

Foreign Military Interventions and Suicide Attacks

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Abstract

This study examines the effect of foreign military interventions on the incidence of suicide attacks. It presents three theoretical explanations. Foreign military interventions may boost insurgent use of suicide attacks by (a) fomenting a nationalist backlash that sanctions the use of more extreme and unconventional tactics like suicide attacks, (b) providing more and better targets against which suicide attacks can be launched, or (c) prompting insurgents to use suicide tactics in order to overcome their power asymmetries and to confront better defended targets that are enhanced by interventions. We test these competing explanations using a battery of statistical tests on cross-national, time-series data for 138 countries during the period from 1981 to 2005. We find that only foreign interventions with specific features—pro-government interventions involving larger numbers of ground troops—boost suicide attacks in countries experiencing interventions. This finding suggests that by tipping the balance of power against insurgents and hardening targets in the context of assisting a local government, foreign military interventions are likely to increase the use of suicide attacks by regime challengers.

Keywords

terrorism, suicide bombings, military intervention, international security

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Do foreign military interventions¹ increase the risk of suicide attacks² within the countries experiencing the intervention? This question is pertinent as the United States ends long and substantial military interventions in Iraq and Afghanistan and engages in a new round of military intervention in Syria to counter the Islamic State of Iraq and the Levant and (ISIS) the Khorasan insurgencies. Although US policy makers presumably intend international military interventions (IMIs) to exert stabilizing and pacifying effects on the security environment in the target countries, in this study we ask if it is possible that such interventions actually propel insurgents to adopt more violent and indiscriminate tactics. To address this question, we examine the effect of IMIs, by the United States and other countries during the period 1981 to 2005, on the incidence of suicide attacks by armed, non-state actors in a panel of 138 countries. Moreover, in order to gain a better understanding of how and under what conditions foreign military interventions affect the incidence of suicide attacks, we investigate different types and features of interventions. We note that the record of post-9/11 US interventions in countries such as Iraq and Afghanistan has been motivated by strategic objectives such as the toppling and replacement of national governments as well as securing and aiding national governments by, for example, providing ground or air support to government troops or by targeting insurgents. Accordingly, our empirical analysis pays close attention to the distinctive effects of “pro-” versus “antigovernment” interventions on suicide attacks by non-state actors. Noting also that the structure of US interventions in many parts of the world in the post-9/11 climate has changed—from military interventions involving large numbers of ground troops such as the invasions and occupations of Afghanistan and Iraq to smaller and lighter interventions involving targeted air strikes with little to no ground presence such as US drone attacks against militants in Pakistan, Syria, or Yemen—we also consider the impact of the size of the intervention and the potential effect of interventions employing ground troops (as opposed to aerial forces alone) in determining insurgent use of suicide attacks.

In the following section of this study, we address the links between IMIs and suicide attacks using the relevant literature from the terrorism and civil war fields to construct our theoretical expectations. We then present our hypotheses and segue into a discussion of the statistical tests and their results. We conclude with a brief discussion of the scholarly and policy implications of our findings.

How Foreign Military Interventions are Related to Suicide Attacks

The terrorism literature has neglected to empirically examine the effects of foreign military interventions on the use of specific tactics, like suicide attacks, by insurgents. Instead, scholarly research in this area has focused largely on other types of transnational factors such as foreign military occupations (e.g., Asal 2006; Collard-Wexler, Pischedda, and Smith 2014; Pape 2003, 2005; Pape and Feldman 2010; Piazza 2008; Santifort-Jordan and Sandler 2014)—a distinct phenomenon

from foreign military interventions³—interstate rivalries (e.g., Findley, Piazza, and Young 2012), international alliances (e.g., Plumper and Neumayer 2009), and military and humanitarian aid (e.g., Azam and Thelen 2010; Neumayer and Plumper 2011). We regard this as a significant oversight both because other work in the terrorism genre suggests that transnational military relations have important consequences for patterns of political violence in countries (see Findley, Piazza, and Young 2012; Plümpfer and Neumayer 2009; Savun and Phillips 2009) and because research in the civil war literature consistently finds that third-party interventions have important consequences in shaping internal armed conflicts. For example, civil war researchers have determined that foreign military interventions affect in important ways civil war onset, escalation, duration, and outcomes (e.g., Balch-Lindsay and Enterline 2000; DeRouen and Sobek 2004; Fortna 2004; Gleditsch and Beardsley 2004; Regan 2000; Walter 1997). More specifically, third-party interventions have been found to prolong civil strife (Balch-Lindsay, Enterline, and Joyce 2008; Elbadawi and Sambanis 2000; Regan 2002), reduce the likelihood of negotiated settlements in civil conflicts under most circumstances (e.g., Brandt et al. 2008), and broaden civil conflicts by drawing in additional supporters to either the rebel movements or the incumbent governments (e.g., Findley and Teo 2006).

In this study, we synthesize the expectations of the two complementary literatures—the empirical terrorism literature, particularly the work on foreign occupations and suicide terrorist activity, and the third-party interventions into civil conflicts literature—to form our theoretical expectation that countries experiencing foreign military interventions are likely to experience higher levels of suicide attacks, but that the type and nature of such interventions are crucial to the relationship. The arguments present in both of these literatures have observable implications for other phenomena, and the contribution of our study is to empirically demonstrate those implications for foreign military interventions. Although foreign military interventions launched by the United States and its allies into countries like Afghanistan and Iraq in the 2000s were motivated, at least rhetorically, in part by a desire to reduce the risk of suicide terrorist attacks, our expectation is that interventions frequently increase the use of more extreme modes of violence by dissidents and insurgents. We envision three theoretical processes by which interventions could increase the use of suicide attacks by regime opponents: (a) nationalist backlash, (b) more and better targets, and (c) balance of power or hardened targets.

Nationalist Backlash

Foreign military interventions may provoke a nationalist backlash within the country experiencing the intervention, which fosters a favorable environment for use of suicide attacks by armed non-state actors. Here, we assume that suicide attacks are costly and controversial relative to conventional tactics, and actors that utilize them

have to run the risk of depleting their human resources by expending cadres that cannot be used again and by alienating their supporters who may object to such an extreme tactic (Piazza 2009). Accordingly, under normal circumstances, insurgents are expected to eschew suicide attacks. However, as Neumayer and Plümper (2011) maintain, the foreign influence that accompanies IMIs generates popular resentment and stokes nationalist sentiments that can be manipulated by armed non-state actors. Under such circumstances, insurgents find it easier to recruit candidates for suicide bombings and to engage in suicide attacks without fear of sanction by the public. Asal (2006) and Pape (2005) provide further details on this process by arguing that the experience of occupation by foreign troops provokes a nationalist backlash among local citizens who perceive that occupation is robbing them of their political, economic, cultural, and religious autonomy, motivating committed dissidents to make extreme sacrifices—*forfeiting their lives*—in order to preserve their way of life. Survey research of Palestinian public opinion conducted by Krueger and Maleckova (2003) produces some corresponding evidence finding that, Palestinians living in the West Bank and Gaza in the wake of Israeli military incursions were highly supportive of the use of suicide attacks by militants against Israeli government and civilian targets.

