

Sometimes the grass is greener on the other side: How terrorism affects preference for democracy

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Abstract

We study how negative signals about states' capacity to provide security, i.e. terrorism, affect preference for democracy. We argue that negative signals affect preference formation differently conditional on how democratic a regime is perceived to be. Using interrupted surveys from several African countries, we show that preference for democracy increases in response to terrorist attacks. This effect is particularly pronounced among individuals who evaluate their state as undemocratic. Individuals who perceive their state as democratic show no adverse reaction towards democracy. The results provide a positive outlook on the resilience of preference for democracy in the face of adversity.

JEL codes: D72, D74, F52, F59, K42, O17

Keywords: Preference for democracy, regime preference, terrorism, democratization, regime transition, Africa

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“The inability of governments to deliver human security and basic services to citizens has diminished citizens’ faith in the ‘democracy dividend’, which many Africans had hoped to see upon successful democratic transitions. Moreover, under the guise of fighting terrorism, especially beginning in the early 2000s, autocratic regimes in countries such as Zimbabwe, Tanzania and Cameroon have enacted stringent anti-terrorism laws that have been used to curb the rights of citizens, impede political party activities and suppress the press and other forms of dissent or contestation of government actions.”

Fomunyoh (2020)

This cautioning statement, submitted to the US House Foreign Affairs Committee, Subcommittee on Africa, Global Health, Global Human Rights, and International Organizations, offers several cues for understanding the formation of regime preferences. First, it addresses the link between government performance, especially in terms of providing security, and preference for democracy in newly established democracies. With respect to the promise of democratic peace, one expects backlash against democracy when the promise is broken. Second, security concerns allow autocratic regimes to create legitimizing narratives. Building large surveillance apparatuses and repressing political opponents can be justified based on security concerns. Depending on whether citizens of autocratic states believe or reject such narratives determines, whether citizens perceive an autocratic regime as justified.

Independent of the type of political system, a terrorist attack is a signal of the state failing to provide public security. Yet, it remains an empirical question, whether or not citizens of democracies would see the promise of democratic peace (e.g., described in ?) broken in the event of an attack. Or would citizens simply attribute the failure to the wrong choices of the elected leader, who can be held accountable in principle (in the spirit of classic electoral accountability, e.g. Barro (1973))? In the same way, it remains an empirical question, whether citizens of autocratic states would see the justifying narrative of the regime crumble or would believe even stronger measures were necessary to contain violent threats.

Following the argument that democratization hinges on public support (Claassen, 2020), the introductory quote echos the common fear that terrorism threatens democratization on the African continent. Economic theories of political transitions assume citizens always prefer democracy (Acemoglu and Robinson, 2001, 2005; Fearon, 2011; Brückner and Ciccone, 2011). Democratization then occurs as a response to changes in behavioral constraints. While this is a useful simplification to illustrate macro level dynamics, in reality citizens do not always prefer democracy. Hence, democratization can be also affected by changes in preferences directly.

We use interrupted Afrobarometer (AfB) surveys (Afrobarometer Data, 2016), from 10 country-year cases, to identify the causal effect of terrorist attacks on preference for democracy. Matching geo- and time-coded data from AfB surveys and terrorism events from the GTD (University of Maryland, 2019) allows comparing reported preferences closely before and after an attack in a country. Identifying the causal effect of terrorism on any social, political or economic variable is usually plagued by simultaneity issues, as described by Abadie (2006). We, therefore, leverage the quasi experimental nature of interrupted surveys. Identification rests on three simple assumptions. First, interview periods must be exogenous. This is plausible because the schedules for interviews are predetermined and any deviations from the determined schedule are documented. Second, within the short time frame of survey fielding, the exact attack date is quasi random. The shorter the time frame, the more plausibly this assumption is fulfilled. Confirming that results hold up to shrinking the time frames down to ± 3 days around attacks, therefore, strongly corroborates identification. Moreover, from extensive newspaper screening for all cases, we can reject confounding coincidences with extraordinary or potentially politicized events, such as elections, holidays or other noteworthy events. Third, the groups created by splitting observations at the attack date must be statistically comparable.

The empirical strategy is, among others, similar to Depetris-Chauvin et al. (2020), and Balcells and Torrats-Espinosa (2018), who use interrupted surveys to study the impact of national football team victories on identity and state formation, and electoral effects of terrorism. Methodologically most closely related is Guo and An (2022), who find terrorist attacks to increase pessimism. Similar to Guo and An (2022), we are able

to document substantial effects of low profile events on popular beliefs.

Substantively related research has documented a negative relationship between terrorism and preference for democracy in Pakistan (Rehman and Vanin, 2017). Similarly, Blanco and Ruiz (2013) find a negative association of security with preference for democracy, but no link between armed conflict and preference for democracy, in Colombia. For Mexico, Blanco (2013) reports a negative association between insecurity and preference for democracy. For post revolution Egypt, during its transition to democracy Abadeer et al. (2022) finds a positive association between crime and preference for authoritarian rule. Davis and Silver (2004) document a willingness to trade-off civil liberties for security in the US after 911. In Germany, too, Giavazzi et al. (2020) find that voters are willing to sacrifice some liberty to protect against terrorist threats. Gassebner et al. (2008) find that more terrorist attacks increase the likelihood of incumbent replacement. Gassebner et al. (2011) find that cabinets are more likely to dissolve, in both autocracies and democracies when terrorist strike but especially when terrorism is exceptional and not the norm. The effects of terrorism on electoral preferences have already attracted considerable scholarly interest (Berrebi and Klor, 2008; Kibris, 2011; Montalvo, 2011; Getmansky and Zeitzoff, 2014; Balcells and Torrats-Espinosa, 2018; Hoes et al., 2023). Godefroidt (2022) recently reviewed the literature on the effects of terrorism on political attitudes. Godefroidt found consistently positive effects on out-group hostility, conservatism and rallying around the flag in the vast literature on Islamist terror in Western societies, while there seems to be little consensus about effects outside this prominent, yet specific context.

We contribute to the existing literature in several ways. First, we improve on previous attempts of causally identifying the effect of terrorism on preference for democracy. Second, existing literature often focuses on single cases. Either single countries or single high salience events.¹ We extend the contextual scope by looking at 10 cases from 10 African countries and can therefore make more externally valid claims. Third, this is to the best of our knowledge, the first quantitative assessment of the relationship of terrorism and preference for democracy on the African continent. Fourth, we describe the issue of spatial confounding, a potential problem in interrupted survey research de-

¹ A notable exception is Guo and An (2022), whose research was developed parallel to ours.

signs. Spatial confounding, arise when there is spatial correlation between the outcome measurement and the treatment. Since field workers do travel in distinctive patterns when conducting interviews, spatial confounding is especially worrying for face-to-face survey based designs. Yet, so far, spatial confounding has not been addressed in existing research. We propose a simple robustness check. Fifth, we offer a novel complementary mechanism to explain the "democratic window of opportunity", theorized by [Acemoglu and Robinson \(2001\)](#) and empirically examined by [Brückner and Ciccone \(2011\)](#).

The results of our analysis contrast with previous work. We document a 3-4 percentage points (pp) increase in preference for democracy after an attack on average. This corresponds to roughly 14% of those not preferring democracy ex ante changing their opinion in favor of democracy. Using exogenous local pre-treatment regime evaluations as proxies, we find the most pronounced shift in preference towards democracy among individuals who evaluate their country as non-democratic. At the same time, there is no evidence that preference for democracy deteriorates for citizens who evaluate their country as democratic. Examining auxiliary outcomes, i.e. support for direct presidential rule, one party rule, and military rule suggests, if anything, a pro-democratic change in preference among people perceiving their state as democratic. Hence, the grass seems only greener on the other side to those, who believe not to live in a democracy. Moreover, we provide evidence, that the result is not driven by politicization of politically apathetic citizens but by citizens less often viewing authoritarian leadership as justified. In sum this is a positive outlook on the resilience of preference for democracy, and perhaps democratization, in the face of adverse events.

1 Terrorism and preference for democracy

This section lays out the theoretical framework and expectations for analyzing how terrorism affects citizens' preference for democracy. Before turning to the actual argument, we want to clarify how we use the terms *terrorism* and *preference for democracy*.

In line with the notion that a terrorist attack is a negative signal about the performance of the state in providing public security, we consider the case of terrorism as a public bad. On the conceptual level there exists a gray area between the terrorist

and the freedom fighter, where terrorism may have some positive future payoffs for a majority of citizens. This is arguably a rare case and none of the cases we consider here are of such nature. From the perpetrators' perspective, supplying a public bad aligns with the incentive to generate public pressure in pursuit of their goal. It is well known that even people not physically affected can suffer psychologically from terrorist attacks (Strebel and Steenbergen, 2017; Stovall-McClough and Cloitre, 2006, 118-123). When terrorists strike, expectations about security in the future deteriorate (Bozzoli and Müller, 2011; Strebel and Steenbergen, 2017), economic (Abadie and Gardeazabal, 2003) and human rights repercussions may be feared (Dreher et al., 2010), and overall, well-being will be impaired (Frey et al., 2007).

For regime preference we consider a unidimensional scale from non-democracy to democracy. Since we are primarily interested in preference for democracy, there is little value in distinguishing between multiple opposite ends of the political spectrum, e.g., anarchy or autocracy.

Often theories of democratization assume citizens preference to be fixed at the democracy pole (e.g., Ferejohn, 1986; Przeworski, 2005, 2006; Fearon, 2011; Acemoglu and Robinson, 2001, 2005). Unsurprisingly, the empirical picture (see Figure 1) shows that there exists variation in preference for democracy both over time and countries.² This is clearly in line with both the broad literature in public opinion research and the specific case of public opinion on the African continent (Bratton and Mattes, 2001; Bratton et al., 2005; Mattes and Bratton, 2007). Explaining differences in preference for democracy remains an important challenge. Houle and Miller (2019) argue that upward social mobility increases support for democracy. Bratton and Mattes (2001) show that citizens of African countries hold a more instrumental understanding of democracy than citizens of other world regions. This suggests economic performance as an important factor. Yet, whether a democratic regime, especially in its early stages, is more likely to deliver on economic outcomes than a non democratic regime is debated (Przeworski et al., 2000; Ghardallou and Sridi, 2020; Ross, 2006; Acemoglu et al., 2019; Murin and Wacziarg, 2014). The tremendous success of China in reducing poverty immediately comes to mind. The increasing political and economic involvement of China in many

² Appendix Figure 12 illustrates the same for all countries not shown in Figure 1.

African countries may well promote a Chinese model of government among the citizens, for whom economic performance is decisive in forming regime preferences.

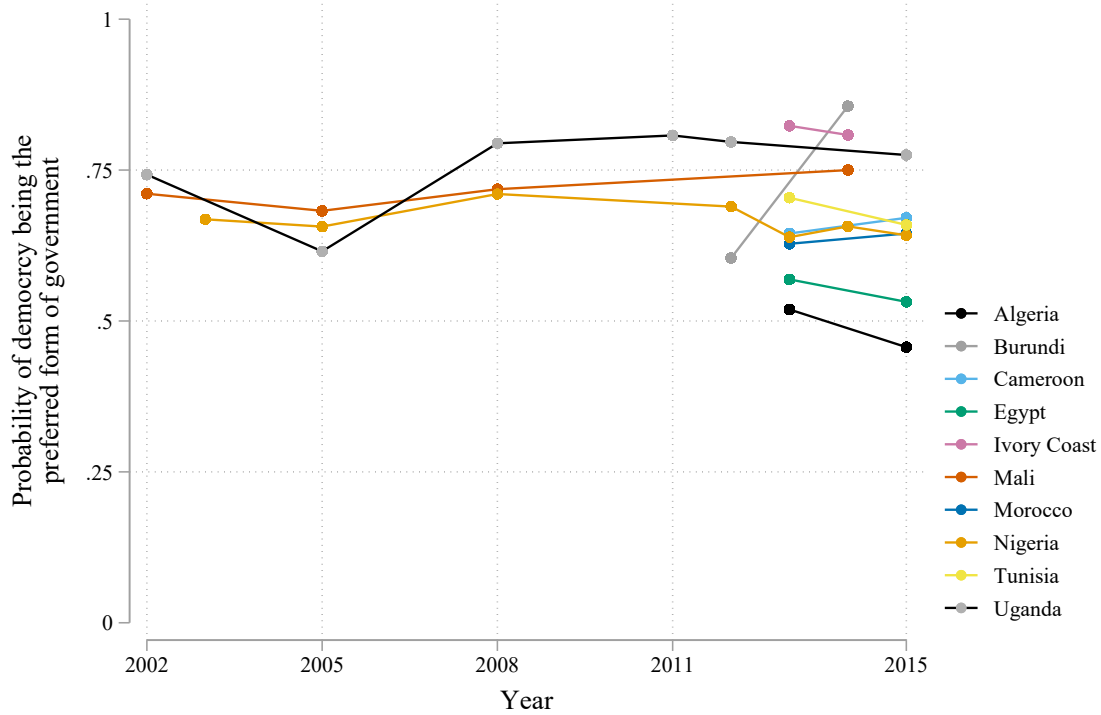
Similarly, it is both conceivable that public security can be provided best by a strong authoritarian regime or by a well functioning democracy. When it comes to terrorism, specifically, it is debated whether democracy impedes or enables terrorism. Ghatak et al. (2019) provides a recent summary over the current state of the debate. On one side scholars argue for a trade-off between liberty and security (e.g., Davis and Silver, 2004; Enders and Sandler, 2011, ch. 2). Rooted in classical work of Crenshaw (1981), the other side argues lower grievances and better means of political expression safeguard democracies from terrorism. It is, therefore, not straight forward whether one should expect the public bad, terrorism, to depress or inspire preference for democracy. Theoretical expectations about the effect of experiencing terrorism on regime preferences must consider the context, i.e. the present regime, within which the negative experience occurred. Or, to put it differently, *experiencing terrorism in a democracy* and *experiencing terrorism in a non-democracy* are two different signals with different implications for preference formation.

