theorize that weak challengers have greater incentives for violence and find suggestive evidence for Nigeria. As we show in our empirical section (and consistent with NGO reports, see Human Rights Watch 2005, 2008), the incumbent is responsible for most of the violence (80%) in Zimbabwe.

⁴ We discuss implications for regimes in which opposition parties have substantial capacity for violence in a separate section after presenting the results.

⁵ For evidence consistent with violence as a demobilization strategy, see Boone (2011), von Borzyszkowski et al. (2022), Bratton (2008), and Rauschenbach & Paula (2019). Electoral violence could also be aimed at candidates (Harish and Toha, 2018) or take place in the context of ongoing armed conflict (Flores and Nooruddin, forthcoming; Matanock and Staniland 2018), although such violence likely still depresses turnout.

analysis because candidates and parties organize their campaigns along those units. We distinguish three theoretically relevant types of electoral constituencies; incumbent strongholds, opposition strongholds and competitive constituencies.⁶ Among voters, we can similarly distinguish incumbent supporters, opposition supporters and independent voters. We recognize that the partisan orientation of districts and voter preferences are not the same thing. Incumbent strongholds can be populated by voters other than incumbent supporters. However, we expect that district and voter preferences correlate closely. We therefore operate under the assumption that more incumbent supporters live in incumbent strongholds, while more independent voters live in competitive constituencies, and more opposition voters live in opposition strongholds than in other locations.⁷ These assumptions likely reflect considerations made by parties, whose campaign logic we try to mirror. While parties would in principle prefer to target violence individually, it is usually too costly for them to identify targets with such precision. Parties therefore rely on more aggregate and publicly available information on the partisan identities of areas in which voters reside. This assumption is particularly warranted in the African context, where ample evidence demonstrates the low capacity of parties to track voter preferences and votes (Bratton, 2008; van de Walle, 2003). Presumably, then, parties rely on informational shortcuts such as previous election results to estimate the partisan identity of geographic areas, as qualitative evidence from Ghana and Zimbabwe underscores (Rauschenbach, 2015, Human Rights Watch, 2008).⁸

Pre-electoral violence entails potential benefits and risks. If pre-electoral violence has the intended consequence, individuals who otherwise would have voted for the opposition will abstain. Since violence has deterrent effects beyond the immediate target, other opposition voters may also decide to abstain.⁹ A major risk in inciting violence, however, is that it could scare off the wrong voters, including those who might have otherwise supported the perpetrator of violence at the polls. This is why we expect parties to be first and foremost preoccupied with directing violence at the “correct voters” when deciding where to incite pre-electoral violence. All things equal, we expect that it is most difficult to identify voter preferences in competitive or swing districts since those districts contain voters with most heterogeneous preferences.

⁶ The terms constituency and electoral district are used interchangeably.

⁷ For evidence, see Rauschenbach and Paula (2019).

⁸ If voting takes place along ethnic lines, identifying partisans is likely easier. However, ethnicity only adds an extra layer of information to aggregate election results in ethnically heterogeneous localities. Moreover, targeting violence at individuals is costlier than directing violence at localities and will thus be applied only sparingly. Consequently, we expect similar subnational patterns of violence in countries where ethnicity is a stronger predictor for partisanship than in Zimbabwe.

Presidential elections

In most presidential elections, presidents are directly elected and the entire country is treated as a single electoral district. Countries with presidential systems in Sub-Saharan Africa (and also those elsewhere) elect their president with either plurality or absolute majority. In these elections, it does not matter how many electoral districts a party wins, but that it reaches a national plurality or majority.¹⁰ Districts nevertheless provide valuable information on the partisan identity of voters residing in them. Since incumbents' goal is to demobilize opponent supporters, we expect them to direct more violence at strongholds than at competitive districts in presidential elections.

H1: In presidential elections, more pre-electoral violence takes place in party strongholds than in competitive constituencies.

Hypothesis 1 expects that violence is used to target non-competitive districts in presidential elections. An important question is whether incumbents aim to direct violence at rival voters in their own strongholds or at those in the opposition party's strongholds. As stated above, we expect parties to be concerned with minimizing the risks of demobilizing those voters who might have otherwise supported them. If identifying voters' preferences individually is too costly or impossible, incumbents should prefer inciting violence in the opposition's strongholds where the chance of demobilizing sympathizers of the rival party are highest. In addition, targeting rival party strongholds allows for demobilizing the largest number of rival party supporters with the least amount of violence. In competitive authoritarian contexts, more pre-electoral violence should therefore be targeted at the opposition than incumbent strongholds.

H2: In presidential elections, more pre-electoral violence takes place in opposition strongholds than in incumbent party strongholds.

¹⁰ In some countries a simple plurality is enough to win an election while 50% +1 vote are required in two-round systems. We recognize that some presidential systems employ additional criteria to ensure broad-based geographic support. While the geographic location of support in such elections matters more than in other presidential elections, we still expect geographic incentives to be less relevant than in legislative elections.

Legislative elections

In contrast to presidential elections, where votes are won subnationally matters in legislative contests, particularly in elections with SMD.¹¹ Electoral systems are important for the context in which campaigns take place (Bowler and Farrel, 1992, p. 7). In legislative elections with SMD, the focus is on winning as many constituencies – and hence seats – as possible. Parties aiming to maximize the number of seats in a legislative election should invest more resources in more competitive districts (Snyder, 1989). The same rationale should apply to election violence as a coercive campaign strategy. If a party’s lead in its stronghold is substantial, campaigning there with violence is unnecessary. As long as the lead is large enough to win a plurality in a constituency, gaining additional votes in its strongholds is irrelevant for the outcome. Of course, parties might also want to demobilize rival supporters, concentrated in opponent party strongholds, in legislative elections. However, as the number of rival supporters they would need to demobilize to flip the outcome in opposition strongholds is high, in particular compared to marginal constituencies, parties will focus on the latter. Considering the literal as well as reputational costs of violence, we expect that incumbents should incite most violence in competitive constituencies in legislative elections.¹²

H3: In legislative elections, more pre-electoral violence takes place in competitive constituencies than in party strongholds.

Case selection: Elections and violence in Zimbabwe

We select Zimbabwe as the case for our analysis. Elections in Zimbabwe started to be competitive in 2000, which is when our analysis begins. Legislative elections in Zimbabwe use SMD and a first-past-the-post (FPTP) system, while presidential elections use the entire country as a single district. Legislative and presidential elections were held separately until 2008, when it switched to concurrent elections. We expect our argument to hold in other countries, including those with concurrent elections. However, focusing on a single country with separate legislative and presidential elections allows for holding many confounders

¹¹ SMD are used in 48% of African elections, and in 38% of elections in competitive authoritarian regimes. Calculations are based on the list of competitive authoritarian regimes in Levitsky and Way 2020, p. 53) and data on electoral system (IDEA 2021).

¹² Note that this expectation holds regardless of whether incumbent parties can nationally organize and deploy violence. In situations where local candidates are responsible for campaigns, we would similarly expect embattled incumbents to have the greatest incentives to resort to violence. In our empirical case, NGOs report that the incumbent party organized violence at the center (Human Rights Watch 2005, 2008), and additional analyses in appendix A3.6 are consistent with this evidence.

constant and hence more cleanly establishing the effect of election type on violent campaigning. Compared to other African countries, Zimbabwe's electoral and political institutions are fairly typical. Twenty-four of 50 African countries use majoritarian electoral rule, 17 use proportional representation, and 9 use a mixed system. In terms of political system, 42 have presidential systems. Combining these two dimensions, there are 22 African countries with presidential systems that use majoritarian electoral rule in legislative elections.¹³ Outside of the African context, Zimbabwe's electoral system is used by 12 of the 32 competitive authoritarian regimes currently in place.¹⁴

Violence is commonplace in Zimbabwean elections and dominated by the incumbent. The literature on African elections expects incumbents to use more violence in general because they have control over the security apparatus and also have access to resources to subcontract violence to militias and other nonstate armed actors (Straus and Taylor, 2012). Across parliamentary and presidential elections, NGOs have documented that the incumbent ZANU-PF intimidated, harassed, or killed presumed opposition supporters (Human Rights Watch, 2005, 2008), suggesting that violence was widespread, committed primarily by the incumbent, and organized at the center.

Zimbabwe hence fits our scope conditions of competitive elections, violence by the incumbent, and majoritarian rule. For context, we briefly discuss elections and patterns of violence in Zimbabwe since 2000. The Zimbabwe African National Union Patriotic Front (ZANU-PF) has been in power since independence in 1980. Elections remained virtually uncontested until the the June 2000 legislative elections, which presented the incumbent with its first real challenge, and which were followed a surprising defeat of a constitutional referendum in February 2000. To coincide with Zimbabwe's movement towards a competitive authoritarian regime, we begin our empirical investigation with the 2000 elections. These elections were the first in which the newly formed opposition party Movement for Democratic Change (MDC) contested elections. In 2000, the MDC won 47% of the vote and 57 of 120 seats (Fielding, 2018). The 2000 elections experienced substantial violence by the incumbent party and its allies against the opposition MDC and those with unknown party affiliation (Kriger, 2005, pp. 28-30, LeBas, 2006, pp. 427-428).¹⁵

¹³ Data for electoral rule and political system come from <https://www.idea.int/data-tools/continent-view/Africa/44>. Of these 22 countries, former British colonies hold concurrent elections (with some exceptions, including Zimbabwe), while former French colonies mostly hold them on separate dates (van Cranenburgh, 2008).

¹⁴ Data on electoral systems and the list of competitive authoritarian regimes come from IDEA (2021) and Levitsky and Way (2020), p. 53.

