

Autocracies and Terrorism: Conditioning Effects of Authoritarian Regime Type on Terrorist Attacks

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Although empirical research has generally demonstrated that democracies experience more terrorism than autocracies, research suggests that this depends upon complex institutional differences that go beyond the democracy-autocracy divide. This study examines these differences, linking institutions to strategies of coercion and co-optation. Using zero-inflated negative binomial regression estimations on Geddes' (2003) autocratic regime-type data for 161 countries between 1970 and 2006, we find that single-party authoritarian regimes consistently experience less domestic and international terrorism relative to military autocracies and democracies. This finding is robust to a large number of specifications, underscoring the explanatory power of regime type for predicting terrorism. Our explanation for these findings is that party-based autocracies have a wider range of coercion and co-optation strategies that they can employ to address grievance and dissent than do other, more strategically restricted, regimes.

The literature on terrorism considers regime type to be an important factor determining which countries experience higher levels of terrorist attacks. The overwhelming bulk of studies fixate on the relationship between democracy and terrorism, arguing that democratic institutions that provide for policy concessions and tolerate political opposition activity make terrorism more likely. Indeed, most empirical studies published in the past 15 years find that democratic regimes are more likely to contain terrorist movements and experience terrorist attacks (Blomberg and Rosendorff 2009; Braithwaite and Li 2007; Dreher and Fischer 2010; Eubank and Weinberg 1994, 1998, 2001; Lai 2007; Li and Schaub 2004; Pape 2003; Piazza 2007, 2008; Wade and Reiter 2007). However, democracies also facilitate greater participation, thereby promoting government accountability and integration of alternative political interests. The act of neutralizing political challengers from civil so-

ciety by incorporating them into legal and peaceful modes of political participation—a form of co-optation—can be expected to reduce the threat of terrorism (Crenshaw 1981; DeNardo 1985). Empirical analyses of democracies and terrorism demonstrate this effect (Eyerman 1998; Li 2005).

An assumption in this literature is that because autocratic regimes extend fewer rights and place fewer restrictions on administrative power, they are uniformly better at conducting counterterrorism efforts and therefore experience less terrorism than democracies.¹ The view that nondemocratic regimes are monolithic and that they rely exclusively upon repression, however, is under modification by authoritarianism scholars. Seemingly democratic institutions exist in some autocracies, which distinguishes them from other forms of authoritarianism (Gandhi 2008; Geddes 2003; Gleditsch and Ward 1997; Peceny, Beer, and Sanchez-Terry 2002; Pickering

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¹The term “autocracy” refers to a system of government in which political power over the activities of the state is highly concentrated and not subject to legal restraints nor regularized mechanisms of popular control (Gandhi 2008). Herein, we use the terms “authoritarian,” “dictatorship,” and “autocratic” interchangeably.

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and Kisangani 2010; Weeks 2008a, 2008b; Wright 2008). Scholars argue that party-based autocracies are as capable as democracies of generating audience costs, which affords them greater international credibility (Kinne and Marinov 2010; Weeks 2008a, 2008b). We argue that unpacking the residual category into which autocracies have traditionally been placed enables a more nuanced theory of terrorism risk by differentiating regimes according to capacities for coercion and co-optation.

In this article, we posit a more complex relationship between state capacity and terrorism. We recognize that leaders can pursue multiple strategies to maintain control over their populations, manage dissent, quell criticism, and preserve regime authority. *Ceteris paribus*, leaders who are faced with dissent can respond to the opposition with a mix of repression or co-optation. The extent to which either or both options are chosen, however, depends on existing institutions and domestic sources of support for the regime. A regime can be understood as a unique set of procedural institutions—formal or informal rules—that determine political access and are accepted by major political actors (Gasiorowski 1996; Kitschelt 1992; Munck 1996). The presence of multiple, independent veto players, regular elections, and often constitutionally mandated executive constraints prevents democracies from consistently using repression. In contrast, some forms of nondemocracy are prevented from co-opting opposition due to the absence of supportive institutions. Thus, differences in the presence and strength of institutions serve as indicators of the range of state capacity for dealing with terrorists. The diversity of regimes, which signals different co-optive and coercive options, explains differences in the incidence of terrorism across regimes.

In the next section, we outline the theory that leads us to the following expectation: the ability to maximize the range of responses to political conditions fostering terrorism—that is, the ability to select from a range of coercive and co-optive strategic responses rather than relying primarily on one or the other—determines the degree to which a country is likely to experience terrorist attacks. More precisely, party-based autocracies are less likely to experience terrorism than democracies and militarized or personalist autocracies. We present the hypotheses and execute empirical tests that confirm this expectation. We conduct zero-inflated negative binomial regression estimations on a database of 166 countries for the period from 1970 to 2006. To test the impact of regime type, we draw on a discrete dataset that contains information about democratic and autocratic regime types. The results strongly support our hypotheses: among autocratic regimes, party-based autocracies experience significantly fewer terrorist attacks than any other regimes. Military

regimes experience significantly more terrorism in comparison to other types of autocracies. Democracies are most likely to experience terrorism overall. Our findings are robust to a large number of alternative specifications.

In the absence of a valid indicator of the propensity of a state to use coercion or co-optation, regime type is a strong predictor of terrorism. The importance of this finding is that it goes beyond the democracy-autocracy divide and explains a great deal of the variation in observed rates of terrorism. We demonstrate that repression and concession are political strategies that must not be considered independently if one is to understand why terrorism occurs in some countries but not others. What is more, we assess the extent to which predictors of terrorism explain other forms of political violence, thereby contributing to the debate over whether terrorism is a distinct form of political violence. We conclude with a brief discussion of the scholastic importance of such findings and directions for future research on the subject. Our explanation for terrorist activity emphasizes the complex interaction of political institutions.