The conventional wisdom "the grass is always greener on the other side" serves as a useful analogy. Citizens' regime preferences always form under a specific information set, that is their personal experience under a specific regime. It is important to consider citizens' evaluation of a regime as a reference point for preference change. The exposure to a terrorist attack constitutes new information. The state failed to provide the most basic public good, safety. At least some citizens will attribute this failure to the regime type. Therefore, those citizens will reevaluate their preferences with regard to what would be an optimal regime, accounting for the adverse information about the present regime.³

For a person who evaluates their state to be very democratic, experiencing terror can trigger an adverse reaction to democracy. After all, even if this person believed "democracy impedes terrorism" to begin with, there is now direct evidence that it did not succeed in doing so. If a person believed that democracy is poorly equipped

³ Similarly, Lipset (1959) argued that legitimacy erodes under economic crisis, since citizens attribute the crisis to the regime.

Figure 1: Time trend of the likelihood of reporting democracy being the preferred form of government in selected countries.



to deliver safety, i.e. fosters terrorism, and evaluated their state as very democratic, the experience of an attack even corroborates their negative prior. Again, this would reduce preference for democracy. For individuals who evaluate the present regime as not democratic, the same logic applies and an adverse reaction to the present regime, i.e. an increase in preference for democracy, is expected. Hence, in expectation the effect of terrorism on preference for democracy depends inversely on the perceived regime type. Recent evidence indeed shows that some citizens in Germany, a consolidated democracy, seem to be willing to trade off democratic liberties to protect against terrorist threat (Giavazzi et al., 2020). This argument boils down to "the grass is always greener on the other side", i.e. the other regime type becomes more attractive, from either perspective, the democratic and the non-democratic.

However, we need to consider an inherent differences between a democratic and non-democratic regimes. Leaders in a democratic regime can be held accountable for

failures. Hence, when the failure to provide security is observed under a democratic regime, the failure can be attributed to politicians in power, who can be held accountable and removed from office. Dissatisfaction with the regime under which terrorism is experienced can be directed towards the politicians in power within the democratic system. This can shroud the democratic system from losing public support. By design the system allows to get rid of leaders when they perform badly. Non-democratic regimes, however, decisively differ in that dimension. Rulers cannot be as easily replaced when they perform badly. However, when observing bad performance, citizens may wish – more so than before – to live in a political system that allows them to get rid of their rulers. Therefore, it can be expected that preference for democracy increases in response to terrorism only for citizens, who perceive their state as undemocratic. Citizens who evaluate their state as democratic will not necessarily cut back on supporting democracy. If there is an adverse reaction in preference for democracy at all, it should be substantively lower than the pro-democratic reaction of those who perceive their state as non-democratic. In terms of the analogy used before this means that only sometimes the grass is greener on the other side.

In sum the theoretical argument leads to three hypotheses:

- H1: In a regime that is perceived as non-democratic, preference for democracy increases in response to a terrorist attack.
- H2a: In a perceived democracy, preference for democracy deteriorates in response to experiencing a terrorist attack.
- H2b: In a perceived democracy, preference for democracy remains unaffected by experiencing a terrorist attack.

Hypotheses 2a and 2b stand in juxtaposition, and eventually it is an empirical question whether one outweighs the other.

2 Data and measurement

2.1 Terrorism in Africa

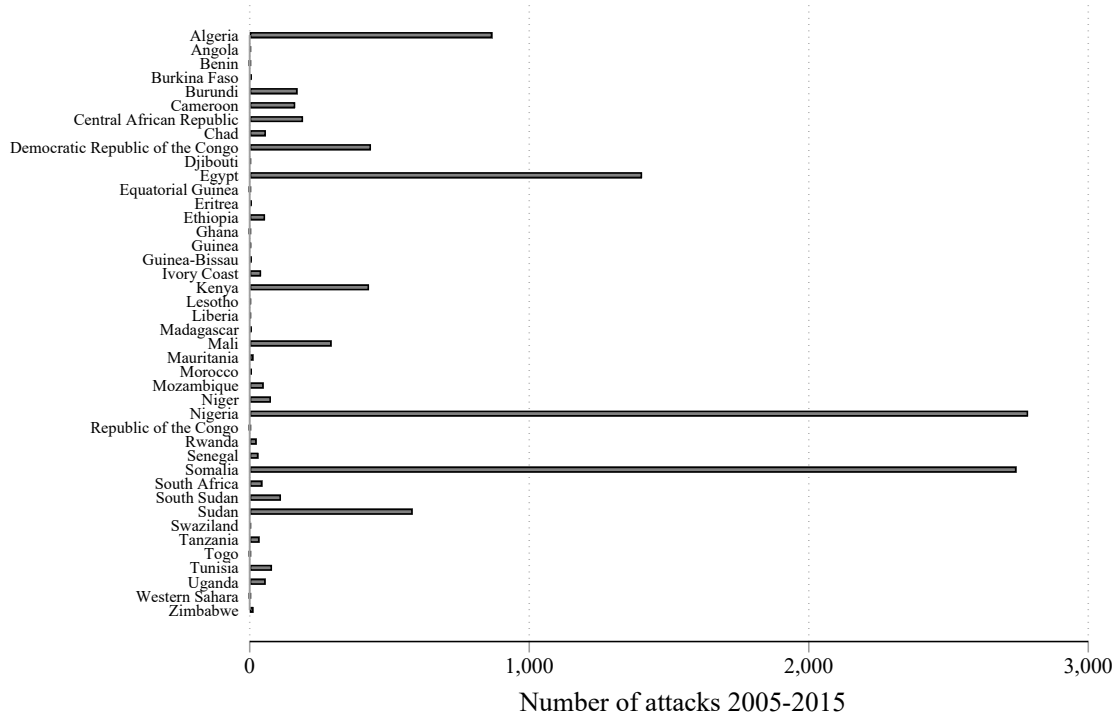
Terrorist activity is a pervasive feature of some African countries. As a consequence of the events of September 11, 2001 and the subsequent international counter terrorism policy, terrorism in African countries has received increased scholarly attention (Elu and Price, 2015). Elu and Price (2012, 12) document that 5366 terrorist attacks took place in sub-Saharan Africa between 1970 and 2006. The GTD lists 7644 terrorism attacks during 2005-2015 on the continent (University of Maryland, 2019). In the GTD terrorism is defined as the use of illegal force or violence by a non-state actor to attain a political, economic, religious, or social goal through fear, coercion or intimidation. This definition captures the public bad character of terrorism which is necessary to project a negative signal about the state. The distribution of attacks over countries in this 10-year span shows remarkable variation in the number of incidents (see Figure 2). A majority of countries experienced a moderate number of attacks, but some were ridden by constant terrorist attacks. While those aggregate numbers certainly help underscoring the relevance of terrorism in Africa, the GTD offers much more comprehensive information, including exact dates and geo-location. Combining the exact dates and geo-locations for both terrorist attacks and stated preference for democracy from two data sources enables the empirical strategy for this research.⁴

2.2 Survey data from Afrobarometer

The Afrobarometer (Afrobarometer Data, 2016, AfB) surveys offer a unique geo- and time-coded data set, containing questions on economic, social and political attitudes, and political participation and outlooks. AfB is nationally representative and covers multiple countries per round. For rounds 2-6, most questions can be compared across countries and rounds. Since we match terrorist attacks to interviews by country and timing, we initially consider all interviews of rounds 2-6. After the matching procedure

⁴ GTD also includes attack types, target/victim characteristics, perpetrator characteristics and casualties and economic damage estimates but the selection of only 10 cases for the final sample does not allow for a quantitative assessment of those features.

Figure 2: Terrorist attacks 2005-2015 by country.



African countries with an incidence of at least one attack between 2005 and 2015.

detailed in the following Section 2.3, we end up using only data selected from rounds 4, 5 and 6. The main outcome of interest is an individual's stated regime preference. The respondent is asked to indicate which statement of the following three is closest to her own opinion:

A: Democracy is preferable to any other kind of government.

B: In some circumstances, a non-democratic government can be preferable.

C: For someone like me it doesn't matter what kind of government we have.

In the main analysis we pool statements B and C. Option A is clearly indicative of strong support for democracy, while B and C are not. Moreover, the order of B and C in a preference space is unclear. Hence, the main outcome variable is binary, indicating whether a respondent has a preference in favor of democracy, when true,

or not, when false. Examining response patterns in the residual categories B and C, relative to A, allows to differentiate between political apathy (C vs. A) and defined regime preferences (B vs. A).

In general it can be observed that for all country-year tuples most people prefer democracy over any other form of government. On average around 70% of individuals report democracy as their preferred form of government but with considerable variation across time and country (see Figure 1 and in the appendix Figures 9 and 12). Looking at all countries surveyed in AfB, country-year pairs display a remarkably wide range in approval of democracy (see appendix Figure 12), from 36% (Madagascar 2008) to 88% (Senegal 2013).

Besides the stated preference question, AfB features a three question section, which also taps into the concept of preference for democracy by inquiring about the approval of non-democratic regime characteristics:

”There are many ways to govern a country.

... Would you disapprove or approve of the following alternatives: Only one political party is allowed to stand for election and hold office?”

... Would you disapprove or approve of the following alternatives: The army comes in to govern the country?”

... Would you disapprove or approve of the following alternatives: Elections and Parliament/National Assembly are abolished so that the President/Prime Minister can decide everything?”

The respondents are asked to rate their approval for each question on a 5-point scale, where 1=Strongly disapprove and 5=Strongly approve. This provides three ancillary outcomes for analysis.

Another key variable is the perceived type of the regime in the respondent’s country. As discussed in Section 1, conditionality on the subjective evaluation of the present regime is important.⁵ Here, the respondent is offered four answer options, coded on a 1 to 4 scale, when asked how much of a democracy the own country is.

⁵ A simple linear regression between state perceived regime type and country level polity2 scores, from the POLITY 5 data set (Center for Systemic Peace, 2020), reveals a positive and significant

- 1= Not a democracy at all
- 2= A democracy with major problems
- 3= A democracy with minor problems
- 4= A full democracy

The distribution of the perceived regime type by country-year for the final sample is displayed in the appendix, Figure 10. The advantage of this subjective evaluation over objective measures of regime type, e.g. POLITY 5 scores, is twofold. First, when we think about individuals changing their preferences or worldviews they do so relying on their own subjective evaluations rather than the evaluation of an expert coder. Second, this question allows to exploit variation on the individual level which allows for a more fine grained analysis than country level measures. This is especially relevant in the context of less consolidated democracies, where variation in the extent of the outreach of institutions may be limited, e.g. geographically when hinterlands may remain unaffected or when minority groups lack representation.

AfB additionally features a host of socio-demographic and economic questions as well as enumerator characteristics which lend themselves to be used as control variables. Coding of control variables is detailed in the appendix, Table 6.

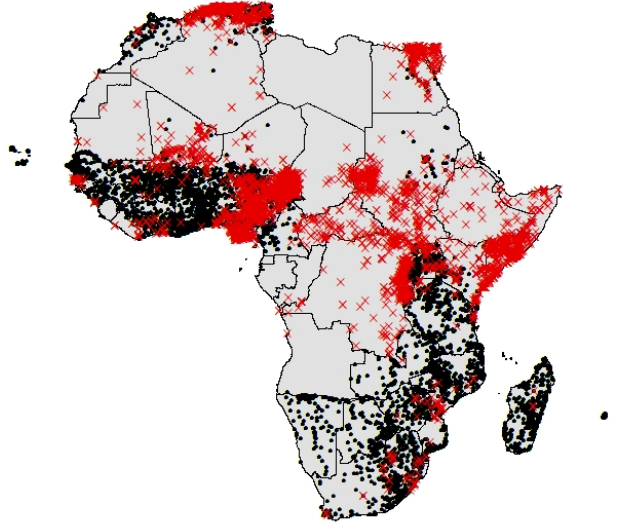
2.3 Matching survey and terrorism data

Figure 3 shows a map of Terrorist attacks in Africa between 2005 and 2015. With both data sources, AfB and GTD, being time- and geo-coded, we can match attacks to interviews when they happened during the interview period and in the same country. This yields 14 cases where a terrorist attack divides the surveyed sample into a before and after group (see Table 1).⁶ Due to some attacks happening close in time to either the beginning or end of AfB interview periods, in some cases either the before or after

correlation between self-reported and expert-coded regime evaluation. A 1 standard deviation increase in perceived democracy is associated with an approximate 0.48 standard deviations increase in expert coded democracy.

⁶ An interview is defined to be before an attack if it took place on the day before the event or earlier. An interview is defined to be after an attack if it took place on the after the attack.

Figure 3: Geocoded AfB interviews and terror attacks over the regions of Africa 2005-2015



Dots depict AfB interviews and \times depicts terrorist attacks.

group consists of too few observations to conduct meaningful empirical analysis. Hence, 4 cases were dismissed.⁷ The upper panel in Table 1 shows the 10 cases eventually selected for the main sample. A threshold of 160 observations as the lower bound of minimum observations per group seems to be a reasonably conservative choice.⁸ Attacks or series of attacks are uniquely identified by country-year pairs corresponding also to AfB survey rounds.

An observation is coded as treated if it occurs in same country and on the first day after a terrorist attack or later. Observations on the same day as the terrorist attacks are dropped.⁹ In 5 cases (Cameroon 2015, Egypt 2013, Nigeria 2008, and Uganda 2008) a series of attacks had occurred over multiple days. Every interview which was conducted after the first attack is coded as treated. The logic behind this is that the first attack already transmits the negative signal about the states failure

⁷ Note that the general results are robust to including all cases (regression results available on request).