Citizens of the country experiencing the intervention may also come to view the interveners as an exploitative force and may regard the intervention as an affront to sovereignty, concluding that the local national government heavily relies on foreign assistance to project power. This sort of public opinion likely damages the government's reputation for autonomy and, by extension, its legitimacy, which heightens the existing conflict between the local government and their domestic political opponents (Neumayer and Plümper 2011, 2009). Moreover, the foreigners, who are more visible as a result of these interventions, are easily dehumanized relative to conationals, which allows rebel groups to target them with greater impunity and with the use of more extreme tactics than they would be willing to employ against their own countrymen. This line of reasoning is consistent with some of the literature that observes suicide attacks to be more frequently employed during foreign occupations, particularly when the occupying forces are religiously or culturally different from the occupied population (Bloom 2005; Berman and Laitin 2008; Pape 2003, 2005; Piazza 2009).

The end result is that foreign military interventions alter the normative boundaries of conflict within the intervened country. The new boundaries, shaped by the experience of military intervention by foreign forces, permit armed, non-state actors to use extreme tactics like suicide attacks with a lower risk of alienating or forfeiting support from local constituents.

More and Better Targets

Foreign military interventions—excluding air-strikes-only missions, as explained subsequently—may simply supply armed, non-state actors with more and better

target opportunities for suicide attacks. Interventions, by definition, involve the insertion of foreign troops and ancillary personnel into the territory of another, thereby changing the landscape of potential targets for insurgent attacks. Attacking such troops using suicide tactics is more likely to garner notoriety and media coverage for insurgents, both at home and abroad, than are conventional attacks or attacks against purely domestic regime targets. Suicide attacks on foreign troops engaged in an intervention can be used by insurgents to enhance their propaganda efforts—drawing more attention to their political agendas—and to aid solicitations for support domestically and internationally. Our reasoning here is informed by some of the aforementioned research on terrorism and suicide terrorism. As Crenshaw (2007) explains, a key quality of terrorism is that it is a tactic designed to attract attention and to communicate a message or to influence an audience. It is also well established in the literature that armed groups use suicide attacks as a tool to garner attention, to recruit militants, and to bid for support from important constituents who often have competing loyalties and are geographically dispersed (Bloom 2005; Hoffman and McCormick 2004). This phenomenon is illustrated further by Moghadam (2009) who observes that the intervention of the US and coalition forces in Iraq and Afghanistan prompted an increase in suicide attacks not only by locally based insurgents, but also by foreign jihadists who relocated to the two countries in order to access lucrative foreign military targets to enhance their stature. Thus, at the most basic level, foreign military interventions may simply provide better target opportunities for armed non-state actors who are willing to employ suicide attacks. The end result would be an increase in suicide attacks in countries experiencing interventions.

Balance of Power or Hardened Targets

Foreign military interventions may significantly change the overall strategic environment for insurgents operating in countries experiencing the intervention. We think this can be manifested in two distinct but complementary ways. First, interventions, especially if they are intended to assist the local government, may drastically tip the balance of power against insurgents in favor of the state. This renders insurgents relatively weaker than the state forces they oppose as well as more desperate and willing to use less conventional and more extreme tactics. Second, interventions may also lead to a better fortification of potential targets within the country experiencing the intervention—foreign military forces are likely to be better equipped and armed than local forces or may enable the local government to devote more resources to better protecting its own assets—producing an environment of “hardened” targets. In this situation, we expect insurgents to make greater use of unconventional tactics such as suicide attacks to overcome hardened targets. Simply put, regime opponents will shift their tactics from conventional to suicide attacks when facing states bolstered by foreign interventions.

There is some support in the literature for our intuitions about the increased asymmetric relationship between rebels and government forces. The terrorism literature posits that when dissidents who wish to gain political control or to influence the politics and policy of a country are too weak *vis-à-vis* the state to achieve their goals by conventional means, they resort to terrorist attacks (see Crenshaw 1981, 2007; Enders and Sandler 2006; Kydd and Walter 2006; Pape 2003, 2005; Wilkinson 2001). If an IMI creates an even more stark power asymmetry between a radical dissident group and the state, the anti-regime group is more likely to see suicide attacks as a more effective tactic than conventional attacks.

There is also some work in the intrastate war literature that is consistent with the asymmetry expectation. Recent research by Wood (2010) and Wood, Kathman, and Gent (2012) have determined that international interventions shape the tactical behaviors of insurgent groups and that this behavior is conditioned on which side of the conflict the foreign power intervenes on. In situations where a foreign intervention aims to weaken a domestic combatant, Wood and his colleagues find that terrorist groups are more likely to attack civilians and to violate human rights as well as to use more extreme, nonconventional tactics. Wood (2010) also notes that “strong” insurgent groups—groups that have a high military capacity relative to the state forces they oppose—are able to maintain the loyalty of a strategic population (e.g., an ethnic enclave in a region) by providing physical security as a selective benefit to entice popular support. However, if the relative capacity of the group declines as a result of, for example, a pro-government foreign intervention, the ability of the group to secure public loyalty by providing selective benefits diminishes and the incentive to use more extreme violence to compel support grows (see Merom 2003 for a similar argument).

We expect that an analogous process occurs during foreign military interventions as political opponents of an incumbent government have to reconsider their choices of attack methods. We theorize that when opponent groups have been weakened relative to state military forces as a result of a pro-government foreign intervention, they are more likely to turn to suicide attacks against strategically viable targets than they otherwise would be.

The second element of our theoretical reasoning—the hardening of targets—is one that has long been considered by the terrorism literature to be crucial to the adoption of suicide attacks as a tactical measure by terrorist groups. In explaining insurgent group adoption of suicide attacks in campaigns, scholars have observed that movements like Hezbollah, the Liberation Tigers of Tamil Eelam, and Hamas were prompted to shift from exclusively conventional, non-suicide attacks to suicide attacks as a response to an increased security measures put into place by government defense forces. In particular, Berman and Laitin (2008, 1966) make a compelling case for suicide attacks by concluding that “further hardening of targets may reduce overall violence but will increase suicide attacks and may lead to proliferation of radical [groups].” In other words, the use of suicide attacks is typically understood as a tactical adaptation to the increased physical security capacity of the target; we

should, then, expect it to be most frequently utilized by militant groups facing a “hardened” security environment (Berman and Laitin 2008; Choi 2015; Horowitz 2010; Sprinzak 2000). Further, casual empirical observation, using the Global Terrorism Database (GTD), reveals that suicide attacks are more frequently (+96.7 percent) deployed against military and police targets as opposed to “softer” targets such as civilians, businesses, and nongovernment organizations. This statistic provides further support for the effects of hardening of targets on insurgent use of suicide attacks.

Given that pro-government military interventions help to buttress the security capacity of the assisted state, either by providing direct military support to the local government or by relieving the primary security responsibilities of the police and military of the local government—thereby permitting a reallocation of security resources to counterterrorism and hardening domestic targets (Neumayer and Plümper 2011)—it is more likely that armed rebel movements will respond by utilizing suicide attacks against more fortified targets. Indeed, scholars have argued that suicide attacks are likely to be more effective against better armored and better defended regime assets, such as heavily armored units, than conventional attacks (Collard-Wexler, Pischedda, and Smith 2014).

In contrast, we envisage that antigovernment military interventions are unlikely to lead to increased suicide attacks. When foreign militaries engage themselves in antigovernment military interventions involving the direct use of foreign military assets to oppose a target government, they will deploy a conventional use of force rather than resort to suicide attacks. This is due to the tactical advantages of the intervening country that are conferred by its conventional military capacity. We also reason that foreign interveners are unlikely to provide support to armed movements engaging in suicide attacks because such movements are likely to be a liability to the reputation of the intervening state.⁴ Indeed, Piazza (2008) theorizes that state-supported terrorist movements are less likely to engage in suicide attacks because their sponsoring states frequently restrain them out of a desire to eschew a negative backlash.