Theory

Terrorism poses a unique challenge to state security that is quite unlike those posed by armed civil conflicts or interstate wars.² It refers to the strategic use of violence by clandestine and relatively few nonstate actors to attract attention, convey a political message, or influence (Lacquer 1977; Ross 1993; Schmid and Jongman 1988). Terrorists are difficult to identify, do not have a fixed location, and are more indiscriminate in the application of violence (Jackson 2007; Lacquer 1977; Ross 1993; Sanchez-Cuenca and de la Calle 2009). Unlike rebel groups in a civil war or countries prosecuting interstate wars, terrorist movements are not focused on gaining and controlling territory or achieving a conventional battlefield victory, as they have relatively weak capacity to project force (Sanchez-Cuenca and de la Calle 2009). Because of this weakness, terrorism is a strategy employed by dissidents that makes use of asymmetrical threat advantages vis-à-vis the governments they oppose. The determinants of terrorism are thus likely to be different from the determinants of civil wars or interstate wars.³

²More precisely, Lacquer argues that “even if there existed a valid theory of political instability and civil violence . . . it would still be a long way from a theory of terrorism” (1977, 12).

³Theoretically, the regime-type effects examined in this study might also apply to other types of political violence. However, in

Terrorism's distinctive features—the strategic use of violence as a political message, civilian targeting, clandestine perpetrators, the inability to control territory, and asymmetrical threats—make it particularly sensitive to regime type. While a state's ability to respond to security threats posed by civil or interstate war is primarily determined by its capacity to mobilize and project physical force to defend its institutions, territory, and people, successful management of the threat of terrorism requires a mix of physical force and political and economic tools to monitor and channel dissent into behaviors that reinforce state control. Terrorism is a “faceless” form of political violence that requires disproportionate intelligence and some level of community sympathy or support—fueled by underlying grievances—in order to be effective (Crenshaw 1981; Ross 1993). State response to terrorism must therefore be a careful balance of coercive and non-coercive strategies aimed at gathering intelligence about the terrorists, securing the cooperation of citizens in areas where terrorists operate, and, where possible, channeling dissidence into behaviors and structures that can be controlled by the state.

There is some indirect empirical evidence for these assertions. Walsh and Piazza (2010) determined that states employing strategies that abuse physical integrity rights of citizens are more likely to be attacked by terrorists, suggesting the limitations of a coercion-only counterterrorism strategy. In their landmark empirical study of over 700 terrorist movements, Jones and Libicki (2008) determined that nearly half of all terminations of terrorist campaigns globally have involved bringing terrorists into a political process to air their grievances and to negotiate a settlement with the state; the remainder of terminations has involved either military defeat or factionalization. Empirical research by Li (2005) supports a more nuanced relationship between democracy and terrorism. He finds that constraints on executive power in democracies, which hampers the ability of officials to repress terrorist activity, boosts terrorism; political participation, which aids government ability to co-opt and manage extremism and dissent, reduces terrorism. These findings suggest that the capacity for a state to deploy multiple types of responses is important for explaining why some states are better at avoiding terrorism.

If the range of state response to terrorism—the “flexibility” to use both coercive state power to crush or disrupt terrorist movements and the capacity to co-opt would-be terrorists—is salient to explaining terrorism, it is crucial

to understand the regime types that have a wider range of counterterrorism strategies. We theorize that there are three categories of responses a state can pursue in the face of terrorism: (1) mobilize coercion or repression against terrorists and their supporters or sympathizers; (2) co-opt terrorists and their supporters or sympathizers; and (3) pursue a mix of both coercion and co-optation.

Coercion, or repression, involves the use of sanctions to impose a cost on an individual or a group to deter specific activities and beliefs (Davenport 2007; Goldstein 1978). Specific examples might include arrest and imprisonment, physical abuse, assassinations, curtailment of political participation or personal autonomy, surveillance, harassment, and threats. A consistent finding is that authorities generally employ some form of repression to counter or eliminate threats (Davenport 2007). Reported findings on the effects of repression on dissent are highly inconsistent, however (Choi 2008; Francisco 1996; Gupta and Venieris 1981; Gurr and Moore 1997; Hibbs 1973; Lichbach and Gurr 1981; Moore 1998; Muller 1985; Piazza and Walsh 2010; Rasler 1996; Walsh and Piazza 2010; Ziegenhagen 1986). On the one hand, repression can raise the costs of collective action by threatening livelihood or life itself, thereby preventing potential recruits from becoming terrorists. On the other hand, repression increases the ideological benefit of fighting against the state (Bueno de Mesquita et al. 2005). It also has a negative impact on the economy, making the opportunity cost of becoming a terrorist lower (Bueno de Mesquita et al. 2005; Siqueira and Sandler 2006).

Leaders can also use positive reinforcements to buy off or “co-opt” potential opposition. An extreme example of the former type is President Joseph Mobutu in the now Democratic Republic of Congo, who handed out cash in exchange for political support (Le Billon 2003). Leaders who need cooperation can simply purchase it with rewards, perks, and privileges (Gandhi and Przeworski 2006). Bueno de Mesquita et al. (2003) demonstrate that the size of the winning coalition relative to the electorate must be sufficiently large for the leader to choose to distribute goods publicly rather than privately. Below a certain threshold, it is more expedient to distribute rents to a select few to maintain office. On their own, however, rent-sharing systems are long-run inefficient and can retard economic growth (Bueno de Mesquita et al. 2006; Haber 2006). Thus, in addition to sharing material spoils, a leader can induce cooperation by providing policy concessions, which involves the creation of forums for negotiating oppositional demands (Acemoglu and Robinson 2005; Gandhi and Przeworski 2006).

Offering a space for limited deliberation and representation encourages potential oppositional groups to negotiate their interests within the legal boundaries of

robustness checks of our empirical model, we run alternate estimations using measures of civil war and interstate war as the dependent variable. The alternate estimations produce results that are different from our main models, suggesting regime type has a relatively unique effect on terrorism.

the state. The creation of institutions such as a legislature, political parties, and bureaucratic offices generates positions that elites and opposition members can be used to fill, which is another form of co-optation (Brownlee 2007; Gandhi 2008).⁴ Political office provides direct and indirect benefits to working with the regime for potential opposition members. In turn, their involvement helps to preserve the regime by forcing them to invest in it, so long as they value their positions and their “stake” in the game (Aksoy, Carter, and Wright 2012; Gandhi 2008). Deliberative organizations also neutralize potential opposition by affecting the costs of coordination. For example, a strong party can be used to co-opt by distributing benefits and offices to elites and regularizing uncertainty regarding their positions, keeping them in the fold (Cox 2009; Gandhi 2008; Haber 2006).