⁸ Note that all general results hold up to shifting the threshold (regression results available on request).

⁹ Treatment status on the day of the attack is ambiguous. It is unclear whether interviews happened before or after an attack on the same day. We follow the common practice to drop the event day.

to provide security. Any further signal would the reinforce the first signal but likely with a decreasing marginal impact. The remaining attacks are either singular events or multiple attacks on the same day (Algeria 2015). The matching and coding eventually leaves me with a total of 13,257 observations, where 4,897 are untreated (before any attack) and 8,360 are treated (after the first attack). It is important to note that all 10 attacks left in the sample are relatively homogeneous. Most can be attributed to internal political struggles. Attacks are similar in terms of intensity, with moderate numbers of victims and there is no event sticking out in terms of magnitude. Detailed discussions of the individual cases and the political backgrounds can be found in the appendix Section C.

3 Empirical analysis

3.1 Identification strategy

The causal effect of terrorist attacks on the probability to report democracy as the most preferred form of government is estimated from the following linear probability model.

$$\mathbf{D}_{i,a} = \alpha + \beta \mathbf{after}_a + \gamma \mathbf{X}_{i,a} + \delta_a + \varepsilon_{i,a}, \quad (1)$$

The index i denotes the individual and a denotes the terrorist attack.¹⁰ In the main specification $\mathbf{D}_{i,a}$ is a binary indicator that takes on the value 1, when an individual reports that democracy is their preferred regime and 0 otherwise. We report results for alternative specifications for $\mathbf{D}_{i,a}$, using the original three categories in the appendix. For the ancillary outcomes we use the original 5-point scale. The treatment indicator variable \mathbf{after}_a takes on value 1, when an interview was conducted after an attack. Control variables populate the vector $\mathbf{X}_{i,a}$, including, in the richest specification all variables detailed in the appendix, Table 6. Attack specific fixed effects δ_a ensure that observations before and after the same attack, in the same country, are compared to

¹⁰ Attacks are equivalent to country-year tuples and streaks of attacks are coded as if they were one attack on the first day of the streak.

Table 1: Attack dates, treated and untreated observations per matched attacks

Attack in country year	Exact attack date	Interview period	Before attack	After attack	Total
<i>Included in main specification</i>					
Algeria 2015	04.06.	28.05. - 17.06.	272	880	1,152
Burundi 2014	05.10.	29.9. - 10.10.	610	502	1,112
Cameroon 2015	28.01. - 08.02.	24.01. - 08.02.	287	799	1,086
Egypt 2013	10.03.-14.03.	08.03. - 19.03.	277	813	1,090
Ivory Coast 2013	23.03.	11.03. - 26.03.	979	124	1,103
Mali 2008	21.12.	15.12. - 31.12.	404	734	1,138
Morocco 2015	05.11.	02.11. - 22.11.	224	896	1,120
Nigeria 2008	16.05. - 22.05.	13.05. - 25.05.	160	1,860	2,020
Tunisia 2015	22.4.	14.04. - 09.05.	380	745	1,125
Uganda 2008	15.08. - 18.09.	27.07. - 03.09.	1,304	1,007	2,311
Total			4,897	8,360	13,257
<i>Excluded in main specification</i>					
Mali 2014			62	1,032	1,094
Mozambique 2015			809	31	840
South Africa 2015			2,297	51	2,348
Tunisia 2013			85	1,115	1,200
Total			3,623	1,859	5,482

This table displays all cases of single terrorist attacks or series of attacks dividing the survey sample in a pre and post attack groups. The top panel shows 12 cases selected for the final sample. The lower panel shows 9 cases where numbers of observations were small either in the before or after group, such that those cases were not selected for the main analysis. The first column defines the country-year pair that uniquely identifies the respective case. The second column shows that date of the attack or the period from first to last attack for streaks of attacks. The third column shows the interview period. The last three columns display, for each attack, the respective numbers of observations before, after and total.

each other. Lastly, $\varepsilon_{i,a}$ denotes the error term which is clustered at the attack level.¹¹

Since by construction, observations which ended up in the final sample are temporally clustered in short time frames around attack dates (see Table 1), estimates for β are causally identified, when the time frame it self is chosen orthogonal to the model and within the windows of observation simultaneity of preference changes and terrorist attacks can be ruled out. It is easy to verify that interview periods were agreed upon long time ahead of interviews by the AfB organization and local contractors, while the documentation shows no deviation from the agreed upon plans for the cases we study here. Therefore, we are not worried about the exogeneity of the timing of interview periods themselves. The obvious concern within interview periods would be that changes in regime preference may directly or indirectly cause terrorism to occur, or that both variables (preference for democracy and terrorism) are driven by some unobserved confounder(s). While the occurrence of terrorist attacks is in general not orthogonal to regime preferences, within very short time frames the exact day of an attack is very unlikely driven by underlying socio-political processes which may jointly determine preferences for democracy. It seems unlikely that a terrorist attack at a certain point in time is caused by a change in regime preferences that occurred only few days before. However, it is not completely unconceivable. If it was the case that a spontaneous shift in preference for democracy caused or was confounded with a terrorist attack shortly after, the estimated effect would not bear any causal interpretation only if the confounding event or spontaneous shift would lie within the window of measurement. If not within the window of measurement the spontaneous shift has already manifested in the observed preference for democracy hence any deviation from this observation can be attributed to the attack. The shorter the windows of observations the more likely this logic applies, and therefore the more likely the causal interpretation of an effect holds. This is empirically implemented by shrinking the time frames down as reported in the robustness tests in Section 3.4.2. A further necessary assumption is that the samples generated by splitting survey periods at the day of an attack are statistically

¹¹ Abadie et al. (2017) report that there exists a common misconception that clustering of standard errors would be unnecessary, when fixed effects pick up residual correlation at the same level. Moreover, clustering is the more conservative choice compared to conventional robust standard errors.

comparable. Although the short term perspective greatly contributes to the quality of identification, one may hold against this approach that the lack of long term evidence takes away from the meaning of the analysis. While we agree that a well identified long term measurement would be optimal, we cannot achieve this here. Still, short term evidence is not without merit. It offers a clear statement whether or not there exists a window of opportunity for regime change, even if it may be short.

A major concern about the identifying assumption is post attack sample selection, e.g., because enumerators become more careful and avoid certain groups of people or geographic areas. Therefore, before we turn to the main analysis, we provide a test for covariate balance in Table 2. We estimate pre- and post attack difference in covariates by OLS from

$$\mathbf{COV}_{i,a} = \eta + \Delta \mathbf{after}_a + \delta_a + \zeta_{i,a}. \quad (2)$$

The equation is structurally similar to Equation 1 without additional controls. We regress the covariates $\mathbf{COV}_{i,a}$ on the treatment indicator \mathbf{after}_a , while attack fixed effects δ_a ensure comparison across the same attack. Standard errors are clustered at the attack level.¹² While the evaluation of living conditions of people interviewed after attacks appears to be slightly lower ($p < 0.1$),¹³ Table 2 shows solid covariate balance, alleviating concerns about sample selection. The response in subjective living conditions also corroborates the result of increased pessimism found by Guo and An (2022). Perhaps most remarkably, we detect no significant difference in geographic distance between interview and attack, comparing distances before and after an attack. While absence of evidence does not mean evidence of absence, the point estimate is even negative, which means interviews were if anything even closer to attack locations after the event than before. Hence, this speaks against the logic of enumerators avoiding attack areas. As detailed in the appendix Section C, some cases, especially those where terrorism is highly frequent, have terrorist attacks shortly before the survey period.

¹² Standard errors may be spatially correlated, suggesting the use of standard errors that allow for arbitrary spatial correlation. We report the respective results in the appendix, Table 8.

¹³ Later we will show that neither inclusion nor omission of measures of subjective living standard has substantial impact on the results, suggesting potential bias to be negligibly small.

This raises concerns about contamination of the control group. Such contamination, however, causes attenuation bias, biasing against finding any effects. Therefore, we consider keeping those cases a statistically conservative choice.

3.2 Unconditional effects of terrorist attacks on preference for democracy

3.2.1 Stated preference for democracy

Estimation results for Equation 1 are shown in Table 3. On average a terrorist attack increases the likelihood to report democracy as the preferred regime type by 3.5 to 3.8 pp. It is reassuring that the estimated coefficient remains statistically significant ($p < 0.05$ at least) and stable in all specifications. Results are congruent, when using other model specifications, accounting for arbitrary spatial correlation in standard errors, or alternative coding of the dependent variable. OLS results using the original three item coding are shown in the appendix Table 7. Table 8 (appendix) displays the main specification employing standard errors accounting for arbitrary spatial correlation, following Colella et al. (2019) and Colella et al. (2020). Logistic and multinomial logistic regressions (for both outcome codings) are reported in the appendix, see Tables 9 and 10. The multinomial logit model suggests that the increase in preference for democracy ($p < 0.01$) coincides with a decrease in acceptance of non-democracy ($p < 0.01$), while it fails to detect a significant change in political apathy. We interpret this as tentative evidence for a true change of hearts rather than a mobilization of apolitical individuals.

Overall, the detected effect constitutes a meaningful leaning towards democracy. Country-year-pairs range between averages of 49.4% and 86.1% in reporting democracy as the preferred regime type. Accordingly, the estimated effect amounts to a change of more than 9% of the country-year range in reported preference for democracy. In terms of net average persuasion, more than 14% of those not preferring democracy before a terrorist attack change their opinion in favor of democracy after experiencing an attack.

Table 2: Covariate balance table

	Δ (Std. Error)	N	Mean	StD
Age	-0.727 (0.376)	13216	36.18	13.73
Gender	0.00110 (0.00113)	13257	1.500	0.500
Education	0.000103 (0.130)	13225	3.499	2.399
Employment	0.0451 (0.0682)	13220	1.069	1.093
Living condition	-0.0925* (0.0413)	13196	2.752	1.167
Own condition vs. others	-0.0601 (0.0333)	12958	2.845	0.990
Distance (log)	-0.435 (0.252)	13257	5.321	1.103
Christian unspecified	-0.0151 (0.0127)	13257	0.0799	0.271
Roman catholic	-0.0409 (0.0296)	13257	0.190	0.393
Other specified Christian	0.00216 (0.0116)	13257	0.131	0.337
Muslim	0.0438 (0.0275)	13257	0.565	0.496
Other religion	0.00993 (0.00925)	13257	0.0344	0.182
Not enough food last y.	0.00112 (0.0438)	13224	0.884	1.142
Not enough clean water last y.	0.0503 (0.0595)	13223	1.024	1.289
No medical treatment last y.	0.0495 (0.0494)	13204	1.120	1.229
No fuel to cook last y.	0.0444 (0.0407)	13193	0.886	1.151
W.o. cash income last y.	-0.0162 (0.0638)	13178	1.817	1.437
Something was stolen last y.	0.0258 (0.0276)	13257	0.280	0.449
Own a radio	0.0232 (0.0226)	13232	0.685	0.464
Own TV	0.0286 (0.0295)	13233	0.553	0.497

Standard errors in parentheses

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

Pre- and post-attack differences (Δ) are estimated by OLS, taking the covariates from the main specification, listed in the first column, as dependent variables. Robust standard errors are clustered on the attack level and reported in parenthesis. Remaining columns show the number of observations, mean of the dependent variable, and standard deviation of the dependent variable. See Table 6 for a detailed explanation of the covariates.

Table 3: Linear regression on democracy being the preferred form of government.

	(1)	(2)	(3)	(4)	(5)
	D	D	D	D	D
After attack	0.035** (0.011)	0.034** (0.012)	0.037*** (0.011)	0.038*** (0.011)	0.038** (0.012)
<i>Controls added</i>					
Attack FE	✓	✓	✓	✓	✓
Distance, day of week		✓	✓	✓	✓
Demogr., econ.			✓	✓	✓
Subjective livelihood				✓	✓
Enum. demogr.					✓
Mean D	0.745	0.745	0.748	0.746	0.749
N	12,468	12,468	12,210	11,959	11,927

Standard errors in parentheses

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

3.2.2 Ancillary outcome measures

Looking at the ancillary outcomes in Table 4, the same average effect cannot be observed at conventional significance levels. What is quiet reassuring, however, is that all point estimates across all specifications for all three outcomes are negative. This is consistent with the interpretation that preference for democracy increased. The consistency, combined with statistical insignificance of estimates fits to a random measurement error explanation. The ancillary measures are, by default, capturing the concept of preference for democracy more noisily than the stated preference itself.

3.2.3 Heterogeneity across cases

As discussed before, terrorist attacks feature some degree of contextual dependencies. Even though we presented evidence for an average effect, it could be that, due to contextual differences, some attacks had opposite effects which may be masked by the average. To assess whether the average effect is a meaningful metric for the impact of terrorist attacks on preference for democracy at all, it is worthwhile looking at heterogeneous effects across cases. We, therefore, estimate the same model as described

Table 4: Linear regression on ancillary measures of preference for democracy.

