State violence, party formation, and electoral accountability:

The political legacy of the Marikana massacre.*

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January 11, 2021

Abstract

Democratic governments sometimes use violence against their people, yet little is known about the electoral consequences of these events. Studying South Africa's Marikana massacre, we document how a new opposition party formed as a direct result of violence, quantify significant electoral losses for the incumbent, and show that those losses were driven by voters switching from the incumbent to the new party. Three lessons emerge. First, incumbents who preside over state violence may be held electorally accountable by voters. Second, such accountability seemingly depends on the existence of credible opposition parties that can serve as a vector for disaffected voters. Where such parties do not exist, violence may create political cleavages that facilitate the formalization of opposition movements. Third, immediate physical or social proximity to violence is correlated with holding incumbents accountable.

*We thank Courtenay Conrad, Alex Dyzenhaus, Guy Grossman, Daniel Kaliski, Evan Lieberman, Rudra Sil, Tariq Thachil, Lindsey Pruett, and Yiqing Xu for direct commentary and guidance. We thank Ilan Godfrey for sharing his expertise on the Platinum Belt. Audiences at the 2020 UC Africanist Workshop, the 2020 California Regional Working Group on African Political Economy, APSA 2020, the University of Pennsylvania Comparative Politics Seminar Series, and the London School of Economics African Political Economy Group Seminar provided valuable feedback. We thank the Independent Electoral Commission of South Africa for facilitating access to voting station shapefiles, and for their releases of election data. We thank the Human Sciences Research Council for expert guidance regarding the South African Social Attitudes Survey, providing access to the geo-referenced versions of the surveys, and for making the data available. We thank Statistics South Africa for assistance with census and spatial data. We thank the South African History Archive for access to the South African Police Service data. Supporting Information (SI) is available here

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1. INTRODUCTION

Theories of democratic accountability propose that voters electorally punish or reward politicians based on retrospective assessments of their behavior in office (Ferejohn, 1986). Does the logic of electoral accountability extend to cases in which democratically elected incumbents wield violence against ordinary people? Little empirical evidence has been brought to bear on this question, despite the prevalence of state-led violence worldwide, in both established and transitional democracies (Davenport and Armstrong, 2004; Arriola, 2013b). Whether incumbents are sanctioned for such violence has direct implications for the power and limits of electoral accountability as a force for incentivizing good governance.

We study the political legacy of the Marikana massacre, one of the most high-profile examples of transgressive state violence in a modern emerging democracy. In the late afternoon of the August 16, 2012, members of the South African Police Service used automatic weapons to fire hundreds of live rounds into a group of striking mine-workers, killing 17 in the space of just 12 seconds (Alexander, 2012). Fifteen minutes later, in a secluded area nearby, another 17 mine-workers were murdered by police (Marinovich, 2016; Bruce, 2018). Across both sites, a further 78 were left wounded and hundreds arrested. The actions of the police, serving under the direct authority of the Minister of Police and the President, were reminiscent of the brutal violence perpetrated by the apartheid state at Sharpeville, 1960: violent repression of Black South African protesters. The massacre, which resulted in a lengthy independent televised investigation (Farlam et al., 2015), has been described as a “turning point in South African history” (Alexander et al., 2013).

We first document how a new party, the Economic Freedom Fighters (EFF), emerged directly as a result of Marikana, and successfully created issue ownership of the massacre. Using narrative evidence and a comprehensive dataset of over 200,000 tweets by South African political elites that covers the period 2009-2020, we show that Marikana was a central motivating event in the formation of the EFF. The party mentions the massacre in public communications more frequently than other major parties, it occupies a higher proportion of its thematic content than in any other major party, and it remains an explicit issue raised during election campaigns. The founders of the EFF – political entrepreneurs who had recently been ejected from the incumbent African National Congress (ANC) – accurately perceived that Marikana had created a geographically localized political cleavage.

We then quantify the degree to which the incumbent ANC was held electorally accountable. We find that the incumbent lost electoral support in a geographically-concentrated fashion, and that the newly formed EFF captured the lion’s share of lost support while existing opposition parties gained almost nothing.

Using polling station electoral returns, we estimate that, in those communities closest to the massacre, the incumbent party lost on average 9 percentage points more immediately following the massacre, relative to its performance in the rest of the country which showed a much smaller decline between 2009 and 2014. This average effect masks significant heterogeneity; in some communities the party experienced as much as a 60 percentage point decline in support, while in other places their support was unaffected. We also find that while these effects were concentrated in the mining communities in and around Marikana, they were not strictly limited to those areas: throughout the country, incumbent losses are generally increasing in proximity to the site of the massacre.

Finally, to understand the individual-level voter dynamics that underpin these electoral shifts, we analyze almost a decade's worth of geo-referenced survey data that includes questions about both prospective and retrospective vote choice. We find that the incumbent's losses were driven almost entirely by supporters of the incumbent switching allegiance to the newly formed opposition party and not by electoral demobilization.

Together our findings suggest three lessons about the promises and limits of electoral accountability in the context of state violence. First, incumbents who preside over transgressive state violence can indeed be held electorally punished by the people. Second, that accountability may depend on the existence of credible opposition parties that can serve as a vector for disaffected voters. Where such parties do not exist, state violence may generate political cleavages that galvanize nascent opposition movements, and provide opportunities for political entrepreneurs to develop a following, and ultimately allow for the formation of successful opposition parties. Third, when state violence occurs, immediate physical or social proximity to the violence is correlated with holding incumbents accountable. Electoral and political context plays an important role in shaping the limits of electoral accountability.

2. THE PROMISE AND LIMITS OF ELECTORAL ACCOUNTABILITY

Electoral accountability is a key part of modern democratic theory (Barro, 1973; Ferejohn, 1986; Besley, 2006). Intuitively, accountability rests on the assumption that citizens vote to punish or reward politicians at least in part on the basis of their performance in office (Svolik, 2013). There is a large and growing body of evidence, in the context of South Africa and more generally, that suggests voters do indeed engage in retrospective voting (Key et al., 1966; Fiorina, 1981), in which they evaluate the incumbent's performance on a range of issues and apply rewards or punishments as appropriate (Mattes, 2005; Ferree, 2006; Berry and Howell, 2007; Hellwig and Samuels, 2008; Woon, 2012; Weghorst and Lindberg, 2013; Carlson, 2015;

Harding, 2015; Healy et al., 2017; de Benedictis-Kessner and Warshaw, 2019; Berliner and Wehner, 2019).¹

State violence likely signals to voters either a capricious government that uses excessive and unwarranted force, or a government that has lost control of its armed forces (Bhasin and Gandhi, 2013). Voters who directly experience state violence, or perceive a chance that their lives may be affected by such violence, should have incentive to use their electoral influence to seek reforms from the incumbent, or displace the incumbent entirely. Whether incumbent electoral losses result in a change in government depends on political context and competitiveness. If state violence does indeed influence voter behavior, two micro-channels may be active: switching and demobilization (Bechtel and Hainmueller, 2011; Stokes, 2016). Switching refers to those who are already voters changing their choice at the ballot box – switching from the incumbent to an opposition party (or vice versa). Demobilization refers to voters exiting the formal political process and withholding their vote entirely to reprimand the government. Violence may also indicate state strength, discouraging anti-incumbent activists and supporters, leading to demobilization (Fein, 1995; Gartner and Regan, 1996; Regan and Henderson, 2002; Shadmehr and Bernhardt, 2011).

Yet there is also evidence that voters engage in both more biased and more sophisticated appraisals of politicians’ past behavior (Huber et al., 2012; Healy and Lenz, 2014; Burszty, 2016; Adida et al., 2017; de Kadt and Lieberman, 2017; de Benedictis-Kessner, 2018; Boas et al., 2019; Weaver, 2020). It is not *a priori* certain that all voters would choose to electorally sanction the incumbent in the wake of state violence. Myriad forces and factors shape voters’ views of politicians’ behavior and influence individual electoral decisions. Under certain circumstances many incumbent-supporting voters may remain loyal in the wake of violence. This might be particularly likely if voters feel a strong partisan attachment due to socio-cultural or historical factors, if they are otherwise happy with the incumbents’ performance, if they are particularly dependent on the incumbents’ largesse, or if no coherent or viable opposition platform exists (Bartels, 2000; Mattes and Piombo, 2001; Bratton et al., 2012). If voters do not switch or demobilize in the wake of violent transgressions by the state incumbents may perceive little electoral risk to such behavior.

Crucially, as noted above, theories of electoral accountability – especially those that emphasize vote switching rather than demobilization – rely upon the existence of meaningful alternatives to the incumbent. While in established democracies this is often the case, in emerging democracies the presence of well-developed and institutionalized political alternatives cannot be taken for granted (Mattes and Piombo, 2001). Where credible opposition parties do not exist, violent events may in fact lead directly to party formation. Indeed, a body of work studying multiple different contexts argues that violent or mass-participatory

¹See Healy and Malhotra (2013) for a comprehensive review of this literature prior to 2013.

political events can generate emergent political polarization where none existed before, leading to an issue or identity cleavage that may result in party formation (Lipset and Rokkan, 1967; Kitschelt, 1992; LeBas, 2006, 2013). When meaningful cleavages emerge, such mobilization often relies on “pockets” of support which can arise in geographically localized ways (Resnick, 2012). Political accountability in the wake of state violence may thus include not only electoral shifts but also changes in party politics; in fact, electoral shifts may depend on the formation of new parties.

3. STUDY CONTEXT

There are numerous excellent histories of the events that preceded and occurred on August 16, 2012. We encourage readers to engage those texts closely. They provide detailed analyses of the socio-economic and political context leading up to the massacre (Twala, 2012; Chinguno, 2013; Sil and Samuelson, 2018) and careful examinations of the event itself (Alexander et al., 2013; Marinovich, 2016; Bruce, 2018), while also giving voice to the experiences and traumas of the miners and their families far better than we can in this paper (Alexander, 2012; Benya, 2015). We provide here only a brief broad-strokes outline mining in South Africa and the events leading up to and occurring on August 16, 2012.

Mining has played a central role in the South Africa’s modern history since the discovery of gold and diamonds on the Witwatersrand in the mid-to-late 19th century. The mining industry has always depended on poorly paid black African migrant laborers working in dangerous and unforgiving conditions. Those mine-workers have historically represented an important political entity, and played a major role in the anti-apartheid movement (Crush, 1989; Gurney, 2000). Their influence can be seen in the early 20th century; strikes in 1913 and 1946, both of which ended in bloodshed at the hands of government, were crucial events in early South African politics.

Mine-workers also exert influence in the central organizing political force for South African labor, the Congress of South African Trade Unions (COSATU). COSATU is a trade union federation representing roughly 1.8 million laborers in multiple industries and sectors, and since the 1950s it has been closely aligned with the African National Congress (ANC). The ANC and COSATU, along with the South African Communist Party, are members of the “tripartite alliance.” Simply, COSATU guarantees votes in exchange for pro-union policies (Ferree, 2011). Yet successive ANC governments have also pursued pro-business policies, causing increasing instability within the alliance (Buhlungu, 2010; Evans and Sil, 2020)].

Since the end of legal apartheid in 1991 and the onset of multi-party democracy in 1994, mine-workers have remained an important political group. In the post-apartheid period, mine-workers have typically been

represented by the National Union of Mineworkers (NUM), an affiliate of COSATU, and its (historically) much smaller competitor the Association of Mineworkers and Construction Union (AMCU).² This arrangement has been the site of much political upheaval both within the unions and between political elites from different groups, often relating to divergent views on economic policy and issues of labor protection (Natrass, 1994; Buhlungu, 2005; Buhlungu and Bezuidenhout, 2008). Unions have historically organized mine workers to strike for increased pay and better working conditions, and such events are common in South Africa, though the degree of militancy and division between laborers and elites has risen over time (Evans and Sil, 2020).

Platinum is central to the mining industry. South Africa is the world’s largest producer of platinum, with multiple multi-national corporations operating shafts in an area known as the Bushveld Igneous Complex (BIC). The BIC is the largest known layered igneous intrusion on Earth, containing the world’s largest known reserve of platinum-group materials. The Marikana Platinum Mine is located centrally in a part of the BIC known as its “Western Limb.” In early August 2012, rock drillers employed by British multinational corporation Lonmin plc embarked on a strike, coordinated from a nearby location called the Koppie (Afrikaans for “small hill”). This was a “wildcat” strike, unauthorized by the leadership of their union, NUM, and seemingly encouraged by the AMCU seeking to expand its membership base in the platinum sector. Such strikes, both authorized and unauthorized, are extremely common in South Africa, and were widespread across the country’s platinum mines in 2012 (Sil and Samuelson, 2018; Evans and Sil, 2020). By August of 2012, the Marikana strikers’ specific goal was a tripling of monthly salaries (from roughly R4,000 to R12,500 per month, or \$270 to \$850 per month). On the 11th of August, two of the strikers were killed, allegedly by members of the local NUM leadership. Between the 12th of August and the 15th, four miners, two police officers, and two private security guards employed by Lonmin were killed.