Perhaps more so than repression and rent sharing, co-optation is a complicated strategic response that entails a variety of institutions with potential feedback effects. A well-regulated election can signal regime strength to potential contenders, but it also helps to sow the seeds for collective action. Courts can help to legitimate the government by backing its decisions with judicial review, until the court garners enough strength to assert itself against the regime (Carrubba 2009). Legislative rules can make opponents dependent on coalitional support to pass laws; at the same time, it helps to solve coordination problems. Bureaucratic expansion can become unwieldy and sectarian, but it increases the portion of society that is directly dependent on the government and more firmly embeds the regime in society (Magaloni 2006). Notwithstanding the potential for negative consequences, the presence of domestic institutions—particularly parties and legislatures—is linked to regime survival and regeneration. They help to generate domestic economic resources, and they can provide a more efficient way to allocate rents and promote targeted spending (Escriba-Folch 2008; Gandhi and Przeworski 2006; Magaloni 2006; Svulik 2009; Wright 2008). To the extent that institutions help to make rulers seem more legitimate, thus encouraging the belief that existing institutions are appropriate, it increases citizen satisfaction and discourages elite defection and challenges (Lipset 1983).

Regime Type as a Signal of Coercion and Co-Optation

While both coercion and co-optation can be employed as counterterrorism strategies by regimes, we suspect that

⁴Haber (2006) refers to this type of co-optation as “organization proliferation.”

it is likely that neither is, in and of itself, sufficient for reducing the threat of terrorism. We test this suspicion by comparing political regimes that have different capacities to use coercive, co-optive, and combined responses to terrorism. As a latent trait, however, the propensity of a state to be coercive or co-optive is not easily identified.⁵ We argue that extant measures of coercion and co-optation are inadequate for explaining differences in the observed rate of terrorism across regimes. First, though coercion and co-optation are easy to describe, they are difficult to operationalize in a valid and reliable manner. Data on repression and co-optation are scarce (Davenport 2007; Gandhi and Przeworski 2006). Furthermore, indicators of state respect for human rights or measures of state monetary transfers to citizens might be positive correlates of coercion and co-optation, but they are only a small part of the conceptual totality of these two responses. That coercion and co-optation are difficult to measure with validity and reliability is an observation frequently made by scholars in the field and is, to our thinking, the reason why scholars opt to use regime type most frequently in related studies (see Fjelde 2010; Gandhi 2008; Gandhi and Przeworski 2006; Greene 2010).

Second, such indicators capture some *outcomes* of coercion and co-optation, but they do not measure the crucial concept of our theory: state *capacity* to use either response or both. The observed use of co-optation and coercion may positively predict terrorism, insofar as leaders take action when there is a threat. Data on observed coercion and co-optation, however, would not show the capacity for either to prevent terrorism before it occurred. Third, attempts to construct a comprehensive measure of the mix of the capacity to deploy coercion and co-optation by regime—should consensus be found among scholars about its validity and reliability—are likely to be endogenous to regime type itself, thereby complicating analysis and interpretation of results.

Barring the use of extant measures of co-optation and coercion to test our expectations about states’ latent propensities to prevent terrorism, our solution is to use regime type to test the effects of the two responses. We assert that strategic capacity is distinguishable along the basis of regime type, which differs with regard to coercive and co-optive institutions (Fjelde 2010; Gandhi 2008; Geddes 2003; Gurses and Mason 2011; Weeks 2008; Wright 2008). Using regime type is a common practice among those who have sought to differentiate on the basis of co-optation and coercion (Fjelde 2010; Gandhi 2008; Gandhi and Przeworski 2006; Greene 2010). Absent

⁵It does not lend itself to direct measurement via, for example, an index measure.

the ability to predict terrorism rates based on the *observation* of coercion and co-optation, we can distinguish among regimes according to their institutional capacities for both strategies. Regime type—understood as particular institutional configurations—is a suitable proxy for the leaders' strategic response to oppositional threats and serves as an instrument for the range of counterterrorism options that are available. Whether strategic responses occur due to *ex ante* expectations of remaining in office—or they have the *ex post* effect of changing the incentives for violent opposition—the prospects for coercion and co-optation provided by regime type should bear out our predictions regarding rates of terrorism.

We focus our examination on three main types of political regimes: two which rely mostly on coercion *or* co-optation as strategies to confront political dissent that can produce terrorism and one which we argue has the capacity to use both. We expect democratic regimes to rely most heavily upon co-optation as a strategy to confront the threat of terrorism. As we mentioned previously, this is because most democracies are limited in their ability to rely heavily upon coercion—relative to most autocracies—due to constitutional limitations on the use of executive power and guarantees of civil rights, political rights, human rights, and rights of the accused of their citizens (see Schmid 1992; Wade and Reiter 2007). All in all, civil rights protections and executive branch constraints that are *sine qua non* to democratic regimes make them *worse* at countering terrorism. This assumption is undergirded by Li's (2005) finding that countries with higher levels of executive constraints experience more frequent terrorist attacks. Thus, one expectation is that democracies are more vulnerable to terrorist attacks because they have a heightened capacity for co-optation but limited capacity for coercion:

H1: Democratic regimes are more likely to experience terrorism.

Consistent with the efforts of previous empirical studies such as Eubank and Weinberg (1994, 1998, 2001) and Pape (2003), we expect to find confirmatory results that democratic rule is a positive predictor of terrorism. This is because democracies are *mostly*⁶ limited to co-optation strategies, such as widening political participation, to deal with terrorism and are much more institutionally constrained from employing serious coercion. The institutionalized protections under democracy mean that whether or not it is observed, reliance on coercion to

quell popular dissent is a limited strategy. The mechanism should be different for democracies compared to party-based autocracies.

In contrast, the widespread use of repression in authoritarian regimes has mixed effects on the probability of observing terrorism. There are numerous studies which argue that the sensitivity of military regimes to domestic conflict arises out of bargaining problems within elites (Geddes 1999; Ulfelder 2005). This is in part because military regimes are less capable of co-opting opponents by distributing party-based benefits; military regimes are also dependent upon a strict, cohesive hierarchy (Geddes 2003). The threat of conflict from within military regimes has the effect of producing shallow institutions. Coupled with their responsibility for national defense, military regimes are also more likely to resort to arms as a means of rule. We therefore expect to find that military autocracies experience significantly more terrorism because they too are limited—to coercion—in the strategies they can employ to quell potential terrorism. Military regimes not associated with parties and a working legislature lack crucial elements of nonmaterial co-optation, stressing both the budget and the breaking point (Nordlinger 1977):

H2: Military regimes are more likely to experience terrorism.