	(1)	(2)	(3)	(4)	(5)
	D	D	D	D	D
<i>Outcome: Approval of one party rule</i>					
After attack	-0.110 (0.079)	-0.088 (0.070)	-0.105 (0.067)	-0.098 (0.064)	-0.089 (0.060)
Mean D	1.916	1.916	1.916	1.916	1.916
N	12,753	12,753	12,499	12,202	12,202
<i>Outcome: Approval of military rule</i>					
After attack	-0.048 (0.103)	-0.045 (0.102)	-0.041 (0.092)	-0.028 (0.089)	-0.015 (0.080)
Mean D	2.134	2.134	2.132	2.134	2.134
N	12,802	12,802	12,547	12,252	12,252
<i>Outcome: Approval of direct presidential rule</i>					
After attack	-0.030 (0.037)	-0.017 (0.041)	-0.035 (0.036)	-0.031 (0.037)	-0.027 (0.039)
Mean D	1.760	1.760	1.758	1.759	1.759
N	12,678	12,678	12,432	12,145	12,145
<i>Controls added</i>					
Attack FE	✓	✓	✓	✓	✓
Distance, day of week		✓	✓	✓	✓
Demogr., econ.			✓	✓	✓
Subjective livelihood				✓	✓
Enum. demogr.					✓

Standard errors in parentheses

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

OLS regressions with ancillary outcomes to preference for democracy as dependent variables: Approval of one party rule, approval of military rule and approval of direct presidential rule. **D** is coded on a 5-point scale ranging from 1=Strong disapproval to 5=Strong approval. All specifications include fixed effects at the attack level. Standard errors are robust and clustered at the attack level. The first column contains no covariates, only treatment and fixed effects. The second column features logarithmic distance between attack and interview and week day dummies. In the third column a set of demographic and economic covariates is added. In the fourth column the questionable controls measuring subjective livelihood are included. In the last column enumerator demographics are added. Detailed information on the covariate sets and their coding can be found in Table 6.

in Equation 1 but interact the treatment and the fixed effects:

$$\mathbf{D}_{i,a} = \alpha + \beta_0 \mathbf{after}_a * \delta_a + \beta_1 \mathbf{after}_{i,a} + \delta_a + \gamma \mathbf{X}_{i,a} + \varepsilon_{i,a}. \quad (3)$$

Marginal effects by attack are reported in Table 5. As it is to be expected, not all cases perfectly conform with the pattern observed on average. Note, however, the absence of evidence for any effect in the opposite direction. There is indeed no hint that preference for democracy would deteriorate in any case besides Nigeria 2008 and Burundi 2014, however the point estimates do not even come close to any reasonable threshold of statistical significance. As a sanity check it is worthwhile looking at the cases that are prone to control group contamination. I.e., cases where terrorist attacks have happened potentially close enough in time before the survey roll-out such that the control group was in fact "treated", too. Here an attenuated effect is expected (see detailed case descriptions in the appendix Section C). Those cases are: Cameroon 2015, Egypt 2013, and Tunisia 2015. In those cases, we find no significant differences, which fits the attenuation explanation.

3.3 Conditional effects by perceived regime type

As theorized before, preference change is likely conditional on individuals' perception of the present regime type. A straight forward interaction of the treatment indicator with reported perceptions of regime type, however, is not feasible. Perceived regime type may also be altered by the exposure to terror attacks, and therefore, it would constitute a bad control. Instead, we impute values for pre- and post-attack observations from local averages before treatment. Specifically, for each observation we assign the average of all pre-attack observations within a 50km distance as the perceived regime type.¹⁴ Imputed values have the advantage that they are not subject to the exposure to the terrorist attack. Note that imputed values (local averages) and the original outcome are defined on different scales. Averages are continuous in the interval $[0, 4]$ while the original survey question ordinal on a four point scale. Therefore, we use the same local

¹⁴ Varying the distance yields similar results, which are not reported here but are available upon request.

Table 5: Interaction effects (mfx) of exposure to terrorist attacks and event dummies on preference for democracy

	(1) mfx	(2) mfx	(3) mfx	(4) mfx	(5) mfx
After attack					
Nigeria 2008	-0.041 (0.035)	-0.043 (0.036)	-0.015 (0.036)	-0.010 (0.036)	-0.016 (0.036)
Uganda 2008	0.043*** (0.016)	0.038** (0.016)	0.053*** (0.017)	0.056*** (0.017)	0.057*** (0.017)
Mali 2008	0.080*** (0.028)	0.082*** (0.029)	0.074** (0.029)	0.070** (0.029)	0.064** (0.029)
Egypt 2013	0.044 (0.036)	0.045 (0.036)	0.043 (0.037)	0.043 (0.037)	0.046 (0.037)
Ivory Coast 2013	0.068** (0.027)	0.063** (0.028)	0.044 (0.029)	0.040 (0.030)	0.042 (0.031)
Burundi 2014	-0.003 (0.020)	-0.007 (0.020)	-0.011 (0.020)	-0.014 (0.020)	-0.014 (0.020)
Cameroon 2015	0.006 (0.032)	0.010 (0.033)	0.006 (0.033)	0.001 (0.035)	-0.002 (0.035)
Tunisia 2015	0.017 (0.030)	0.016 (0.030)	0.021 (0.030)	0.025 (0.030)	0.019 (0.030)
Algeria 2015	0.088** (0.036)	0.087** (0.036)	0.092** (0.036)	0.101*** (0.036)	0.126*** (0.037)
Morocco 2015	0.032 (0.036)	0.035 (0.036)	0.037 (0.036)	0.031 (0.036)	0.030 (0.036)
<i>N</i>	12,468	12,468	12,210	11,927	11,927
<i>Controls added</i>					
Attack FE	✓	✓	✓	✓	✓
Distance, day of week		✓	✓	✓	✓
Demogr., econ.			✓	✓	✓
Subjective livelihood				✓	✓
Enum. demogr.					✓

Standard errors in parentheses

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

Marginal effects obtained from OLS regressions with preference for democracy as dependent variable. The binary indicator $\mathbf{D} = 1$ if democracy is preferred and 0 otherwise. All specifications include fixed effects at the attack level interacted with the treatment indicator. Standard errors are robust (note that clustering is not feasible in this specification). The first column contains no covariates, only treatment and fixed effects. The second column features logarithmic distance between attack and interview and week day dummies. In the third column a set of demographic and economic covariates is added. In the fourth column enumerator demographics are added. Detailed information on the covariate sets and their coding can be found in Table 6.

averages for pre-treatment observations to avoid potential bias from regression to the mean in the treatment group. This ensures comparability. The induced measurement error from imputation is random when there is no selection into treatment. Hence, statistical power to detect effects suffers but estimates remain unbiased. We estimate the following equation by OLS:

$$\mathbf{D}_{i,a} = \alpha + \beta_0 \mathbf{after}_{i,a} * \mathbf{PR}_{i,a} + \beta_1 \mathbf{after}_{i,a} + \beta_2 * \mathbf{PR}_{i,a} + \delta_a + \gamma \mathbf{X}_{i,a} + \varepsilon_{i,a}. \quad (4)$$

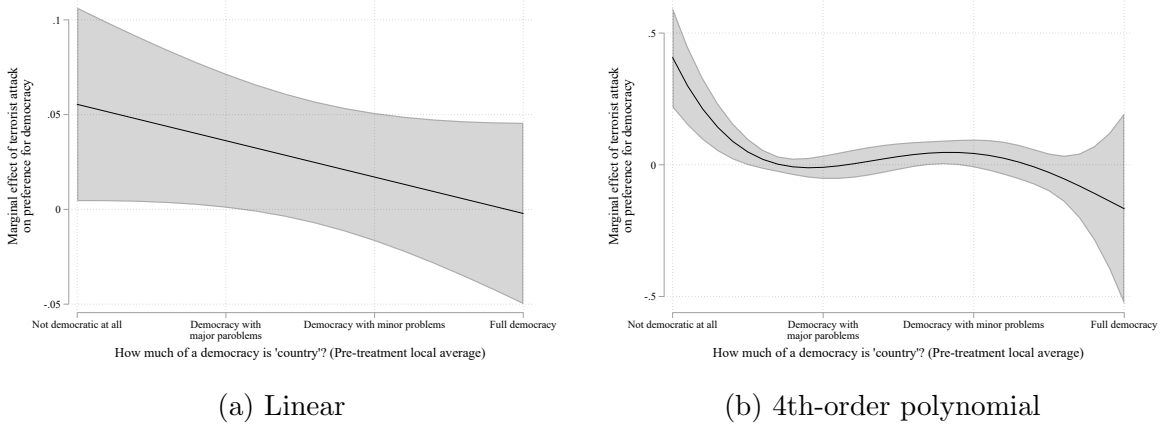
Variables are the same as specified before, with the addition of $\mathbf{PR}_{i,a}$, denoting the local average of perceived regime type around individual i in country-year a . Since $\mathbf{PR}_{i,a}$ is continuous, the assumption of a linear interaction is an arbitrary default, and therefore may be too restrictive. Thus, in addition we estimate Equation 4 replacing $\mathbf{PR}_{i,a}$ by its fourth-order polynomial. This allows for a more flexible picture uncovering potential non-linearities in the conditional effect. We report cumulative marginal effects for both specifications in Figure 4a. The results confirm the expectations about perceived non-democracy. When regimes are perceived as non-democratic, citizens change their preference in favor of democracy strongly (H1). The opposite effect, citizens changing their preference in favor of less democracy in perceivedly very democratic regimes is not confirmed (H2a). Preference for democracy seems stable when the regime is perceived as democratic (H2b). For those who believe to live in a democracy the grass is not greener on the other side. For those who believe to live in an undemocratic state the grass is greener other side.

3.4 Robustness

3.4.1 Spatial confounding

Spatial confounding poses a major threat to identification. Whenever an empirical research design relies on observations being temporally divided into treatment and control groups, and observations are distributed in space. An implicit assumption in such research designs is that the distribution of observations across time and space are independent. If the distributions were dependent, any estimate of the treatment effect

Figure 4: Heterogeneous marginal effects of terrorist attacks on preference for democracy across perceived regime type

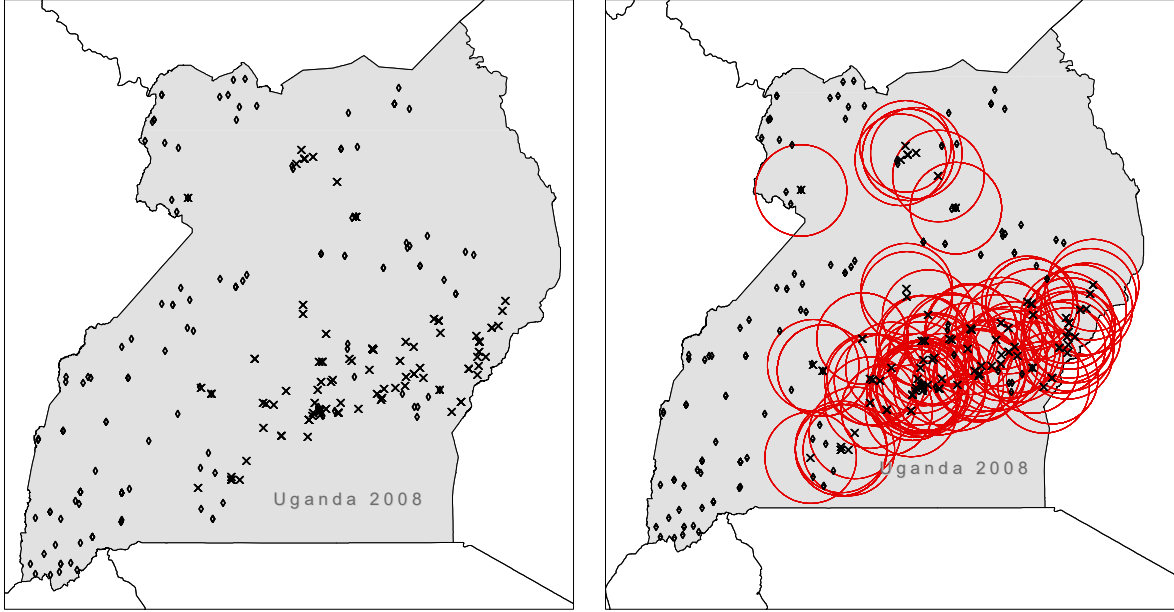


Marginal effects are reported for the specifications without additional controls. The imputation assumes the local average of pre-treatment observations within a distance of 50 km. The results are robust to both successively including covariates and changing the distance between observations considered for imputation.

would pick up geographical differences between the two groups. The case of interrupted surveys, as used in this paper illustrates this case. Within countries, regions plausibly differ in preferences for democracy for various reasons. Treatment is a function of time, and interview latitude and longitude can be a function of time, e.g., when interviewers move from east to west longitude increases over time. Hence, the temporal and spatial distribution of preference for democracy would be dependent. Therefore, the treatment effect on preference for democracy would pick up not only the treatment condition but also the spatial variation in preference for democracy. For some country year tuples eyeballing reveals clear spatial patterns of interview timing, while others at least seem rather random. The example of Uganda 2008, displayed in Figure 5, serves as an illustrative example of spatial confounding, where pre-attack observations are more prevalent in the north and west, while post-attack observations are more densely clustered to the south-east.

To ensure that results presented before are not driven by spatial confounding we estimate Equation 1 using only observations within a range of predefined buffer zones. A buffer zone is a circle with a specified radius, drawn around an interview location.