On August 16, the police attempted to coral protesting strikers who were moving as a group while singing songs and dancing. They fired teargas, stun grenades, and rubber bullets. A single shot was fired from a handgun by a striker. A panic began immediately thereafter, and 17 miners died under a barrage of automatic rifle fire – at a minimum 328 bullets were fired in the space of 12 seconds (Farlam et al., 2015). The police’s containment strategy would eventually be described as both poorly planned and poorly implemented (Farlam et al., 2015).

Some fifteen minutes later, nearby, the killing continued, seemingly in cold blood. Out of sight of the

²We have repeatedly requested data from NUM and AMCU about their membership numbers and the distribution thereof, but have had no success.

Figure 1: The Western Limb and the Koppie, the Site of the Marikana Massacre

Note: The upper panel shows the site of the Marikana Massacre (the black dot) and the extent of the Western Limb communities (red polygons) in the local geographic context. The lower panel shows the same but in broader context. The Western Limb polygons were hand drawn by the authors in GIS, following (Godfrey, 2018) and (Kinnaird, 2005). The massacre occurred at two different scenes; the black dot shows the Koppie from which the strike was organized, which lies 250m between them.

media cameras that had captured the initial massacre, police from at least four different units murdered a further 17 miners. Forensic reports show that many were shot in the back, that many were shot while trapped between rocks with nowhere to run, and that the police planted weapons on some of the bodies (Marinovich, 2016; Bruce, 2018). In roughly 30 minutes, 34 people were killed and 78 wounded, making the Marikana massacre the single most deadly use of force by South African police since the Sharpeville massacre of 1960, in which apartheid police killed 69 black African protesters in cold blood, and the most deadly use of force since the beginning of South African democracy.

At time of writing, multiple police officials face charges related to the massacre. But the intimate connection between the ANC as a party, Cyril Ramaphosa (who was a senior member of the ANC National Executive Committee, and would shortly become the Deputy President of both the ANC and the country, and later the President), Lonmin, and the police ground leadership, have remained a point of focus in the years following the massacre (Alexander et al., 2013). As such, many South Africans continue to perceive the massacre not only as a failure by the police, but as evidence of the ANC’s departure from its core mission to liberate and improve the lives of the black South African poor.

The top panel of Figure 1 shows the Western Limb of the BIC, bisected by Pilanesberg national game reserve. We use the Western Limb to spatially define the communities most intimately connected to the massacre, and the surrounding area. This area describes, albeit imperfectly, the communities connected to the the platinum mines located in this area, the workers and their families and friends who live in largely informal settlements in the vicinity of the mines (Venter et al., 2012; Manson, 2013; Bezuidenhout and Buhlungu, 2015; Moodie, 2015; Godfrey, 2018). The Western Limb of the BIC includes the Marikana-Lonmin mine and the communities most intimately connected to the Massacre in 2012, such as the towns of Wonderkop and Marikana itself. For context, the bottom panel of Figure 1 shows the Western Limb overlayed onto the entirety of South Africa.

4. PARTY FORMATION IN RESPONSE TO VIOLENCE

Violent events are capable of generating emergent political polarization, issue or identity cleavages, and party formation (LeBas, 2013). The immediate political response to the events at Marikana are consistent with this argument. Two young politicians who had recently been frozen out of the African National Congress (ANC) apparatus and were seeking opportunities to re-enter formal politics – Julius Malema and Floyd Shivambu – perceived the events in Marikana as a political opportunity for organization and mobilization (Botiveau, 2014), ultimately launching the Economic Freedom Fighters (EFF) to directly contest the ANC’s

political grip on South Africa.

The creation of the EFF was aided by South Africa’s political system being relatively open with respect to party entry and exit. This is largely attributable to two institutional features. First, technical barriers to entry are extremely low: registering a new political party is a simple process that requires only 500 signatures, minimal paperwork, and the payment of a small fee. Second, the country’s electoral system – proportional representation at the national level and a mixed-member system at the local level – means that there exist greater electoral incentives for party formation (Cox, 1997). Parties typically require just over 30,000 votes (out of an active electorate of roughly 18 million voters) to gain a seat in the national parliament, and the geographic spread of those votes is essentially irrelevant. At the local level, even small vote hauls can translate into seats. As a consequence, elections regularly featuring between 20 and 50 parties on the national ballot, and dozens on the local level.

Yet as Ferree (2018) notes, while there are many parties in South Africa, few of them are electorally significant at either the national or local levels, and the country’s effective number of parties hovers around 2. This is reflected in the ANC’s electoral dominance. Since 1994, the country’s first inclusive democratic election, the ANC has won more than 50% of the national vote in every election, and governed the vast majority of local government structures. Ferree (2018) argues, in line with work in other contexts (Arriola, 2013a), that both the ANC’s dominance and the lack of diverse and effective opposition parties is due to four factors: the power of racial cleavages, the absence of alternative cleavages, secondary institutional features such as public financing of parties, and the ANC’s control over public finances. Given South Africa’s history of institutionalized racism, the racial cleavage between the majority Black African population and the wealthy minority white is an unsurprisingly dominant frame in politics, and has been effectively used by the ANC to sustain their electoral success (Ferree, 2011). This dominant cleavage has typically subsumed alternative cleavages in South Africa (Ferree et al., 2019). Ethno-linguistic differences within the Black African population have been deliberately relegated to secondary importance within the ANC’s cross-ethnic pan-Africanist ideology, while economic differences are still heavily predicted by, and thus subsumed by, race. This absence of alternative cleavages is particularly instructive for thinking about the effect of Marikana; the massacre seemingly created a geographically localized issue cleavage within the ANC’s support base, over which a substantial number of voters had intense preferences (Holmes, 2012; Mbete, 2015, 2016).

The EFF’s emergence was likely a direct consequence of this localized cleavage. Malema and Shivambu make this point themselves. In his retrospective on the party’s short history, Shivambu refers to Marikana as a “turning point”, the “culmination of [... our] involvement with the struggles of the people” (Shivambu,

2014, p.44). Likewise, Malema, in a radio interview, has attested that the striking mineworkers he met with in Marikana encouraged him to form a new party, arguing their voices would not be heard if “you’re [Malema] not in this space [politics]” (Nemakonde, 2017). In that same interview, Malema noted that “when I was there [Marikana], those guys [the strikers] kept calling me, and they planted the seed [to form a new party]” (Nemakonde, 2017).

Despite by their own admission having no particular presence in the Western Limb communities during the first half of August 2012, when the strike that preceded the massacre was ongoing, Shivambu and Malema were the first national politicians to arrive in the area after the massacre occurred (Alexander, 2013; Shivambu, 2014). On August 17th, the day after the massacre occurred, Shivambu and other future-EFF activists were immediately on the ground, allying themselves with the striking mineworkers and bereaved families. The next day Malema arrived to convene a meeting with the still-protesting mineworkers, what would be the beginning of an extended presence in the area, and a sustained relationship with the local community (De Wet, 2012; Shivambu, 2014; Nemakonde, 2017). In October 2013, just over a year after the massacre took place, Malema addressed a crowd gathered in Marikana to announce the formal launch of the EFF.

4.1. ISSUE OWNERSHIP

To buttress these narrative accounts we consider data on how Marikana was used in political communication by South African political elites. We demonstrate three things, consistent with the narratives presented by Malema and Shivambu and contemporaneous political analysis from social scientists (Alexander, 2013). First, in the immediate wake of the massacre the politicians who would go on to establish the EFF pivoted their public communications almost exclusively toward Marikana. This was not the case for the incumbent ANC or the pre-existing opposition party the center-right Democratic Alliance (DA). This suggests that the event was indeed a core catalyst, a central pillar, of party formation. Second, over the next two election cycles, Marikana was almost exclusively addressed by the EFF, suggesting that it successfully established issue ownership. Third, Marikana continues to feature in EFF communications around election time, despite the fact that the EFF has broadened its support nationwide, well beyond the directly affected communities. This suggests that the massacre remains a central part of the party’s identity, that it still owns the issues, and that its leadership perceives it as resonant with a broad coalition of voters.

Studying issue ownership in emerging democracies like South Africa is difficult; much political communication occurs in informal, unrecorded, and non-transcribed settings. To circumvent this we turn to social

media posts on Twitter, assembling a dataset of over 200,000 tweets from official party handles and leading politicians’ personal handles.³ In 2017 about 14 percent of the South African public used Twitter, and the platform has become a powerful and cheap way for politicians and parties to communicate with voters (BusinessTech, 2017). The earliest tweets in our data are from January 2009, and the most recent tweets come from December 2020, when we conducted data collection. We collected all available initial tweets (no replies or non-quoted retweets) from 20 handles. We focus on the two major parties that existed prior to the massacre, the ANC and the opposition DA, as well as the EFF handle and the handles of its core founding members.

All told, our data includes 234,853 tweets, 63,396 by six ANC affiliated handles, 83,690 by eight EFF affiliated handles, and 87,767 by six DA affiliated handles.⁴ Details about the Twitter handles, party affiliations, and our strategy for selecting handles can be found in the SI. For every handle selected, we retrieve the text content and the time tweets were posted, along with other meta-data. We clean the text data as standard, removing stop words, punctuation, and emoticons, converting to lower case, and stemming words.

First, we visualize the behavior of EFF handles in the month just before and just after the massacre. Figure 2 presents two simple word clouds including all terms used at least three times, one for the month prior to the massacre, and one for the month immediately after. The data show a profound shift in the thematic focus of the handles, away from an almost singular focus on Malema and his tenuous relationship with the ANC and President Jacob Zuma, and towards an almost exclusive focus on Marikana, Lonmin, and the plight of the mineworkers. The massacre became the singular focus of the political entrepreneurs who would eventually found the EFF. In the SI we show the same visualizations for the DA and ANC, and there is very little evidence of any thematic change in the immediate post-Marikana period, nor any major focus on these same words, most of which barely feature at all. The EFF’s immediate pivot to focus on the massacre, contrasted with the ANC’s and DA’s lack of a thematic pivot, is consistent with the narrative that the EFF identified the potential for a new political cleavage in the wake of Marikana.

At the time there was a lack of clear information about how events on the ground had unfolded, and

³Data was retrieved from the Twitter Search Tweets: Full Archive API, accessed via the `rtweet` package in R (Kearney, 2019)

⁴EFF handles: EFFSouthAfrica, Julius_S_Malema, LeighMathys, GardeeGodrich, HhMkhaliphi, Adv-DaliMpofu, MbuyiseniNdlozi, FloydShivambu.

ANC handles: MYANC, GwedeMantashel, JacksonMthembu_, CyrilRamaphosa, NathiMthethwaSA, and MbalulaFikile

DA handles: Our_DA, helenzille, MmusiMaimane, jsteenhuizen, LindiMazibuko, and AtholT.

Figure 2: Word Clouds of EFF Handles, 1 Month Before (Left) and After (Right) the Massacre
Note: Words are only included if they meet the minimum frequency of three uses.

active public debate about whether the police and the ANC or the mineworkers were “to blame” for the violence.⁵ Due to the extensive efforts of activists, journalists, and the Farlam commission, we now know much more (Alexander et al., 2013; Farlam et al., 2015; Marinovich, 2016), but as Holmes (2015) shows through careful content analysis of news articles in different languages and outlets, the Marikana massacre was at the time covered very differently depending on the ethno-linguistic and racial features of the paper’s readership. English and Afrikaans newspapers, those whose readerships reflect the demographics of the DA were much more circumspect about the culpability of the state in the massacre. While the massacre has become uniformly recognized as a modern tragedy for which the ANC-led state is largely to blame, that narrative was not particularly clear in the immediate aftermath, specifically among the main opposition party’s core demographic groups. This, along with the racial and socioeconomic profile of the DA leadership and its support base, may help explain that party’s strategic failure to address the massacre appropriately.

We next contrast references to the massacre in political communications across the three main parties, first cross-sectionally and then over time. Using a simple keyword search we determine whether a tweet is related to Marikana – any tweet that includes any of “marikana,” “lonmin,” “amplats,” “wonderkop.”

⁵We reject the idea that victims of violence should ever be blamed for the violent actions of others. We use this phrase only because it reflects the debate in the country at the time, and we use scare quotes to indicate our discomfort with the argument.

Figure 3: Marikana-Related Tweets by Major Political Twitter Handles

Note: Coded as being Marikana-related if the tweet includes any of the following words: marikana, lonmin, amplats, wonderkop, koppie, massacre, farlam. Tweets are collected for the period between 2009 and 2020. The left panel uses all data, the right panel uses only data from the post-Massacre period (August 16 2012 onward), though results are not sensitive to this choice.

“koppie,” “massacre,” or “farlam” – is coded as being Marikana-related. The nature of the event – discrete, with a specific and unique location and set of names attached – makes a keyword search a powerful and transparent tool for topic modeling. The left panel of Figure 3 shows the number of tweets relating to Marikana posted by each account. Raw counts can be misleading as different handles have existed for different durations and are not equally active, and so we also present, in the right panel, the estimated proportion of total tweets that relate to Marikana. Across both measures, we find a consistent pattern: EFF handles are systematically more likely to tweet about Marikana, both in absolute terms, and proportionally, than DA or ANC handles. In the left panel, the EFF handle, which was created a few months after the massacre, has tweeted nearly twice as many times about Marikana than the DA party handle which existed at the time of the massacre. Many individual EFF members have tweeted about Marikana almost as many times as the ANC’s party handle, despite the fact that party handles typically tweet with much greater frequency than individuals. Proportionally, the top seven handles are all EFF accounts, with roughly 1 - 2% of all their tweets in the post-massacre period being Marikana-related.