Co-optation and coercion need not be thought of as mutually exclusive strategies, however—rather, differences in the use of *both* options to secure rule differentiate party-based authoritarian regimes and explain the lower incidence of terrorism. Regimes that maintain power through the partial or controlled use of seemingly democratic institutions, such as legislatures, parties, and courts, should be associated with a wider range of options for dealing with terrorism and should have fewer observed incidents. Compared to those regimes tied by civil liberties or the lack of civil administration, single-party autocracies are better able to employ both coercion and co-optation as strategies. Undergirded by authoritative capacity and bureaucratic support, these types of regimes should be best able to respond to the threat of terrorism, thereby experiencing significantly fewer terrorist attacks:

H3: Single-party regimes are less likely to experience terrorism.

The uniqueness of party-based authoritarianism predicts a number of political outcomes. Authoritarian regimes that use seemingly democratic institutions fare better than those without. Leaders in party-based regimes, as opposed to military regimes or personalist regimes, are more likely to leave office regularly and without violence (Debs and Goemans 2010; Weeks 2008a, 2008b; Wright

⁶Though, Abrahms (2007) and Rejali (2009) observe that democracies can and do react to external threats like terrorism with various uses of repression, particularly in the short term.

and Escriba-Folch 2012). They are less likely to face international challenges and more likely to attract investment (Weeks 2008a, 2008b; Wright 2008). They show longer periods of rule (Debs 2010; Debs and Goemans 2010; Gandhi 2008; Gandhi and Lust-Okar 2009; Greene 2010; Levitsky and Way 2002), and they experience lower levels of domestic conflict (Fjelde 2010; Gurses and Mason 2011). To this end, party-based autocracies should be less likely to experience terrorism.

Research Design

The dependent variable is a country-year raw count of domestic terrorist incidents that occurred within a country's geographic boundaries, due in part to data formatting. Such data come from the Global Terrorism Database (GTD), a database collected and maintained under the auspices of the START Center (Center for the Study of Terrorism and Responses to Terrorism) at the University of Maryland (see Enders, Sandler, and Gaibullov 2011).⁷ The data cover 161 countries for the period from 1970 to 2006. We theorize that regime type is most likely to impact domestic incidents of terrorism, but robustness checks published in the appendix produce comparable results for counts of all—domestic and transnational—terrorism. Despite the limitations of using longitudinal analysis, we see significant temporal variation in both the dependent variable and in key independent variables. We thus avoid information loss that would occur from a cross-sectional analysis only.

Because of overdispersion in the distribution of the dependent variable across observations—because the counts of attacks within more than one observation are not, in theory, independent of one another and because the dependent variable cannot have negative values—we use a negative binomial estimation rather than a Poisson or Ordinary Least Squares test (Brandt et al. 2000; Cameron and Trivedi 1998; King 1988). Also, because the dependent variable takes a lot of zero values across observations, and because in theory there could be two types of zero values for the dependent variable, we used zero-inflated negative binomial estimations. Our theory suggests that the excess zeros are generated by a separate process from the count values, for which they ought to be modeled independently (Drakos and Gofas 2006). Among other reasons why a country might not experience a terrorist attack in a given year, we argue that regime

type determines whether terrorism occurs at all. Thus, the zero-inflated model is interpreted as a combination of two processes. The model first predicts whether terrorism occurs, which is binary. Where terrorism occurred, the model predicts the number of terrorist attacks with a count model. Vuong tests and other diagnostics confirm the appropriateness of a zero-inflated estimation strategy (Vuong 1989). We duplicate the model using the less efficient negative binomial estimation strategy and find these to be consistent with our main findings.

Independent Variables

The main independent variables that we use are dichotomous measures of political regime types. We suspect that regimes that are able to employ only, or mostly, coercion—such as military autocracies—or only, or mostly, co-option—such as democracies—are likely to be less efficient in quelling or managing popular grievances and will therefore be prone to experiencing higher levels of terrorist activity. We also suspect that regimes that are free to employ both coercion and co-option as tools to address active or potential dissent—such as party-based autocracies—are most efficient in responding to popular grievances and are likely to experience lower levels of terrorism.

To account for democracy, we use a dummy variable that comes from Cheibub, Gandhi, and Vreeland (2010). In building on the Democracy-Dictatorship (DD) data, Cheibub, Gandhi, and Vreeland (2010) adopted Przeworski's (1991) definition of democracy. They characterized democracies as contested elections which occur at regular intervals, the outcome of which is not known beforehand and the winner of which actually assumes office. The authors relied on four rules: (1) the executive must be chosen by a popular election; (2) the legislature must also be popularly elected; (3) more than one party must compete in the election; and (4) alternation in power under electoral rules must occur (Cheibub, Gandhi, and Vreeland 2010, 69). To meet the *repeatability* rule, the emergent leader must be replaced by the same rules through which he or she came to office. We prefer Przeworski's (1991) criteria for democracy because they satisfy a procedural minimum but establish regularity of elections; they also ensure that both the executive and legislative offices exist and are popularly chosen. Of the regimes that satisfy the four criteria for a democracy, Cheibub, Gandhi, and Vreeland (2010) distinguished between presidential, mixed, and parliamentary democracies.

We also relied on a dataset of discrete regime types to differentiate among authoritarian regimes. By pointing to

⁷For access to the GTD data and codebook, visit <http://www.start.umd.edu/gtd/>.

some of the limitations of using a continuous, unidimensional score to characterize regimes, Gleditsch and Ward (1997) and Vreeland (2008) highlight the importance of differentiating authoritarian regimes into distinct types. Best research practice requires one to clearly specify the theoretical story and then choose accordingly among data sources, for which we use Geddes (2003; see Wilson 2014). Geddes (2003) proposed a discrete classification based on an assumption that autocratic leaders have different incentive structures. Military regimes were defined as those governed by a past or present serviceman, backed by the military, and complemented by the influence of high-level officers. In contrast, single-party regimes contain a dominant party which controls access to power and jobs and which embeds itself in local politics. Geddes (2003) characterized personalist leaders as those without strong organizational support. The questions by which Geddes classified regime types can be found in Appendix A of *Paradigms and Sandcastles* (2003).