Figure 5: Interviews conducted before and after attacks in Uganda 2008

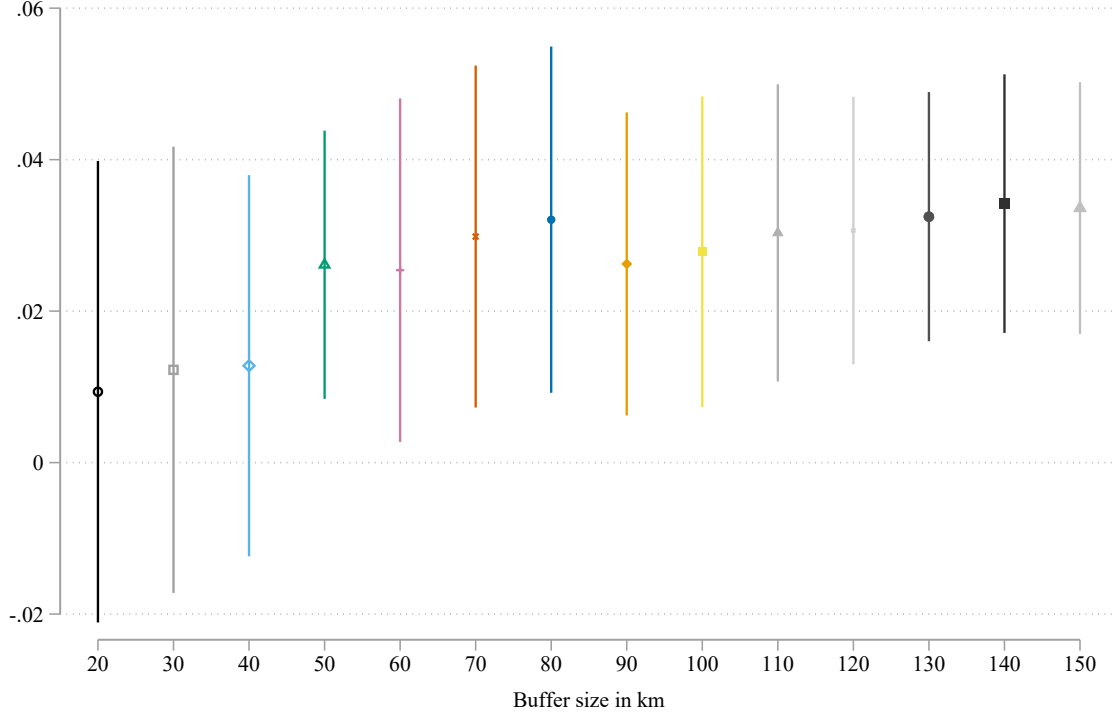


The case of Uganda 2008 illustrates the issue of spatial confounding. \diamond represent pre-attack observations, \times represents post-attack observations. Buffer zones with 0.5° radius (approx. 56km at the equator) are drawn around post-attack observations in the right hand panel.

Using buffer zones we can ensure to only include observations in the estimation which are close enough to other observations with the opposite treatment status. Treated (untreated) observations that are not within any untreated (treated) observations buffer zone are dismissed. Hence, we end up dropping spatial clusters of homogeneous treatment status, leaving me with a smaller but spatially balanced sample that includes only geographically comparable observations. Figure 5 illustrates this process.

Results indicate that even if spatial confounding was present it does not lead to substantially biased results. Figures 6 and 14 show estimated effects along 20 km to 150 km buffer zones and already for relatively small buffer zones the positive effect appears and remains remarkably stable within close range of the initial estimate.

Figure 6: Marginal effect of terrorist attack on preference for democracy accounting for spatial confounding by a range of buffer zone radii.



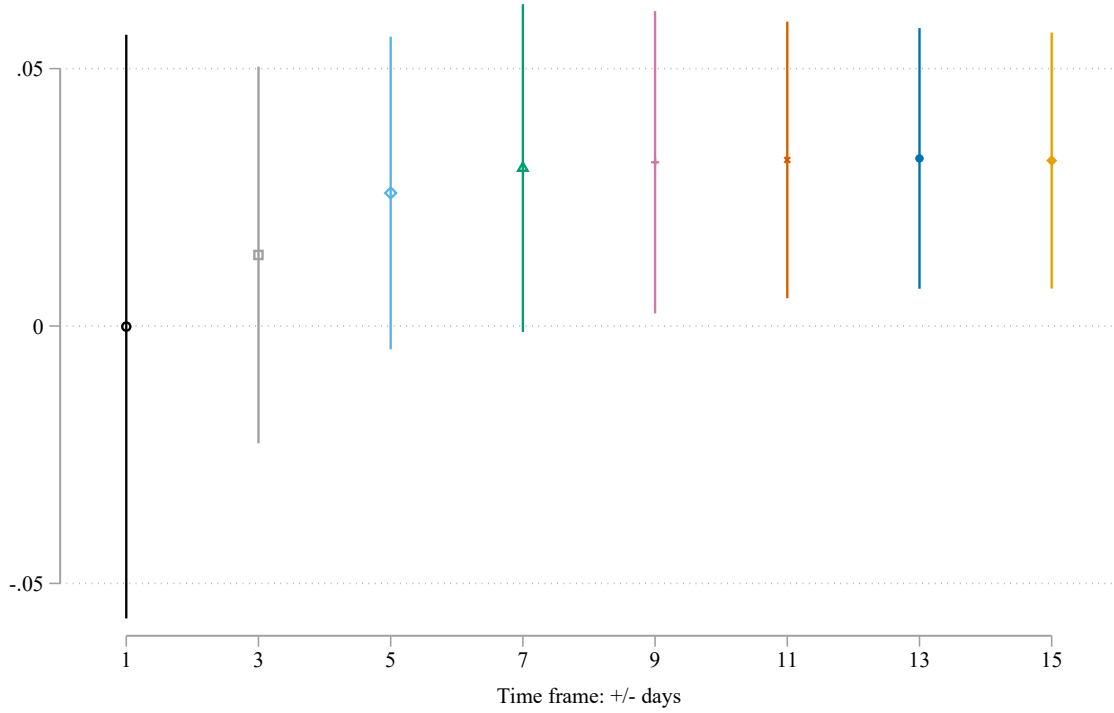
Specification without controls. Spikes represent 95% confidence intervals. See appendix for added controls.

3.4.2 Narrow time frames

A further concern is that time frames may actually be large enough to allow for ongoing trends in regime preferences to cause terrorist attacks to happen, hence, violating the basic identifying assumption. While we believe that this is already quite unlikely given the small size of time frames in the main sample, there is an easy way to corroborate the argument. To alleviate concerns about too wide time frames, we re-estimate Equation 1 with restricted samples by increasing time frames. The results, displayed in Figures 7 corroborate the initial result. Despite the considerable loss of numbers of observations, even for time frames as narrow as ± 5 days, the effect appears ($p < 0.1$) and remains stable throughout.

Perhaps even more reassuringly, the conditional effects by perceived regime type

Figure 7: Marginal effect of terrorist attack on preference for democracy across time frames of increasing length



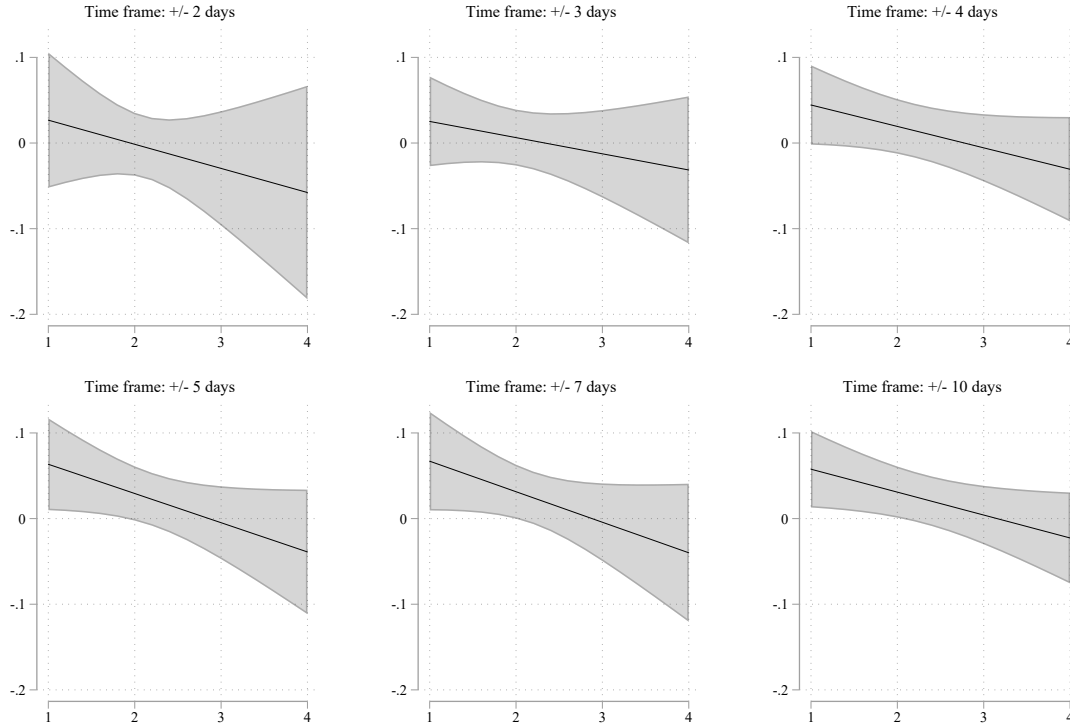
Specification without controls. Spikes represent 95% confidence intervals. Note that the sample size shrinks considerably with shorter time frames.

persists in closer time frames (see Figure 8).

3.4.3 Successive exclusion of attacks

Given the potentially large heterogeneity across contexts of attacks one may be worried about single cases driving the main result. To alleviate this concern, we successively exclude attacks while re-estimating Equation 1. Results prove to be robust against excluding single cases (see appendix Figure 17). Estimates do vary, but only slightly and within close range of the initial estimate.

Figure 8: Marginal effect of terrorist attack on preference for democracy, conditional on perceived regime type, across time frames of increasing length



Specification including no controls. Spikes represent 95% confidence intervals. Note that the sample size shrinks considerably with shorter time frames. Axis labels are omitted to facilitate legibility. The y-axis displays the marginal effect of terrorist attack on preference for democracy. The x-axis displays the perceived regime type from 1, "no democracy at all", to 4, "full democracy".

4 Discussion and Conclusion

Since many African democracies are rather young and in many places not consolidated, we want to conclude by discussing the presented evidence in the light of theories of democratization.

Conventional models of democratization and democratic consolidation describe democracy as a self-enforcing equilibrium of the power struggle of citizens against the elite (Locke, 1690; Barro, 1973; Ferejohn, 1986; Przeworski, 2005, 2006; Fearon, 2011; Acemoglu and Robinson, 2001, 2005). In Acemoglu and Robinson (2001), crudely summarized, elites choose either to make concession or to repress, the former leading to

democratization, the latter to elites seizing more power. Citizens can fight for democratization. When the threat of fighting is credible, elites are willing to make concessions to avoid costly revolt. However, [Acemoglu and Robinson](#), like most theorists modeling democratization on the macro level, assume all citizens homogeneously always prefer more democracy. There is a number of theoretical arguments explaining why the assumption that citizens always prefer democracy, especially in the African context, may be violated. This includes the fact that democracies merits are somewhat conditional on high per capita income ([Collier and Rohner, 2008](#)), concerns about ethnic voting and consequential conflict ([Easterly and Levine, 1997](#); [Montalvo and Reynal-Querol, 2005](#); [Esteban et al., 2012](#); [Burgess et al., 2015](#)) and potentially high transitioning costs.

[Acemoglu and Robinson](#)'s economic theory of political transitions implies that transitory productivity shocks create a window of opportunity for democratization. [Brückner and Ciccone \(2011\)](#) confirm this implication in their analysis of the effect rainfall shocks on democratization in several sub-Saharan African countries. The central aspect of the theory, documented by [Brückner and Ciccone \(2011\)](#), is that even though the shock is not economically lasting, the short term change in incentives triggers lasting political change. The original theory proposes as a mechanism the reduced opportunity cost of revolt or respectively increased credibility of threatening revolt. Under endogenous preferences other (simultaneous) mechanisms are conceivable. By allowing that citizens may not always prefer democracy, the credibility of threatening revolt also depends on the population share actually preferring democracy (in the spirit of [Inglehart and Welzel \(2005\)](#)). Therefore, when a shock impacts citizens' preferences, even without changing opportunity costs, the propensity to revolt is still affected by crowding in or out of supporters to the struggle for democracy. Terrorist attacks, compared to rainfall shocks, have little impact on economic expectations for the broader public (see appendix 11). Therefore, direct changes in intrinsic preferences serve as alternative mechanisms to the original opportunity cost mechanism. Changes in preferences ultimately produce the same implications of a democratic window of opportunity, arising from an adverse reaction to non-democracy. The larger the share of citizens willing to accept non-democratic institutions the less credible the threat of violent pushback, which is necessary for elites to commit to democracy. In the tug of war between citi-

zens and the elite the weight shifts away from the democratic ideal. Vice versa, more support for democracy would imply higher willingness to revolt, and the more credible the threat. According to the window of opportunity hypothesis, the regime would be forced to democratize in response to a positive shock to preference for democratize, while the regime could consolidate power in response to a negative shock.

The empirical analysis shows that negative exogenous shocks to the perception of the states ability to provide security, have a meaningful positive impact on citizens' preference for democracy. Against the conjecture that citizens become intimidated by the fear spread from terrorism and in turn become more willing to concede democratic freedoms, we find the opposite to be the case: On average citizens increase their preference for democracy after experiencing terror. An estimated 14% of those not preferring democracy change their opinion.¹⁵ The average result seems to be driven by and large by people who evaluate their present regime to be not democratic. This supports the theoretical argument that people change their preference against the background of the present political system in the opposite direction, only when the regime is perceived as non-democratic. Overall, and particularly for perceived democracy, we find no indications of the dreaded erosion of preference for democracy in response to attacks. If anything, analyzing ancillary outcomes weakly hints at pro-democratic change in preference in perceived democracies. Citizens power to hold leadership accountable in a democracy is a plausible mechanism for this result. Dissatisfaction with the leadership is internalized by democracy. Badly performing leaders can be voted out of office, which shrouds democracy itself from deteriorating support upon leaders failure. While in a non-democracy the difficulty to get rid of leadership increase the preference for democracy. In summary this is an optimistic outlook on support for democracy in the face of adversity.