The top panel of Figure 4 visualizes the prevalence of Marikana-related tweets over time. Not only did the EFF mention the massacre in public communications more frequently than the other parties, and as a

Figure 4: EFF, DA, and ANC Marikana-Related Tweets By Day

Note: Includes all handles, both party and individual, assigned to appropriate political party, ANC, DA, or EFF. The top panel shows the log of the raw count of Marikana-related tweets + 1, while the bottom panel shows the proportion of daily tweets that are Marikana-related. Loess fitted using `ggplot2::geom_smooth()` in R with a span choice of 0.1.

higher proportion of its thematic content, it also used, and continues to use, the massacre as an explicit campaign issue. There are visible election spikes in Marikana-related communications for the EFF around the 2014, 2016, and 2019 elections. No such spikes occur for the other two parties, whose content typically only references Marikana on the anniversary of the event (yearly spikes on the 16th of August). The bottom panel of Figure 4 presents the proportion of daily tweets about Marikana, and demonstrates that while Marikana’s absolute importance has remained, the issue’s relative importance has declined over time. This is perhaps unsurprising, reflecting that by 2019 the EFF was a nationally competitive party with a broad-based political agenda. Though Marikana evidently remains important nearly a decade later, it is no longer a central focus of the party in campaigns.

5. INCUMBENT ELECTORAL PERFORMANCE IN THE WAKE OF STATE VIOLENCE

The EFF’s emergence was seemingly a direct consequence of the Marikana massacre, but what electoral consequences were felt by the incumbent ANC? We use election returns to quantify these effects using the difference-in-differences design described in Table 1. The core quantity of interest is $\hat{\tau}_{DID} = [Treated_t - Treated_{t+1}] - [Control_t - Control_{t+1}]$, how incumbent vote share in Marikana and surrounding communities, defined by the Western Limb, changed after the massacre, net of changes in the rest of the country. As such, it captures the effect of the massacre on incumbent electoral performance in the directly affected communities of interest. As highlighted above, this relies on the assumption that, had the massacre not have occurred where and when it did, trends in electoral, party-political, and attitudinal outcomes in communities close to the massacre would have continued to trend in parallel to those outcomes in communities further from the massacre.

Table 1: Difference-in-Differences Design

		Time	
		Pre-2012 (t)	Post-2012 (t+1)
Western Limb	Yes	$Treated_t$	$Treated_{t+1}$
	No	$Control_t$	$Control_{t+1}$

Note: This difference-in-differences design leverages variation over two dimensions: Whether communities are part of the Western Limb (treatment), and whether those communities are observed in the pre- or post-massacre period (time).

This design is similar in nature to that used by two major recent studies of the electoral effects of violence, Getmansky and Zeitzoff (2014) in their study of the electoral effects of rockets fired from Gaza into Israel, and Enos et al. (2019) in their study of the effects of the Los Angeles Riots on electoral support for local public goods provision. In Sections 5.5, 5.2, and the SI, we provide contextual and empirical evidence that this assumption is highly plausible.

Importantly we are not able to diagnose whether there were countrywide effects on electoral support for the ANC. Indeed, the ANC lost 3.75 percentage points between 2009 and 2014, and in areas outside of the Western Limb 3.1 percentage points were lost in total. Some of that lost support may, or may not, be attributable to the massacre; we are not able to quantify that effect. Instead we are able to study how changes in the ANC’s vote share between 2009 and 2014 differ by proximity to, or membership of, the community most intimately connected to violence, net of those broader changes in the country.

5.1. ELECTORAL DATA

Our primary dataset is a panel of election returns for all of South Africa’s elections from 1999 through 2019, combined with census data for 2011. The data are retrofit to the 4,392 electoral wards that were demarcated in 2016. The data includes National Election data from 1999, 2004, 2009, 2014, and 2019, and Local Government Election data from 2000, 2006, 2011, and 2016.⁶ Once the panel was compiled, GIS was used to measure their intersection with the Western Limb of the BIC shown in Figure 1. In our main empirical specifications, we treat communities that intersect with the Western Limb as “treated” cases, those which were intimately connected to the massacre. While this remains our preferred way of approaching the issue, it is true that defining treatment in this way is problematic in that it may incorrectly include or exclude communities, an issue we address in Section 5.3.

5.2. ELECTORAL EFFECTS

We begin by visualizing the change in ANC vote share between 2009 and 2014, in two ways. The upper panel of Figure 5 shows the distribution of ward-level changes in incumbent support over the entire space of South Africa, with the Western Limb of the platinum belt overlayed in red. The spatial pattern is reasonably clear

⁶To create a panel at the 2016 ward level, we spatially joined the respective polling stations (of which there are 13,500-22,000, depending on election year) from the 1999 - 2014 elections with the 2016 wards. The data from the 2016 and 2019 elections does not need to be retrofit, as the data already corresponds to the 2016 wards. This is similar to the approach used in de Kadt and Lieberman (2017); de Kadt and Sands (2019) and de Kadt (2019), though using a different unit of aggregation.

from casual inspection: The ANC’s electoral losses were largely in the northern parts of the country, with a heavy concentration of major losses in the Western Limb communities.

The lower panel of Figure 5 emphasizes this pattern through a scatter plot of proximity to the Koppie, the epicentre of the strike, against ward-level change in ANC vote share. Countrywide, the closer a ward is to the Koppie as the crow flies, the heavier the electoral losses. The overlayed loess curve suggests that, once distance is logged, this association is effectively linear, though it strengthens in the immediate vicinity of the Western Limb communities, shown in red. It also appears that a disproportionately large share of the ANC’s heaviest losses (between 25% and 50%) occurred in the affected communities.

The electoral effect of the massacre in the Western Limb communities visualized in Figure 5 can be numerically calculated simply by taking the average for each of the quantities in Table 1. This gives an estimated $\hat{\tau}_{DID} = [67.5 - 66.3] - [69.1 - 56.2]$, an 11.7 percentage point decline in the ANC’s vote share in communities that are part of the Western Limb. While this preliminary inspection provides *prima facie* evidence that the incumbent ANC was punished at the polls in communities most affected by the Marikana massacre, we next implement a statistical analysis of the difference-in-differences which allows us to account for potential concerns relating to the comparability of our control and treated units and the plausibility of parallel trends. Our core statistical specification takes the following form:

$$\Delta Y_w = \alpha + \tau_{DID} WesternLimb_w + \delta \mathbf{X}_w + \gamma \mathbf{G}_w + \epsilon_m$$

For ward w , we regress the first difference of Y our outcome variable between the time pre- and post-Marikana periods (2009 and 2014 for the National and Provincial Elections, 2011 and 2016 for the Local Government Elections), on an indicator of whether the ward intersects with the *WesternLimb*. $\mathbf{X}$ are optional time-invariant census covariates measured in 2011 (unemployment rate, formal, informal, and traditional housing stock, racial population shares, and language group population shares). $\mathbf{G}$ are optional spatial covariates (longitude + latitude + longitude×latitude). Note that the estimation strategy is a deliberately simple statistical approach – we begin with minimal modeling assumptions for ease of interpretability and understanding, but in Section 5.4 we present a range of alternative, and typically more complex, analyses. Standard errors ϵ_m are clustered by municipality, the geographic unit above the ward, which helps to account for spatial auto-correlation in the treatment assignment. The results are virtually unchanged in terms of statistical significance when using robust unit-level standard errors, or the Conley (1999) adjustment for spatial and temporal auto-correlation (Hsiang, 2010; Fetzer, 2014).

The results from these specifications are presented in Table 2, in columns (1) through (3) of Panel A,

Figure 5: Visualizing the Electoral Effect of the Massacre

Note: Each ward in the country is represented by a point on both the upper panel (map) and the lower panel (graph). In the upper panel, each point is located at the ward's centroid. The outline of Western Limb is shown in red in the upper panel, and those same 'treated' wards are highlighted in red in the lower panel.

Table 2: Difference-in-Differences Analysis of Electoral Effect of the Massacre

PANEL A: National and Provincial Elections						
	<u>Main Effect</u>			<u>Pre-Trend Test</u>		
	DV = Δ ANC Vote Share 09-14			DV = Δ ANC Vote Share 04-09		
	(1)	(2)	(3)	(4)	(5)	(6)
Western Belt Community	-0.117***	-0.084***	-0.090***	-0.035**	0.002	-0.000
(Municipality clustered SEs)	(0.023)	(0.024)	(0.023)	(0.011)	(0.011)	(0.011)
(Conley HAC SEs)	(0.013)	(0.014)	(0.012)	(0.021)	(0.009)	(0.005)
Spatial Controls		✓	✓		✓	✓
Covariates			✓			✓
Observations	4377	4377	4377	4318	4318	4318
R^2	0.054	0.227	0.363	0.002	0.349	0.656
PANEL B: Local Government Elections						
	<u>Main Effect</u>			<u>Pre-Trend Test</u>		
	DV = Δ ANC Vote Share 11-16			DV = Δ ANC Vote Share 06-11		
Western Belt Community	-0.144***	-0.094**	-0.088***	-0.021	-0.011	-0.019
(Municipality clustered SEs)	(0.030)	(0.029)	(0.026)	(0.016)	(0.017)	(0.015)
(Conley HAC SEs)	(0.017)	(0.015)	(0.014)	(0.012)	(0.007)	(0.005)
Spatial Controls		✓	✓		✓	✓
Covariates			✓			✓
Observations	4386	4386	4386	4363	4363	4363
R^2	0.040	0.169	0.341	0.001	0.094	0.289

Note: Standard errors estimated two ways in parentheses. Effective $n_{HAC} = n_{clustered} \times 2$.

⁺ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$, corresponding to municipality clustered errors.

for the National and Provincial Elections, and Panel B, for the Local Government Elections. Column (1) is a regression estimate equivalent to the simple difference-in-differences calculated above. Column (2) adds spatial controls, and column (3), which represents our preferred and most conservative specification, adds both covariates and spatial controls. Columns (4) through (6) replicate these specifications but for a placebo outcome, the change in ANC vote share from 2004 to 2009 for the National and Provincial Elections and 2006 to 2011 for the Local Government Elections, the respective electoral cycles prior to the massacre. From the coefficients reported in column (3) of Table 2, we find that the Marikana massacre led to an approximately 9 percentage point decrease in support for the incumbent ANC in proximate communities of interest, contrasted with the rest of South Africa. Our results are consistent across election types, and statistically significant at $p < 0.001$ with both municipality clustered standard errors and Conley HAC standard errors. Comparing this to the pre-trends in columns (4) through (6), in which the estimate is essentially zero for the National and Provincial Elections, and close to zero for the Local Government Elections, lends credibility to the difference-in-differences identification strategy.

Table 3 presents a reanalysis of the polling station data that takes as the dependent variable the change in vote share for both the newly emerged Economic Freedom Fighters (EFF) and the pre-existing largest opposition party, the center-right Democratic Alliance (DA). As before, Panel A estimate the effect of the massacre on national election performance, while Panel B estimates the effect of the massacre on local election performance. The results suggests that the ANC’s electoral losses resulted in gains by the EFF of roughly 7 percentage points in the 2014 National and Provincial Election, and roughly 8 percentage points in the 2016 Local Government Elections. Yet we find no shift in vote share to the DA; if anything, the DA appears to have lost a small amount of support in the 2016 Local Government Elections, perhaps as a result of the emergence of an alternative opposition option in the form of the EFF.

5.3. SPILLOVER

As alluded to before, there is no perfect way to identify those who were most intimately connected to the massacre from those who were not. While the Western Limb coding presented in Section 5.2 is our preferred approach, it raises a number of concerns. Due to potential spillovers in treatment the results could be too large, or too small. For example, it is likely that friends and relatives of mineworkers who were on strike live in Johannesburg, just outside of the Western Limb. It seems implausible to assume these people were not intimately connected to these events. As a consequence we may have misspecified the treatment and control groups, and in doing so violated the parallel trends assumption. To assuage these concerns, we replicate our

Table 3: Difference-in-Differences Analysis of Opposition Party Performance

PANEL A: National and Provincial Elections						
	<u>EFF</u>			<u>DA</u>		
	DV = Δ EFF Vote Share 09-14			DV = Δ DA Vote Share 09-14		
	(1)	(2)	(3)	(4)	(5)	(6)
Western Belt Community (Municipality clustered SEs) (Conley HAC SEs)	0.107*** (0.021) (0.012)	0.067** (0.020) (0.010)	0.067*** (0.018) (0.008)	-0.002 (0.005) (0.004)	-0.006 (0.007) (0.004)	-0.000 (0.005) (0.003)
Spatial Controls		✓	✓		✓	✓
Covariates			✓			✓
Observations	4388	4388	4388	4377	4377	4377
R^2	0.105	0.422	0.679	0.000	0.118	0.360
PANEL B: Local Government Elections						
	<u>EFF</u>			<u>DA</u>		
	DV = Δ EFF Vote Share 11-16			DV = Δ DA Vote Share 11-16		
	(1)	(2)	(3)	(4)	(5)	(6)
Western Belt Community (Municipality clustered SEs) (Conley HAC SEs)	0.128*** (0.031) (0.018)	0.077** (0.029) (0.014)	0.085** (0.028) (0.012)	-0.026** (0.009) (0.004)	-0.016+ (0.009) (0.003)	-0.010 (0.010) (0.004)
Spatial Controls		✓	✓		✓	✓
Covariates			✓			✓
Observations	4392	4392	4392	4386	4386	4386
R^2	0.070	0.348	0.615	0.005	0.041	0.099

Note: Standard errors estimated two ways in parentheses. Effective $n_{HAC} = n_{clustered} \times 2$.