Wright (2008) extended Geddes' data to 1946–2002 and also included monarchies, regimes lasting fewer than four years, and prior Soviet-era countries (123 countries in all). We created dummy variables that correspond to the regime types in these two datasets. The Geddes (2003) coding of authoritarian regimes does not easily lend itself to exclusive categories—as such, we identified *Personalist Dictatorships*, *Monarchies*, and regimes that represent an especially anomalous mixture of single-party, military, and personalist features (*Single-Party-Military-Personalist Dictatorships*). Of the remaining cases, we noted the presence of a party, thereby separating party-based regimes and party-based hybrids from militarist regimes.

Figure 1 shows the breakdown of regimes and terrorist incidents as a percent of yearly totals by year. Solid lines show the global prevalence—measured as a percent—of each regime type by year. The dashed trend line shows the percent share of total terrorist attacks—globally—sustained by the regime type on an annual basis. Where the trend line of the share of terrorist attacks exceeds the solid line measuring prevalence of the regime type, we conclude that that type of regime experiences a disproportionate share of terrorism. For nearly the entire span of our data, democracies are the most common regime type, as defined by Cheibub, Gandhi, and Vreeland (2010). Among autocracies, party-based regimes are most common, followed by personalist and military regimes. All forms of authoritarianism have declined over the period from 1970 to 2006, although party-based authoritarianism has declined at the fastest rate. Major fluctuations in regime type can be seen in the increase of militarism in the early 1980s and the sharp decrease in electoral author-

itarianism in the early 1990s. An example of the former is Brazil, while the latter trend is exemplified by Mali. The number of democracies increased most rapidly between 1980 and 1995. Overwhelmingly, democracies incur the bulk of annual terrorist attacks. Party-based regimes experienced a major wave of terrorist attacks in the early 1980s, while military dictatorships experienced waves of terrorist attacks in the mid-1980s and late 1990s. Clearly, the confidence of our predictions can be expected to vary over time. In recent decades, however, party-based autocracies have experienced levels of terrorism that are disproportionately lower than democracies and military regimes, given their prevalence in the world.

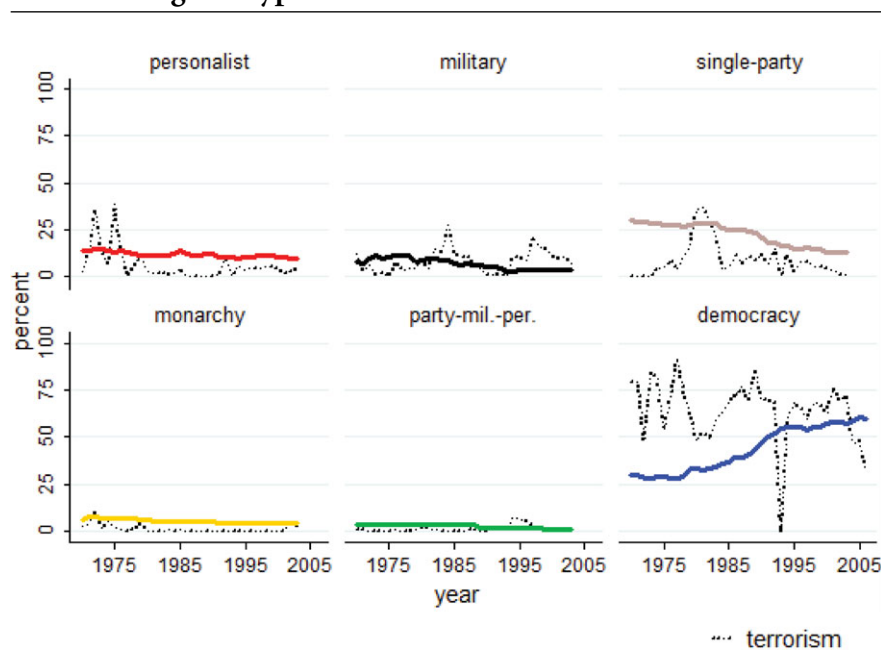
The work of Aksoy, Carter, and Wright (2012) provides an alternative way of theorizing about variation in terrorism levels by focusing on institutional design rather than regime type. They argue that oppositional party activity lowers the costs of collective action for regime opponents but that elected legislatures channel their capacity into government support. Terrorism is more likely when opposition parties operate in the absence of legislatures. Notwithstanding, cross-tabulations of regime type and these institutions show that a higher proportion of party-based regimes contains *de facto* and *de jure* parties in the presence *or* absence of an elected legislature. This suggests that there may be other characteristics associated with regime type that explain rates of terrorism; thus, we argue that regime type remains a viable proxy for co-optation and coercion as counterterrorism strategies.

There are several other ways that the expected relationship between regime type and terrorism would be null or in the opposite direction. For example, the institutions that we identified may not actually perform their suspected roles in reducing terrorism. It could also be true that inconsistency in one's reliance on options within a wider choice set ultimately leads to failure. Furthermore, the argument could be made that increasing state capacity encourages higher rates of terrorism as a backlash to culling conditions that are conducive to terrorism. These arguments suggest that the relationship between institutions and terrorism is either insignificant or positive, engendering null hypotheses against which we can test our expectations.

Control Variables

Alongside our main independent variables, we included a set of controls that are standard to other country-year, cross-sectional time-series studies of terrorism (see, for example, Choi 2008; Choi and Piazza 2011; Li 2005). To control for a country's level of economic

FIGURE 1 Percent of Terrorism Incidents and Total Regimes, by Regime Type



development, we include the natural log of gross national income per capita. We expect this to be a positive predictor of terrorism, given similar findings by Blomberg and Hess (2008) and Piazza (2011). Although it is intuitive that economic development might serve as a panacea for the grievances that prompt terrorism, Ross (1993) theorizes that wealthy countries are actually more likely to experience terrorist attacks because they are target-rich and have well-developed mass media that allow terrorists greater chances to publicize their activities. We also control for state population and area using their natural logs; previous studies found that geographically large and populous countries experience more terrorism because they have higher policing costs (Li 2005).