Hypotheses

In order to empirically investigate the three theoretical mechanisms linking interventions to suicide attacks, we conduct analyses on various types and characteristics of foreign military interventions within countries. These include, first and foremost, whether or not a country is experiencing a foreign military intervention at all. We also examine whether a country is experiencing a pro- or antigovernment intervention, meaning an intervention by a third party to assist the local government or to target rebels fighting the local government, versus an intervention aimed against the local government itself. We consider the size, in terms of the number of troops used, of the intervention. Finally, we look into whether or not the interventions involve the use of ground troops or aerial military assets only. Although a detailed discussion is

Table 1. Expected Relationships between Foreign Military Intervention Features and Suicide Attacks.

Foreign military interventions features	Three theoretical mechanisms			
	Nationalist backlash	More and better targets	Change of strategic environment	
			Tip balance of power	Hardened targets
Intervention (any)	+			
Large interventions	+	+		
Interventions with ground troops	+	+		
Pro-government interventions	+		+	+
Large pro-government interventions	+		+	+
Pro-government interventions with ground troops	+			+

laid out subsequently, our expectations about the relationships between foreign intervention features and suicide attacks are summarized in Table 1.

For the first theoretical mechanism—interventions boost suicide attacks by insurgents by provoking a nationalist backlash that sanctions the use of suicide tactics—we expect *all* foreign interventions to result in increased rates of suicide attacks. If this first theoretical argument is valid, the specific type of intervention should not matter. Foreign military interventions motivated by the objective of supporting an imperiled local government or to punish militant groups should prime the public in the country experiencing the intervention to tolerate the use of suicide attacks by insurgents. Moreover, because any sort of intervention is likely to be viewed as a violation of national sovereignty and a blow to national pride, both ground and aerial assaults and large and small interventions are likely to fuel suicide attacks. This leads to our first hypothesis:

Hypothesis 1: Foreign military interventions (of any type or size) increase suicide attacks in the target country.

For the second theoretical mechanism—interventions boost suicide attacks by providing more and better targets—we expect that any sort of large or ground-based foreign intervention should generate higher levels of suicide attacks. This is simply because such interventions are accompanied by large numbers of foreign military personnel as well as civilians working for the military. Smaller interventions involving few troops or interventions that are aerial only such as bombing campaigns or drone attacks do not offer insurgents an abundant supply of easy, lucrative targets. Moreover, the motivation of the intervention—pro- or antigovernment—would be

irrelevant to this theoretical reasoning as it has less to do with an increase or decrease of military and civilian manpower. We therefore test the following hypotheses:

Hypothesis 2a: Foreign military interventions involving large numbers of troops increase suicide attacks in the target country.

Hypothesis 2b: Foreign military interventions involving ground troops increase suicide attacks in the target country.

For the third theoretical mechanism—foreign military interventions change the strategic landscape for insurgents, making it significantly more difficult to carry out their operations because they tip the balance of power against them and harden targets, thereby prompting them to adopt suicide tactics to overcome their weakened position—there are two parts: tipping the balance of power and hardened targets. Due to the combined effects of these two components, we should see pro-government interventions, as opposed to those launched against the local government, to result in more suicide attacks as both of these involve a more capable and better defended state. The following hypothesis encapsulates this:

Hypothesis 3a: Pro-government military interventions increase suicide attacks in the target country.

More specifically, however, if interventions boost suicide attacks by tipping the balance of power against insurgents, then we would expect to see larger pro-government interventions, composed of either ground or aerial forces, to increase the use of suicide tactics in countries. This leads to the following hypothesis:

Hypothesis 3b: Large pro-government military interventions increase suicide attacks in the target country.

However, if interventions lead to the hardening of targets, which then propels insurgents to make greater use of suicide attacks as a tactical adaptation, then we would expect pro-government interventions involving the use of ground troops to prompt suicide attacks, rather than pro-government interventions involving aerial or naval assets only. This leads to the final hypothesis tested in this study:

Hypothesis 3c: Pro-government military interventions involving ground troops increase suicide attacks in the target country.

Research Design

To test these hypotheses, we conduct a series of regression analyses on counts of suicide attack events using a cross-national, time series panel database of 138 countries⁵ during the period from 1981 to 2005.⁶ The data are unbalanced because the

unit of analysis is the country-year but the starting year is not the same for all countries. We regress various indicators measuring features and types of foreign military interventions on counts of suicide attack incidents in the countries. Since the dependent variable is operationalized as a count, we employ a negative binomial maximum-likelihood regression model with Huber–White robust standard errors⁷ clustered by country.

In operationalizing the dependent variable—counts of suicide attacks—we rely on the standard definition of a suicide attack incident, that is, an attack launched by a non-state actor against a military or civilian target by a perpetrator who intends to die in the course of the attack (see Pape 2003, 2005). For our analysis, we calculate the number of suicide attacks occurring within the countries that are the targets of IMIs compared with those that do not experience such interventions.⁸ To test the robustness of the findings reported subsequently, we operationalize suicide attacks in two different ways. The first is a raw count of attacks which is gathered from the Suicide Attack Database collected and maintained by the Chicago Project on Security and Terrorism (CPOST) at the University of Chicago (see <http://cpost.uchicago.edu/index.php>). The second is a raw count of suicide attacks derived from the GTD collected and maintained by the National Consortium for the Study of Terrorism and Responses to Terrorism (START) at the University of Maryland.⁹

We construct seven independent variables to operationalize foreign military interventions and their features and types using data from the IMI data set. The IMI data set combines two related sources (see <http://www.k-state.edu/polsci/intervention/>), that is, the Pearson and Baumann (1993) data, which cover the period from 1946 to 1988, and the Kisangani and Pickering (2008) data, which cover the period from 1989 to 2005. Rather than splitting the temporal domain, the two data sets conceptualize and operationalize military interventions through identical criteria. In both data sets, a military intervention is referred to as the movement of the regular troops or forces of one country into the territory or territorial waters of another country, or as aggressive military exploits by troops already stationed by one country inside of another. In order to differentiate full-fledged military interventions from minor border encounters or shooting incidences, “regular troops” do not include paramilitary forces and “military exploits” do not include actions by border guards or police. This definition helps us to avoid conflating the effects of small-scale border skirmishes or actions undertaken by paramilitary forces with the consequence of sustained military intervention. Because of its precision, this definition of military intervention has become one of the most authoritative definitions in the literature (see Pickering and Kisangani 2008).

The first variable measuring foreign military interventions is a dichotomous indicator coded 1 for observations in which a country experiences a unilateral or multilateral foreign military intervention of any type and 0 otherwise. The second variable is a measure of the size of the intervention in terms of numbers of troops or military personnel involved using the IMI data set’s *amount of troop incursion* ordinal indicator, ranging from 0 for no troops involved to 4 indicating an intervention involving

10,000 or more troops.¹⁰ The third variable is a dichotomous indicator coded 1 for foreign military interventions involving ground troops. We construct this variable by excluding all interventions determined to involve aerial or naval military assets only, as opposed to ground forces.¹¹

The fourth and fifth variables are dichotomous, denoting whether the intervention is a “pro-” or “antigovernment” intervention. To identify whether a foreign military intervention supports or opposes the local government, we rely on the *direction of intervener supporting action* variable in the IMI data set. The direction of military action by the intervener includes the following six categories: 0 for nonsupportive or neutral intervention, 1 for support government (including immediate restoration to abort coup), 2 for oppose rebels or opposition groups, 3 for oppose government, 4 for support rebel or opposition groups, 5 for support or oppose third-party government, and 6 for support or oppose rebel groups in sanctuary. For the purposes of this study, the variable is recategorized into three dichotomous intervention variables as pro-government, antigovernment, and neutral. Pro-government intervention is coded as 1 for the country-year in which a supportive intervention is initiated to assist the local government (categories 1 and 2) and 0 otherwise. Categories 3 and 4, which suggest that an intervention is hostile to the government, are collapsed into a single category of antigovernment intervention. The neutral intervention takes the value of 1 if the direction of an intervention is identified as nonsupportive of or neutral toward the target government and 0 otherwise. Categories 5 and 6 are excluded from the analysis as the direction of intervention is not clearly identified.