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

analysis using a variety of alternative specifications outlined below. Detailed results are presented in the SI, but in general all of the following analyses produce results that are extremely consistent with our core specification, in terms of sign, magnitude, and statistical significance.

Spatial Donut. To account for the possibility that some units in the control group are actually partially treated, we re-estimate the same specifications, but with a spatial ‘donut’ approach in which those areas that fall within 100km of the Koppie, but do not fall within the Western Limb are excluded from the analysis. This essentially drops from the analysis areas that are most likely to be subject to a spatial spillover, such as Johannesburg in the hypothetical case mentioned above. The results, presented in the SI, show a slightly larger estimated effect in both election types – a 10 percentage point decline in ANC vote share in the affected communities, relative to the rest of the country ($p < 0.001$). We repeat this process with a 200km donut, and the results are almost unchanged.

Proximity as Treatment. That the spatial donut approach increases the point estimate is *prima facie* evidence of some spatial spillover. To be more flexible in terms of treatment assignment and to parametrically model this spillover, we implement an analysis with a continuous treatment variable: proximity (negative log kilometers) to the Koppie. In our preferred specification, which controls for both covariates and latitude and longitude and their interaction, we find $\hat{\beta} = -.0533$ ($p < 0.001$). This suggests that the decline in ANC vote share when moving from pre-massacre to post-massacre is increasing with proximity to the Koppie; the reported coefficients imply that a 10% increase in proximity to the Koppie (e.g. moving from 500km away to 450km away from the Koppie) would lead to a 0.22 percentage point ($-.0533 \times \log(1.1) \times 100$) larger decline in ANC support, while a 100% increase in proximity (e.g. moving from 500km away to 0km away) would result in a 1.6 percentage point ($-.0533 \times \log(2) \times 100$) larger decline in ANC support. This provides further evidence that the change in ANC support is being driven in part by the Marikana massacre.

5.4. ALTERNATIVE SPECIFICATIONS

While spatial spillovers are a primary threat to our research design, we also implement other approaches to demonstrate that the results are not simply an artifact of our empirical choices.

Alternative Control Groups. It is possible that the entirety of South Africa outside of the Western Limb is a poor control group. This choice of control group may violate the parallel trends assumption, notwithstanding our pre-trends tests, which can only ever be suggestive. We probe this possibility in three

ways. First, we implement the generalized synthetic control method (Xu, 2017) using all elections, both national and local, from 1999 through 2019, combined into a single panel. This approach estimates counterfactual outcomes for each treated unit separately, and yields an estimate of the Average Treatment Effect on the Treated (ATT), conditional on well-matching pre-trends, robust to both time-invariant and time-varying cross-unit confounders. Using this approach we find an 8.9 percentage point effect for the national election and a 10.4 percentage point effect for the local election ($p < 0.001$), results available in the SI. Second, we re-estimate the main specifications, but limit the analysis to only those areas within 150km, and 300km respectively, of the Koppie. We view this as an extremely conservative approach in that it only uses as control cases wards that are close to the site of the massacre. The control group may thus in fact be partially treated, as shown in Section 5.3. Indeed, we still find statistically significant negative effects, though the point estimates are roughly half the magnitude of our core specification. Third, we estimate an approach more akin to a “geographic regression discontinuity design,” using a cubic expansion of latitude and longitude (Dell, 2010; Dell and Olken, 2017), while focusing on the 300km space around the site of the massacre. As before, the point estimate is roughly half that of the core specification, but remain statistically distinguishable from zero at conventional levels for the National and Provincial Elections, though not for the Local Government Elections.

Combining Election Types. South Africa’s 5-year election cycles imply reasonably long gaps between observations, which may raise concerns that trends in the treated and control units were diverging prior to the massacre but after the previous election, but that this cannot be seen given the time scale. We replicate the analysis by combining both the local and national election data to allow for a treatment effect test on incumbent vote share changes between 2011 and 2014 vote share changes, while reserving the incumbent vote share change from 2009 to 2011 for the pre-trends test. The results from this test, available in the SI, are extremely similar to the core results above, with the preferred specification yielding a result of 9.5 percentage point decline in ANC vote share statistically significant at conventional levels, and a not-statistically-significant 0.4 percentage point deviation in the pre-trend.

5.5. VALIDITY OF THE DESIGN

Three features of the timing and location of the Marikana massacre suggest our research design is likely valid. First, the massacre was not pre-meditated in any long-term sense.⁷ The Farlam report outlines the series of

⁷The massacre may have been pre-meditated in the very short run, within a couple days of August 16, 2012, but it was not planned far ahead of time by the police or the ANC government.

immediate decisions taken by police, government officials, and union leaders, that, combined with chance, led to tragedy. Given the details described in the report, there is no *ex ante* reason that a similar event did not occur in 2007 when 240,000 miners participated in a planned strike, in 2016 when a similar wave of strikes occurred on South African mines, in 2015 when the #FeesMustFall protests rocked universities nationwide, or in any number of other labor disputes, service delivery protests, or strikes that occur regularly throughout the country.

Second, Marikana need not have been the location of the massacre. There are numerous other mining communities throughout the country at which similar strike events occur with regularity. In the supporting information we use police data to show that, while there have been tens of thousands of “crowd events” at which public order police were deployed throughout the country, there was not a particularly pronounced uptick in the number of such events in the region – nor anywhere in South Africa for that matter – in the run up to the massacre. One estimate suggests there were as many as 8,700 service delivery protests in South Africa between 2005 and 2017 at which public order police were deployed, all occurring at varying scales and levels of intensity (Alexander et al., 2018), and this number does not even include labour related protests and strikes like the wildcat strikes that preceded the massacre.

Third, the massacre occurred between two National and Provincial Elections – 2009 and 2014 – in which the ANC’s presidential candidate remained the same in Jacob Zuma, meaning that the principal forces within the ANC, and the ethno-linguistic identity (Zulu) of their presidential candidate, remained constant. The massacre was also bounded by two Local Government Elections – 2011 and 2016 – in which Zuma’s leadership again remained constant. Together, these contextual features suggest that plausible inferences about the effect of the massacre on the incumbent ANC’s election performance in the communities most directly affected may be estimated using a difference-in-differences research design.

6. MECHANISMS: VOTE SWITCHING BUT NOT DEMOBILIZATION

Following the Marikana massacre the incumbent ANC suffered geographically concentrated electoral losses in both local and national elections. In the aggregate, the newly emerged EFF gained the lion’s share of those lost votes. But what individual-level voter dynamics account for the aggregate electoral effects we observe? Disentangling individual-level mechanisms like demobilization and vote-switching in aggregate data is difficult due to ecological inference problems. For example, it could be that the EFF’s gains were not due to voters leaving the ANC, but instead due to ANC voter demobilization. We analyze data from the South African Social Attitudes Survey (SASAS) 2007-2016, collected by the Human Sciences Research Council,

South Africa’s statutory research agency for the social sciences and humanities (HSRC, 2016). SASAS, part of the International Social Survey Programme, is an annual nationally representative cross-section of South Africans’ views on political, social, and economic topics.

SASAS asks individuals both their retrospective and prospective vote choices with regard to National and Provincial Elections.⁸ The retrospective choice question asks respondents which party they voted for in the most recent National and Provincial Election. As such, the data from 2007-2016 includes retrospective voting measures for the 2004 and 2009 (pre-massacre) elections and the 2014 (post-massacre) election. By contrast, the prospective choice question asks respondents which party they would vote for “if an election were held tomorrow.” These questions allow us to create four dynamic dependent variables that capture an individual’s self-reported change in behavior over time:

1. Exit the Electorate: Any voter who retrospectively recalls casting a ballot in the last election, but prospectively says they will not vote in a coming election.
2. Exit from ANC: Any voter who retrospectively recalls casting a ballot for the ANC in the last election but prospectively says they will not vote in a coming election.
3. Switch from ANC: Any voter who retrospectively recalls casting a ballot for the ANC in the last election but prospectively says they will vote for a different party.
4. Switch to ANC: Any voter who retrospectively recalls casting a ballot for anyone other than the ANC in the last election but prospectively says they will vote for the ANC.

By limiting our analyses to only those surveyed before 2014 (when the first post-massacre election took place), these variables are able capture changes in self-reported behavior from the pre-massacre period to the post-massacre period. Unfortunately, the spatial distribution of survey respondents changes over time due to sampling, and as a consequence we are not able to use the Western Limb as our treatment variable, and

⁸Results in the SI show that, across both prospective and retrospective ANC vote, support for the ANC is lower the closer to the Koppie one lives in the post-massacre period compared to the pre-massacre period, consistent with the aggregate results estimated using official electoral returns. In the SI we also assess the validity of the individual-level design using placebo codings of the *Post* variable, assigning the variable to = 1 in 2010 and 2011, respectively, and re-estimating our regressions while excluding data from the post-massacre period. These analyses reveal coefficients for prospective ANC vote that are 5-15 times smaller than our effect estimates, and coefficients for retrospective ANC vote that are all essentially 0. None of the placebo difference-in-difference coefficients are statistically distinguishable from zero at any conventional levels. By way of an additional placebo test, we show that there is no effect on individuals’ satisfaction with the economy, which helps rule out that the electoral effects we find are themselves a function of the massacre causing localized economic effects. We are grateful to Leo Arriola for proposing this idea.

we instead we use the proximity specifications that served as an alternative specification for the aggregate data:

$$Y_{i,t} = \alpha_t + \beta_1 Proximity_{ea} + \beta_2 Post_t + \tau Proximity_{ea} \times Post_t + \delta \mathbf{X}_i + \gamma \mathbf{G}_{ea} + \epsilon_{ea}$$

For individual i in survey year $t \in \{2007, \dots, 2013\}$, we regress our outcome variable Y on the *Proximity* of their enumeration area ea to the Koppie, an indicator for whether the person was surveyed before August 16 2012 and thus in the $Post = 0$ period, or after, in the $Post = 1$ period, and the interaction of these two variables. X are optional individual-level covariates (age, age squared, sex, a 15-item wealth index, and race group). W are optional spatial covariates (longitude + latitude + longitude×latitude). We include α_t time fixed effects, and ϵ_m are standard errors clustered by enumeration area, the sampling unit of the survey. The coefficient on the interaction term τ identifies the difference-in-differences: how the relationship between the proximity to the Koppie and Y varies between the pre- and post-periods.

The results in Table 4 suggest that vote switching, rather than electoral exit, is the primary individual-level mechanism driving the aggregate electoral losses suffered by the ANC. As shown in columns 1 through 6 of Panel A, we find no evidence of exit: voters, regardless of prior affiliation, did not choose to stay home on election day as a result of the massacre. This result is echoed in the aggregate data – in the SI we show no effects on turnout in 2014, and, if anything, slight increases in turnout in 2016 as a result of the massacre. Rather, voters closer to the Koppie were more likely to switch their votes away from the ANC post massacre, as shown in columns 1 through 3 of Panel B of Table 4. Columns 4 through 6 show no evidence that voters switched from an opposition party to the ANC. To understand the magnitude of the findings, recall that this quantity identifies how much stronger the association between proximity to Marikana and the outcome variable is in the post-massacre period, relative to the pre-massacre period. Consider the coefficient in column 3 of Panel B of Table 4, which implies that, moving to the post-massacre period relative to the pre-massacre period, a 10% increase in proximity to Marikana (e.g. moving from 500km away to 450km away from Marikana) would lead to a 0.26 percentage point ($0.028 \times \log(1.1) \times 100$) greater increase in the probability of switching from the ANC to another party. A 100% increase in proximity (e.g. moving from 500km away to 0km away) would result in a 1.94 percentage point ($0.028 \times \log(2) \times 100$) increase in the probability of switching from the ANC.

One possible explanation of these findings is that the EFF co-opted the ANC's local political structures and candidates. Local political elites play an important role in South African electoral politics, and in the Local Government Elections individual candidates campaign and are listed on the ballot. If the EFF managed

Table 4: Difference-in-Differences Analysis of Behavioral Dynamics as a Function of Proximity to Marikana. Coefficient of interest highlighted in bold.