¹⁵ In addition to violence against MDC supporters, LeBas (2006) describes substantial violence in incumbent strongholds designed to prevent ZANU-PF defections. She also notes that ruling party violence in its own

In the 2002 presidential contest, the MDC candidate received 42% of the vote compared to Mugabe's 58%, while the opposition secured 41 of 120 seats in the 2005 legislative elections. Pro-incumbent violence against opposition supporters was prominent before both elections (Scarnecchia, 2006, p. 222, Human Rights Watch, 2005, p.14; Laakso, 2007, p. 245; LeBas, 2014, p. 52). In 2008, the first concurrent elections, MDC candidate Tsvangirai claimed to have received an absolute majority and having won the elections. However, after delays and credible allegations of rampant fraud, official results showed the MDC with 47%, requiring a runoff. The incumbent party unleashed a massive campaign of violence against the opposition MDC (Human Rights Watch 2008, section VI, LeBas, 2014, pp. 54-55). Violence involved the "beating, torture, and deaths of hundreds of MDC activists and supporters" (LeBas, 2014, p. 54). Supporting our intuition that parties use informational shortcuts to infer partisan identity of voters, Human Rights Watch reports that the incumbent party "examined results posted outside polling stations to identify areas where people voted for MDC in large numbers [...]" (Human Rights Watch, 2008, p.16), in order to identify targets for their violence. This violence "was used to deter people from voting for the MDC and to persuade them to vote for ZANU-PF during the presidential runoff" (Human Rights Watch, 2008, p.15). MDC candidate Tsvangirai ultimately withdrew from the runoff and Mugabe was reelected. Since 2008, the ZANU-PF has managed to hold on to power, although Mugabe was removed in an internal party coup in 2017.

Our empirical analyses cover elections held from 2000 until first general elections and the presidential runoff in 2008. Before 2000, there was no meaningful opposition (Makumbe and Compagnon 2000). We exclude elections after 2008 since Zimbabwe switched to concurrent elections, which makes it more difficult to disentangle patterns in legislative and presidential elections. Table 1 summarizes the elections in our data. The table illustrates that elections in Zimbabwe were reasonably competitive, as shown in national-level margins, and experienced substantial violence, thus fitting our scope conditions.

strongholds declined after 2000. A shift from intra-party factional violence in a hegemonic authoritarian regime to inter-party violence in a competitive authoritarian regime is consistent with our scope conditions.

Table 1: Overview of elections, national-level margins, and election violence included

Election type	Date	% national-level victory margin	% constituencies w/ violence (ECAV)
Referendum	February 2000	32%	-
Legislative	June 2000	42%	32%
Presidential	March 2002	43%	37%
Legislative	March 2005	38%	8%
(Concurrent)*	March 2008	29%	8%
Presidential (runoff)	June 2008	-	10%

* We exclude the 2008 concurrent elections from our main analyses since it is more difficult to distinguish district- and national-level logics. In appendix A2, we present models including these elections. Results remain robust.

Data and variables

We construct a dataset consisting of all 120 electoral constituencies in Zimbabwe for the five elections in our data. Our data cover two legislative elections (2000 and 2005), two presidential elections (2002 and the June 2008 runoff) and one concurrent election (March 2008). Constituency-election-years are appropriate units because they are the locus of electoral competition in legislative elections with SMD.

The use of electoral districts creates challenges because both the boundaries and the number of constituencies can change over time. In the elections included in our data, constituency numbers and boundaries did not change in presidential elections in 2002 compared to the 2000 elections. In the 2005 legislative elections, changes were limited, with eight new constituencies created. Most problematic for our purposes is that the number of constituencies increased from 120 to 210 for the general elections in 2008 and thereafter, creating 90 new constituencies by splitting many existing constituencies into much smaller ones.¹⁶ We solve this challenge by identifying the geographically largest portion of each previous constituency that survived in 2008. In our analyses of the 2008 elections, we therefore only retain the 120 constituencies covering the largest portions of the 210 newly created constituencies. This strategy is more conservative than including all new constituencies despite not knowing very much about their prior electoral competitiveness. This approach also allows us to compare the same units over time. We include a dummy variable coded 1 for electoral districts whose boundaries changed. Data and shapefiles for constituencies and their boundaries were shared with us by Aurelien Evéquoz. Descriptive statistics and maps illustrating the distribution of key variables are shown in Appendix A5.

¹⁶ The 2007 boundary delimitation exercise was contentious and new constituencies were primarily in rural areas, which had traditionally supported the ruling ZANU-PF (Booyesen and Toulou, 2009). In appendix A4, we show that new districts were more often created in districts supporting the incumbent party, indicating gerrymandering. The appendix also shows maps with electoral district boundaries before and after the 2007 delimitation (figure A4).

Dependent variables

Hypotheses 1-3 summarize how election type affects the risk of pre-election violence. To test the hypotheses, we create two dependent variables measuring the incidence of political violence before elections. Our first dependent variable measures election-specific violence with data from the Electoral Contention and Violence Data (ECAV), as described in Daxecker, Amicarelli, and Jung (2019). Zimbabwe experienced 452 contentious events in elections from 1990-2012, the second-highest incidence in Africa after Kenya.¹⁷ This violence was overwhelmingly committed by the incumbent.¹⁸ The variable measures the incidence of pre-election violence in each constituency-election-year for six months before elections up until election day.

Our second dependent variable measures political violence in the run-up to elections with data from the Armed Conflict Location and Event data (ACLED) described in Raleigh et al. (2012).¹⁹ One drawback of ACLED is that the data record all political violence rather than election-specific coercion as in ECAV, potentially including unrelated events such as food riots. An important advantage, though, is that ACLED codes events from national and local sources and should therefore be less susceptible to reporting bias. ACLED reports 1,270 events for all five elections in the data; this higher number is a function of including all political violence and the fact that a larger set of sources is considered. The variable measures the incidence of violence in each constituency-election-year up until election day.²⁰ We discuss reporting biases and implications separately below.

The dependent variables based on ECAV and ACLED correlate positively with a correlation at the constituency level above 0.6. Because both dependent variables are counts that are overdispersed, we use negative binomial regression. All models cluster standard errors on constituencies.

¹⁷ We remove events before 2000 and after 2008, nonviolent events, those occurring after election-day, and those without subnational location information, retaining 236 violent events committed before or on election-day for the four elections. The most common events included attacks, killings, clashes, intimidation, and violent protests.

¹⁸ Of all events, 79% are committed by pro-government forces, including police, militias, youth groups, ZANU-PF party members and supporters, among others. Of the remaining events, 10% pursue opposition interests, and 11% of events did not allow establishing the actors' alignment with government or opposition. In appendix A3, we also establish that the theorized patterns are similar if we restrict the analysis to events that can conclusively be linked to incumbents.

¹⁹ Data available at <https://acleddata.com/#/dashboard>.

²⁰ ACLED provides information on riots, violence against civilians, battles, protests, and strategic developments. We exclude protests and strategic developments since those are nonviolent (Raleigh et al., 2010, p. 656). To make the data comparable to ECAV, we consider only events taking place in the six months before elections up until election day. We also omit events without precise location and date information.

Independent variables

How do incumbents identify the partisan identity and competitiveness of electoral districts? In countries like Zimbabwe, it seems unreasonable to expect that parties use public opinion polls to identify the most competitive areas. Rather, they rely on previous election results to estimate the competitiveness of constituencies. In line with previous work (Wilkinson, 2004), we therefore use victory margins in previous elections as measures of competitiveness.²¹ Constituency-level election results come from the Zimbabwe Election Support Network (ZESN) for all elections.²² We calculate victory margins by subtracting the second-place party's votes from those of the winner and then divide raw margins by the total number of votes cast in each constituency. Note that this measure reflects *absolute* competitiveness, meaning that non-competitive constituencies could either be incumbent or opposition strongholds. We use absolute competitiveness to examine H1 & H3. We use results for elections immediately preceding the current ones for all elections.

In addition to absolute competitiveness, we use a second indicator, incumbent victory margins, which distinguishes whether strongholds supported the (national) incumbent or the opposition. We use this variable to examine H2. To create this measure, we first determine which party had won the previous national elections, i.e. the identity of the national incumbent party. In Zimbabwe, as mentioned before, ZANU-PF won all elections in our analyses. We thus calculate the victory margin between the ZANU-PF in each electoral district and the strongest constituency-level opposition competitor (usually the MDC) by simply subtracting votes for the strongest opposition party from incumbent party votes and then divide raw incumbent margins by the total number of votes cast in each constituency.²³ Negative values of incumbent victory margin indicate opposition strongholds, values close to zero characterize competitive constituencies, and incumbent strongholds are reflected by positive values.

To examine divergent patterns of violence in presidential and legislative elections outlined in our hypotheses, we create a dummy variable coded 1 for the 2002 and June 2008 (runoff) presidential elections and interact this measure with absolute victory margins and incumbent margins. For absolute victory margins, we expect a positive and significant effect on violence in presidential elections, and a negative and significant effect in legislative elections. For incumbent victory margins, we expect a negative and significant effect of

²¹ Three elections warrant additional discussion; these are discussed in detail in appendix A2.

²² Data available at <http://www.zesn.org.zw/>

²³ Incumbent victory margins correlate closely (corr=0.95) with MDC vote shares since the MDC was the primary opposition party in all elections in the data. We prefer incumbent victory margins as our main measure because it tells us how closely contested elections were rather than only overall levels of opposition support.

incumbent victory margins on election violence overall since both H2&H3 expect least violence in incumbent strongholds, but opposition strongholds should see most targeting in presidential elections.

Concerns about biases in key variables

Reporting biases in dependent and independent variables and concerns about reverse causality merit discussion. First, our dependent variables could be subject to reporting biases. This concern is most serious for ECAV, which relies only on reporting from national news. We know that these outlets cover densely populated and hence opposition-dominated areas better, which could mean underreporting of violence in predominantly rural incumbent strongholds. In contrast, ACLED draws heavily on NGO reports in Zimbabwe, including victims' testimonies, and violence reported in the local press, which should reduce the extent of reporting biases.²⁴ By specifying our models with dependent variables drawn from two independently coded datasets, including one that relies heavily on local sources, we expect to address the most serious concerns about reporting bias. In addition, we control for population density and nighttime light emissions in all models. These are the empirical indicators shown to correlate highly with underreporting and hence systematic measurement error in von Borzyskowski and Wahman (2021). To capture the importance of connectivity beyond population density, which could also be associated with biases in reporting, we also control for road density and distance from the capital. Finally, we note that reporting bias in our dependent variable would be most problematic for our hypothesis on presidential elections, which anticipates more violence in opposition strongholds. For our expectation on legislative contests, reporting bias should attenuate our results.