The sixth and seventh variables combine the pro-government intervention variable with measures of the size of the intervention and the use of ground troops in the intervention, as noted earlier. For the former, we simply input the ordinal measure of intervention size for pro-government interventions only, while recording zero values for all other interventions. For the latter, we create a dichotomous variable coded 1 for pro-government interventions involving ground troops and 0 otherwise.

To avoid omitted variable bias, we include a host of covariates that have been found to be, or have been proposed as, predictors of suicide attacks and terrorist activity in general within the literature. These include democracy, national capabilities, Human Development Index (HDI), political stability, Press Freedom Index, multigroup competition, Muslim population, minority at risk (MAR), religious fractionalization, logged measures of national population and surface area, and a lagged term for suicide attacks.¹² Each of these covariates are expected to be positive predictors of suicide attacks, with the exception of the political stability measure which, due to the previous empirical findings, is projected to be negative. All predictors are lagged one year behind the outcome variable in order to mitigate the possibility that the outcome variable serves as a cause of the explanatory variables.

Democracies tend to be afflicted with a larger number of terrorist incidents than their counterparts (see Eubank and Weinberg 2001; Li 2005; for a dissenting view, see Choi 2010). More apropos to our study, Pape (2003, 2005) contends that democracies are more frequently targeted for suicide attacks than other types of regimes,

particularly because they hamper policing due to promotion of civil liberties, remove the option of repressive measures, and are more likely to make concessions to insurgents due to their “low pain thresholds.” Moreover, Savun and Phillips (2009) determine that democracies are more frequently targeted for terrorist attacks due to their aggressive foreign policy. We therefore include in all estimations a measure of democracy. Collected from the Polity IV data set, the democracy variable is a composite democracy indicator ranging from full autocracy (–10) to full democracy (+10) (Marshall and Jaggers 2007).

The capacity of the state to project power, police, and control its territory is likely consequential for the amount of suicide attacks a country experiences (see Berman and Laitin 2008; Sprinzak 2000). We therefore include the composite index of national capabilities in the estimations gathered from the Correlates of War database (see <http://www.correlatesofwar.org/>).

The deterioration of the socioeconomic environment may also lead to an increase in suicide terrorist activity (see Choi and Luo 2013; Choi 2015; Piazza 2011). To capture this effect, we rely on a measure of the HDI, reported in the Human Development Report by the United Nations Development Program, averaged per country over the years 1985, 1990, 1995, 1999, and 2006. The HDI measures the well-being of the inhabitants of a country in the areas of life expectancy at birth, adult literacy, school enrollment ratio, and gross domestic product per capita. The HDI has a scale of 0 to 1. It is expected that higher HDI levels lead to a decrease in suicide attacks.

Because frequent regime changes are likely to destabilize domestic political and economic systems, they may create a favorable environment for extremist activity. By contrast, militant groups should find fewer opportunities in countries with a long history of political stability (see Eyerman 1998; Eubank and Weinberg 2001). It is operationalized as the number of years a country has passed since going through a regime change measured as a three-point shift in a country’s polity score for a given year. Data for this variable are collected from Marshall and Jaggers (2007).

Because an objective of both suicide and non-suicide attacks is to garner attention and influence a mass audience (Hoffman and McCormick 2004) and because terrorist incidents are more likely to be reported by open-source databases for countries with free media (Drakos and Gofas 2006; Sandler 1995), countries with greater press freedom should be more likely to see suicide attacks. We therefore include a measure of press freedom derived from Freedom House’s *Freedom of the Press* that measures the degree to which each country permits the free flow of news and information on a scale of 0 (*best*) to 100 (*worst*). In order to facilitate easy interpretation of the estimated coefficient, the original ranking order is reversed.

Some qualitative and theoretical work on suicide attacks suggests that competition among terrorist groups for attention and notoriety drives the proliferation of suicide attacks (Bloom 2005; Kydd and Walter 2006). Armed insurgent movements use ever more spectacular and deadly forms of political violence as a means to “outbid”

one another for public support and to demonstrate their commitment to the cause. We therefore include a dummy variable, coded 1 for observations where more than one armed movement in a country committed attacks in a given year. We expect this to be a significant positive predictor of suicide attacks within countries, but we also note that in their cross-national empirical analysis of the outbidding thesis, Findley and Young (2012) find no substantive evidence that intergroup competition increases suicide attacks.

Wade and Reiter (2007) report that countries with large Muslim and MAR populations are more likely to experience suicide attacks. We therefore include a variable measuring the percentage of Muslim population within a country, using religious demographic data from Fearon and Laitin (2003), and a dummy variable coded 1 when the country contains a MAR population using the MAR database. Because Piazza (2008) finds that the religious difference between terrorists and their targets is a positive and significant predictor of suicide attacks, we also control for a level of religious fractionalization within countries using Fearon and Laitin's (2003) indicator.

We also control for a country's population and geographic area in all estimations, expecting that both of these may affect the amount of suicide attacks a country experiences and also have implications for the impact of foreign military interventions. It is not easy for highly populated countries to provide an adequate level of security to the entire population and thus they are likely to see more suicide terrorist plots and attacks (Eyerman 1998). For example, Savun and Phillips (2009) show evidence that, irrespective of the type of terrorist attacks, highly populated countries induce more terrorist incidents than their smaller counterparts. With this in mind, the population variable, measured by the logged total population, is expected to increase suicide attacks. Data for this variable are taken from the US Census Bureau (2008). Abadie's (2004) study asserts that because countries with a vast territory tend to experience difficulties policing their borders and/or have sizable minority groups holding political and economic grievances against the government, they are exposed to more terrorist incidents. Thus, we include a surface size variable taken from the World Bank's (2008) *World Development Indicators* and measured as the logged square kilometers of a country's territory.

Finally, we include a lagged term for suicide attacks in the right-hand side of the equation to control for a country's history of suicide attacks. The lagged dependent variable has the potential to "soak up" the explanatory power of theoretically interesting independent variables (Achen 2000). However, previous research demonstrates that countries with past incidents of terrorism are more likely to experience terrorism in the present or in the future (e.g., Li 2005). Among the numerous studies of terrorism, Santifort-Jordan and Sandler's (2014) recent work is an exemplar for the use of a lagged dependent variable as a predictor. Descriptive statistics for all of the variables used in this study are reported in Table 2.

Table 2. Descriptive Statistics.