PANEL A: Demobilization						
	DV = Exit the Electorate			DV = Exit from ANC		
	(1)	(2)	(3)	(4)	(5)	(6)
Proximity to Marikana (- log km)	0.007** (0.002)	0.009* (0.004)	0.009* (0.004)	0.008*** (0.002)	0.011** (0.003)	0.012*** (0.004)
Post Massacre	0.029 (0.049)	0.028 (0.050)	0.052 (0.049)	0.061 (0.061)	0.061 (0.061)	0.063 (0.061)
Proximity $\times$ Post	0.004 (0.004)	0.004 (0.004)	0.006 (0.004)	0.005 (0.005)	0.005 (0.005)	0.005 (0.005)
Pre-2014 Sample	✓	✓	✓	✓	✓	✓
Spatial Controls		✓	✓		✓	✓
Covariates			✓			✓
Observations	17108	17108	17083	12128	12128	12118
R^2	0.004	0.004	0.010	0.003	0.004	0.006
PANEL B: Party Switching						
	DV = Switch from ANC			DV = Switch to ANC		
	(1)	(2)	(3)	(4)	(5)	(6)
Proximity to Marikana (- log km)	-0.006 (0.004)	0.010 ⁺ (0.006)	0.012* (0.006)	0.018*** (0.004)	-0.025** (0.009)	-0.013 (0.008)
Post Massacre	0.361** (0.125)	0.358** (0.121)	0.374** (0.120)	-0.077 (0.081)	-0.064 (0.080)	-0.040 (0.074)
Proximity $\times$ Post	0.027** (0.010)	0.026** (0.009)	0.028** (0.009)	-0.006 (0.006)	-0.005 (0.006)	-0.003 (0.006)
Pre-2014 Sample	✓	✓	✓	✓	✓	✓
Spatial Controls		✓	✓		✓	✓
Covariates			✓			✓
Observations	12128	12128	12118	7395	7395	7374
R^2	0.002	0.009	0.015	0.006	0.020	0.070

Standard errors clustered by EA in parentheses

⁺ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

to co-opt those local political elites then the switching dynamic we document may simply be evidence of a personal vote and elite defection, rather than evidence of standard electoral accountability. To rule out this explanation, in the SI we show that the vast majority ($\approx 95\%$) of EFF election candidates in the 2016 elections were not defected ANC members, but first-time politicians, and of the defected ANC members, none were candidates in the Marikana area.⁹ It appears that the EFF did not simply subsume the ANC’s local political structures in the wake of the massacre; local ANC elites were ejected and replaced by a new, younger, group of political elites. Voters switched party not because their preferred elites did too, but as a rejection of one entire party in preference of another.

7. DISCUSSION AND CONCLUSION

Democratic governments sometimes use violence against their people, and this occurs worldwide: At Youngstown, Ohio in 1937, on the campus of Kent State University in 1970, at Paris’ Pont Saint-Michel in 1961, on Derry’s Bloody Sunday in 1972, across Malawi in 2011, in Kharqamar, Pakistan in 2019, at Nigeria’s Lekki toll gate in 2020, and beyond. In the context of South Africa’s Marikana massacre we have offered here a range of findings that begin to explain how the logic of democratic accountability functions in the face of such transgressive state violence. First, narrative and historical evidence suggests that state violence can create geographically localized political cleavages that allow political entrepreneurs to launch new opposition parties. Second, aggregate-level evidence from election returns suggests that incumbents who perpetrate state violence suffer direct electoral losses as a result. Third, individual-level evidence shows that while many incumbent voters may remain loyal to their party, many may switch their support the opposition.

Importantly, whether voters hold elected leaders to account is likely contingent on broader political context. Switching one’s vote requires the existence of a suitable opposition. Where such alternatives are absent, opposition parties may form, but this depends on institutional and contextual features that influence the ease of party formation. These conditions are not trivial; indeed, African democracies have highly varied party systems, and the existence of a credible opposition cannot be taken for granted (Mozaffar et al., 2003; Manning, 2005; Brambor et al., 2007; Riedl, 2014). Barriers to party formation may thus amount to barriers to democratic accountability in emerging democracies where party systems are unstable.

These insights speak directly to an extant debate around the “domestic democratic peace” (Davenport, 2007). This holds that electoral (among other) pressures induce democratic incumbents to weigh very carefully any use of coercive force, resulting in a tendency toward avoiding violence and protecting human

⁹We thank Andy Marshall for suggesting we consider candidate profiles.

rights in the domestic arena (Cingranelli and Filippov, 2010). Yet others argue that the “domestic democratic peace” is not empirically supported when taking a more nuanced view of the meaning of “democracy,” and that states falling below the very highest levels of “democraticness” are just as, or potentially even more, prone to state violence and coercion than authoritarian regimes (Fein, 1995; Regan and Henderson, 2002; Davenport and Armstrong, 2004; de Mesquita et al., 2005).

Our findings help explain this empirical dissensus by highlighting the limits of electoral accountability in cases of state violence. First, if immediate electoral effects are geographically isolated to the communities most intimately connected to the traumas of violence and many voters may remain loyal to the incumbent, then violence may remain a feasible short-term strategy for some elites. Second, if the ability of voters to hold the incumbent accountable is contingent on the existence of or emergence of a suitable opposition party, then in some contexts voters may be forced to remain loyal to the incumbent or simply exit the electorate. In the South African case, political entrepreneurs were able to quickly and effectively form a new opposition party in part because the country’s barriers to party formation are particularly low. This may not always be the case, and so the logic of the domestic democratic peace may not always apply.

Likewise, immediate physical or social proximity to violence is seemingly correlated with voters exercising accountability. In this sense our findings speak to empirical evidence emerging from two distinct literatures that explore the effects of violence on political behavior. The first body of literature considers the effects of electoral violence on political behavior (Birch, 2011). Survey experimental evidence suggests that politicians who use electoral violence may be punished by voters (Rosenzweig, 2020; Gutiérrez-Romero and LeBas, 2020). Of course, the Marikana massacre is not an example of election violence itself, but both are forms of transgressive state violence perpetrated by against denizens, and the results presented here are consistent with these prior experimental findings.

A second body of literature argues that violence often serves to politically activate and engage victims (Cramer, 2006; Blattman, 2009; Bellows and Miguel, 2009; Bateson, 2012; Voors et al., 2012; Gilligan et al., 2014), and that particular psychological dispositions and processes shape these responses (Young, 2020). So far there is little evidence that speaks to the electoral aggregation of these micro-level effects in democratic settings. We begin to fill this gap, showing that when the state uses violence, voters do not appear to demobilize, but may in fact become active participants in defining their own political fortunes.

Past scholarship on state violence has typically focused on authoritarian regimes, yet state violence against ordinary people is also well documented in democracies. At the same time, studies of electoral accountability in democracies typically focus on economic or policy-related accountability, rather than cases

of state violence. Bridging these two literatures, we show that while electoral accountability has important limitations, those affected by state violence in democracies can, and do, sanction the incumbent electorally.

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Supporting Information:

State violence, party formation, and electoral accountability:

The political legacy of the Marikana massacre

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January 11, 2021

Abstract

This supporting information for “State violence, party formation, and electoral accountability: The political legacy of the Marikana massacre” presents detailed information about the data used in the papers, a series of empirical exercises and visualizations to probe the validity of the empirical design, alternative empirical approaches to estimation, and supplementary analyses.

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A. TWITTER: REPLICATION DATA

Due to Twitter’s Terms of Service, we are unable to make publicly available the raw replication data underpinning our Twitter analyses. Instead, following Barberá et al. (2019), we provide in our replication archive higher-level aggregations of the data that can be used to reproduce our results. We also provide the code that was used to gather the Twitter data from the Twitter API, though depending on changes to Twitter’s API and the `rtweet` package, we cannot guarantee that this code will not become obsolete over time.

B. TWITTER: SAMPLE SELECTION

The Twitter data was gathered using the Twitter Search Tweets: Full Archive API, accessed via the `rtweet` package in R (Kearney, 2019). The earliest recorded tweets in our data are from January 2009, and the most recent tweets we analyze are from December 2020. We only pull initial tweets by handles – we exclude retweets of others’ tweets and responses to tweets as the costs of including these data points is high, and we feel the value added by including them is low. Our dataset includes 234,853 tweets, 63,396 from ANC handles, 87,767 from DA handles, and 83,690 from EFF handles.

How did we select our 20 handles? We began with an exclusive focus on the EFF, and our first task was capturing the data from the EFF’s official handle. Having done this, it became apparent that we would need to supplement the EFF data with the personal accounts of those who would become major politicians in the party. The first two accounts, Julius Malema and Floyd Shivambu were clear choices. We rounded out these two choices with other EFF handles that were, first, central and important voices in the EFF for as much of the period of study as possible, and second, reasonably active on Twitter. The most obvious additional choices were the handles belonging to Dali Mpofu and Mbuyiseni Ndlozi. Mpofu has sat on the EFF’s central command team since 2013, and represented the Marikana families both in court and during the Farlam commission. Ndlozi is a central figure in the party, and was the party spokesperson for much of the period under study, with over 700,000 followers. We completed the EFF sample with the handles from three more people, all of whom are members of the EFF’s central command team and have been for a long period: Leigh Mathys, Hlengiwe Mkhali, and Gardee Godrich. All seven of the EFF handles tweet regularly and have numerous followers, and only Mkhali and Mathys have fewer than 100,000 followers.

We then collected comparative data for both the incumbent ANC and the official opposition party, the DA. We again began with the official handles of both parties, but, to enhance comparability with the EFF data, also collected data for major politicians. For the DA, we selected Helen Zille, Mmusi Maimane, Lindiwe Mazibuko, Athol Trollip, and John Steenhuisen. Since 2006, Zille has been the most central figure in the DA, leading the party from 2007 - 2015, and since late 2019 serving as the party’s Federal Chairperson. Maimane was Zille’s successor as party leader, having served as the party’s national spokesperson from 2011 - 2014. During his tenure he served as the parliamentary Leader of the Opposition, eventually departing the party in late 2019. Maimane’s predecessor was Mazibuko, who served as the parliamentary Leader of the Opposition from 2011 - 2014, before leaving the party. Steenhuisen is as of 2020 the current leader of the party, having succeeded Maimane, and was the party’s Chief Whip from 2014 - 2019. Athol Trollip was the parliamentary

Leader of the Opposition from 2009 - 2011, and the party's Federal Chairperson from 2015 - 2019, after which he retired from party politics. The DA handles are particularly prolific, and all except Trollip have over 100,000 followers, with Zille and Maimane both having over 1,000,000.

The ANC handles were more challenging to choose, as the party does not engage in much non-official communication. The party handle itself is prolific and has over 700,000 followers. Beyond this handle, there are very few senior ANC politicians who are active on Twitter. We first focus on five central figures in the ANC during the period of study: Cyril Ramaphosa, Gwede Mantashe, Jackson Mthembu, Nathi Mthethwa, and Fikile Mbalula. Ramaphosa was Secretary General of the ANC during the transition and much of Mandela's first presidency. He has been a member of the ANC's National Executive Committee (NEC) since 2007, the deputy president of the party from 2012 - 2017, and was the deputy president of South Africa from 2014 - 2018. Since 2017 he has been the president of the ANC, and has been the president of South Africa since 2018. Ramaphosa was also embroiled in the Marikana massacre: in 2012 he served on the board of directors for Lonmin, and the day before the massacre occurred had called for the government (which he was not yet part of, though he was a member of the ANC and on the NEC) to take action against the strikers. Mantashe was the secretary general of the ANC from 2007 - 2017, one of the "top six" most powerful positions in the party. In 2017 he became the chairperson of the party (another top six position), and in 2018 he was appointed Minister of Mineral Resources, the ministry that oversees the mining sector. Mthembu was the ANC's national spokesperson from 1995 - 1997 and then again from 2009 - 2014. He served as the parliamentary Chief Whip for the ANC from 2016 - 2019. From 2019 he has served as a Minister in the Presidency. Nathi Mthethwa was Minister of Police (previously "Safety and Security") from 2008 - 2014, and is currently the Minister of Arts, Culture, & Sports. He was thus Minister of Police during the massacre, and directly responsible for the actions of the Police. Finally, Fikile Mbalula was Minister of Sport & Recreation from 2010 - 2017, Minister of Police from 2017 - 2018, and is currently Minister of Transport. We include him as he has almost 2,000,000 followers, and is a central figure in South African political Twitter.

Notable absences from our ANC sample are Jacob Zuma, President of South Africa and the ANC during the massacre, Kgalema Motlanthe, Deputy President at the time, and Susan Shabangu, Minister of Mineral Resources at the time. Zuma and Shabangu do not have Twitter accounts, and Motlanthe's Twitter account is essentially abandoned: it has only 31 tweets, the last of which was posted on November 4th 2012. None of the 31 tweets mentions Marikana, with just one tweet being potentially relevant, a quote reading "NUM remains the union of choice for mine workers in the country" posted on October 30th 2012.