A second and distinct type of reporting bias could affect our independent variables. Using election results to estimate competitiveness in an authoritarian environment such as Zimbabwe is potentially problematic. If incumbents distort election results, as has been established for the Zimbabwean case (Bratton, Dulani and Masunungure, 2016; Friesen, forthcoming), these results do not accurately reflect actual competitiveness. An important question is the direction of this bias and its likely implications for our estimates. In line with other work, we expect that official election results overestimate incumbent strength rather than underestimating it. If this is correct, this bias would be problematic for our first hypothesis

²⁴ See ACLED working paper #5, p. 6, available at https://www.acleddata.com/wp-content/uploads/dlm_uploads/2017/12/ACLED_Reporting-Sources-Working-Paper-No.-5_2015.pdf.

because a positive correlation between victory margins and violence could be an artifact of overestimating incumbent strength, especially if most violence occurs in incumbent strongholds. Yet for our second hypothesis positing targeting in opposition strongholds, underestimating opposition strength would make it more difficult to establish the expected relationship. Similarly, our results for legislative elections most likely suffer from attenuation bias because we expect a negative effect of absolute victory margins on violence in these elections.

A third concern is reverse causality. If election violence demobilizes voters, election results would not accurately represent voter preferences. Specifically, if incumbents successfully demobilize voters in swing or opposition districts, results should again overestimate incumbent strength as just discussed. We address both concerns by validating our indicators of competitiveness with survey data in appendix A1. These validations show a positive correlation between support for the incumbent ZANU-PF in election results and survey responses.

Control variables

We control for several variables that could affect victory margins and/or the risk of violence, including population density, road networks, distance from the provincial capital, night light emissions, and spatial and temporal dependence.²⁵ Unfortunately, data for several of these variables are not readily available at the spatial resolution we require. We considered using PRIO GRID cells (Tollefsen, Strand and Buhaug, 2012). However, particularly in urban areas, grid cells are much larger than constituencies, which would be imprecise and distort information. Grid cells also do not follow existing administrative boundaries but rather are squares of equal size drawn across the globe. We therefore rely on administrative data for districts, for many of our controls. Zimbabwe has 59 districts. While districts are thus also larger than constituencies, especially in urban areas, constituencies are often nested within administrative districts and thus at least share similar boundaries.²⁶

District-level data for controls on population density, the density of road networks, and distance from the closest provincial capital come from the xSub data (Zhukov, Davenport and

²⁵ These variables are “good controls,” meaning that we expect that they could plausibly affect victory margins rather than being affected by them (Angrist and Pischke, 2008, p. 226).

²⁶ For example, Harare district contains 15 constituencies, but these constituencies are nested within the district, which covers approximately 961 square kilometers. If we instead used grid cells, the 15 constituencies would be split between two grid cells each covering approximately 2,500 square kilometers in surface area. Information on control variables from the PRIO GRID would therefore be less precise and include surrounding rural areas.

Kostyuk, 2019). We spatially join constituency shapefiles with district shapefiles from GADM to merge these data.²⁷ For population density, we only have indicators for population size from 1995 and 2000, meaning there is little temporal variation. We use 1995 data for the 2000 elections, data from 2000 for all elections thereafter, and divide both by area size to calculate population density. More densely populated areas might offer more targets for violence. The density of road networks and distance from provincial capitals control for the connectivity and remoteness of constituencies and are time-invariant. We also control for economic development with nighttime lights data measured at the administrative district level.²⁸ These data vary yearly and we control for the (logged) average nighttime lights in each constituency in the previous election as an indicator of economic development.²⁹ Finally, we control for the temporal and spatial autocorrelation. For temporal autocorrelation, we count the time since the last election violence event in each constituency, using data from ECAV.³⁰ To control for the spatial diffusion of violence beyond constituency boundaries, we include a spatial lag of the dependent variable.³¹ We include province fixed effects in all models and also present more restrictive specifications below and in the appendix.

Results

Table 2 presents our results for absolute victory margins across five models. These models allow us to explore H1 (presidential elections) and H3 (legislative elections). We estimate a pooled model for elections held in 2000, 2002, 2005, and the June 2008 runoff and include an interaction term between victory margins and presidential elections to distinguish patterns in presidential and legislative elections. Results in models 1-3 are based on our first dependent variable using data on election violence from ECAV. Model 1 presents the effect of absolute margins and presidential election but omits the interaction. Absolute victory margins on their own have no significant effect, which is unsurprising since we hypothesize that legislative and presidential elections create diverging incentives for the use of violence. Model 2 adds the interaction term between victory margins and presidential elections to test H1 and H3. The interaction is positive and significant, showing that violence increases in less competitive

²⁷ Available at <https://gadm.org/index.html>.

²⁹ District-level per capita GDP would be preferable but are missing for most areas in Zimbabwe in the G-Econ data (Nordhaus et al., 2006).

³⁰ We count the number of electoral periods without violence in each constituency since the 1995 elections, which ranges from 0 to 5 with five elections in the data. This approach is common in the study of political violence, but in robustness tests, we also use a lag of the dependent variable. For the 2000 elections, we use data on violence from the 1995 elections.

constituencies in presidential elections, supporting hypothesis 1. The negative and significant coefficient of victory margins shows the effect in legislative elections, confirming H3 expecting that the risk of violence declines as electoral districts become less competitive. In model 3 with administrative district fixed effects, we exclude time invariant controls at the district level (road density and distance from provincial capitals), estimating the effect of temporal variation in victory margins and controls while accounting for administrative district-level heterogeneity. The coefficient for absolute victory margins is again negative and (weakly) significant, while the interaction is positive and significant. In models 4-5, we use political violence data from ACLED as the dependent variable. These results are somewhat weaker, but broadly consistent, increasing our confidence that patterns of violence indeed reflect our theoretical logic rather than biases in the data.

Table 2: Negative binomial regression of election violence, absolute victory margins

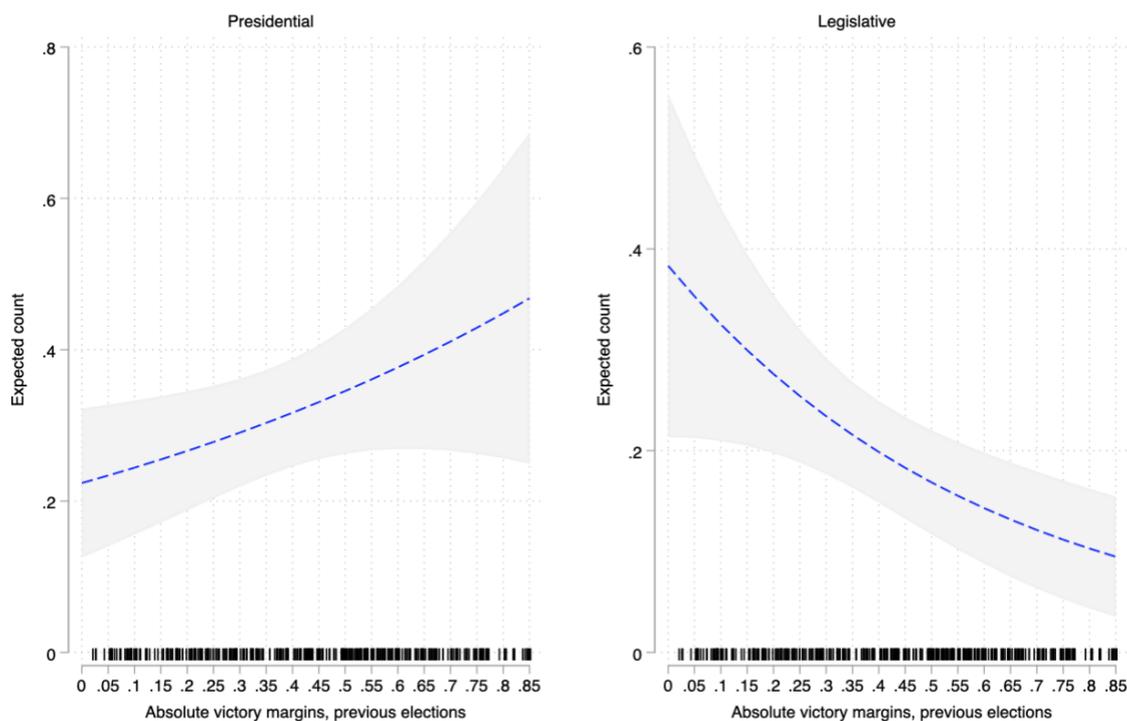
Dependent variable	(1) ECAV	(2) ECAV	(3) ECAV	(4) ACLED	(5) ACLED
Absolute victory margins	-0.284 (0.577)	-1.643* (0.795)	-1.647+ (0.951)	-0.659 (0.684)	-1.238+ (0.695)
Absolute*presidential		2.511** (0.909)	2.766** (0.886)	0.876 (0.746)	1.357+ (0.714)
Presidential election	0.457* (0.185)	-0.538 (0.367)	-0.327 (0.380)	0.562+ (0.303)	0.650* (0.322)
Population density, log	-0.953 (0.580)	-1.078+ (0.571)	-2.758** (0.876)	-1.956** (0.752)	-2.938** (0.951)
Nighttime lights, log	0.862* (0.351)	0.828* (0.331)	3.856** (1.016)	0.434 (0.334)	1.858** (0.513)
Road density	3.962 (4.094)	4.642 (4.161)		4.791 (3.790)	
Distance from capital	0.001 (0.003)	0.001 (0.003)		0.002 (0.003)	
New constituency	-0.769+ (0.422)	-0.668 (0.418)	-0.918* (0.435)	0.314 (0.252)	0.121 (0.239)
Time lag	-0.581** (0.092)	-0.574** (0.093)	-0.213* (0.102)	-0.385** (0.067)	-0.322** (0.079)
Spatial lag	-0.063 (0.099)	-0.107 (0.103)	-0.231+ (0.130)	-0.109 (0.157)	-0.365** (0.130)
Province FE	✓	✓		✓	
Adm. district FE			✓		✓
Observations	460	460	460	460	460
AIC	731.1	727.7	693.5	1620.1	1563.1
BIC	813.7	814.5	883.6	1706.8	1749.0

Note: Standard errors are clustered by constituency.