Variable	Observation	Mean	Standard deviation	Minimum	Maximum
Suicide attacks (Suicide Attack Database)	3,072	0.09	1.02	0	38
Suicide attacks (GTD)	3,072	0.13	1.47	0	57
Foreign military intervention	3,072	0.06	0.24	0	1
Foreign military intervention size	3,072	0.05	0.38	0	4
Foreign military interventions using ground troops	3,072	0.12	0.32	0	1
Pro-government foreign military interventions	3,072	0.01	0.12	0	1
Antigovernment foreign military interventions	3,072	0.02	0.16	0	1
Pro-government foreign military intervention size	3,072	0.02	0.23	0	4
Pro-government foreign military intervention using ground troops	3,072	0.01	0.10	0	1
Democracy	3,072	1.64	7.42	-10	10
National capabilities	3,072	0.01	0.02	0.00003	0.18392
HDI	3,072	0.66	0.19	0.22	0.96
Political stability	3,072	25.56	30.61	0	196
Press Freedom Index	3,072	53.08	27.84	5	99
Multigroup competition	3,072	0.59	0.49	0	1
Muslim population	3,072	25.80	37.17	0	100
MAR dummy	3,072	0.73	0.44	0	1
Religious fractionalization	3,072	0.37	0.22	0	0.78
Population	3,072	26.08	1.50	22.78	30.97
Surface area	3,072	22.27	1.83	16.51	26.61

Note: GTD = Global Terrorism Database; HDI = Human Development Index; MAR = minority at risk.

Empirical Results

The results of this study are presented in Tables 3 and 4. In Table 3, the intervention variables are regressed on counts of suicide attacks derived from the Pape Suicide Attack database, while in Table 4, we regress the intervention variables on counts of suicide attacks collected from the GTD. Because our hypotheses are directional, one-tailed tests are reported at the .05, .01, and .001 significance levels.¹³

We find that the mere experience of an IMI, generally defined, does not lead to an increase in suicide attacks. The dichotomous measure for whether or not a country is experiencing an IMI turns out to be no significant predictor of suicide attacks in either table (see models 1 and 7). This finding suggests that there is little evidence for the first theoretical mechanism, that is, by provoking a nationalist backlash and feeling of outrage due to violation of national sovereignty,

Table 3. Foreign Military Intervention and Suicide Attacks (Suicide Attack Database).

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Military intervention _{t-1}	0.204 (0.385)					
Military intervention size _{t-1}		0.198 (0.235)				
Military intervention with ground troops _{t-1}			-0.291 (0.411)			
Pro-government intervention _{t-1}				0.999* (0.492)	0.443* (0.217)	1.243*** (0.494)
Pro-government military intervention size _{t-1}						
Pro-government military intervention with ground troops _{t-1}						
Antigovernment intervention _{t-1}				0.103 (0.588)	0.080 (0.590)	0.105 (0.587)
Democracy _{t-1}	0.097* (0.054)	0.092 (0.056)	0.097* (0.055)	0.096* (0.055)	0.089 (0.056)	0.097* (0.054)
National capabilities _{t-1}	-1.757 (10.031)	-0.871 (9.716)	-1.966 (10.550)	-0.511 (9.796)	0.195 (9.499)	-0.311 (9.709)
HDI _{t-1}	5.368* (2.605)	5.238* (2.616)	5.179* (2.562)	5.275* (2.630)	5.100* (2.641)	5.253* (2.628)
Political stability _{t-1}	0.005 (0.008)	0.004 (0.008)	0.005 (0.008)	0.004 (0.008)	0.004 (0.008)	0.004 (0.008)
Press Freedom Index _{t-1}	0.050*** (0.016)	0.047** (0.017)	0.051*** (0.016)	0.049*** (0.016)	0.045** (0.017)	0.048*** (0.016)
Multigroup competition _{t-1}	17.250*** (1.266)	17.201*** (1.292)	17.038*** (1.295)	17.885*** (1.266)	18.190*** (1.292)	18.249*** (1.273)
Muslim population _{t-1}	0.022*** (0.007)	0.023*** (0.006)	0.022*** (0.007)	0.022*** (0.007)	0.023*** (0.006)	0.022*** (0.007)
MAR _{t-1}	2.065** (0.750)	2.077** (0.747)	2.001** (0.728)	2.066** (0.746)	2.093** (0.751)	2.068** (0.745)
Religious fractionalization _{t-1}	2.430* (1.352)	2.376 (1.359)	2.394* (1.361)	2.351* (1.349)	2.351* (1.338)	2.336* (1.346)
Population (ln) _{t-1}	0.931*** (0.277)	0.910*** (0.278)	0.955*** (0.281)	0.717** (0.257)	0.882*** (0.273)	0.882*** (0.271)
Surface area (ln) _{t-1}	-0.695** (0.273)	-0.679** (0.278)	-0.716** (0.275)	0.890*** (0.273)	-0.662** (0.278)	-0.665** (0.275)
Suicide terrorism _{t-1}	0.726** (0.264)	0.737** (0.272)	0.723** (0.269)	-0.670** (0.274)	0.745** (0.273)	0.715** (0.256)
Constant	-39.781*** (6.829)	-39.248*** (6.831)	-39.521*** (6.834)	-39.713*** (6.703)	-39.651*** (6.689)	-39.941*** (6.664)
Wald χ^2	1,094.45	1,106.57	1,011.24	1,286.27	1,193.59	not est
Prob > χ^2	.000	.000	.000	.000	.000	not est
Log pseudolikelihood	-417.70	-417.37	-417.53	-416.84	-416.49	-416.50
Dispersion = 1	10.83	10.76	10.82	10.59	10.57	10.51
Observations	3,072	3,072	3,072	3,072	3,072	3,072

Note: HDI = Human Development Index; MAR = minority at risk; not est = not estimated.

Robust standard errors, * $p < .05$, ** $p < .01$, *** $p < .001$, one-tailed tests.

Table 4. Foreign Military Intervention and Suicide Attacks (GTD).

Variable	Model 7	Model 8	Model 9	Model 10	Model 11	Model 12
Military intervention _{t-1}	0.452 (0.524)					
Military intervention size _{t-1}		0.238 (0.196)				
Military intervention with ground troops _{t-1}		-0.681* (0.396)				
Pro-government intervention _{t-1}				0.603 (0.502)	0.493** (0.197)	
Pro-government military intervention size _{t-1}						1.111* (0.633)
Pro-government military intervention with ground troops _{t-1}				0.778 (0.938)	0.817 (0.804)	0.829 (0.809)
Antigovernment intervention _{t-1}						
Democracy _{t-1}	0.106** (0.038)	0.098** (0.040)	0.204** (0.077)	0.210** (0.075)	0.103** (0.040)	0.107** (0.040)
National capabilities _{t-1}	-3.791 (6.476)	-3.470 (6.220)	-4.764 (10.614)	-5.569 (10.296)	-2.558 (6.083)	-3.088 (6.195)
HDI _{t-1}	4.691* (2.084)	4.507* (2.040)	6.514* (3.081)	7.159* (3.272)	4.649* (2.082)	4.717* (2.105)
Political stability _{t-1}	0.005 (0.006)	0.005 (0.006)	0.005 (0.009)	0.005 (0.009)	0.005 (0.006)	0.005 (0.006)
Press Freedom Index _{t-1}	0.042** (0.013)	0.039** (0.014)	0.064** (0.019)	0.067** (0.020)	0.040** (0.013)	0.042** (0.013)
Multigroup competition _{t-1}	3.221*** (1.019)	3.164*** (1.009)	4.601*** (1.407)	4.540*** (1.376)	3.155*** (1.010)	3.193*** (1.019)
Muslim population _{t-1}	0.019*** (0.005)	0.019*** (0.005)	0.026** (0.009)	0.025** (0.009)	0.020*** (0.005)	0.019*** (0.005)
MAR _{t-1}	1.946*** (0.635)	1.953*** (0.628)	2.715*** (0.812)	2.741*** (0.845)	1.943*** (0.642)	1.937** (0.641)
Religious fractionalization _{t-1}	1.280 (1.024)	1.132 (1.037)	2.099 (1.402)	2.303 (1.442)	1.306 (1.023)	1.335 (1.033)
Population (ln) _{t-1}	0.764*** (0.191)	0.762*** (0.188)	1.089*** (0.279)	1.052*** (0.285)	0.721*** (0.183)	0.737*** (0.185)
Surface area (ln) _{t-1}	-0.414* (0.203)	-0.404* (0.202)	-0.752*** (0.218)	-0.723*** (0.219)	-0.383* (0.204)	-0.396* (0.203)
Suicide terrorism _{t-1}	0.573*** (0.146)	0.582*** (0.147)	not incl	not incl	0.592*** (0.149)	0.581*** (0.149)
Constant	-25.844*** (4.841)	-25.551*** (4.746)	-31.483*** (7.528)	-31.925*** (7.849)	-25.218*** (4.725)	-25.536*** (4.788)
Wald χ^2	256.08	275.79	6.98	73.53	268.58	266.19
Prob > χ^2	.000	.000	.000	.000	.000	.000
Log pseudolikelihood	-532.66	-532.44	-569.33	-569.70	-531.22	-531.22
Dispersion = 1	8.78	8.73	15.18	15.18	8.50	8.64
Observations	3,072	3,072	3,072	3,072	3,072	3,072