Li (2005) also found countries with an unequal distribution of income—as well as countries with younger regimes—to be more prone to terrorism. We therefore included as covariates the Gini coefficient for each country and the durability score from Polity IV. Piazza (2007) found that states suffering from state failures—instabilities that make a country more likely to fail or collapse—are more likely to experience terrorism. To account for state failure, we included an aggregated measure of the four state failure indicators from the Political Instability Task Force. To account for terrorism emerging concurrently with other forms of political violence, we control for international and domestic conflicts reported in the UCDP dataset (2009). Finally, because Li (2005) found that terrorist activity was more prevalent during

the Cold War period, we also included a dummy variable coded “1” for the years 1970 to 1991. Table 1 presents the summary statistics for all variables included in our analysis. A “missingness” map, which was created using the Amelia package in R, is available in the online supporting information and provides visual information about the extent of missingness in our data by variable. Table 3 in the supporting information lists number of observations and temporal domains for each country.

Results

Table 2 presents the results of our analyses. A positive coefficient indicates that a variable increases the value of the outcome, and a negative coefficient indicates a negative effect. In the inflated model, the coefficient is the change in the log-odds of having no terrorism; in the count model, the coefficient is expressed as the change in the expected count of terrorist attacks. In Table 2, the same model is presented with three different reference categories to facilitate comparison across regime types. The first model compares all regimes to military dictatorships, the second model compares them to party-based autocracies, and the third compares autocratic regime types to democracies.

As it regards the probability of experiencing no terrorist attacks, compared to military regimes and democracies, party-based autocracies are significantly more likely

TABLE 1 Summary Statistics

Variable	Obs.	Mean	St. Dev.	Min	Max
GTD	5390	12.687	47.993	0	817
Domestic GTD	5424	7.951	34.269	0	524
GNI, ln	5389	7.247	1.617	3.693	14.149
Population, ln	5389	1.864	1.751	-2.813	7.181
Area, ln	5426	11.892	2.207	5.704	16.648
GINI	5391	43.690	8.727	17.8	84.8
Durable (Polity IV)	5391	22.598	28.139	0	197
State failure	5388	0.575	1.619	0	13.5
Cold War dummy	5426	0.532	0.499	0	1
Interstate conflict	7638	0.120	0.560	0	3
Domestic conflict	7638	0.252	0.726	0	3
Personalist regime	7844	0.121	0.327	0	1
Military regime	7844	0.061	0.239	0	1
Party regime	7844	0.227	0.419	0	1
Monarchy	7844	0.060	0.238	0	1
Party-military-personal regime	7844	0.024	0.152	0	1
Democracy	8955	0.444	0.497	0	1

to have no terrorism in a given year. This relationship is confirmed true below a 0.01 probability of error. Compared to democracies, the odds for party-based autocracies not experiencing a terrorist attack are roughly 6.5 to 1. Compared to military regimes, the odds are roughly 2.8 to 1. Personalist dictatorships are also more likely than democracies to experience *no* terrorism in a given year (i.e., to be in the “certain-zero group”). Monarchies and mixed regimes (those that Geddes codes as single-party-military-personalist) are also less likely than military regimes to experience zero attacks. Party-based autocracies are most likely to have no terrorist attacks.

Of those that do experience terrorist attacks, democracies are expected to experience a higher number of terrorist attacks than party-based autocracies. They are not statistically distinguishable, however, from military regimes in the number of expected terrorist attacks. Military regimes are also likely to experience a significantly higher number of terrorist attacks than party-based autocracies. Notably, personalist regimes are not distinguishable from party-based autocracies in the expected number of terrorist attacks. Monarchies and mixed regimes are also likely to experience significantly lower rates of terrorism than other regimes.

In addition to regime type as our main explanatory variable, we controlled for income, population, size, income inequality, regime duration, state failure, Cold War effects, and other forms of political violence. As would be expected, the rate of domestic terrorism is positively

related to prior levels. Increasing income positively predicts terrorism, as does income inequality. Countries with a larger population are not less likely to experience terrorism, but they are associated with a significantly higher number of terrorist attacks. Larger countries are more likely to experience terrorism, but at lower levels. The coefficients on state failure and regime durability are complementary—over time, regimes are less likely to experience terrorism and can be expected to have lower levels of terrorism. The Cold War also had an effect on terrorism incidence, as countries were less likely to experience domestic terrorism during this period, but if so, they were likely to incur a higher number of attacks. Countries are also likely to see a rise in domestic terrorist attacks during war, whether the conflict is domestic or international.

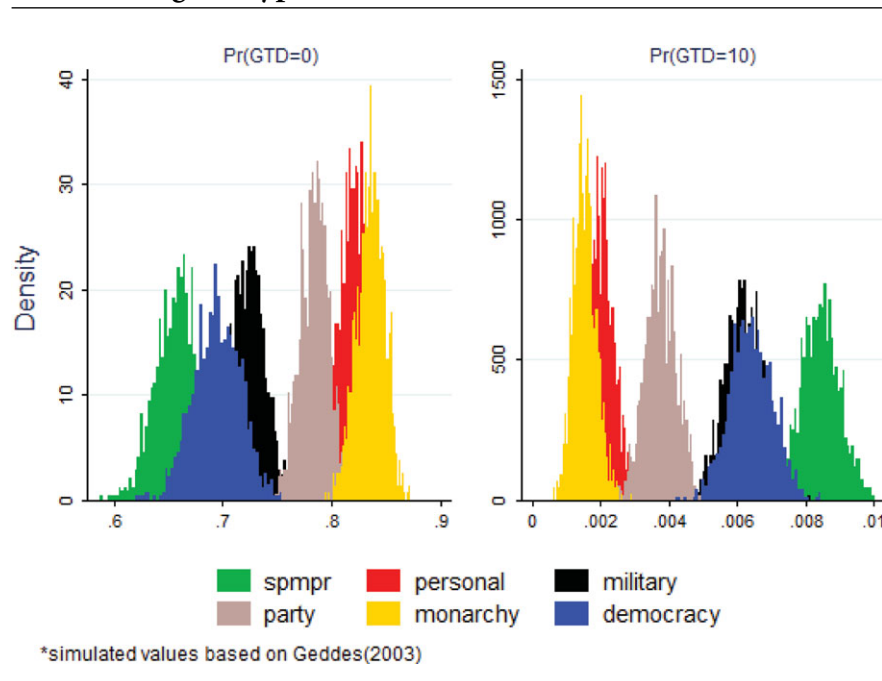
Based on the parameters of the model in Table 2, we simulated 1,000 draws for varying levels of terrorism. This was accomplished using the Clarify program in Stata (King, Tomz, and Wittenberg 2000). We ran simulations for values of 1, 5, 10, 25, and 50 terrorist attacks, holding control variables at their mean for each regime type. Estimating the parameters in this way produces simulations not based on the overall sample means but on average values that are meaningful for each regime type. That is, the predicted number of terrorist attacks for a party-based authoritarian regime is calculated solely based on average values for party-based authoritarian regimes. Figure 2 shows how the predicted number of terrorist