** p<.01 * p<.05 +p<0.1

To interpret the interaction between victory margins and election type more meaningfully, figure 1 plots the predicted number of violent events when we vary absolute victory margins in presidential and legislative elections. The left panel shows the effect of victory margins in presidential elections, indicating that the predicted number of events increases as victory margins become larger. The opposite holds for legislative elections in the right panel, showing that the most competitive constituencies experience more violence, while the predicted number of events declines as constituencies become less competitive. These effects are statistically significant and substantively meaningful; the average number of violent events is 0.3 events, meaning that an increase in the expected number from events from 0.2 to 0.5 across the range of absolute victory margins is substantial.

Figure 1: Predicted number of election violent events, absolute victory margins (model 2, table 2)



The results in table 2 cannot tackle the question of whether violence in presidential elections targets incumbent or opposition strongholds. In H2, we argue that opposition strongholds should be most attractive for targeting since it allows incumbents to demobilize the largest number of opposition voters at the lowest cost. In table 3, we therefore replace absolute victory margins with incumbent victory margins. Negative values indicate opposition strongholds,

values close to 0 are competitive constituencies, and positive values indicate incumbent strongholds. Table 3 presents results for incumbent victory margins across five models, mirroring the specifications in table 2 with data from ECAV as the dependent variable in models 6-8, and ACLED events as a dependent variable in models 9-10. Model 6 estimates the effect of incumbent vote shares and presidential elections, omitting the interaction. We find that regardless of the type of elections, incumbent strongholds are least at risk for election violence.. In model 7, we interact incumbent victory margins with presidential elections. The coefficient for the interaction is positive and significant. Restricting the effect of victory margins to within-district variation in model 8 produces similar results. Finally, models 9-10 for the second dependent variable with data from ACLED confirm these findings. We plot the effect of incumbent margins in presidential elections in figure 2 to ease interpretation.

Table 3: Negative binomial regression of election violence, incumbent victory margins

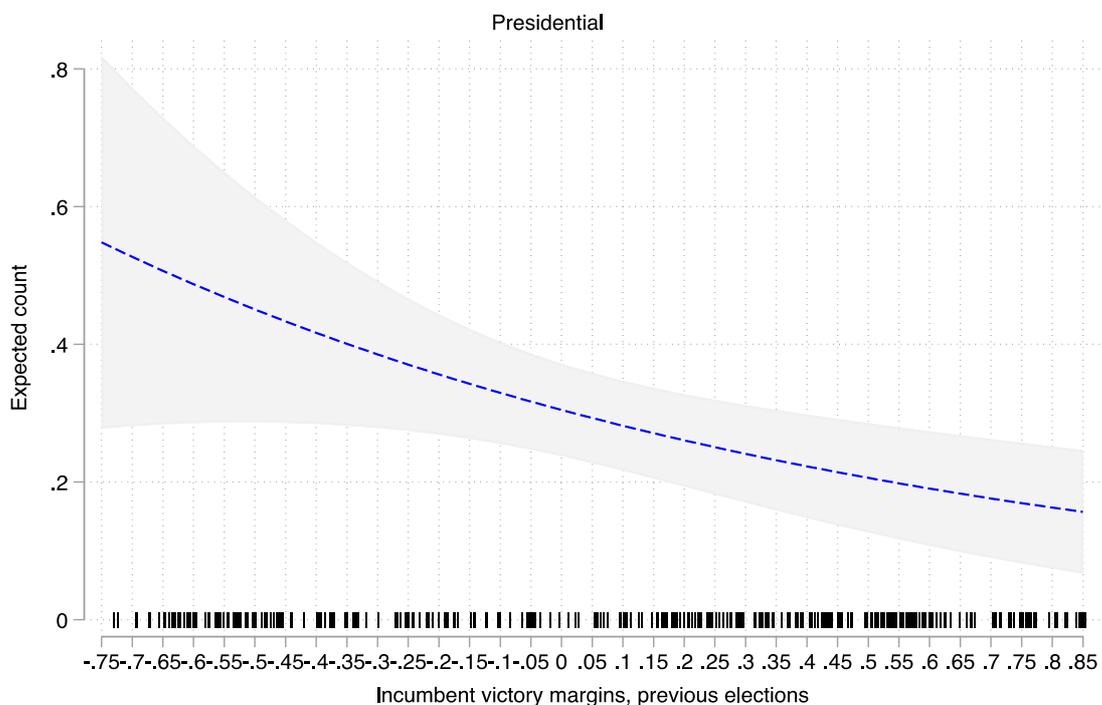
	(6)	(7)	(8)	(9)	(10)
Dependent variable	ECAV	ECAV	ECAV	ACLED	ACLED
Incumbent victory margins	-1.212** (0.418)	-2.198** (0.557)	-2.739** (0.608)	-0.860* (0.389)	-1.611** (0.482)
Incumbent*presidential		1.415** (0.491)	1.237** (0.448)	1.127** (0.282)	1.382** (0.267)
Presidential election	0.479* (0.195)	0.583** (0.212)	0.933** (0.227)	0.879** (0.155)	1.199** (0.147)
Population density, log	-0.796 (0.553)	-0.592 (0.551)	-2.252** (0.747)	-1.772* (0.749)	-2.423** (0.882)
Nighttime lights, log	0.750* (0.356)	0.708* (0.347)	3.208** (0.793)	0.346 (0.340)	1.382** (0.460)
Road density	2.444 (3.839)	1.693 (3.559)		4.482 (3.507)	
Distance from capital	0.001 (0.003)	0.001 (0.003)		0.002 (0.002)	
New constituency	-0.895* (0.433)	-0.882* (0.425)	-1.298** (0.426)	0.278 (0.246)	0.003 (0.246)
Time lag	-0.577** (0.091)	-0.599** (0.092)	-0.277** (0.103)	-0.400** (0.066)	-0.361** (0.077)
Spatial lag	-0.156 (0.115)	-0.128 (0.114)	-0.268+ (0.138)	-0.108 (0.172)	-0.375* (0.149)
Province FE	✓	✓		✓	
Adm. District FE			✓		✓
N	447	447	447	447	447
AIC	698.0	693.3	655.2	1586.4	1535.1
Observations	780.0	779.5	835.7	1672.5	1736.1

Note: Standard errors are clustered by constituency.

** p<.01 * p<.05 +p<0.1

Figure 2 shows the predicted number of events across the range of incumbent victory margins for presidential elections (since we aim to test H2, we do not plot legislative elections again). In these elections, opposition strongholds (incumbent margins < 0) are more often targeted with violence and the predicted probability of violence events declines as constituencies become more competitive (incumbent margins close to 0) and in incumbent strongholds (incumbent margins > 0). This finding supports H2. We note once more that we expect targeting of opposition strongholds because the incumbent party has major advantages in the use of violence in Zimbabwe. In contexts with opposition that can employ coercion, incumbents and opposition may simultaneously target each other's strongholds.

Figure 2: Predicted number of election violent events in presidential elections, incumbent victory margins (model 7, table 3)



Results from elections in Zimbabwe support our hypotheses. For presidential elections, we find that more violence happens in strongholds (H1) and that most of this violence takes place in opposition strongholds (H2).³² For legislative elections, we confirm that competitive districts

³² Our findings for presidential elections differ from Fielding (2018). Fielding's study finds that violence peaks in incumbent strongholds, but is limited to a single election (the 2008 presidential runoff) and uses districts rather than constituencies as units. The more limited sample and reliance on non-electoral units makes it difficult to compare our findings.

experience more violence (H3). Mixed findings on the incidence of violence in strongholds versus competitive districts in earlier research could be a result of ignoring the electoral institutional dynamics our study highlights.

Robustness

The appendix provides additional robustness tests that help corroborate our findings. We validate our independent variables (A1), showing that survey responses and election results correlate positively. We discuss elections that merit special discussion, such as the referendum in 2000 (A2). In additional model specifications, we present results for alternative operationalizations of the dependent variables, non-linearity in independent variables, results for election and constituency fixed effects, and controls for potentially influential constituencies (A3). We also explore changes in constituency boundaries and whether these changes reflect incumbents' aim to consolidate control (A4). Finally, we show descriptive statistics and maps of patterns in partisan orientation and electoral violence(A5).

Implications beyond Zimbabwe

We have analyzed the geography of electoral violence in Zimbabwe, a competitive authoritarian regime in which the incumbent dominates violence and elections are held using majoritarian rule. We now discuss implications beyond this case. First, in cases with more powerful opposition parties, we expect that incumbents are more limited in orchestrating violence across space, and also face a greater risk of retaliation by the opposition. In these contexts, we expect similar patterns overall; that is, more violence in strongholds in presidential elections, and a greater focus of violence in competitive districts in legislative elections. However, the differences between the two types of elections are likely less pronounced because incumbents have been in power for a shorter time, may have won elections by smaller margins, and likely lack the grass-root organization to organize violence centrally. In addition, facing an opposition that can use violence, incumbents may avoid opposition strongholds for fear of retaliation, suggesting more violence in competitive districts. In presidential elections, we may therefore observe an inverted-U shaped relationship between partisan identity and violence.

Second, with regard to the electoral system, we selected Zimbabwe as a case because it uses majoritarian rule and because it held presidential and parliamentary elections on different dates, allowing for a clean test of our argument. In other countries with presidential systems that hold elections on separate dates, such as Central African Republic, Côte D'Ivoire, Gabon, Gambia, or Yemen, the implications of our argument are straightforward. But our

theory also applies to countries with concurrent elections, such as Haiti, Nigeria, Kenya, Uganda, Tanzania, or Zambia. In these elections, we expect incumbents to use violence in competitive districts and opposition strongholds, while the opposition targets competitive districts and incumbent strongholds. Distinguishing these patterns empirically will be more challenging but is still feasible with disaggregated data. In parliamentary systems with majoritarian rule (such as Bangladesh, Ethiopia, India, Jamaica, or Malaysia), competitive districts should most often be targeted, although an interesting extension would be to examine whether targeting *within* competitive districts follows a logic similar to our argument on presidential elections.