¹⁵ Note that this is a net change, so more people could potentially change their preference but cancel each other out in the calculation if they do so in the opposite direction.

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Appendix A Tables

Table 6: Covariate coding

Covariate	Coding
Distance	Natural log of the distance between attack location and interview location + 1 in km
Day of week	Set of dummy variables indicating the day of the week of an interview, 0=Sunday,..., 6=Saturday
<i>Individual demographic and economic covariates</i>	
Age	Age in years
Gender	1 = male, 2= female
Education	0=No formal schooling, 1=Informal schooling only (including Koranic schooling), 2=Some primary schooling, 3=Primary school completed, 4=Intermediate school or Some secondary school / high school, 5=Secondary school / high school completed , 6=Post-secondary qualifications, other than university e.g. a diploma or degree from a polytechnic or college, 7=Some university, 8=University completed, 9=Post-graduate
Employment	0=No (not looking), 1=No (looking), 2=Yes, part time, 3= Yes, full time
Living condition	1=Very bad, 2=Fairly bad, 3=Neither good nor bad, 4=Fairly good, 5=Very good
Own condition vs. others	1=Much worse, 2=Worse, 3=Same, 4=Better, 5=Much better
Religion	1=Christian unspecified, 2=Roman Catholic, 3=Other specific Christian, 4=Muslim, 99=Other
Not enough food last year	0=Never, 1=Just once or twice, 2=Several times, 3=Many times, 4=Always
Not enough clean water last year	0=Never, 1=Just once or twice, 2=Several times, 3=Many times, 4=Always
No medical treatment last year	0=Never, 1=Just once or twice, 2=Several times, 3=Many times, 4=Always
No fuel to cook last year	0=Never, 1=Just once or twice, 2=Several times, 3=Many times, 4=Always
W.o. cash income last year	0=Never, 1=Just once or twice, 2=Several times, 3=Many times, 4=Always
Something was stolen last year	0=No, 1=Once, 2=Twice, 3=Three or more times
Own a radio	0=No (Don't own), 1=Yes (Do own)
Own TV	0=No (Don't own), 1=Yes (Do own)
<i>Enumerator characteristics</i>	
Age	Age in years
Gender	1=Male, 2=Female
Urban/rural	1=Rural, 2=Urban
Education	same coding as education of respondent

Coding of employment status slightly changed from round 4 to 5 from a 6 item scale to a 4 item scale. Coding prior to round 5: 0=No (not looking), 1=No (looking), 2=Yes, part time (not looking), 3=Yes, part time (looking), 4=Yes, full time (not looking), 5=Yes, full time (looking). Coding in round 5 and later: 0=No (not looking), 1=No (looking), 2=Yes, part time, 3= Yes, full time. Since the top 4 categories on the 6 item scale logically correspond to the top 2 categories of the 4 item scale we aggregate those to ensure comparability.

Table 7: Linear regression on democracy being the preferred form of government.

	(1)	(2)	(3)	(4)	(5)
	D	D	D	D	D
After attack	0.038** (0.016)	0.039** (0.015)	0.044*** (0.014)	0.045** (0.014)	0.045** (0.016)
<i>Controls added</i>					
Attack FE	✓	✓	✓	✓	✓
Distance, day of week		✓	✓	✓	✓
Demogr., econ.			✓	✓	✓
Subjective livelihood				✓	✓
Enum. demogr.					✓
Mean D	2.624	2.624	2.629	2.631	2.631
N	12,468	12,468	12,210	11,927	11,927

Standard errors in parentheses

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

OLS regressions with preference for democracy as dependent variable. The original three item coding of the dependent variable is maintained. All specifications include fixed effects at the attack level. Standard errors are robust and clustered at the attack level. The first column contains no covariates, only treatment and fixed effects. The second column features logarithmic distance between attack and interview and week day dummies. In the third column a set of demographic and economic covariates is added. In the fourth column enumerator demographics are added. Detailed information on the covariate sets and their coding can be found in Table 6.

Table 8: Linear regression on democracy being the preferred form of government

	(1)	(2)	(3)	(4)	(5)
	D	D	D	D	D
After attack	0.035*** (0.012)	0.034*** (0.013)	0.037*** (0.013)	0.038*** (0.013)	0.038*** (0.014)
<i>Controls added</i>					
Attack FE	✓	✓	✓	✓	✓
Distance, day of week		✓	✓	✓	✓
Demogr., econ.			✓	✓	✓
Subjective livelihood				✓	✓
Enum. demogr.					✓
Mean D	0.745	0.745	0.745	0.745	0.745
N	12,468	12,468	12,210	11,927	11,927

Standard errors in parentheses

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

OLS regressions with preference for democracy as dependent variable. Standard errors are computed to allow for arbitrary spatial correlation, following [Colella et al. \(2019\)](#) and [Colella et al. \(2020\)](#). The binary indicator $\mathbf{D} = 1$ if democracy is preferred and 0 otherwise. All specifications include fixed effects at the attack level. The first column contains no covariates, only treatment and fixed effects. The second column features logarithmic distance between attack and interview and week day dummies. In the third column a set of demographic and economic covariates is added. In the fourth column the questionable controls measuring subjective livelihood are included. In the last column enumerator demographics are added. Detailed information on the covariate sets and their coding can be found in [Table 6](#).

Table 9: Logistic regression on democracy being the preferred form of government.

	(1)	(2)	(3)	(4)	(5)	(6)
	D	D	D	D	D	$\widehat{\text{Pr}}(\text{D}=1)$
After attack	0.197*** (0.059)	0.192*** (0.060)	0.215*** (0.057)	0.219*** (0.059)	0.224*** (0.065)	0.041*** (0.012)
<i>Controls added</i>						
Attack FE	✓	✓	✓	✓	✓	✓
Distance, day of week		✓	✓	✓	✓	✓
Demogr., econ.			✓	✓	✓	✓
Subjective livelihood				✓	✓	✓
Enum. demogr.					✓	✓
Mean D	0.745	0.745	0.748	0.749	0.749	0.749
N	12,468	12,468	12,210	11,927	11,927	11,927

Standard errors in parentheses

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

Logistic regressions with preference for democracy as dependent variable. The binary indicator $\mathbf{D} = 1$ if democracy is preferred and 0 otherwise. All specifications include fixed effects at the attack level. Standard errors are robust and clustered at the attack level. The first column contains no covariates, only treatment and fixed effects. The second column features logarithmic distance between attack and interview and week day dummies. In the third column a set of demographic and economic covariates is added subjective well-being variables are omitted. In the fourth column subjective well-being question are added to the controls. In the fifth column enumerator demographics are added. The last column shows the marginal effects computed for the specification with full controls on the individual and enumerator level. Detailed information on the covariate sets and their coding can be found in Table 6.

Table 10: Multinomial logistic regression on democracy being the preferred form of government.

	(1) MFX	(2) MFX	(3) MFX	(4) MFX	(5) MFX
Pr(Does not matter)	-0.004 (0.009)	-0.006 (0.007)	-0.006 (0.007)	-0.008 (0.007)	-0.007 (0.008)
Pr(Sometimes just.)	-0.032*** (0.012)	-0.030** (0.012)	-0.030** (0.012)	-0.031*** (0.012)	-0.032*** (0.012)
Pr(Dem. preferred)	0.036*** (0.011)	0.036*** (0.011)	0.036*** (0.011)	0.039*** (0.011)	0.040*** (0.012)
<i>Controls added</i>					
Attack FE	✓	✓	✓	✓	✓
Distance, day of week		✓	✓	✓	✓
Demogr., econ.			✓	✓	✓
Subjective livelihood				✓	✓
Enum. demogr.					✓
<i>N</i>	12,468	12,468	12,468	11,927	11,927

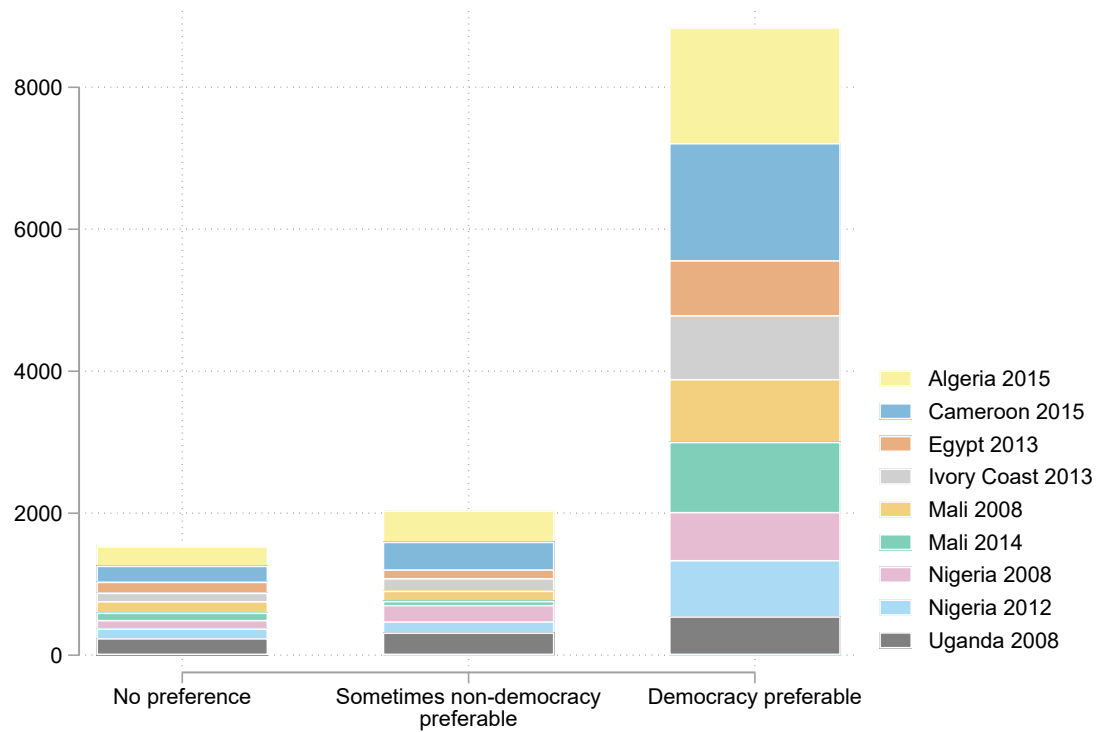
Standard errors in parentheses

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

Marginal effects from multinomial logistic regressions with preference for democracy as dependent variable. The original three item coding of the dependent variable is maintained. All specifications include fixed effects at the attack level. Standard errors are robust and clustered at the attack level. The first column contains no covariates, only treatment and fixed effects. The second column features logarithmic distance between attack and interview, and week day dummies. In the third column a set of demographic and economic covariates is added but subjective well-being variables are omitted. In the fourth column subjective well-being variables are added to the controls. In the fifth column enumerator demographics are added. Detailed information on the covariate sets and their coding can be found in Table 6.

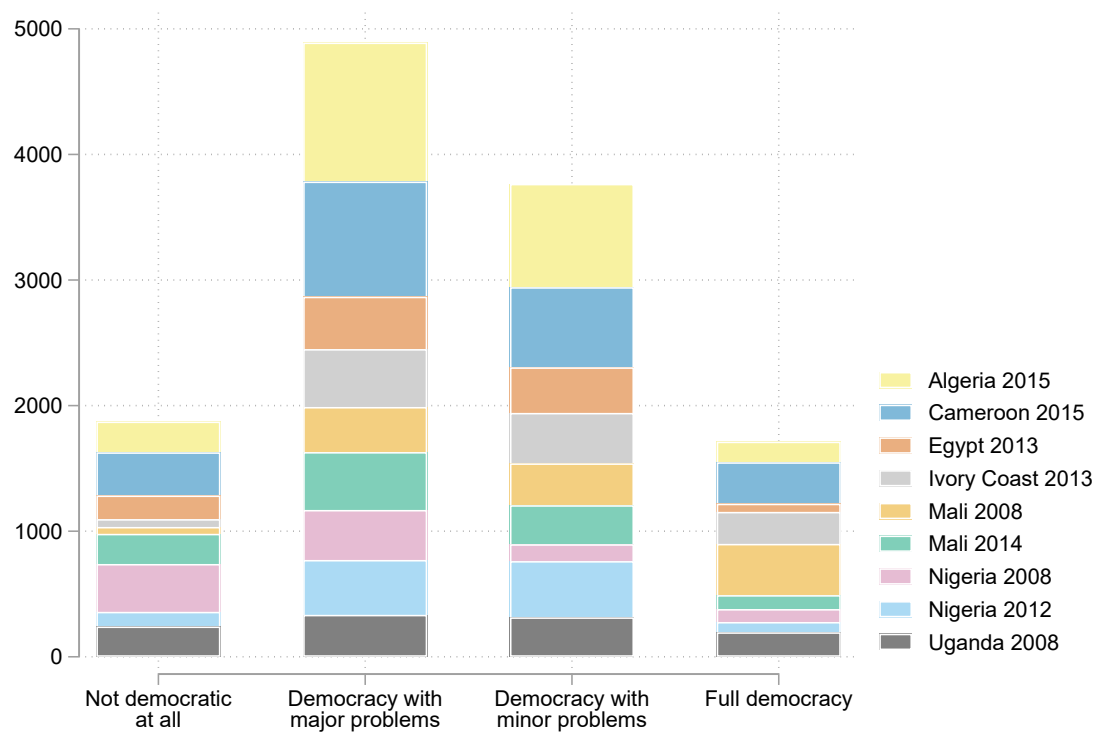
Appendix B Figures

Figure 9: Preference for democracy by country-year pair



The y-axis denotes the frequency of answers depicted on the x-axis.