TABLE 2 Zero-Inflated Negative Binomial Regression: Regime Type and Domestic Terrorism Incidents, 1970–2006

	Binary Models: <i>Prob. of zero attacks</i>			Count Models: <i>Number of attacks</i>		
	1	2	3	1	2	3
Democracy	−0.837** (0.415)	−1.876*** (0.347)		−0.203 (0.152)	0.241* (0.126)	
Personalist	0.326 (0.407)	−0.713** (0.354)	1.164*** (0.435)	−0.458** (0.184)	−0.014 (0.164)	−0.255* (0.141)
Military		−1.039*** (0.334)	0.837** (0.415)		0.444** (0.174)	0.203 (0.152)
Party-based	1.039*** (0.334)		1.876*** (0.347)	−0.444** (0.174)		−0.241* (0.126)
Monarchy	−0.762 (0.794)	−1.801** (0.764)	0.076 (0.792)	−1.379*** (0.216)	−0.935*** (0.198)	−1.176*** (0.173)
Party-mil.-per. hybrid	−0.622 (0.669)	−1.661*** (0.633)	0.215 (0.668)	−0.828*** (0.244)	−0.384* (0.227)	−0.625*** (0.212)
GNI, ln	−1.514*** (0.228)	−1.514*** (0.228)	−1.514*** (0.228)	0.115*** (0.039)	0.115*** (0.039)	0.115*** (0.039)
Population, ln	−0.150 (0.152)	−0.150 (0.152)	−0.150 (0.152)	0.735*** (0.045)	0.735*** (0.045)	0.735*** (0.045)
Area, ln	−0.345*** (0.126)	−0.345*** (0.126)	−0.345*** (0.126)	−0.220*** (0.036)	−0.220*** (0.036)	−0.220*** (0.036)
GINI	−0.084*** (0.022)	−0.084*** (0.022)	−0.084*** (0.022)	0.027*** (0.006)	0.027*** (0.006)	0.027*** (0.006)
Durable (Polity IV)	0.020*** (0.005)	0.020*** (0.005)	0.020*** (0.005)	−0.006*** (0.001)	−0.006*** (0.001)	−0.006*** (0.001)
State failure	−0.554*** (0.182)	−0.554*** (0.182)	−0.554*** (0.182)	0.119*** (0.027)	0.119*** (0.027)	0.119*** (0.027)
Cold War dummy	2.206*** (0.578)	2.206*** (0.578)	2.206*** (0.578)	0.408*** (0.081)	0.408*** (0.081)	0.408*** (0.081)
Interstate conflict	0.096 (0.216)	0.096 (0.216)	0.096 (0.216)	0.159* (0.071)	0.159* (0.071)	0.159* (0.071)
Domestic conflict	−2.246*** (0.676)	−2.246*** (0.676)	−2.246*** (0.676)	0.246*** (0.047)	0.246*** (0.047)	0.246*** (0.047)
Intercept	15.918*** (2.231)	16.957*** (2.191)	15.081*** (2.153)	0.023 (0.002)	0.023*** (0.002)	0.023*** (0.002)
alpha, ln	1.247*** (0.045)	1.247*** (0.045)	1.247 (0.045)	1.247*** (0.045)	1.247*** (0.045)	1.247 (0.045)
alpha	3.481 (0.158)	3.481 (0.158)	3.481 (0.158)	3.481 (0.158)	3.481 (0.158)	3.481 (0.158)
Observations	4485	4485	4485	4485	4485	4485
Reference	military	party	democracy	military	party	democracy

Note: Standard errors in parentheses. ***p > 0.01, **p > 0.05, *p > 0.1.

FIGURE 2 Simulated Values for Zero and Ten Terrorist Attacks, by Regime Type



attacks differs by regime based on Cheibub, Gandhi, and Vreeland’s (2010) and Geddes’ (2003) data. The figure compares the probability of experiencing 0, as opposed to 10, terrorist attacks.

As Figure 2 illustrates, regimes are less distinguishable from each other in their vulnerability to terrorism when the expected number of terrorist attacks is low. At higher levels of terrorism, however, the distinction between regimes becomes much more pronounced. Similar findings were obtained for simulations based on alternative models that use other regime-type data—for higher levels of terrorism, democracies, military autocracies, and mixed regimes have a probability of occurrence that is significantly higher compared to other regimes. As we argue, this observation is due to institutional differences that determine whether leaders resort to coercion or co-optation to reduce the threat of terrorist activity. Based on predicted values, personalists and monarchies are least likely to experience 10 terrorist attacks, compared to other regimes. The model shows that these regimes are not more likely to experience no terrorism than party-based autocracies, however; rather, among regimes that experience terrorism, they are expected to be less likely than party-based autocracies to experience 10 attacks. We explain this by pointing out the rarity of monarchies (Figure 1) and by noting that personalist regimes have shorter tenures, on average. Nevertheless, the findings bear out our predictions regarding the incidence of terrorism among democracies, military regimes, and party-based autocracies.

Discussion

The results of our model support all three of our hypotheses. Compared to democracies, single-party authoritarian regimes are less likely to experience terrorism, and they are likely to incur a lower number of attacks. This is concurrent with our theoretical argument that the use of co-optive institutions enables autocracies to be more effective at counterterrorism. Military regimes are less likely to experience terrorism, compared to democracies, but they are not statistically distinguishable from them in the number of expected terrorist attacks. Compared to autocracies in general, democracies appear to be more likely to experience terrorism and to incur a higher number of attacks. This finding is consistent with the mainstay of empirical research that suggests that democracies are attractive targets (Blomberg and Rosendorff 2009; Braithwaite and Li 2007; Dreher and Fischer 2010; Eubank and Weinberg 1994, 1998, 2001; Lai 2007; Li and Schaub 2004; Pape 2003; Piazza 2007, 2008).