Finally, our argument may have implications for countries using proportional representation, with some caveats. While we would expect elections with PR to be less violent overall (consistent with Fjelde and Höglund, 2016), if violence takes place, it should have a national-level orientation and target strongholds. This expectation is consistent with Müller-Crepon (2021), who finds more aggregate dynamics in PR contexts.

Conclusion

We develop an argument on the geography of pre-electoral violence in presidential and legislative elections in competitive authoritarian regimes. We present the first subnational analysis of the logic of violent campaigning in presidential versus legislative elections. We analyze variation in the location of violence in a single country that used to hold legislative and presidential elections at different times, which allows us to explore how variation in election type affects campaign violence while holding many confounders constant. Supporting these expectations, we find that strongholds are the locus of pre-electoral violence in presidential elections, whereas competitive electoral districts experience more violence in legislative elections. Our results further establish that opposition strongholds in Zimbabwe suffer more from pre-electoral violence than competitive districts and incumbent strongholds. These findings offer a plausible explanation for contradictory results on the relationship between competitiveness and electoral violence in existing work on election violence.

We highlight two implications beyond election violence. First, in line with research on civil war, we emphasize the importance of information for determining patterns of violence (Kalyvas, 2006). Yet rather than striving for territorial control, government and opposition pursue electoral control. Since even countries with armed conflict often hold elections, these electoral incentives and how they influence actors' strategies deserve more attention. Second, the district-and national-level logics we outline are relevant for campaigning more broadly.

Research on other forms of demobilization in the United States, such as negative campaigning, restrictions on voting rights, or procedural problems in election administration, has also emphasized the role of electoral competitiveness (Lau and Rovner, 2009, p. 294; Biggers and Hanmer, 2017; Pettigrew 2017). Yet our theory implies that institutional incentives need to be considered when generalizing these findings beyond the U.S. context.

For policy, our findings could assist policymakers in anticipating potential hotspots. Efforts to prevent violence during the campaigning period, such as the deployment of observers during the registration period, should pay particular attention to competitive districts in legislative contests and to opposition strongholds in presidential elections.

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Appendix for

“Election Type and the Logic of Pre-Election Violence: Evidence from Zimbabwe”

This appendix presents additional robustness tests. In section A1, we validate our independent variables with alternative data. Section A2 discusses special cases of elections while A3 presents additional model specifications. In section A4, we establish that new constituencies in the 2007 delimitation exercise were primarily established in incumbent strongholds. Section A5 presents descriptive statistics and figures showing the distribution of independent and dependent variables. Across all specifications, we rely on ECAV data, having already validated our dependent variable with data from ACLED in the manuscript.

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A1 Validation electoral competitiveness measures

The manuscript discusses possible biases in election results in authoritarian countries and how these might affect our empirical findings. We empirically assess whether election results are reasonable indicators of voter preferences by validating them with data from surveys. Afrobarometer has conducted three surveys in the time frame we analyze; round 1 in 1999, round 2 in April 2004, and round 3 in October 2005. We cannot use round 1 because it does not have information on respondent locations. We therefore use round 2 data from April 2004 to correlate them with election results from the March 2005 legislative elections, and round 3 data from October 2005 to correlate with the June 2008 general elections. We think it is most plausible to correlate survey responses collected before elections with electoral results rather than the other way around, because survey responses might otherwise be affected by the election outcome. To establish this correlation, we proceed in two steps.

We first consult the Afrobarometer merged codebooks for round 2 and 3 to identify variables that allow us to measure partisanship. In both rounds, Afrobarometer, asked respondents whether they felt close to a party and if so, which party they felt closest to (Afrobarometer 2006; Afrobarometer 2008).³³ We focus on incumbent ZANU PF supporters rather than creating separate measures for incumbent and opposition supporters. In an authoritarian context, respondents might fear repercussions for identifying as opposition supporters in a survey.

We cannot create identical measures of victory margins and incumbent victory margins to use in regression analysis, for two reasons. First, Afrobarometer does not survey all electoral constituencies, and second, in constituencies they survey, they do not collect a constituency-level representative sample.³⁴ It thus seems prudent to create rough measures of incumbent party support. We create a variable indicating whether a respondent felt close to the ZANU PF in round 2 and 3 of the survey.

Having identified incumbent party supporters, we spatially match them with constituencies in Arcmap for each round. We use constituency shapefiles from Evéquo (2019) for this procedure. For each constituency and each round, we count the number of ZANU PF supporters and the total number of respondents. We then divide the number of ZANU PF by the total number of respondents to create a ZANU PF support share measure. Subsequently, we correlate survey responses with ZANU PF votes from election results. For these correlations, we omit constituencies with fewer than Afrobarometer 15 respondents since it is problematic to infer much from areas with very few respondents. The scatterplot below shows a moderately strong, positive correlation between ZANU PF support in the survey and actual votes ($\text{corr}=0.53$). This positive correlation makes us more confident that we can use election results to infer voter preferences without dramatically underestimating support for the opposition.

³³ See Q87A for round 2 and Q85 and Q86 on p. 46-47 for round 3. A caveat here is that many respondents said that they are not close to any party. 28% (round 2) and 51% (round 3) of respondents did not feel close to a party. This is not surprising given the authoritarian environment, but creates difficulties for using survey responses as indicators of voter preferences.

³⁴ In round 2, 44 constituencies were not surveyed, and in round 3, 77 constituencies did not include any respondents. The maximum number of respondents is 56, and the average per constituency is 17. We exclude constituencies with fewer than 15 respondents from the correlations.

A2 Additional information on three elections and different specifications for 2008

As mentioned in the manuscript, three elections warrant additional discussion, and we provide more detail here. First, for legislative elections held in 2000, we rely on results from the February 2000 constitutional referendum to estimate competitiveness instead of the 1995 legislative elections. The referendum took place closer in time to the elections and also indicated the first real electoral challenge for the ZANU-PF. Since the referendum does not provide us with election results for incumbent and opposition parties, we use constituency-level votes in favor as support for the incumbent, while we use votes against as support for the opposition. The referendum presented the incumbent ZANU-PF with its first electoral defeat in the country's history and was widely seen as a triumph for the newly formed opposition party MDC. The incumbent party lost the referendum vote with 45 to 55 percent of the vote, and this defeat likely motivated violence against opposition in the runup to the June 2000 elections. It is therefore reasonable to expect that referendum results were more influential for informing the incumbent than the 1995 election results, which were barely competitive at all (Makumbe & Compagnon, 2000).³⁵

Second, we exclude the March 2008 concurrent elections from our main analyses since it is more difficult to distinguish national vs. district-level logics when presidential and legislative elections are held on the same day. Nevertheless, we expect that presidential contests are generally more important, suggesting that national-level expectations predominate, and we therefore treat the concurrent elections as presidential when interacting victory margins. In table A3 below, we show robustness including the 2008 elections, which are consistent with our main findings. Models 3&4 use victory margins from the March 2008 legislative elections rather than presidential margins. In March 2008, concurrent elections were held, requiring us to choose whether legislative or presidential margins were used to estimate partisanship for targeting in the June 2008 presidential runoff. In our main models, we rely on presidential results from March 2008 because it seems more logical that the incumbent would base his decision on these results. But since we do not have strong theoretical priors, we also examine this as an empirical question. Results in models 3&4 show that this choice does not affect our results, our main findings are very similar to those presented in tables 2&3.

Third, for the June 2008 presidential runoff, which we include in all our analyses, we could rely on either presidential or legislative victory margins from the March concurrent elections to estimate party support. However, since the June runoff was a presidential election, we find it more intuitive to use constituency-level victory margins from the presidential elections. This choice does not affect our results; if we instead use legislative victory margins, our findings remain consistent. In table A3, models 3&4, we include observations for the March 2008 concurrent elections. As we note in the manuscript, the district-and national-level logics are simultaneously in play in such elections, making it more difficult to establish the empirical patterns. However, we note in the manuscript that we expect the national-level logic to be more prominent because of the importance of presidential contests. When including these observations, we therefore code the concurrent elections as presidential. Results in models 5&6 have a larger number of observations, but are otherwise very similar to our main findings. This seems to confirm that presidential logics are more important in concurrent elections.

³⁵ The average victory margin in the 1995 elections was 0.83, and in 51 districts, incumbents ran uncontested. Overall, the opposition had won only three of 120 seats in 1995.

Table A2: Negative binomial regression of election violence, 2008 legislative margins and with 2008 general elections

	(1) 2008 legislative margins	(2) 2008 legislative margins	(3) Including 2008 concurrent elections	(4) Including 2008 concurrent elections
Absolute victory margins	-1.680* (0.794)		-1.619* (0.770)	
Absolute*presidential	2.393** (0.902)		2.681** (0.940)	
Incumbent victory margins		-2.292** (0.568)		-2.084** (0.527)
Incumbent*presidential		1.365** (0.491)		1.284** (0.496)
Presidential election	-0.485 (0.365)	0.591** (0.211)	-0.711+ (0.378)	0.481* (0.212)
Population density, logged	-1.046+ (0.568)	-0.570 (0.544)	-1.233* (0.491)	-0.732 (0.465)
Nighttime lights, logged	0.808* (0.333)	0.681* (0.345)	0.868** (0.322)	0.650* (0.321)
Road density	4.714 (4.144)	1.697 (3.537)	4.564 (4.116)	2.477 (3.777)
Distance from province capital	0.001 (0.002)	0.002 (0.003)	0.002 (0.002)	0.002 (0.002)
New constituency	-0.642 (0.417)	-0.829+ (0.425)	-0.977** (0.314)	-1.036** (0.325)
Time since election violence	-0.571** (0.093)	-0.590** (0.092)	-0.518** (0.091)	-0.550** (0.093)
Spatial lag	-0.108 (0.102)	-0.138 (0.113)	-0.088 (0.102)	-0.107 (0.117)
Province FE	✓	✓	✓	✓
Observations	456	443	573	560
AIC	727.4	691.6	805.3	772.8
BIC	814.0	777.6	896.7	863.7

Note: Standard errors are clustered by constituency.