C. TWITTER: HANDLE ATTRIBUTES

Table C.1: Summary Statistics for Twitter Handles (as of December 2020)

Handle	Real Name	Party	First Tweet	Followers	Tweets #	Marikana #	M/T
MbalulaFikile	Fikile Mbalula	ANC	2019-03-29	2300000	6764	1	0.00015
AtholT	Athol Trollip	DA (ex)	2015-03-28	43200	4537	3	0.00066
GwedeMantashel	Gwede Mantashe	ANC	2013-07-11	437800	2728	3	0.00110
CyrilRamaphosa	Cyril Ramaphosa	ANC	2015-01-29	1700000	2114	5	0.00237
jsteenhuizen	John Steenhuisen	DA	2009-02-17	160600	3744	5	0.00134
HhMkhaliphi	Hlengiwe Mkhaliiphi	EFF	2013-08-14	29700	2710	7	0.00258
JacksonMthembu	Jackson Mthembu	ANC	2012-11-30	420800	1859	7	0.00377
NathiMthethwaSA	Nathi Mthethwa	ANC	2014-11-17	90600	5888	9	0.00153
LindiMazibuko	Lindiwe Mazibuko	DA (ex)	2009-02-17	480200	5127	13	0.00254
helenzille	Helen Zille	DA	2009-02-11	1400000	11438	14	0.00122
GardeeGodrich	Gardee Godrich	EFF	2014-06-18	190400	4360	34	0.00780
Julius_S_Malema	Julius Malema	EFF	2010-04-07	3300000	5493	44	0.00801
MmusiMaimane	Mmusi Maimane	DA (ex)	2010-09-20	1500000	8124	60	0.00739
MbuyiseniNdlozi	Mbuyiseni Ndlozi	EFF	2012-01-17	1200000	6349	74	0.01166
FloydShivambu	Floyd Shivambu	EFF	2010-07-05	1000000	4515	76	0.01683
AdvDali_Mpofu	Dali Mpofu	EFF	2013-09-07	752100	5687	86	0.01512
MYANC	African National Congress	ANC	2009-01-09	904800	44043	109	0.00247
LeighMathys	Leigh Mathys	EFF	2010-07-26	104800	7982	136	0.01704
Our_DA	Democratic Alliance	DA	2009-03-10	638700	54797	347	0.00633
EFFSouthAfrica	Economic Freedom Fighters	EFF	2013-06-11	1200000	46594	662	0.01421

D. TWITTER: ANC AND DA WORD CLOUDS

Figures D.1 and D.2 present the word clouds for the ANC and DA, respectively, in the months prior to and immediately following the massacre. These can be directly compared with the EFF word clouds presented in the paper. The ANC makes almost no mention of Marikana in the month after the massacre, and its communications remain very similar to the month prior. The DA does mention Marikana in the month following the massacre, but tellingly its core political slogan of the period – “working for jobs” – remains the dominant message in the post-massacre period.

E. AGGREGATE VALIDITY: PLACEBO TESTS

The following figures demonstrate pre-trend plausibility of the research design. Essentially, there are no meaningful pre-trends that suggest electoral returns were already deviating in the Western Limb prior to the massacre.

Figure E.3: Visualizing the Electoral Pre-Trends 2004 - 2009 (National and Provincial Elections)
Note: This replicates Figure 2 in the paper for the 2004 - 2009 pre-treatment period.

Figure E.4: Visualizing the Electoral Pre-Trends 1999 - 2004 (National and Provincial Elections)
Note: This replicates Figure 2 in the paper for the 1999 - 2004 pre-treatment period.

Figure E.5: Visualizing the Electoral Pre-Trends 2006 - 2011 (Local Government Elections)
Note: This replicates Figure 2 in the paper for the 2006 - 2011 pre-treatment period.

Figure E.6: Visualizing the Electoral Pre-Trends 2000 - 2006 (Local Government Elections)
Note: This replicates Figure 2 in the paper for the 2000 - 2006 pre-treatment period.

Figure E.7: Visualizing the Electoral Pre-Trends 2009 - 2011 (Both Election Types)
Note: This replicates Figure 2 in the paper for the 2009 - 2011 pre-treatment period.

F. AGGREGATE VALIDITY: CROWD ACTIVITIES OVER TIME

The following figures present crowd activities over time in the Western Belt (top) and in the rest of South Africa (bottom). These events are gatherings of people at which public order police (the branch of SAPS involved in policing riots, protests, strikes, and public gatherings) were deployed. The figures show no meaningful uptick in events of any kind in the period preceding the massacre, suggesting that the massacre was not, say, the culmination of a recent period of changing political and protest dynamics.

Figure F.8: Crowd Event Frequency, South African Police Service IRIS Data

G. AGGREGATE VALIDITY: MISSING DATA DUE TO SPATIAL MERGE

The process of aggregating the polling station data from the years 1999 - 2014 to the 2016 wards means that for some years there are some wards that do not have data (there is no polling station that falls within the boundary), and are thus missing. The degree of missingness is very minor: 0.09% of observations in 2014, 0.14% in 2011, 0.34% in 2009, 0.64% in 2006, and 1.7% 2004. The missingness is most severe in 1999 (3.4%) and 2000 (3.6%), though these years feature in few of our analysis. Given missingness is extremely low from 2009 onward, the primary threat this missingness poses to our analyses is that it may contribute to the “clean” placebo results that we present. That is, the sample being used to conduct the pre-trend analysis is, due to missingness, slightly different to the sample being used to produce the effect estimates. As such, in Table G.2 we replicate the main effect analyses but exclude the observations that are missing in 1999, 2000, 2004, and 2006 respectively. Reassuringly, the results, especially when dropping observations missing in 2004 and 2006 which are our main pre-trend years, are extremely similar to the main effect estimates presented in the paper.

Table G.2: Regressions Excluding Missing Data from the Pre-Period

	DV = Δ ANC Vote Share 09-14				DV = Δ ANC Vote Share 11-16			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Western Belt Community	-0.077*** (0.021)	-0.079*** (0.021)	-0.081*** (0.019)	-0.089*** (0.023)	-0.079** (0.025)	-0.080** (0.025)	-0.084*** (0.023)	-0.087*** (0.025)
Missing in 1999 Excl.	✓				✓			
Missing in 2000 Excl.		✓				✓		
Missing in 2004 Excl.			✓				✓	
Missing in 2006 Excl.				✓				✓
Spatial Controls	✓	✓	✓	✓	✓	✓	✓	✓
Covariates	✓	✓	✓	✓	✓	✓	✓	✓
Observations	4234	4228	4318	4363	4237	4230	4318	4363
R^2	0.357	0.356	0.358	0.361	0.335	0.335	0.341	0.343

Standard errors clustered by municipality in parentheses

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

H. AGGREGATE RESULTS: SPATIAL DONUTS

To guard against the risk of spatial spillovers in “treatment,” we exclude all non-Western Limb wards first within 100km, and then 200km of the Koppie. We re-estimate the main specifications on this subset:

$$\Delta Y_w = \alpha + \tau_{DID} WesternLimb_w + \delta \mathbf{X}_w + \gamma \mathbf{G}_w + \epsilon_m$$

For ward w , we regress the first difference of Y our outcome variable between the time pre- and post-Marikana periods (2009 and 2014 for the National and Provincial Elections (NPE), 2011 and 2016 for the Local Government Elections (LGE)), on an indicator of whether the ward intersects with the *WesternLimb*. $\mathbf{X}$ are optional time-invariant census covariates (unemployment rate, formal, informal, and traditional housing stock, racial population shares, and language group population shares). $\mathbf{G}$ are optional spatial covariates (longitude + latitude + longitude×latitude). Standard errors ϵ_m are clustered by municipality, the geographic unit above the ward, which helps to account for spatial auto-correlation in the treatment assignment.

H.A. 100km DONUT

Table H.3: 100km Donut (NPE)

	<u>Main Effect</u>			<u>Pre-Trend Test</u>		
	DV = Δ ANC Vote Share 09-14	DV = Δ ANC Vote Share 09-14	DV = Δ ANC Vote Share 09-14	DV = Δ ANC Vote Share 04-09	DV = Δ ANC Vote Share 04-09	DV = Δ ANC Vote Share 04-09
	(1)	(2)	(3)	(4)	(5)	(6)
Western Belt Community	-0.126*** (0.022)	-0.099*** (0.022)	-0.102*** (0.023)	-0.039** (0.012)	-0.002 (0.012)	-0.005 (0.012)
100km Radius Excluded	✓	✓	✓	✓	✓	✓
Spatial Controls		✓	✓		✓	✓
Covariates			✓			✓
Observations	3930	3930	3930	3877	3877	3877
R^2	0.075	0.221	0.343	0.002	0.352	0.666

Standard errors clustered by municipality in parentheses

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table H.4: 100km Donut (LGE)

	<u>Main Effect</u>			<u>Pre-Trend Test</u>		
	DV = Δ ANC Vote Share 11-16	DV = Δ ANC Vote Share 11-16	DV = Δ ANC Vote Share 11-16	DV = Δ ANC Vote Share 06-11	DV = Δ ANC Vote Share 06-11	DV = Δ ANC Vote Share 06-11
	(1)	(2)	(3)	(4)	(5)	(6)
Western Belt Community	-0.153*** (0.029)	-0.108*** (0.028)	-0.103*** (0.026)	-0.021 (0.016)	-0.011 (0.018)	-0.020 (0.017)
100km Radius Excluded	✓	✓	✓	✓	✓	✓
Spatial Controls		✓	✓		✓	✓
Covariates			✓			✓
Observations	3938	3938	3938	3916	3916	3916
R^2	0.051	0.155	0.318	0.001	0.097	0.298

Standard errors clustered by municipality in parentheses

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

H.B. 200km DONUT

Table H.5: 200km Donut (NPE)

	<u>Main Effect</u>			<u>Pre-Trend Test</u>		
	DV = Δ ANC Vote Share 09-14	DV = Δ ANC Vote Share 09-14	DV = Δ ANC Vote Share 09-14	DV = Δ ANC Vote Share 04-09	DV = Δ ANC Vote Share 04-09	DV = Δ ANC Vote Share 04-09
	(1)	(2)	(3)	(4)	(5)	(6)
Western Belt Community	-0.134*** (0.022)	-0.110*** (0.022)	-0.116*** (0.024)	-0.043*** (0.013)	-0.003 (0.014)	-0.011 (0.014)
200km Radius Excluded	✓	✓	✓	✓	✓	✓
Spatial Controls		✓	✓		✓	✓
Covariates			✓			✓
Observations	3408	3408	3408	3368	3368	3368
R^2	0.096	0.213	0.332	0.003	0.361	0.691

Standard errors clustered by municipality in parentheses

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table H.6: 200km Donut (LGE)

	<u>Main Effect</u>			<u>Pre-Trend Test</u>		
	DV = Δ ANC Vote Share 11-16	DV = Δ ANC Vote Share 11-16	DV = Δ ANC Vote Share 11-16	DV = Δ ANC Vote Share 06-11	DV = Δ ANC Vote Share 06-11	DV = Δ ANC Vote Share 06-11
	(1)	(2)	(3)	(4)	(5)	(6)
Western Belt Community	-0.162*** (0.029)	-0.119*** (0.029)	-0.124*** (0.029)	-0.022 (0.017)	-0.008 (0.018)	-0.013 (0.018)
200km Radius Excluded	✓	✓	✓	✓	✓	✓
Spatial Controls		✓	✓		✓	✓
Covariates			✓			✓
Observations	3416	3416	3416	3395	3395	3395
R^2	0.066	0.153	0.324	0.001	0.113	0.330

Standard errors clustered by municipality in parentheses

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

I. AGGREGATE RESULTS: PROXIMITY TO MARIKANA AS TREATMENT

As an alternative approach, we use a continuous version of treatment, the proximity to Marikana. We measure this as the negative log of the distance in kilometers from the centroid of each ward to the Koppie. The specification is as follows:

$$\Delta Y_w = \alpha + \tau_{DID} ProximityToMarikana_w + \delta \mathbf{X}_w + \gamma \mathbf{G}_w + \epsilon_m$$

For ward w , we regress the first difference of Y our outcome variable between the time pre- and post-Marikana periods (2009 and 2014 for the National and Provincial Elections (NPE), 2011 and 2016 for the Local Government Elections (LGE)), on *ProximityToMarikana*. $\mathbf{X}$ are optional time-invariant census covariates (unemployment rate, formal, informal, and traditional housing stock, racial population shares, and language group population shares). $\mathbf{G}$ are optional spatial covariates (longitude + latitude + longitude×latitude). Standard errors ϵ_m are clustered by municipality, the geographic unit above the ward, which helps to account for spatial auto-correlation in the treatment assignment.

Table I.7: Proximity to Marikana (NPE)

	<u>Main Effect</u>			<u>Pre-Trend Test</u>		
	DV = Δ ANC Vote Share 09-14			DV = Δ ANC Vote Share 04-09		
	(1)	(2)	(3)	(4)	(5)	(6)
Proximity to Marikana (- log km)	-0.051*** (0.003)	-0.042*** (0.005)	-0.053*** (0.005)	-0.002 (0.008)	-0.005 (0.004)	-0.012* (0.005)
Spatial Controls		✓	✓		✓	✓
Covariates			✓			✓
Observations	4377	4377	4377	4318	4318	4318
R^2	0.291	0.410	0.421	0.000	0.654	0.658

Standard errors clustered by municipality in parentheses

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table I.8: Proximity to Marikana (LGE)

	<u>Main Effect</u>			<u>Pre-Trend Test</u>		
	DV = Δ ANC Vote Share 11-16			DV = Δ ANC Vote Share 06-11		
	(1)	(2)	(3)	(4)	(5)	(6)
Proximity to Marikana (- log km)	-0.050*** (0.005)	-0.033*** (0.006)	-0.053*** (0.006)	0.005 (0.005)	-0.005 (0.004)	-0.007 (0.006)
Spatial Controls		✓	✓		✓	✓
Covariates			✓			✓
Observations	4386	4386	4386	4363	4363	4363
R^2	0.139	0.356	0.369	0.001	0.287	0.289

Standard errors clustered by municipality in parentheses

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

J. AGGREGATE RESULTS: GENERALIZED SYNTHETIC CONTROL METHOD

An alternative empirical approach is to use the generalized synthetic control method, developed by (Xu, 2017).