Figure 10: Perceived condition of democracy of the own country by country-year pair



The y-axis denotes the frequency of answers depicted on the x-axis.

Figure 11: Time trend of preference for democracy in countries of the final sample

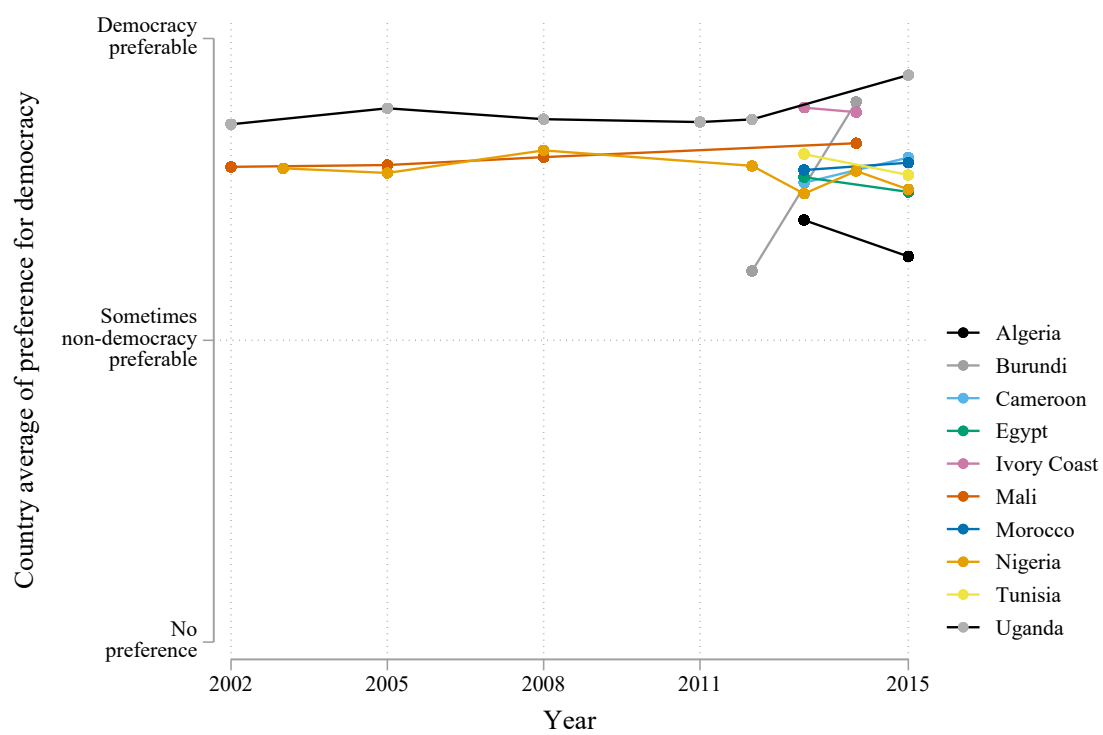


Figure 12: Time trend of the probabilities of reporting democracy being the preferred form of government in selected countries not part of the final sample

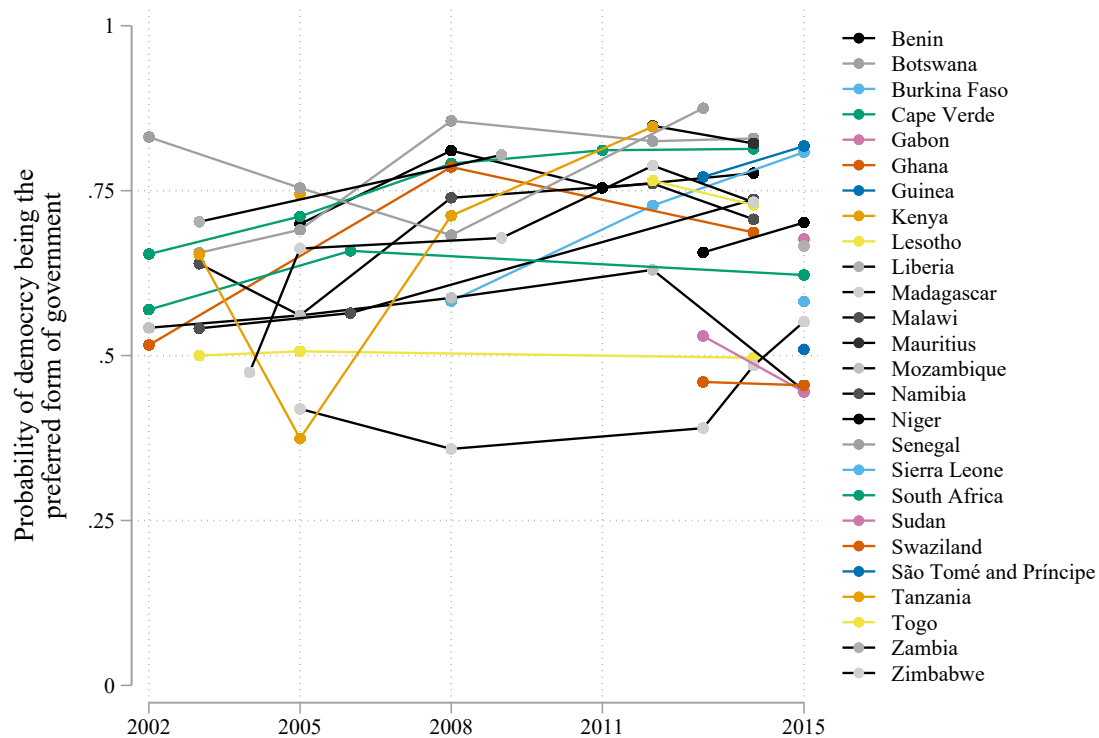


Figure 13: Marginal effect of terrorist attack on preference for democracy accounting for spatial confounding by a range of buffer zone radii. Specification controlling only for distance and day of the week. Spikes represent 95% confidence intervals.

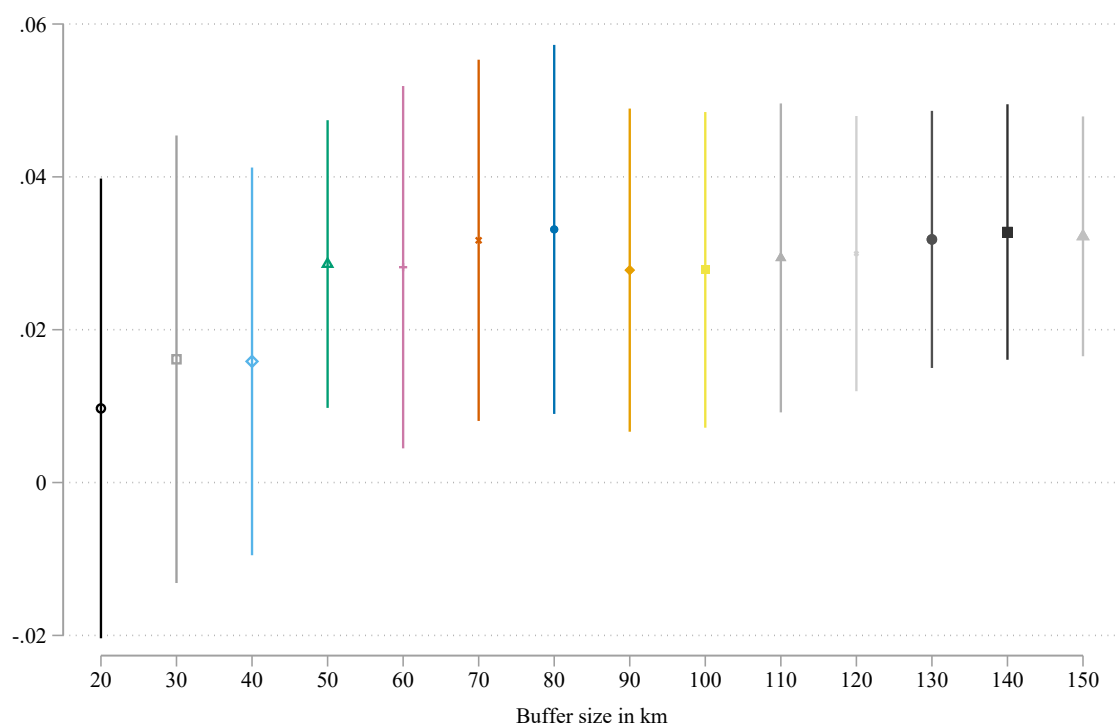


Figure 14: Marginal effect of terrorist attack on preference for democracy accounting for spatial confounding by a range of buffer zone radii. Specification including the full set of individual level control variables added. Spikes represent 95% confidence intervals.

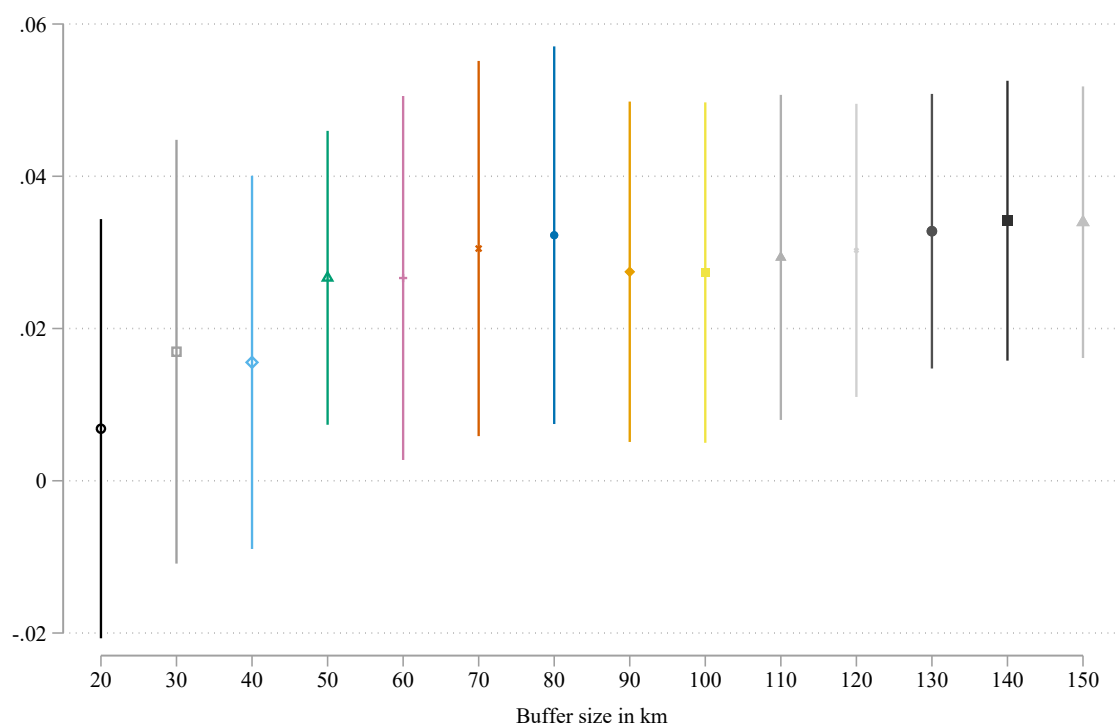


Figure 15: Marginal effect of terrorist attack on preference for democracy accounting for spatial confounding by a range of buffer zone radii. Specification including the full set of individual and enumerator control variables added. Spikes represent 95% confidence intervals.

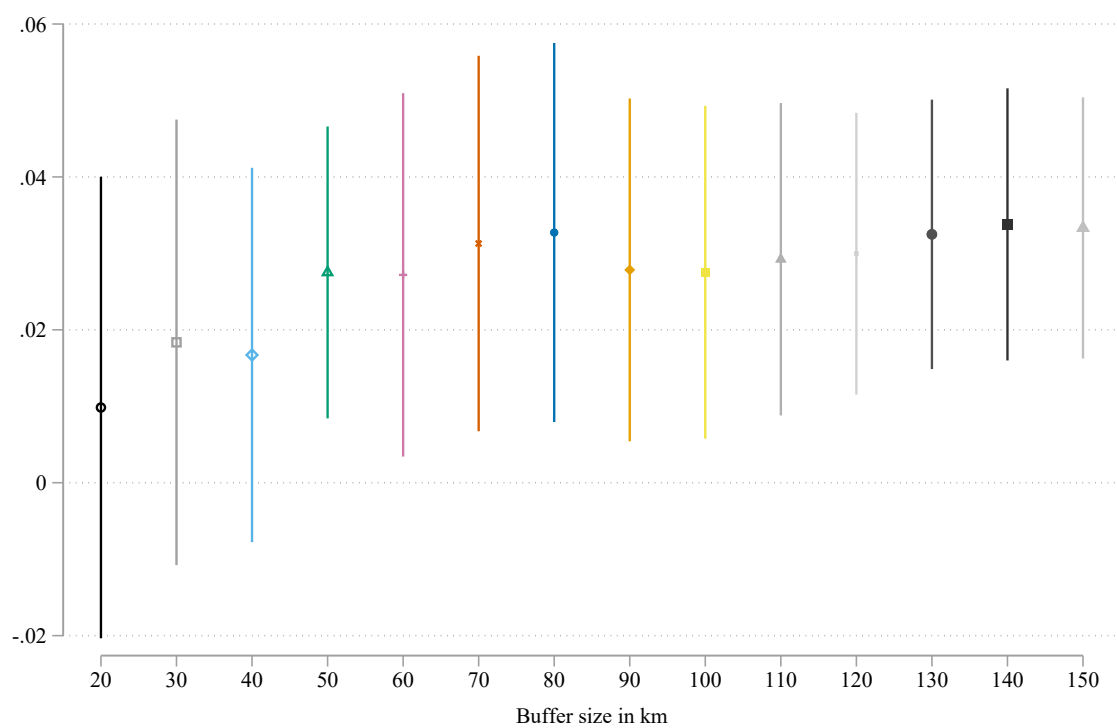


Figure 16: Marginal effect of terrorist attack on preference for democracy across time frames of increasing length. Specifications including the full set of controls. Spikes represent 95% confidence intervals.