** p<.01 * p<.05 +p<0.1

A3 Additional model specifications

Appendix A3 presents seven different sets of robustness tests. In table A3.1, we use different operationalizations of the dependent variable and table A3.2 limits the dependent variable to lethal events. In section A3.3, we account for possible non-linearity in incumbent victory margins. Appendix A3.4 and A3.5 estimate more conservative specifications with election fixed effects and constituency fixed effects. In table A3.6 we include a dummy variable for Harare and lag the dependent variable rather than counting the time since violence last took place. In table A3.7, we re-estimate our models with riots as a dependent variable.

A3.1. Different operationalizations of the dependent variable

Table A3.1 presents results when limiting the dependent variable to violence that was committed on behalf of the incumbent and for a dummy dependent variable.

In models 1&2, we replace our dependent variable with violent events committed on behalf of the incumbent. As discussed in the research design, progovernment violence constitutes the vast majority of violence in Zimbabwe with approximately 80% of events involving the incumbent, and the rest either committed on behalf of the opposition (10%) or where it was unknown (11%). To explore the robustness of our results, we omit these two categories from the estimation below. The main results are similar to the ones in tables 2&3, although the interaction in model 2 just barely misses the 90% confidence level ($z=1.58$). We note, however, that the significance of the interaction term – especially in nonlinear models such as the negative binomial one – does not tell us whether the model should include the interaction or not (Brambor et al. 2006, p. 74). The marginal effect of election type on violence can be significant for substantively meaningful values of incumbent margins even if the interaction is insignificant. In results not shown, we calculated the marginal effects of presidential elections on the predicted number of events for key values of incumbent margins, that is, when incumbent margins is at its minimum, 1SD below the mean, at the mean, 1 SD above the mean, and at its maximum. These calculations show that incumbent margins has a statistically significant effect on violence in presidential elections for most values except those close to the minimum, i.e. the strongest opposition strongholds.

In models 3&4, we dichotomize the dependent variable. While we expect a higher intensity of violence in competitive constituencies in legislative elections and in opposition strongholds in presidential elections, it also makes sense to examine whether we can establish evidence of a greater absence or presence of violence consistent with our arguments. Results in models 3&4 are very similar to the negative binomial regressions.

Table A3.1: Negative binomial and logit regression of election violence

	(1) Pro- incumbent violence	(2) Pro- incumbent violence	(3) Dummy DV	(4) Dummy DV
Absolute victory margins	-1.976* (0.810)		-2.175* (0.974)	
Absolute*presidential	2.671** (0.973)		3.106** (1.164)	
Incumbent victory margins		-2.043** (0.538)		-1.324* (0.594)
Incumbent*presidential		0.805 (0.509)		1.289* (0.598)
Presidential election	-0.782* (0.370)	0.382+ (0.226)	-0.387 (0.490)	0.864** (0.272)
Population density, log	-0.805 (0.556)	-0.399 (0.549)	-0.316 (0.669)	-0.181 (0.679)
Nighttime lights, log	0.831** (0.298)	0.697* (0.331)	0.234 (0.368)	0.330 (0.368)
Road density	3.184 (4.302)	0.930 (4.056)	2.634 (3.762)	0.991 (3.639)
Distance from province capital	0.001 (0.002)	0.002 (0.003)	-0.002 (0.003)	-0.002 (0.003)
New constituency	-0.130 (0.428)	-0.344 (0.453)	-0.666 (0.458)	-0.782+ (0.452)
Time since violence	-0.531** (0.093)	-0.545** (0.092)	-0.559** (0.104)	-0.558** (0.104)
Spatial lag	-0.183+ (0.108)	-0.204 (0.127)	0.054 (0.149)	-0.021 (0.135)
Province FE	✓	✓	✓	✓
Observations	460	447	460	447
AIC	663.0	632.6	461.4	445.9
BIC	749.8	718.8	544.0	528.0

Note: Standard errors are clustered by constituency.

** p<.01 * p<.05 +p<0.1

A3.2. Deadly events

In table A3.2, we limit the dependent variable to deadly events coded in ECAV, which are generally reported better, even in rural areas as Hendrix & Salehyan (2015) have shown. The results in all four models below are similar to our main findings.

Table A3.2: Negative binomial regression of election violence, deadly events

	(1)	(2)	(3)	(4)
	DV= deadly violence	DV= deadly violence	DV= deadly violence	DV= deadly violence
Absolute victory margins	-3.155** (1.189)	-4.453* (1.796)		
Absolute*presidential	3.118* (1.455)	3.567* (1.661)		
Incumbent victory margins			-3.411** (0.850)	-2.739** (0.608)
Incumbent*presidential			0.812 (0.672)	1.237** (0.448)
Presidential election	-1.096 (0.721)	-1.010 (0.863)	0.256 (0.414)	0.933** (0.227)
Population density, log	-1.103 (0.992)	-2.463+ (1.356)	-0.663 (1.014)	-2.252** (0.747)
Nighttime lights, log	0.629 (0.400)	3.255* (1.579)	0.699+ (0.387)	3.208** (0.793)
Road density	5.724 (6.619)		1.001 (5.842)	
Distance from province capital	0.008* (0.004)		0.010* (0.004)	
New constituency	-21.790** (0.756)	-18.267** (0.852)	-13.882** (0.825)	-1.298** (0.426)
Time since election violence	-0.440** (0.141)	0.166 (0.238)	-0.422* (0.164)	-0.277** (0.103)
Spatial lag	-0.543* (0.243)	-0.669* (0.267)	-0.455+ (0.237)	-0.268+ (0.138)
Province FE	✓		✓	
District FE		✓		✓
Observations	344	344	331	331
AIC	285.8	234.5	262.5	655.2
BIC	366.5	319.0	342.3	835.7

Note: Standard errors are clustered by constituency.

** p<.01 * p<.05 +p<0.1

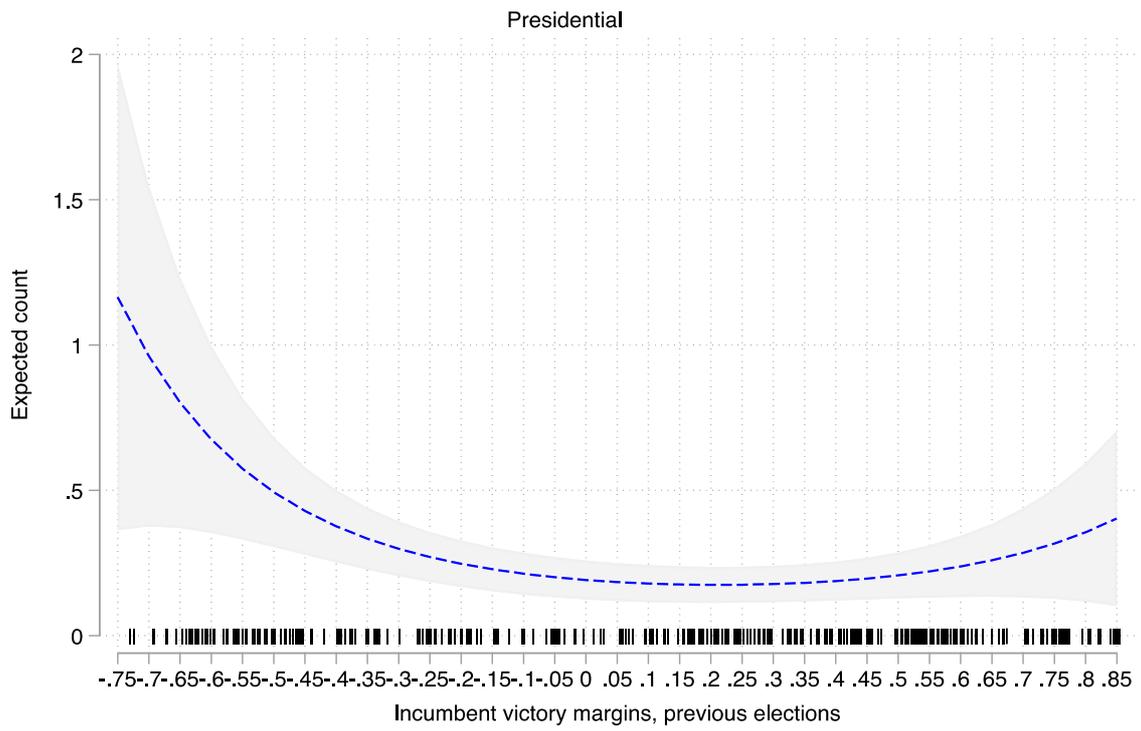
A.3.3. Non-linearity in incumbent vote margins

In the manuscript, we test hypothesis 2 by interacting incumbent vote margins with the dummy variable for presidential elections (see table 3). It is possible, though, that this model is misspecified since incumbent vote margins may have non-linear effects on violence. In legislative elections, we expect that competitive constituencies are most likely to experience violence, which would suggest inclusion of a squared term. When re-specifying our models, we find that the squared term is significant in only one of five specifications. Furthermore, we plot the effect of victory margins including the squared term in figure A3.3. below. The figure shows that hypothesis 2 for presidential elections is supported. As hypothesized, more violence occurs in opposition strongholds.