Figure J.9: Generalized Synthetic Control Method Estimates of ATT

K. AGGREGATE RESULTS: SEMI-PARAMETRIC REGRESSIONS

As a more conservative approach to estimating the electoral effect of the massacre, we first subset to 150km or 300km radii around the Koppie. In the 300km setting, we then also control for the cubic expansion of latitude and longitude. These are extremely conservative specifications given the spatial spillover of the treatment.

$$\Delta Y_w = \alpha + \tau_{DID} WesternLimb_w + \delta \mathbf{X}_w + \gamma \mathbf{G}_w + \epsilon_m$$

For ward w , we regress the first difference of Y our outcome variable between the time pre- and post-Marikana periods (2009 and 2014 for the National and Provincial Elections (NPE), 2011 and 2016 for the Local Government Elections (LGE)), on an indicator of whether the ward intersects with the *WesternLimb*. $\mathbf{X}$ are optional time-invariant census covariates (unemployment rate, formal, informal, and traditional housing stock, racial population shares, and language group population shares). $\mathbf{G}$ are optional spatial covariates (longitude + latitude + longitude×latitude in Tables K.9 - K.12, or in Tables K.13 and K.14, longitude + latitude + longitude×latitude + longitude² + latitude² + longitude² × latitude² + longitude³ + latitude³ + longitude³ × latitude³ + longitude × latitude² + longitude² × latitude + longitude × latitude³ + longitude³ × latitude + longitude² × latitude³ + longitude³ × latitude²). Standard errors ϵ_m are clustered by municipality, the geographic unit above the ward, which helps to account for spatial auto-correlation in the treatment assignment.

K.A. 150KM RADIUS WITH LINEAR SPATIAL CONTROLS

Table K.9: 150km Radius Only (NPE)

	<u>Main Effect</u>			<u>Pre-Trend Test</u>		
	DV = Δ ANC Vote Share 09-14	DV = Δ ANC Vote Share 09-14	DV = Δ ANC Vote Share 09-14	DV = Δ ANC Vote Share 04-09	DV = Δ ANC Vote Share 04-09	DV = Δ ANC Vote Share 04-09
	(1)	(2)	(3)	(4)	(5)	(6)
Western Belt Community	-0.052*	-0.051 ⁺	-0.042*	-0.005	0.005	0.003
	(0.023)	(0.026)	(0.020)	(0.009)	(0.009)	(0.007)
150km Radius Only	✓	✓	✓	✓	✓	✓
Spatial Controls		✓	✓		✓	✓
Covariates			✓			✓
Observations	835	835	835	817	817	817
R^2	0.052	0.073	0.436	0.001	0.043	0.183

Standard errors clustered by municipality in parentheses

⁺ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table K.10: 150km Radius Only (LGE)

	<u>Main Effect</u>			<u>Pre-Trend Test</u>		
	DV = Δ ANC Vote Share 11-16	DV = Δ ANC Vote Share 11-16	DV = Δ ANC Vote Share 11-16	DV = Δ ANC Vote Share 06-11	DV = Δ ANC Vote Share 06-11	DV = Δ ANC Vote Share 06-11
	(1)	(2)	(3)	(4)	(5)	(6)
Western Belt Community	-0.071*	-0.053	-0.040	-0.017	-0.013	-0.025
	(0.030)	(0.032)	(0.025)	(0.016)	(0.018)	(0.015)
150km Radius Only	✓	✓	✓	✓	✓	✓
Spatial Controls		✓	✓		✓	✓
Covariates			✓			✓
Observations	836	836	836	834	834	834
R^2	0.060	0.072	0.479	0.006	0.018	0.146

Standard errors clustered by municipality in parentheses

⁺ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

K.B.300KM RADIUS WITH LINEAR SPATIAL CONTROLS

Table K.11: 300km Radius Only (NPE)

	<u>Main Effect</u>			<u>Pre-Trend Test</u>		
	DV = Δ ANC Vote Share 09-14	DV = Δ ANC Vote Share 09-14	DV = Δ ANC Vote Share 09-14	DV = Δ ANC Vote Share 04-09	DV = Δ ANC Vote Share 04-09	DV = Δ ANC Vote Share 04-09
	(1)	(2)	(3)	(4)	(5)	(6)
Western Belt Community	-0.067** (0.023)	-0.066* (0.026)	-0.064** (0.020)	-0.001 (0.008)	-0.008 (0.008)	-0.001 (0.007)
300km Radius Only	✓	✓	✓	✓	✓	✓
Spatial Controls		✓	✓		✓	✓
Covariates			✓			✓
Observations	1519	1519	1519	1489	1489	1489
R^2	0.059	0.115	0.381	0.000	0.083	0.213

Standard errors clustered by municipality in parentheses

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table K.12: 300km Radius Only (LGE)

	<u>Main Effect</u>			<u>Pre-Trend Test</u>		
	DV = Δ ANC Vote Share 11-16	DV = Δ ANC Vote Share 11-16	DV = Δ ANC Vote Share 11-16	DV = Δ ANC Vote Share 06-11	DV = Δ ANC Vote Share 06-11	DV = Δ ANC Vote Share 06-11
	(1)	(2)	(3)	(4)	(5)	(6)
Western Belt Community	-0.084** (0.030)	-0.070* (0.030)	-0.052* (0.022)	-0.011 (0.016)	-0.018 (0.016)	-0.024+ (0.014)
300km Radius Only	✓	✓	✓	✓	✓	✓
Spatial Controls		✓	✓		✓	✓
Covariates			✓			✓
Observations	1520	1520	1520	1516	1516	1516
R^2	0.044	0.094	0.350	0.001	0.008	0.084

Standard errors clustered by municipality in parentheses

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

K.C. 300KM RADIUS WITH CUBIC SPATIAL CONTROLS

Table K.13: 300km Radius Only, Cubic Spatial Controls (NPE)

	<u>Main Effect</u>			<u>Pre-Trend Test</u>		
	DV = Δ ANC Vote Share 09-14	DV = Δ ANC Vote Share 09-14	DV = Δ ANC Vote Share 09-14	DV = Δ ANC Vote Share 04-09	DV = Δ ANC Vote Share 04-09	DV = Δ ANC Vote Share 04-09
	(1)	(2)	(3)	(4)	(5)	(6)
Western Belt Community	-0.067** (0.023)	-0.043+ (0.023)	-0.048* (0.019)	-0.001 (0.008)	-0.002 (0.010)	0.002 (0.008)
300km Radius Only	✓	✓	✓	✓	✓	✓
Cubic Spatial Controls		✓	✓		✓	✓
Covariates			✓			✓
Observations	1519	1519	1519	1489	1489	1489
R^2	0.059	0.204	0.414	0.000	0.154	0.239

Standard errors clustered by municipality in parentheses

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table K.14: 300km Radius Only, Cubic Spatial Controls (LGE)

	<u>Main Effect</u>			<u>Pre-Trend Test</u>		
	DV = Δ ANC Vote Share 11-16	DV = Δ ANC Vote Share 11-16	DV = Δ ANC Vote Share 11-16	DV = Δ ANC Vote Share 06-11	DV = Δ ANC Vote Share 06-11	DV = Δ ANC Vote Share 06-11
	(1)	(2)	(3)	(4)	(5)	(6)
Western Belt Community	-0.084** (0.030)	-0.042 (0.027)	-0.037+ (0.022)	-0.011 (0.016)	-0.019 (0.016)	-0.024+ (0.014)
300km Radius Only	✓	✓	✓	✓	✓	✓
Cubic Spatial Controls		✓	✓		✓	✓
Covariates			✓			✓
Observations	1520	1520	1520	1516	1516	1516
R^2	0.044	0.142	0.366	0.001	0.045	0.109

Standard errors clustered by municipality in parentheses

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

L. AGGREGATE RESULTS: COMBINED ELECTION TYPES

We replicate the main specification but stack election types together, to study change in ANC vote share from 2011 (LGE) to 2014 (NPE), with the placebo years being 2009 (NPE) to 2011 (LGE). The results of this approach are presented in Table L.15, with the key point estimates being largely unchanged compared to the main results presented in the main paper.

Table L.15: Effect of the Massacre on Incumbent Vote Share, All Election Types Combined

	<u>Main Effect</u>			<u>Pre-Trend Test</u>		
	DV = Δ ANC Vote Share 11-14			DV = Δ ANC Vote Share 09-11		
	(1)	(2)	(3)	(4)	(5)	(6)
Western Belt Community	-0.130*** (0.027)	-0.093*** (0.026)	-0.095*** (0.023)	0.013 (0.011)	0.009 (0.010)	0.004 (0.008)
Spatial Controls		✓	✓		✓	✓
Covariates			✓			✓
Observations	4386	4386	4386	4377	4377	4377
R^2	0.046	0.135	0.300	0.001	0.118	0.196

Standard errors clustered by municipality in parentheses

⁺ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

M. AGGREGATE RESULTS: EMERGENCE OF THE EFF

Figures M.10 and M.10 visualize the emergence of the EFF over space.

Figure M.10: Visualizing Effects on Party Formation: National and Provincial Elections

Figure M.11: Visualizing Effects on Party Formation: Local Government Elections

Effect: Change in EFF Vote Share, 2009-2014

- 0.0 to 0.1
- 0.1 to 0.2
- 0.2 to 0.3
- 0.3 to 0.4
- 0.4 to 0.5
- 0.5 to 0.6

— Western Limb

— 2016 Wards

N. AGGREGATE RESULTS: TURNOUT

Our first approach is to study effects on turnout in the aggregate. To do so we implement our core specification above but use for the dependent variable $turnout = \frac{votes}{registered}$. The results of this analysis are presented in Panel A of Table N.16. Column (3), our preferred specification, suggests that turnout decreased by 1 percentage point in the Western Limb communities as a consequence of the massacre, but we cannot statistically distinguish that effect from zero. Contrary to any demobilization story, we find that in the LGEs there is a statistically significant increase in turnout. This effect is consistent with the results we find for party formation, in Panel B of Table N.16.

Table N.16: Difference-in-Differences Analysis of Turnout Effects

	DV = Δ Turnout 09-14			DV = Δ Turnout 11-16		
	(1)	(2)	(3)	(4)	(5)	(6)
Western Belt Community	-0.004 (0.008)	-0.009 (0.008)	-0.010 (0.009)	0.037*** (0.009)	0.033*** (0.009)	0.027** (0.010)
Spatial Controls		✓	✓		✓	✓
Covariates			✓			✓
Observations	4377	4377	4377	4386	4386	4386
R^2	0.000	0.006	0.058	0.011	0.033	0.175

Standard errors clustered by municipality in parentheses

⁺ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

O. INDIVIDUAL VALIDITY: PLACEBO TESTS

To test the validity of the individual-level design, we assign two placebo treatment years: 2010 and 2011. We then estimate whether there is an “effect” if we use these variables in our regression, and exclude all post-massacre data. The absence of any substantial and statistically significant effects shown in Table O.17 suggests that parallel trends holds.

Table O.17: Placebo Regressions Using Individual Data and 2010 and 2011 as Placebo Years

PANEL A, DV = Prospective ANC Vote						
	(1)	(2)	(3)	(4)	(5)	(6)
Proximity to Marikana (- log km)	0.067*** (0.010)	-0.073*** (0.014)	-0.024** (0.008)	0.062*** (0.011)	-0.077*** (0.015)	-0.026** (0.008)
Placebo [=2011]	-0.125 (0.227)	-0.022 (0.215)	-0.140 (0.142)			
Proximity $\times$ Placebo [=2011]	-0.009 (0.018)	-0.001 (0.017)	-0.010 (0.011)			
Placebo [=2010]				0.085 (0.183)	0.115 (0.169)	-0.028 (0.105)
Proximity $\times$ Placebo [=2010]				0.006 (0.014)	0.009 (0.013)	-0.003 (0.008)
Pre-2012 Sample	✓	✓	✓	✓	✓	✓
Spatial Controls		✓	✓		✓	✓
Covariates			✓			✓
Observations	15881	15881	15867	15881	15881	15867
R^2	0.016	0.064	0.307	0.015	0.064	0.307
PANEL B, DV = Retrospective ANC Vote						
	(1)	(2)	(3)	(4)	(5)	(6)
Proximity to Marikana (- log km)	0.056*** (0.009)	-0.030* (0.013)	0.005 (0.008)	0.055*** (0.010)	-0.030* (0.013)	0.006 (0.008)
Placebo [=2011]	-0.040 (0.220)	0.028 (0.212)	-0.033 (0.134)			
Proximity $\times$ Placebo [=2011]	-0.002 (0.017)	0.003 (0.017)	-0.001 (0.011)			
Placebo [=2010]				-0.017 (0.178)	-0.001 (0.169)	-0.066 (0.111)
Proximity $\times$ Placebo [=2010]				-0.001 (0.014)	-0.000 (0.013)	-0.005 (0.009)
Pre-2012 Sample	✓	✓	✓	✓	✓	✓
Spatial Controls		✓	✓		✓	✓
Covariates			✓			✓
Observations	14115	14115	14105	14115	14115	14105
R^2	0.011	0.037	0.310	0.011	0.036	0.310

Standard errors in parentheses

Standard errors clustered by EA in parentheses

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

P.INDIVIDUAL VALIDITY: ECONOMIC SATISFACTION PLACEBO TEST

We replicate the difference-in-differences analysis for economic satisfaction as the dependent variable, and find no effect of the massacre. This helps to rule out economic voting as an alternative explanation for the electoral results presented throughout the paper.