Note: Models 9 and 10 are not converged when lagged dependent variable is included. GTD = Global Terrorism Database; HDI = Human Development Index; MAR = minority at risk; not est = not estimated; not incl = not included. Robust standard errors, * $p < .05$, ** $p < .01$, *** $p < .001$, one-tailed tests.

foreign military interventions (of any type) render suicide attacks a more publicly acceptable tactic.

Likewise, the hypotheses about foreign military interventions involving a large number of troops, or ground troops specifically are not supported, as the variables appear not to be significant predictors of suicide attacks in either table (see models 2, 3, and 8). An exception occurs in model 9 in Table 4 where military interventions involving ground troops appear to reduce (not increase) the rate of suicide attacks; however, the p -value is as large as .09. These findings fail to evince consistent support for the second theoretical mechanism, that is, by simply increasing the amount of foreign targets—and thereby the opportunity to garner more attention or to deliver a stronger message—foreign military interventions prompt insurgents to make greater use of suicide attacks.

Support is found, however, for the third theoretical mechanism, that is, when foreign military interventions produce challenging environments for regime opponents by empowering the local state and hardening potential targets of insurgents, armed non-state actors are likely to change their tactics from conventional to suicide attacks to overcome the deficiency. Pro-government foreign interventions,¹⁴ as opposed to those intended to punish the local government or aid rebels, are found to positively predict suicide attacks in model 4 in Table 3, where suicide attacks are measured using the Suicide Attack Database but not in model 10 in Table 4.¹⁵ In both tables, large pro-government military interventions (see models 5 and 11) and pro-government military interventions involving ground troops specifically (see models 6 and 12) are found to be significant and positive.¹⁶ The overall results in Tables 3 and 4 give credence to the third hypothesis—Hypotheses 3a, 3b, and 3c—about the strategic choice of regime opponents in response to foreign military interventions. As a further robustness check, we reestimated models 5, 6, 11, and 12, examining antigovernment interventions involving large numbers of troops and ground troops—while controlling for pro-government interventions—and found that they do not significantly predict suicide attacks. Furthermore, the coefficients for both large antigovernment interventions and those involving ground troops are negative. This further confirms our hypotheses that direction, size, and whether or not ground assets are used are important for determining insurgent use of extreme tactics like suicide attacks.

Tables 3 and 4 have used all countries available in the data set. However, it may be interesting to focus on only those countries suffering from internal conflict. The rationale is that suicide attacks are more likely to occur in the same areas of conflict in which foreign military interventions are expected. For example, it would not be expected that a stable country such as New Zealand would experience either an intervention or a suicide attack launched by domestic insurgents in any particular year. We identify countries prone to civil conflict which is defined as a contested incompatibility between a government and

one or more opposition groups that results in at least twenty-five battle deaths in a year. The data are gathered from the Uppsala and PRIO Armed Conflict Dataset (i.e., onset2cv410). Tables 5 and 6 replicate Tables 3 and 4 after limiting the sample to countries prone to internal conflict. The results do not deviate from those in Tables 3 and 4; indeed they support our theoretical arguments more consistently than the previous ones. Although the intervention-related variables in models 1, 2, and 3 in Table 5 are not statistically significantly different from zero, the pro-government intervention-related variables in models 4, 5, and 6 achieve significance. The same pattern emerges in Table 6.

We now turn to the question of which specific element of the theoretical expectation—tip in the balance of power versus hardening of targets—provides more explanatory power as to how interventions prompt suicide attacks. For the purposes of this investigation, we look into the substantive effect of variables in the estimations in Tables 3 and 4. We find that the effects of pro-government interventions, large pro-government interventions, and pro-government interventions involving ground troops on suicide attacks are substantive across the board. To calculate a baseline probability of a suicide attack against which to make comparisons, we calculate the marginal effects of these variables by setting the continuous variables in the estimations at their means and the dichotomized variables at zero. We then adjust the pro-government intervention variables one at a time to see the change in the predicted probability of suicide attacks. We find that countries experiencing pro-government interventions experience 271.6 percent more suicide attacks than countries that do not, holding all other factors constant. Increasing the scale of pro-government interventions from one level to another (from 1,000 to 5,000 troops) produces 155.8 percent, when using the GTD measure of attacks, and 164.3 percent, when using the Suicide Attack Database, more suicide attacks in the country experiencing the intervention. However, the substantive effects of ground troops in pro-government interventions are about double that of intervention size. Pro-government interventions that involve ground troops boost suicide attacks in the country experiencing the intervention by 346.8 percent (using Suicide Attack Database) and 303.8 percent (using GTD). This suggests to us that the “hardening” story is weightier than the balance of power one, though the substantive analysis offers evidence for both expectations, linking military interventions to suicide attacks.

All of these results are robust to the inclusion of other important covariates. In all models, the indicators for press freedom, Muslim population, presence of an MAR group, and national population are all significant, positive predictors of suicide attacks in countries. The dummy variable for multigroup competition is significant, with a quite large coefficient, and the HDI is also significant but counterintuitive. The effects of democracy, surface area, and a lagged term for suicide attacks are not consistent in the models in Table 3 but are found to be consistently significant in Table 4. Indicators for national capabilities, political

Table 5. Foreign Military Intervention and Suicide Attacks (Suicide Attack Database): Civil Conflict-prone Countries Only.