Table A3.3: Negative binomial regression of election violence, squared incumbent margins

	(1)	(2)	(3)	(4)	(5)
	ECAV	ECAV	ECAV	ACLED	ACLED
Incumbent victory margins	-1.274**	-2.571**	-3.285**	-0.825*	-1.616**
	(0.421)	(0.749)	(0.929)	(0.416)	(0.505)
Incumbent victory margins squared	0.818	-0.591	-0.481	-1.254+	-0.964
	(0.626)	(1.094)	(1.126)	(0.653)	(0.688)
Incumbent*presidential		1.703*	1.752*	1.190**	1.436**
		(0.695)	(0.749)	(0.300)	(0.305)
Incumbent*incumbent squared*presidential		2.643*	3.474*	1.330+	1.343
		(1.267)	(1.454)	(0.755)	(0.821)
Presidential election	0.425*	0.045	0.184	0.679**	0.962**
	(0.193)	(0.285)	(0.310)	(0.233)	(0.236)
Population density, log	-0.815	-0.719	-2.370**	-1.873*	-2.512**
	(0.552)	(0.544)	(0.730)	(0.764)	(0.916)
Nighttime lights, log	0.844*	0.762*	3.287**	0.352	1.470**
	(0.360)	(0.345)	(0.840)	(0.339)	(0.468)
Road density	1.200	1.752		5.187	
	(3.393)	(3.338)		(3.539)	
Distance from province capital	0.001	0.001		0.002	
	(0.003)	(0.003)		(0.002)	
New constituency	-0.827+	-0.743+	-1.131**	0.271	0.015
	(0.424)	(0.413)	(0.413)	(0.250)	(0.246)
Time since election violence	-0.581**	-0.600**	-0.257*	-0.399**	-0.358**
	(0.091)	(0.094)	(0.102)	(0.065)	(0.076)
Spatial lag	-0.121	-0.164	-0.327*	-0.176	-0.422**
	(0.113)	(0.109)	(0.152)	(0.167)	(0.150)
Inalpha	0.702**	0.604**	-0.297	0.965**	0.568**
	(0.171)	(0.172)	(0.300)	(0.131)	(0.144)
Province FE	✓	✓		✓	
Adm. district FE			✓		✓
Observations	447	447	447	447	447
AIC	698.5	692.3	638.1	1587.5	1543.1
BIC	784.7	786.6	802.2	1681.9	1764.6

Figure A3.3: Predicted number of election violent events (Model 2 in Table A3.3)



A3.4 Election fixed effects

We re-estimate models with election fixed effects. While we control for a host of confounders at the administrative district and include province, administrative district, and constituency fixed effects in the main results in tables 2&3, there may be other unobserved heterogeneity at the level of each election. We have decided against including election fixed effects in our main specifications because our theoretical argument hinges on variation in the geography of violence as a result of election-specific factors, anticipating that elites target rival party strongholds in presidential elections while they center on competitive districts in legislative elections. Including election fixed effects thus absorbs variation closely related to our main claims, and means that we cannot test for an interaction between competitiveness and election type. In models 1-4, we add election FE to the main models presented in table 2 and 3. In the models with absolute victory margins (models 1&2), coefficients are not significant. However, the models for incumbent victory margins are again very similar to the main findings in models 6&7.

Table A3.4: Negative binomial regression of election violence, election FE

	(1)	(2)	(3)	(4)
Absolute victory margins	-0.085 (0.634)	0.564 (0.765)		
Incumbent victory margins			-0.834+ (0.455)	-1.093* (0.487)
Population density, log	-0.826 (0.566)		-0.708 (0.546)	
Nighttime lights, log	0.122 (0.421)		-0.001 (0.405)	
Road density	8.450* (3.421)		7.638* (3.357)	
Distance from province capital	-0.001 (0.003)		-0.001 (0.003)	
New constituency	0.248 (0.522)		0.242 (0.500)	
Time since election violence	-0.354** (0.116)		-0.356** (0.113)	
Spatial lag	-0.377** (0.142)		-0.593** (0.176)	
Province FE	✓		✓	
Constituency FE		✓		✓
Election FE	✓	✓	✓	✓
Observations	458	458	445	445
AIC	695.3	680.5	659.6	761.1
BIC	786.0	1192.2	749.7	1261.1

Note: Standard errors are clustered by constituency.

** p<.01 * p<.05 +p<0.1

A3.5. Constituency fixed effects

We also re-estimate our models with constituency fixed effects. We omit district-level controls since these do not vary within constituencies. We also omit temporal and spatial lags of the dependent variable in these models, following the advice in Angrist and Pischke (2008, p. 244-246). The models hence estimate the effect of temporal variation in absolute and incumbent victory margins on violence while accounting for any unobserved constituency-level heterogeneity. Results are very similar to those presented in the manuscript.

Table A3.5: Negative binomial regression of election violence, omitting FE

	(1)	(2)
	w/ FE	w/ FE
Absolute victory margins	-0.874 (0.944)	
Absolute*presidential	2.618** (0.957)	
Incumbent victory margins		-1.756** (0.500)
Incumbent*presidential		1.080* (0.462)
Presidential election	-0.991* (0.422)	0.176 (0.199)
Constituency FE	✓	✓
Observations	460	447
AIC	752.7	694.9
BIC	1240.2	744.1

Note: Standard errors are clustered by constituency.

** p<.01 * p<.05 +p<0.1

A3.6. Controlling for Harare and lag of dependent variable

In models 1&2 of table A3.6, we include a dummy variable to control for Harare. Harare is an opposition stronghold and an organizational center for the opposition MDC. If our results are primarily a function of incumbent violence in Harare, it could be that violence is primarily used to destroy the opposition's organizational capacity, rather than the logic we posit. Models 1&2 are entirely consistent with our main results, showing that this is not the case. In models 3&4, we lag the dependent variable rather than counting the time since violence last happened in a constituency. Our results are again consistent.

Table A3.6: Negative binomial regression of election violence, omitting FE

	(1) Harare dummy	(2) Harare dummy	(3) Lag of DV	(4) Lag of DV
Absolute victory margins	-1.729* (0.792)		-1.608+ (0.832)	
Absolute*presidential	2.569** (0.910)		2.474** (0.897)	
Incumbent victory margins		-2.194** (0.548)		-2.304** (0.667)
Incumbent*presidential		1.412** (0.483)		1.623** (0.570)
Presidential election	-0.547 (0.366)	0.583** (0.212)	-0.784* (0.373)	0.253 (0.215)
Population density, log	-1.041+ (0.569)	-0.591 (0.551)	-1.222+ (0.640)	-0.656 (0.609)
Nighttime lights, log	0.818* (0.327)	0.708* (0.347)	1.020** (0.376)	0.920* (0.358)
Road density	4.319 (4.036)	1.675 (3.509)	2.919 (4.534)	-1.346 (3.393)
Distance from province capital	0.001 (0.003)	0.001 (0.003)	0.000 (0.003)	0.001 (0.003)
New constituency	-0.671 (0.425)	-0.882* (0.425)	-1.127** (0.349)	-1.263** (0.352)
Time since election violence	-0.571** (0.092)	-0.599** (0.092)		
Spatial lag	-0.118 (0.105)	-0.129 (0.114)	-0.056 (0.116)	-0.042 (0.133)
Harare dummy	0.686 (0.932)	0.037 (0.803)		
Lag of DV			0.160* (0.070)	0.196** (0.050)
Province FE	✓	✓	✓	✓
Observations	460	447	460	447
AIC	729.0	695.3	750.3	714.1
BIC	819.8	785.6	837.0	800.2

A3.7. Examining robustness for riots

In the manuscript (fn. 11), we mention that violence in legislative elections could be locally organized by embattled MPs, suggesting an alternative mechanism that would produce the same results. We explore this issue inferentially by re-specifying our models with riots as the dependent variable. Riots are a form of violence that might be less organized. We examine whether they are more common in legislative elections, specifically in more competitive districts in such elections. To estimate these models, we used ACLED data to create a separate measure for riots. We note that ACLED recorded only 27 riots out of 1,207 violent events across the five elections in our data. This suggests that less organized violence is rare, making it unlikely that such violence is responsible for our result for parliamentary elections. Table A3.7. shows our inferential results. We include a dummy for legislative elections for a more logical interpretation (rather than presidential ones as in our main results) and then interact our independent variables with this dummy. Results do not show that legislative elections are at greater risk for rioting, and also fail to show that more competitive districts in such elections have more rioting. Neither the legislative elections dummy nor the interaction are significant.

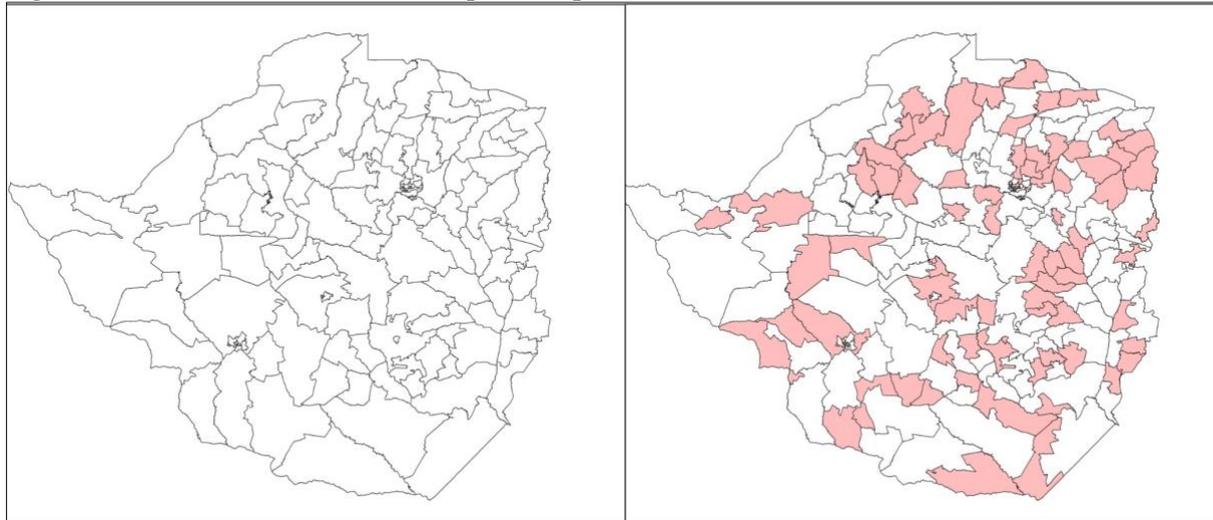
Table A3.7: Negative binomial regression of riots