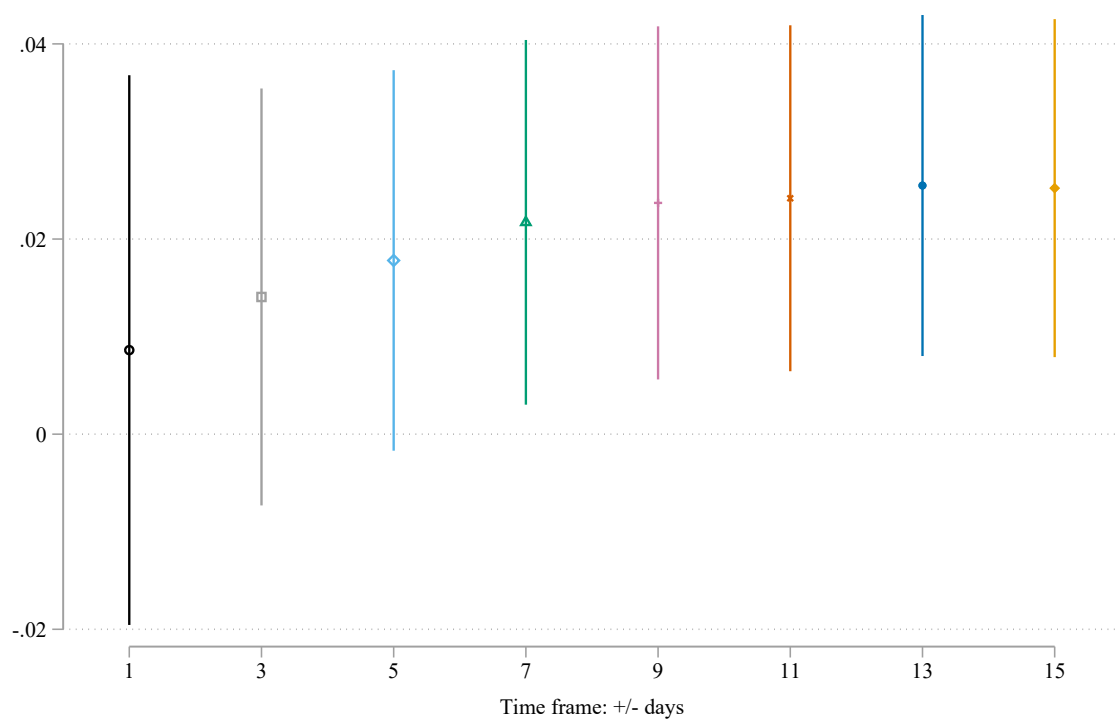
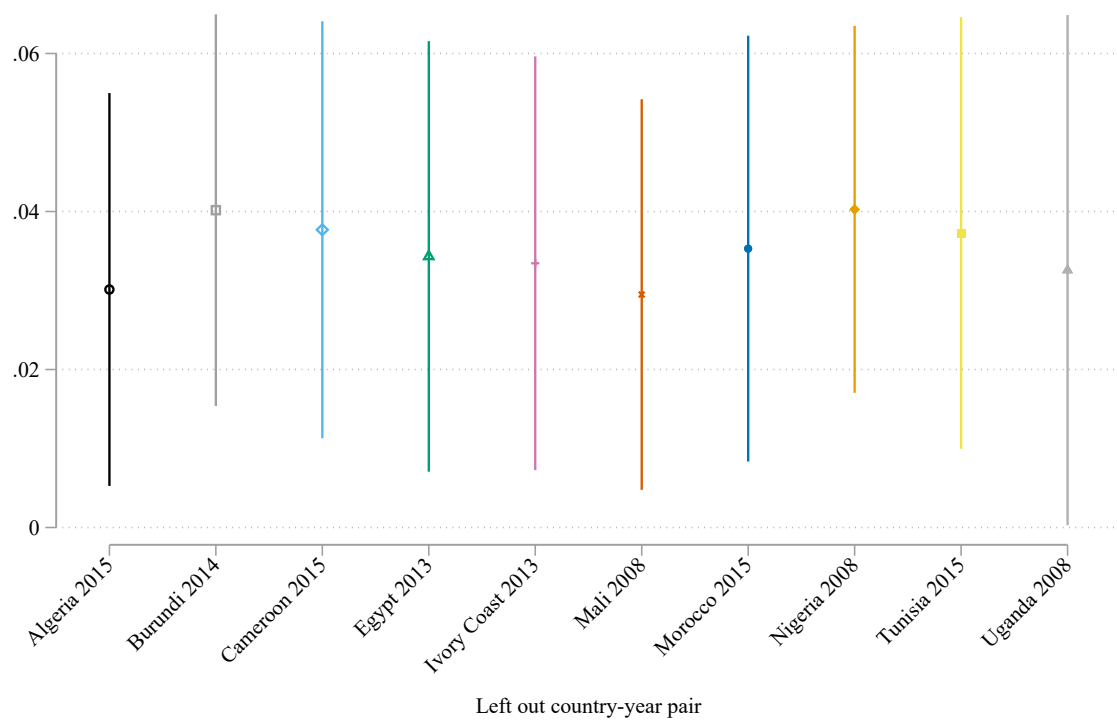


Figure 17: Marginal effect of terrorist attack on preference for democracy, while repeatedly leaving out one case.



Specifications include no additional controls. Spikes represent 95% confidence intervals. Labels on the x-axis denote omitted cases.

Appendix C Case descriptions

The 10 cases resulting from matching share the common denominator of being coded terror attacks in the GTD. This leaves wide scope for heterogeneity regarding the context of attacks and the quality of attacks themselves. In this section we briefly describe for each case the socio-political environment and specifics of the attack(s). Information stems in part from the GTD and AfB, supplemented with newspaper research using the Factiva portal filtering for reporting of the respective attacks. Regime type ratings are taken from the Polity5 project of the [Center for Systemic Peace \(2020\)](#).

Algeria 2015

Algeria in 2015 is a stable anocracy (polity2=2) with a president effectively held accountable by a small selectorate. Al Qaeda is relatively active in Algeria 2015, although considerably less than in the previous decade. In 2015 a total of 15 attacks were perpetrated. The closest in time before surveys started was on May 12th, a bit more than two weeks before the surveying started on May 28th. This raises mild concerns about control group contamination. The attack on June 4th was a roadside bombing killing a higher military. The attacks do not follow any temporal patterns and spread evenly throughout the year.

Burundi 2014

Politics in Burundi 2014 are still dominated by the peace process following the ethnic war between Hutu and Tutsi which ravaged the country over the 1993 to 2005 period. Since then the state hosts regular elections, but democratization stagnated (polity2 = 6). Corruption, favoritism and state repressions are widely reported. Terrorism is relatively infrequent in Burundi in 2014. The attack on October 5th involved a Hutu rebel group attacking a military outpost, where one perpetrator was killed.

Cameroon 2015

Cameroon in 2015 is an anocracy with authoritarian tendencies ($\text{polity2} = -4$). The state suffers from increased violent disruptions largely perpetrated by Boko Haram. Especially the Extreme North province bordering Nigeria suffers from high numbers of terror attacks. The multiple attacks between January 28th and February 8th are exemplary of the situation. Even though the 10 attacks resulted in a death toll of over 300 this was not out of the ordinary compared to prior or subsequent weeks. Therefore, the inclusion on Cameroon can be questioned. Arguably observations coded as untreated suffer from constant exposure to terrorism, where on average more than one attack happens per week. Still including Cameroon 2015 is conservative in that it will, if anything, attenuates any effects.

Egypt 2013

Egypt in 2013 is an anocracy dealing with an internal crisis ($\text{polity2} = -4$). The regime is rated more repressive compared to previous years, following the overthrow of longtime president Hosni Mubarak in 2011. At the time of the attacks of interest in early March Mohamed Morsi of the Islamist party Muslim Brotherhood was president. Morsi's election was questioned by many critics as tampered. Internal political tensions between Islamists and secularists are running high, violent clashes are frequent, many of them meeting the criteria to be categorized as terrorist attacks in the GDT. Only days before the survey period other attacks have happened. Similar to Cameroon exposure of the control group to terrorism raises concerns about attenuation. Moreover, the attack was perpetrated against military but neither of the perpetrators nor the attacked were reported dead or wounded.

Ivory Coast 2013

Even though Ivory Coast suffered from a civil war at the end of 2010 until early 2011, which is still being reprocessed and manifests in political tensions, the number of terror attacks is rather low with just 4 reports in 2013. On March 23rd unknown perpetrators

attacked and set ablaze a village in the region bordering Liberia, leaving two villagers dead. The regime is anocratic but leaning towards democracy (polity2=4).

Mali 2008

Mali in 2008 is democratic (polity2=7) but there exists an internal struggle with Tuareg rebels. Terrorist attacks happen from time to time but not at an uncommon frequency, there are 9 reports 2008. The attack on December 21 was perpetrated by Touareg rebels against Malinese military, killing 14.

Morocco 2015

Morocco is a constitutional monarchy since 2011 (polity2=-4). The attack of November 5th is a unique case. An actress was kidnapped and beaten up for playing the role of a prostitute in a film. The coding decision as terrorist attack here is somewhat questionable, as this seems more like a hate crime against women. Nevertheless, such a hate crime also interferes with democratic values not unlike a terrorist attack would. Therefore, we decide to keep it in the sample. Otherwise, Morocco rarely suffers from terrorist attacks and this was the only reported attack in 2015.

Nigeria 2008

Nigeria today is know for the extreme prevalence of terrorist attacks and the strong presence of terrorist, especially in the north of the country, where the sate maintains little to no control. In 2008, Boko Haram, the Islamist group which wreaks havoc since mid 2009 was not much active yet. Nevertheless, there are 76 entries of terrorist attacks in 2008. This number is dwarfed by contemporaneous numbers. In 2008 Nigeria was classified as an anocracy with democratic tendencies (polity2=4). During the interview period 4 attacks were perpetrated, including two rebel attacks on oil fields, and two kidnappings of foreign workers. Due to some other attacks happening even before the survey period one may be concerned about attenuation in this case.

Tunisia 2015

Tunisia is a democracy since 2014 (polity2=7). Paving the way was an uprising in 2011, overthrowing the one party regime under the Constitutional Democratic Rally (RCD). The attack on April 22nd was perpetrated by Jund al-Khilafah a North-African branch of the Islamic State against the Tunisian military, killing 1 soldier. A similar attack happened a week prior to AfB fieldwork again raising concerns of exposure of the treatment group to terrorism. However, unlike in Cameroon or Nigeria this did not happen in a context of constant "every day" terrorism. The frequency of terrorism in Tunisia is rather moderate at 19 cases in 2015.

Uganda 2008

Uganda is an anocracy in 2008 (polity2=-1). Terrorism is infrequent in Uganda, in 2008 7 attacks were recorded. Having data around terrorist attacks, where terrorism is rare makes this one of cases, where we expect to find a stronger reaction to the event. Two of the three attacks perpetrated during the survey were ambushes by Karamojong Warriors on public buses, reportedly killing 1 and severely injuring many passengers both times. Even though the perpetrators, attack types and death toll are the same, newspaper reports confirm that there were indeed two similar attacks, dismissing concerns about a double count in the GTD. The third incident, however, is entirely different and raises suspicion whether it qualifies as an act of terror. An Ethiopian woman was allegedly kidnapped by a Sudanese People's Liberation Army official, who later claimed the woman tried to poison him. The latter case is irrelevant for coding since it is the latest of the three and all observations after the first incident are considered as treated.

Appendix D Economic expectations

In order to address the alternative theoretical mechanism, how adverse shocks can impact democratization through citizens preferences, we show here the lack of evidence for economic expectations being different before and after terrorist attacks. This means

that in the cases analyzed, it is unlikely that the opportunity cost mechanism would be at work to support democratization.

Table 11: Linear regression of personal and general economic expectations for the next year

	(1)	(2)	(3)	(4)	(5)
<i>A: Personal economic expectations</i>					
After attack	-0.037 (0.052)	-0.017 (0.048)	-0.033 (0.042)	0.009 (0.041)	0.011 (0.043)
Mean dep. var.	3.588	3.588	3.583	3.574	3.574
N	6,938	6,938	6,785	6,630	6,630
<i>B: General economic expectations</i>					
After attack	-0.072 (0.053)	-0.046 (0.054)	-0.050 (0.050)	-0.008 (0.044)	-0.007 (0.045)
Mean dep. var.	3.389	3.389	3.386	3.381	3.381
N	11,950	11,950	11,704	11,477	11,477
<i>Controls added</i>					
Attack FE	✓	✓	✓	✓	✓
Distance, day of week		✓	✓	✓	✓
Demogr., econ.			✓	✓	✓
Subjective livelihood				✓	✓
Enum. demogr.					✓

Standard errors in parentheses

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

OLS regressions with personal economic expectations for the next year, panel A, and general expectations about the country's economy for the next year in panel B, as dependent variables. Note the different numbers of observations between panels arises because the outcome in panel A is only available for rounds 4 and 5. Control variables are added successively along the columns. Detailed information on the covariate sets and their coding can be found in Table 6. Estimation sample sizes differ due to the personal expectations question being not available in some rounds. Standard errors are clustered at the attack level.