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Military intervention _{t-1}	-0.066 (0.475)					
Military intervention size _{t-1}		-0.107 (0.194)				
Military intervention with ground troops _{t-1}			-0.504 (0.608)			
Pro-government intervention _{t-1}				1.078** (0.420)	0.551** (0.197)	1.312*** (0.424)
Pro-government military intervention size _{t-1}						
Pro-government military intervention with ground troops _{t-1}						
Antigovernment intervention _{t-1}				-0.913 (0.846)	-0.935 (0.851)	-0.908 (0.842)
Democracy _{t-1}	-0.074 (0.057)	-0.080 (0.069)	-0.074 (0.061)	-0.069 (0.052)	-0.084 (0.054)	-0.069 (0.051)
National capabilities _{t-1}	66.219*** (19.617)	79.743** (30.073)	67.181*** (19.514)	67.625*** (19.003)	69.749*** (18.438)	67.565*** (18.915)
HDI _{t-1}	13.347*** (3.852)	17.800*** (3.774)	13.373*** (3.932)	12.594*** (3.832)	12.447*** (3.919)	12.530*** (3.827)
Political stability _{t-1}	-0.037** (0.014)	-0.050** (0.019)	-0.037** (0.015)	-0.037** (0.014)	-0.039** (0.013)	-0.037** (0.014)
Press Freedom Index _{t-1}	0.059** (0.020)	0.076** (0.023)	0.062** (0.021)	0.055** (0.021)	0.049* (0.022)	0.055** (0.021)
Multigroup competition _{t-1}	17.735*** (1.089)	18.712*** (1.225)	17.024*** (1.138)	17.981*** (0.984)	17.542*** (0.953)	18.007*** (0.973)
Muslim population _{t-1}	0.018** (0.008)	0.017* (0.010)	0.017* (0.008)	0.017** (0.007)	0.019** (0.007)	0.017** (0.007)
MAR _{t-1}	15.988*** (1.474)	17.482*** (1.838)	15.361*** (1.486)	16.260*** (1.426)	15.798*** (1.429)	16.258*** (1.438)
Religious fractionalization _{t-1}	4.305* (2.548)	5.548* (2.872)	4.262* (2.550)	4.045 (2.489)	4.105* (2.481)	4.018 (2.484)
Population (ln) _{t-1}	1.606*** (0.441)	2.011*** (0.457)	1.681*** (0.466)	0.407* (0.218)	1.483*** (0.432)	1.483*** (0.422)
Surface area (ln) _{t-1}	-1.927*** (0.373)	-2.430*** (0.437)	-1.989*** (0.386)	1.496*** (0.423)	-1.857*** (0.366)	-1.846*** (0.363)
Suicide terrorism _{t-1}	0.417* (0.230)	not incl	0.409* (0.231)	-1.856*** (0.362)	0.425* (0.229)	0.407* (0.217)
Constant	-49.821*** (10.346)	-55.595*** (12.417)	-49.200*** (10.655)	-48.163*** (10.066)	-46.383*** (10.162)	-47.996*** (10.017)
Wald χ^2	1,103.48	not est	968.24	not est	1,426.04	1,407.88
Prob > χ^2	.000	not est	.000	not est	.000	.000
Log pseudolikelihood	-306.29	318.60	-305.81	-304.97	-304.56	-304.72
Dispersion = 1	7.75	10.23	7.69	7.38	7.34	7.32
Observations	1,352	1,352	1,352	1,352	1,352	1,352

Note: HDI = Human Development Index; MAR = minority at risk; not est = not estimated. Robust standard errors. *p < .05. **p < .01. ***p < .001, one-tailed tests.

Table 6. Foreign Military Intervention and Suicide Attacks (GTD): Civil Conflict-prone Countries Only.

Variable	Model 7	Model 8	Model 9	Model 10	Model 11	Model 12
Military intervention _{t-1}	-0.015 (0.384)					
Military intervention size _{t-1}		0.144 (0.202)				
Military intervention with ground troops _{t-1}			-0.594 (0.411)			
Pro-government intervention _{t-1}				0.721* (0.401)	0.529** (0.179)	1.060** (0.394)
Pro-government military intervention size _{t-1}						
Pro-government military intervention with ground troops _{t-1}						
Antigovernment intervention _{t-1}				-0.373 (0.654)	-0.131 (0.708)	-0.133 (0.707)
Democracy _{t-1}	0.014 (0.039)	0.010 (0.039)	0.018 (0.057)	0.025 (0.049)	0.001 (0.040)	0.008 (0.039)
National capabilities _{t-1}	38.415** (15.585)	38.590** (15.272)	62.106*** (20.128)	60.533** (20.502)	39.885** (15.019)	39.623** (15.307)
HDI _{t-1}	10.879*** (2.844)	10.747*** (2.902)	14.687*** (3.083)	14.619*** (2.994)	10.465*** (2.872)	10.665*** (2.850)
Political stability _{t-1}	-0.024* (0.011)	-0.024* (0.011)	-0.039** (0.014)	-0.037** (0.014)	-0.025* (0.011)	-0.024* (0.011)
Press Freedom Index _{t-1}	0.046** (0.018)	0.042* (0.019)	0.063** (0.021)	0.063*** (0.020)	0.037* (0.019)	0.041* (0.018)
Multigroup competition _{t-1}	3.783*** (1.234)	3.748*** (1.221)	4.790*** (1.325)	4.872*** (1.203)	3.760*** (1.200)	3.784*** (1.201)
Muslim population _{t-1}	0.017** (0.006)	0.018** (0.006)	0.020** (0.008)	0.019* (0.008)	0.018** (0.006)	0.018** (0.006)
MAR _{t-1}	1.046 (1.399)	0.995 (1.391)	1.844 (1.708)	1.752 (1.703)	0.932 (1.396)	0.985 (1.402)
Religious fractionalization _{t-1}	3.364 (2.085)	3.330 (2.086)	4.119* (2.293)	4.100* (2.315)	3.296 (2.051)	3.313 (2.067)
Population (ln) _{t-1}	1.112*** (0.278)	1.080*** (0.270)	1.468*** (0.325)	1.398*** (0.322)	1.033*** (0.278)	1.063*** (0.275)
Surface area (ln) _{t-1}	-1.189*** (0.333)	-1.158*** (0.333)	-1.818*** (0.360)	-1.752*** (0.360)	-1.125*** (0.343)	-1.153*** (0.337)
Suicide terrorism _{t-1}	0.291** (0.145)	0.301** (0.152)	not incl	not incl	0.312* (0.155)	0.295* (0.150)
Constant	-21.386*** (6.098)	-20.887*** (6.037)	-21.846** (7.519)	-21.431** (7.500)	-19.833*** (5.858)	-20.424*** (5.935)
Wald χ^2	198.10	214.71	60.02	77.48	215.69	200.74
Prob > χ^2	.000	.000	.000	.000	.000	.000
Log pseudolikelihood	-386.47	-386.18	-399.89	-400.12	-384.77	-385.55
Dispersion = 1	6.08	6.03	7.86	7.91	5.85	5.94
Observations	1,352	1,352	1,352	1,352	1,352	1,352

Note: GTD = global Terrorism Database; HDI = Human Development Index; MAR = minority at risk; not incl = not included. Robust standard errors, *p < .05, **p < .01, ***p < .001, one-tailed tests.

stability, and religious fractionalization appear to have little to no bearing on the incidence of suicide attacks.

Conclusion

The overall results of our study indicate that countries experiencing foreign military interventions are more likely to see their regime opponents make greater use of suicide attacks, but that this is determined by specific types of interventions and features of the intervention itself. Consistent with our theory that foreign military interventions worsen the strategic environment for insurgents, by strengthening the local regime and producing better defended (hardened) targets, and thereby prompt them to resort to nonconventional tactics such as suicide attacks, we find evidence that pro-government interventions lead to an increase in suicide tactics, particularly when such interventions involve larger amounts of troops and, especially, ground troops. Although our empirical study is very much a first-cut analysis, we regard these findings as strong evidence that exogenous factors such as foreign military interventions have implications for the tactical choices armed groups make, and that those choices have consequences for the types of violence that militant groups engage in.

Our research has both scholarly and policy implications. In terms of future scholarly work, the results demonstrate the importance of the larger strategic environment in which armed non-state actors operate and how this affects their tactical behaviors. We find that foreign military interventions matter in choices of attack tactics by insurgents. However, the strategic environment of an internal conflict is also likely affected by other sorts of international factors and is certainly affected by domestic-level factors. An interesting future research agenda might examine how processes like tipping the balance of power against insurgents or hardening targets might be promoted by other international factors, such as foreign aid, or by domestic processes, such as institutional change or economic development. Moreover, future research might investigate subnational variation in hardening of targets as hardening is not the sole purview of foreign interveners.