DV=Riots, ACLED	(1)	(2)	(3)	(4)
Absolute victory margins	0.627 (1.278)	2.387 (1.581)		
Absolute*legislative		-3.380 (2.454)		
Incumbent victory margins			-1.793 (1.099)	-1.922 (1.447)
Incumbent*legislative				0.253 (1.182)
Legislative election	-0.470 (0.441)	0.867 (1.149)	-0.221 (0.460)	-0.179 (0.579)
Population density, log	-7.352+ (4.217)	-7.659+ (4.386)	-6.598 (4.333)	-6.667 (4.358)
Nighttime lights, log	2.835** (0.660)	2.766** (0.643)	2.455** (0.664)	2.470** (0.661)
Road density	17.783 (15.395)	19.460 (15.643)	17.772 (15.137)	17.937 (15.138)
Distance from province capital	0.003 (0.005)	0.003 (0.005)	0.005 (0.005)	0.005 (0.005)
New constituency	-14.571** (0.464)	-15.527** (0.456)	-16.668** (0.447)	-16.313** (0.448)
Time since election violence	-0.449+ (0.264)	-0.449+ (0.260)	-0.452+ (0.251)	-0.449+ (0.251)
Spatial lag	-0.984* (0.413)	-1.007* (0.418)	-0.841* (0.385)	-0.842* (0.384)
Inalpha	1.103 (0.773)	1.068 (0.716)	0.578 (1.040)	0.582 (1.049)
Province FE	yes	yes	yes	yes
Observations	460	460	447	447
AIC	192.1	192.4	186.7	188.6
BIC	274.7	279.2	268.7	274.8

A4 Electoral district boundary changes

We first present descriptive information on boundary changes before the 2008 elections. We then examine empirically whether partisan identities can help explain these changes. Figure A4 below presents maps of constituency boundaries before and after the 2007 delimitation. The left panel depicts boundaries before delimitation, while the right panel shows constituencies after the number of districts increased from 120 to 210. Constituencies shown in red are those we do not include in the analysis. As discussed in the empirical section, we retain only constituencies making up the largest portion of the pre-2007 constituency.

Figure A4: Electoral constituencies pre-and post-delimitation (retained in red)



A4.1. Estimating new district creation

In the manuscript, we mention that the 2007 boundary delimitation exercise was widely seen as partisan and intended to help the ruling party, since new constituencies were primarily in rural areas traditionally supportive of the ZANU-PF (Booyesen & Toulou, 2009). We therefore expect that electoral constituencies supportive of the incumbent party in pre-2007 elections would be more likely to be split into new districts. We estimate a model in which we take the creation of a new district as the dependent variable, and expect a positive relationship between incumbent victory margins and the probability of a new district being created. The positive and significant coefficient for incumbent victory margins in table A4.1 shows that new districts were created in incumbent strongholds.

Table A4.1: Logit regression of new district creation in 2007 delimitation

	(1) New constituency b/se
Incumbent victory margin	4.023** (1.147)
Population density, log	0.350 (1.295)
Lag of election violence	0.403 (0.525)
Nighttime lights, log	0.352 (0.999)
Road density	-10.783 (8.480)
Distance from province capital	-0.006 (0.005)
Province FE	✓
Observations	113
AIC	154.4
BIC	198.0

Note: Standard errors are clustered by constituency.

** p<.01 * p<.05 +p<0.1

A4.2. Omitting the 2008 runoff elections

Table A4.1. demonstrates that new constituencies were created in incumbent strongholds. This finding creates the possibility that new constituencies were especially likely to support the ZANU-PF in the 2008 general elections and runoff. As described in the manuscript, we retain only the larger constituencies for all electoral districts that were split in the 2007 delimitation exercise. We do not think that this procedure for selecting constituencies to retain constituencies should be correlated with incumbents' strategies for creating new districts. We would need to be concerned primarily if incumbents strategically created smaller constituencies in existing ones, were more likely to win elections in those smaller new constituencies (rather than the larger ones we retain), and strategically targeted these new constituencies with violence. To ensure that the redistricting exercise in 2007 does not unduly influence our results, we re-specify our models without the 2008 elections. Recall that the 2008 runoff is the only election in our main models affected by the redistricting (since we exclude the 2008 general elections). These results are presented in table A4.2. Our main results remain consistent when excluding the 2008 runoff.

Table A4.2: Negative binomial regression of election violence, excluding 2008 runoff

	(1)	(2)
Absolute victory margins	-2.108** (0.807)	
Absolute*presidential	3.133** (0.911)	
Incumbent victory margins		-2.477** (0.578)
Incumbent*presidential		1.336** (0.504)
Presidential election	-0.713+ (0.381)	0.675** (0.223)
Population density, log	-0.943+ (0.544)	-0.398 (0.514)
Nighttime lights, log	0.569+ (0.317)	0.527 (0.340)
Road density	6.456 (4.408)	2.400 (3.498)
Distance from province capital	-0.000 (0.002)	0.001 (0.003)
New constituency	-16.443** (0.684)	-15.465** (0.658)
Time since election violence	-0.669** (0.116)	-0.672** (0.120)
Spatial lag	-0.207+ (0.118)	-0.255* (0.115)
Province FE	✓	✓
Observations	344	331
AIC	636.4	601.2
BIC	717.1	681.0

Note: Standard errors are clustered by constituency.

** p<.01 * p<.05 +p<0.1

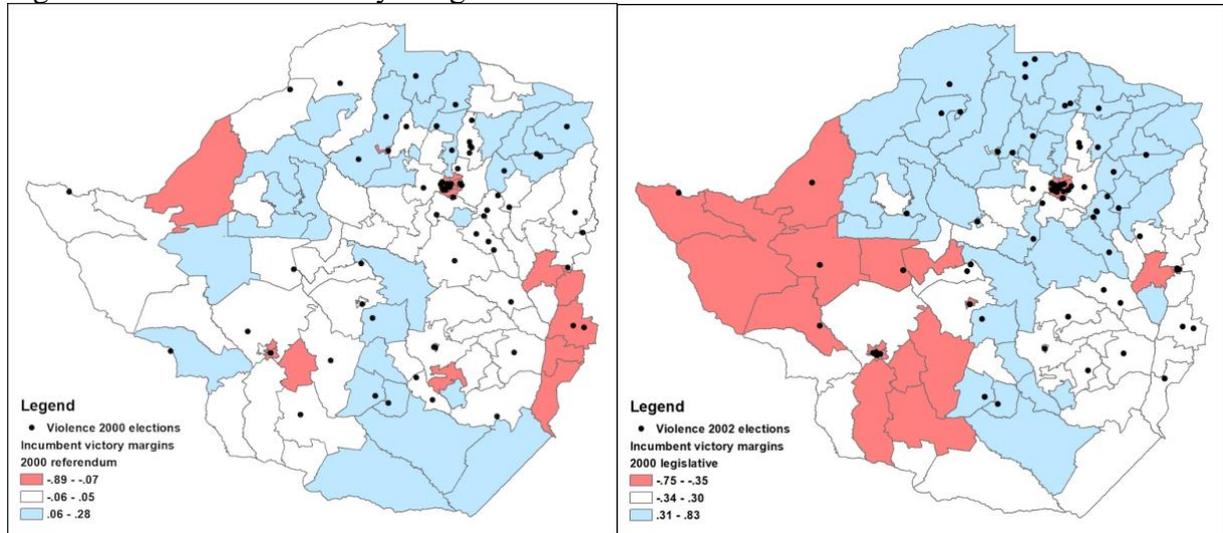
A5 Descriptive statistics and figures

Table A5: Descriptive statistics

	mean	sd	min	max	Source
Election violent events	0.330	1.213	0.000	19.000	ECAV
Deadly election violent events	0.095	0.393	0.000	4.000	ECAV
Pro-incumbent election violent events	0.272	1.032	0.000	15.000	ECAV
Election violence, dummy	0.189	0.392	0.000	1.000	ECAV
ACLED violence	2.137	5.242	0.000	68.000	ACLED
Absolute victory margins	0.375	0.215	0.003	0.833	Evéquo
Incumbent victory margins	0.023	0.418	-0.886	0.833	Evéquo
Presidential election	0.504	0.501	0.000	1.000	Evéquo
Population density, log	0.181	0.391	0.000	2.390	xSub
Nighttime lights, log	0.801	1.150	0.003	3.709	Rnightlights
Road density, km/km ²	0.136	0.097	0.065	0.457	xSub
Distance from province capital, km	113.866	68.877	5.984	371.068	xSub
New constituency	0.228	0.420	0.000	1.000	Evéquo
Time since election violence	1.638	1.587	0.000	5.000	ECAV
Spatial lag	0.346	0.679	0.000	7.000	ECAV
Observations	712				

Figure A5 below illustrates incumbent victory margins in preceding elections and the incidence of election violence in the 2000 and 2002 Zimbabwean elections. In the maps, black dots show violent events. Constituencies in red denote opposition strongholds, those in white are competitive constituencies, and blue constituencies represent incumbent strongholds.³⁶ The map on the left shows incumbent victory margins from the February 2000 referendum and the incidence of violence in the June 2000 legislative elections. In line with H3 describing patterns in legislative elections, we expect most violence in competitive constituencies, i.e. the white areas. The left panel seems to support this expectation. The right panel shows incumbent victory margins from the June 2000 legislative elections and the incidence of violence in the 2002 presidential elections. In line with H1, we expect more violence in strongholds (red or blue constituencies), while H2 clarifies that most of this violence should take place in opposition strongholds (red constituencies). We observe lots of violence in opposition strongholds, in particularly Harare and Bulawayo, the largest cities, but these patterns are difficult to discern also because of the small geographic size of urban constituencies.

Figure A5: Incumbent victory margins and violence in Zimbabwe's 2000 & 2002 elections



³⁶ We bin incumbent victory margins into tertiles with equal number of observations to distinguish the three types of constituencies.

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