Table P.18: The Massacre Has No Effect on Economic Satisfaction

	DV = Satisfaction with the Economy		
	(1)	(2)	(3)
Proximity to Marikana (- log km)	0.011** (0.004)	-0.018*** (0.005)	-0.014** (0.005)
Post Massacre	-0.048 (0.062)	-0.040 (0.061)	-0.012 (0.061)
Proximity $\times$ Post	0.003 (0.005)	0.003 (0.005)	0.005 (0.005)
Observations	29394	29394	29365
R^2	0.021	0.028	0.050

Standard errors clustered by EA in parentheses

⁺ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Q. INDIVIDUAL RESULTS: REPLICATING AGGREGATE RESULTS

Table Q.19: Diff-in-Diff Analysis of ANC Vote Choice as a Function of Proximity to Marikana

	DV = Prospective ANC Vote			DV = Retrospective ANC Vote		
	(1)	(2)	(3)	(4)	(5)	(6)
Proximity to Marikana (- log km)	0.065*** (0.009)	-0.052*** (0.010)	-0.011+ (0.006)	0.055*** (0.008)	0.024*** (0.005)	0.025*** (0.006)
Post Massacre	-0.702*** (0.140)	-0.662*** (0.132)	-0.562*** (0.079)	-0.537*** (0.157)	-0.384*** (0.095)	-0.389*** (0.095)
Proximity $\times$ Post	-0.050*** (0.011)	-0.047*** (0.010)	-0.040*** (0.006)	-0.037** (0.012)	-0.025*** (0.008)	-0.026*** (0.007)
Donut Sample				✓	✓	✓
Spatial Controls		✓	✓		✓	✓
Covariates			✓			✓
Observations	30568	30568	30536	22276	22262	22262
R^2	0.012	0.054	0.295	0.011	0.316	0.316

Standard errors clustered by EA in parentheses

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

R. INDIVIDUAL RESULTS: EMERGENCE OF EFF

The SASAS data unfortunately does not include an EFF option until the 2013 round. This is not surprising as the party did not form until October 2013, but it makes analysing the data more challenging. First, it means that we cannot use the difference-in-differences framework, as we have no data on EFF voting intentions in the pre-period. As a result there is no variation in the outcome variable (which is all 0s) in the pre-period, and so the lower order terms are subsumed by the higher order terms. Our sample size is further reduced by the use of the donut sample when assessing retrospective vote choice. The same problem applies for the dynamic variables (entry to the EFF and switching to the EFF from the ANC), and is magnified in that we can only use data from before 2014 (as explained in the paper) and that we condition on prior behavior. In general, this analysis suffers from both (a) the identification strategy not being available, and (b) the sample sizes being much smaller. The best we can do is a simple cross-sectional regression as follows:

$$Y_{i,t} = \alpha_t + \beta Proximity_{ea} + \delta \mathbf{X}_i + \gamma \mathbf{G}_{ea} + \epsilon_{ea}$$

For individual i in survey year t , we regress our outcome variable Y on the *Proximity* of their enumeration area ea to the Koppie. X are optional individual-level covariates (age, age squared, sex, a 15-item wealth index, and race group). W are optional spatial covariates (longitude + latitude + longitude×latitude). We include α_t time fixed effects, and ϵ_m are standard errors clustered by enumeration area, the sampling unit of the survey. The coefficient on the interaction term β represents the cross-sectional association between the proximity to the Koppie and Y .

Despite the limitations outlined above the results remain roughly consistent with our aggregate findings and our general narrative. Panel A of Table R.20 shows that, in general, proximity to Marikana is positively associated with both prospective and retrospective EFF vote choice, though the coefficients vary depending on covariate adjustment and sample choice. Columns 4 through 6 of Panel B, despite the dramatically reduced sample size, show that proximity to Marikana is generally positively associated with switching from the ANC to the EFF, while columns 1 through 3 suggest that there is little evidence of mobilization for the EFF. It is also worth noting, as a further caveat to these analyses, that the EFF only formed in October 2013, and the 2013 survey was conducted in November of that year. As such, it is plausible that many people surveyed in 2013 may not have been aware of the EFF, or may have been undecided at the time, either of which would attenuate effects in Panel A columns 1 through 3, and all results presented in Panel B.

Table R.20: EFF Individual-Level Vote Choice and Voting Dynamics

PANEL A: EFF Vote						
	DV = Prospective EFF Vote			DV = Retrospective EFF Vote		
	(1)	(2)	(3)	(4)	(5)	(6)
Proximity to Marikana (- log km)	0.012*** (0.002)	0.001 (0.003)	0.003 (0.003)	0.007*** (0.002)	0.006** (0.002)	0.002 (0.003)
2013-2016 Only	✓	✓	✓			
2014-2016 Only				✓	✓	✓
Spatial Controls		✓	✓		✓	✓
Covariates			✓			✓
Observations	12196	12196	12186	8161	8157	8157
R^2	0.005	0.009	0.026	0.002	0.014	0.016
PANEL A: EFF Vote						
	DV = Entry to EFF			DV = Switch to EFF from ANC		
	(1)	(2)	(3)	(4)	(5)	(6)
Proximity to Marikana (- log km)	0.011* (0.004)	-0.011 (0.011)	-0.006 (0.011)	0.016** (0.005)	0.012 (0.008)	0.012 (0.008)
2013 Only	✓	✓	✓	✓	✓	✓
Prior Non-Voters Only	✓	✓	✓			
Prior ANC Voters Only				✓	✓	✓
Spatial Controls		✓	✓		✓	✓
Covariates			✓			✓
Observations	1111	1111	1110	1552	1552	1548
R^2	0.005	0.017	0.036	0.012	0.015	0.031

Standard errors clustered by EA in parentheses

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

S. INDIVIDUAL RESULTS: ATTITUDINAL CHANGES

The evidence presented in the paper suggests that there are electoral consequences to state violence in democracies. Yet state violence could have other consequences; there has been much speculation that the massacre led to disenchantment with democracy and electoral politics (Blanco and Ruiz, 2013). Using the SASAS data we are able to consider changes in six core attitudinal variables: trust in government, trust in the police, democratic satisfaction, belief that democracy is the best system of government, belief that voting is one's duty, and belief that voting makes a difference.

Figures ?? - ?? document that South Africa indeed shows a visible, if somewhat subtle, downward trend in five of these measures, with the only exception being belief that democracy is the best system of government. In the post-Marikana period, South Africans are less trusting of political and state institutions, less satisfied with democracy, and feel less political efficacious, compared to the pre-Marikana period. While these trends are suggestive, they are also hard to interpret. Many other things changed at the national level in South African politics during this period. The country's electricity crisis deepened, the economic fallout from the great recession grew more acute, and the scope of Jacob Zuma's corruption became more perceptible.

To probe the role of Marikana in these trends, we test specifically for attitudinal shifts in the communities intimately connected to the massacre by re-estimating the individual level specifications on all six attitudinal dependent variables. The results, shown in Table S.21, show precise zero estimates for the difference-in-differences coefficients. We interpret this as evidence that there were, perhaps surprisingly, no geographically concentrated effects on attitudes as a result of the massacre. Any attitudinal effects of the massacre are fully dispersed throughout the country, but as articulated above we are not able to differentiate those effects from broader trends and political influences.

Figure S.12: Trends in National Attitudes Over Time: Attitudes About Voting

Figure S.13: Trends in National Attitudes Over Time: Attitudes About Democracy

Figure S.14: Trends in National Attitudes Over Time: Attitudes Toward Institutions

Table S.21: Effects of the Massacre on Attitudes

PANEL A: Attitudes About Voting						
	DV = Voting is a Duty			DV = Voting Makes a Difference		
	(1)	(2)	(3)	(4)	(5)	(6)
Proximity to Marikana (- log km)	-0.021*** (0.003)	-0.042*** (0.004)	-0.045*** (0.005)	0.002 (0.004)	-0.003 (0.004)	-0.014* (0.006)
Post Massacre	0.189*** (0.057)	0.198*** (0.056)	0.186*** (0.056)	-0.046 (0.070)	-0.058 (0.070)	-0.057 (0.070)
Proximity $\times$ Post	0.016*** (0.004)	0.016*** (0.004)	0.016*** (0.004)	0.000 (0.005)	-0.000 (0.005)	-0.000 (0.005)
Observations	27063	27063	27041	27062	27041	27041
R^2	0.003	0.007	0.014	0.005	0.020	0.021
PANEL B: Attitudes About Democracy						
	DV = Democratic Satisfaction			DV = Democratic Demand		
	(1)	(2)	(3)	(4)	(5)	(6)
Proximity to Marikana (- log km)	0.012** (0.004)	-0.017*** (0.005)	-0.013** (0.005)	0.007 (0.010)	0.005 (0.010)	0.029* (0.012)
Post Massacre	-0.113+ (0.063)	-0.102 (0.063)	-0.069 (0.063)	-0.098 (0.151)	-0.130 (0.149)	-0.131 (0.151)
Proximity $\times$ Post	-0.003 (0.005)	-0.003 (0.005)	-0.000 (0.005)	-0.014 (0.012)	-0.017 (0.012)	-0.017 (0.012)
Observations	30054	30054	30024	17709	17690	17690
R^2	0.014	0.022	0.048	0.004	0.010	0.015
PANEL C: Attitudes Toward Institutions						
	DV = Trust in Police			DV = Trust in Government		
	(1)	(2)	(3)	(4)	(5)	(6)
Proximity to Marikana (- log km)	-0.020*** (0.004)	-0.048*** (0.005)	-0.041*** (0.005)	0.013** (0.004)	0.002 (0.003)	-0.034*** (0.005)
Post Massacre	-0.054 (0.062)	-0.047 (0.062)	-0.036 (0.059)	-0.122+ (0.071)	-0.056 (0.060)	-0.049 (0.058)
Proximity $\times$ Post	0.000 (0.005)	0.001 (0.005)	0.002 (0.005)	-0.002 (0.006)	0.003 (0.005)	0.004 (0.005)
Observations	30258	30258	30228	30140	30110	30110
R^2	0.012	0.016	0.029	0.026	0.122	0.131

Standard errors clustered by EA in parentheses

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

T.VOTE SWITCHING OR PERSONAL VOTE? ANALYZING CANDIDATE LISTS

Our findings suggest that Julius Malema and Floyd Shivambu found in the events that transpired on August 16 2012 an issue vacuum that they were able to fill. Once officially formed, the EFF openly campaigned on issues related to the massacre. While communication and issue ownership surely matter in elections, parties also require people to function and thrive – a “ground game” or a “political machine.” Two possibilities emerge: Either the EFF splintered the ANC’s machine, capturing defecting local elites, or they recruited a new class of political intermediaries. If the former is true, then the switching we document may be evidence of a personal vote and elite defection, rather than typical electoral accountability.

Analyzing data from publicly available candidate lists for the 2011 and 2016 local elections, it is clear that below the elite level, the EFF was not purely a splinter from the ANC, but instead introduced new political actors to the formal political process. As shown in Table T.22, of the 8231 unique candidates that the EFF fielded in the 2016 local elections at both the ward and district level, only 70 of them had formerly run as ANC candidates in 2011. Of those ANC candidates, none were from the Marikana area. While the EFF did recruit some candidates from existing parties, the vast majority (nearly 95%) were new candidates. Analyzing the identification numbers of candidates, which give their date of birth, we also show in the SI that the EFF candidates in 2016 were systematically younger than the candidates fielded by either the DA or the ANC, suggesting that the party’s creation encouraged young people with little prior political experience to contest in formal politics.

Table T.22: 2016 Local Government Elections EFF Candidate Origins (Top 10)

Rank	Origin Party	Totals	Percent
1	New Candidate	7803	94.800
2	Congress of the People	82	0.996
3	African National Congress	70	0.850
4	Democratic Alliance	46	0.559
5	National Freedom Party	42	0.510
6	Independent Candidate	37	0.450
7	Pan Africanist Congress of Azania	21	0.255
8	Inkatha Freedom Party	17	0.207
9	African People’s Convention	12	0.146
10	African Christian Democratic Party	9	0.109

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