Our findings also provide policy implications related to terrorism, intrastate conflict, and international security. The core finding—that pro-government foreign interventions involving significant ground troop presence lead to an increase in suicide attacks—resonates with Pape's (2003, 2005) insights regarding larger-scale foreign occupations, that is, such policies are counterproductive because they produce more extreme forms of violence as a form of resistance. Indeed, our findings are compatible with the shift of current US military policy that moves away from military interventions with a large footprint toward “lighter” forms of intervention that use small numbers of ground troops, special operations forces, or airpower only (e.g., Iraq, Afghanistan, and Pakistan).

Appendix

Table A1. A List of Sample Countries.

Afghanistan	Congo	Honduras	Mexico	Singapore
Albania	Costa Rica	Hungary	Mongolia	Slovakia
Algeria	Croatia	India	Morocco	Somalia
Angola	Cuba	Indonesia	Mozambique	South Africa
Argentina	Cyprus	Iran	Namibia	South Korea
Armenia	Czech Rep	Iraq	Nepal	Spain
Australia	Denmark	Ireland	Netherlands	Sri Lanka
Austria	Djibouti	Israel	New Zealand	Sudan
Azerbaijan	Dominican Rep.	Italy	Nicaragua	Swaziland
Bahrain	Ecuador	Ivory Coast	Niger	Sweden
Belgium	Egypt	Jamaica	Nigeria	Switzerland
Benin	El Salvador	Japan	North Korea	Syria
Bhutan	Eritrea	Jordan	Norway	Thailand
Bolivia	Ethiopia	Kenya	Oman	Togo
Botswana	Fiji	Kuwait	Pakistan	Trinidad and Tobago
Brazil	Finland	Kyrgyzstan	Panama	Tunisia
Bulgaria	France	Laos	Papua New Guinea	Turkey
Burkina Faso	Gabon	Lebanon	Paraguay	Turkmenistan
Burma	Gambia	Lesotho	Peru	Uganda
Burundi	Georgia	Liberia	Philippines	Ukraine
Cambodia	Germany	Libya	Poland	USA
Cameroon	Ghana	Macedonia	Portugal	UK
Canada	Greece	Madagascar	Romania	Uruguay
Central African Rep.	Guatemala	Malawi	Russia	Venezuela
Chad	Guinea	Malaysia	Rwanda	Zambia
Chile	Guinea Bissau	Mali	Saudi Arabia	Zimbabwe
China	Guyana	Mauritania	Senegal	
Colombia	Haiti	Mauritius	Sierra Leone	

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Notes

1. Foreign military interventions are defined in this study as the insertion of regular armed forces, including airborne and seaborne incursions, by a country into the territory of another country during the course of a political dispute (see <http://www.k-state.edu/polsci/intervention/>).
2. We use the term “suicide attack” as opposed to “suicide terrorism” for both theoretical and empirical reasons. Terrorism is frequently, though not exclusively, used as a term for forms of political violence deployed against civilians rather than military, police, or governmental targets (Crenshaw 1981). Yet, because we theorize that interventions have an effect on the tactics used by armed non-state actors rather than on the specific target selection of those actors, the term suicide attacks rather than suicide terrorism is used in this study. In addition, in the empirical tests the dependent variable of this study includes attacks against all types of targets, including non-civilian ones.
3. Foreign military occupations are commonly distinguished by the fact that they frequently occur in the wake of international military interventions (IMIs) and involve coercive authority by a foreign power’s military forces over the local inhabitants (see Pape 2003, 2005).
4. There are some obvious exceptions to this, that is, the Islamic Republic of Iran is a well-known state sponsor of the Lebanon-based Hezbollah movement and has provided some financial support to the Hamas and Islamic Jihad movements in the Palestinian Occupied Territories, all of which have utilized suicide attacks. The Pakistani Inter-services Intelligence agency provided support to the Lashkar-e-Taiba movement and the Taliban, both of which also have used suicide tactics. However, Byman (2005) documents that overt support of such groups is a rarity. Furthermore, state sponsorship of armed movements that use suicide attacks is a strong violation of international norms that generates costs—severe in the case of Iran, which suffers from tight economic and political sanctions—for the supporting state. This helps to explain why state sponsorship of armed movements engaged in suicide tactics remains a rarity while state-supported movements that use conventional tactics is relatively common.
5. Appendix Table A1 displays a list of sample countries.
6. The temporal limitations of this study are data-driven, that is, the database of foreign military interventions used to create the main independent variables ends in 2005. However, we argue that this actually produces a conservative test of our hypothesis linking pro-government interventions to suicide attacks. When we look at the post-2005 years, we note a surge of suicide attacks mainly due to pro-government interventions in Iraq and Afghanistan.
7. This estimation method is chosen over Poisson regression because the variance in our suicide attack data is much larger than its mean. Negative binomial regression adds a dispersion parameter to model the unobserved heterogeneity among observations, which allows for the variance to exceed the mean. This corrects the overdispersion found in Poisson regression models (Hilbe 2011; Long and Freese 2006).
8. We only test the impact of various types of interventions on the likelihood that the target country of the intervention will experience increased suicide attacks. We do not examine the impact of interventions on the risk of suicide attacks against the intervening party.

9. See <http://www.start.umd.edu/start/>. Recently, Santifort-Jordan and Sandler (2014) collected a unique data set for 1998–2010 of about 2,500 suicide incidents, using the Global Terrorism Database (GTD), the International Terrorism: Attributes of Terrorist Events, and the RAND Database of Worldwide Terrorism Incidents. The time period of these data overlaps with only seven of our study years and the number of countries covers only 47 (excluding West Bank/Gaza) of our sample of 138 countries. Because the estimated results offered by these data are not compatible with those reported in our next section, we have chosen not to utilize the Santifort-Jordan and Sandler database.
10. The specific ordinal values of the troop amount variable are 0 = none; 1 = 1 to 1,000 troops; 2 = 1,001 to 5,000; 3 = 5,001 to 10,000; and 4 = 10,000 or more.
11. The IMI data set does not include an indicator for whether or not the intervention involved ground troops. We constructed one by removing all “small” interventions involving air or sea power—interventions that involve zero foot soldiers—and then by identifying any other aerial or naval-only interventions using the short narrative descriptions of the interventions.
12. When other control variables such as civil wars and gross domestic product per capita are included, the main findings are similar to those that are reported in the next section.
13. Our one-tailed tests are equivalent to the two-tailed tests that appear in some terrorism studies. For example, Collard-Wexler, Pischedda, and Smith (2014) two-tailed tests at the .10, .05, and .01 levels are comparable to ours, as a two-tailed test at the .10 level is equivalent to two separate one-tailed tests, each at the .05 level.
14. Neutral military intervention is the reference category in the estimations where pro- and antigovernment interventions together are tested (see Models 4 to 6 and 10 to 12).
15. We speculate that the discrepancy can be attributed to the fact that, as compared to the Suicide Attack Database, suicide incidents in the GTD become frequent only after 1988. The inclusion of the size of the territory and population may also have weakened the significance, as a very large military can spread itself quite thin over a larger territory, which impacts how hardened we would expect targets to be.
16. Our analysis assumes a causal relationship in which pro-government interventions predict suicide attacks. To test for reverse causation, we ran estimations using counts of suicide attacks to predict subsequent year interventions. These reveal that neither measure of suicide attacks prompt interventions of any type, whether interventions in general or pro- or antigovernment interventions.

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