To ensure the robustness of our findings, we subjected the model to a battery of alternative specifications. A list of the alternative specifications is provided as online supplemental information.⁸ The results give us further confidence in the main results: party-based autocratic regimes have a lower probability of experiencing terrorism than

⁸Full results of robustness specifications are available from authors.

either democracies or military dictatorships. The likelihood ratio test for alpha is significantly different from zero, which suggests that the data are overdispersed and that a zero-inflated negative binomial model is more appropriate than a zero-inflated Poisson model. The Vuong test also suggests that the zero-inflated negative binomial model is a significant improvement over a standard negative binomial model. In addition to these tests, we confirmed that multicollinearity did not pose a major problem and that regime type is a meaningful addition to an already full model. Following King and Roberts' (2012) admonition that wildly different robust standard errors indicate model misspecification, we compared the standard errors of our model to robust standard errors and conclude that the model specification is correct. The observed relationship also remains significant when standard errors are clustered by country and year.

As suggested by the approach of Aksoy, Carter, and Wright (2012), it is possible that specific institutions explain terrorism better than regime type. Nevertheless, our findings are robust to the inclusion of variables denoting *de facto* parties and *de jure* parties. Our findings also hold when one controls for the presence of a popularly elected legislature and an independent judiciary. Specifically, Aksoy, Carter, and Wright (2012) argue that terrorism is more likely where parties operate outside of a popularly elected legislature. Including an interaction term between parties and legislatures does not change our main results, however. An interaction term between *de facto* and *de jure* parties also does not nullify our findings. We agree that institutions such as parties and legislatures support the co-optive capacity of a regime—indeed, it is a key part of our argument. The complete story about how regimes avert terrorism, however, requires one to control for rents, organizational proliferation, and coercive tendencies. The results of our model also hold true when we include CIRI's (Cingranelli and Richards 2010) *physical integrity* and *empowerment* indices, which purport to measure government respect for human rights and civil liberties. Thus, regime type predicts terrorism incidence better than specific institutions or policies. Our comparisons of democracy and autocratic regime types hold even if we disaggregate democracies into different types.

The Polity IV *durable* variable indicates changes in the Polity score greater than three points, which could be problematic. It remains possible that autocracies that are the product of a recent regime transition are more likely to experience terrorism than are older, consolidated autocracies, irrespective of regime type (see Eyerman 1998). We therefore specified alternative models replacing the Polity *durable* measure with a count of the number of years since the last change in regime type. The more precise measures

of regime durability do not affect our results—rather, they are consistent with Polity's measure of durability.

We also acknowledge that other forms of political violence may affect the observation of terrorism and moderate a discussion of it. To this end, we controlled for domestic armed conflict and international conflict as reported in the UCDP/PRIO Armed Conflict dataset (2009). When we specify similar models to predict these other forms of violence, the results are dramatically different. This suggests that terrorism is a unique form of political violence that must be modeled independently of other forms of conflict. What is more, testing for reverse causation—by estimating regime type—does not show terrorism to be a significant predictor of regime type.

Regional effects were also a concern. Excluding Eastern European countries from our sample does not nullify the findings, however, which suggests that the terrorism-prohibiting impact of electoral authoritarianism is not restricted to post-Soviet regimes. Neither does the exclusion of any other region change the observed relationships. Adding all regions to the model has some impact on regime comparisons, but the observed relationships nevertheless hold.

Our results are robust to the simultaneous inclusion of many of the covariates that we used as robustness checks (robust and clustered standard errors, regime change, specific institutions, human rights and civil liberties, other forms of political violence, reverse causation, and regional effects). What is more, our results hold equally as well for explaining the incidence of international *and* domestic terrorism (Enders, Sanders, and Gaibulloev 2011). Thus, despite alternative explanations, our model of terrorism based on the Geddes (2003) and Cheibub, Gandhi, and Vreeland (2010) regime-type data shows regime type to be an important determinant of terrorism in autocracies. The robustness of our findings substantiates our theoretical argument that coercion and co-optation are complex institutional responses to terrorism that work best when they occur in combination.

Conclusion

We assert that there are different strategies available to a leader for addressing political dissent. Autocracies are capable of complementing repressive tactics with institutions that resemble those in democracies—and with rents. The ability to use both coercion and co-optation to deter challenges to the regime changes the probability that a country experiences terrorism, making some states less prone to terrorism incidences than others. Differences in

the use of coercion and co-optation are conditioned by the regimes' institutional makeup, by which they can be divided into meaningful types. The empirical evidence is consistent with our theoretical expectations: because single-party autocracies are better able to employ both coercive and co-optation to address political opposition than military autocracies—which favor coercion—and democracies—which favor concession—they have a more comprehensive range of counterterrorism responses. Our findings are robust to a number of alternative specifications. Regime type strongly explains the difference in levels of terrorist activity among regimes.

There are both scholarly and policy implications in the findings that regimes have an unequal mix of antiterrorism responses. We reveal a more complex and nuanced relationship between regime type and terrorism. Rather than showing a monotonic relationship—where democracies experience more attacks and autocracies experience fewer—we relate the range of counterterrorism options available to a state to the likelihood that it experiences terrorism. Our findings support scholars interested in identifying root causes of terrorism and its differences from other forms of political violence. It also contributes to broader discussions in comparative politics. Scholars interested in state capacity and its relation to society should consider how institutions affect the range of responsiveness. To this end, regimes might also have different policy options when addressing nonsecurity challenges. On a basic level, our findings provide further direction as to which countries are likely to be terrorism “hot spots.” Encouraging institutionalization in weak states might deter terrorism by broadening leaders' strategic capacities, while at the same time fostering greater levels of discourse and representation. There is thus a need to better understand the institutional mechanisms that support and deter terrorism to direct resources where effective institutions are currently lacking.

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Supporting Information

Additional Supporting Information may be found in the online version of this article at the publisher's website:

Table SI-3. Countries Included in Study. Observations and temporal domain, by country.

Table SI-4. Summary of Robustness Checks