



Limited Intervention

Evaluating the Effectiveness of Limited Stabilization, Limited Strike, and Containment Operations

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Preface

This report documents the results of the project “Limited Interventions – Will They Work?” The project analyzed the strategic effects of low-cost and small-footprint military options across a range of irregular warfare operations and in a range of operational environments.

The findings should be of interest to a wide audience in the foreign policy and defense communities with an interest in the stabilization of fragile states, counterinsurgency, counterterrorism, and related issues. The report should be of particular interest to strategists, force planners, and the special operations community.

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Contents

Preface iii

Figures and Tables..... vii

Summary xi

Acknowledgments..... xxi

Abbreviations..... xxiii

CHAPTER ONE

Introduction 1

An Overview of Recent Policy Debates on Limited Intervention..... 3

A Framework for Evaluating the Effectiveness of Limited Interventions8

CHAPTER TWO

Limited Stabilization11

The Policy Debate13

Research Approach 26

Findings 38

Summary of Findings and Policy Implications52

CHAPTER THREE

Limited Strike55

The Policy Debate57

Research Approach61

Findings71

Summary of Findings and Policy Implications77

CHAPTER FOUR

Indirect Options: Interdiction, Mitigation, and Containment83
Containment..... 84
Mitigation: Safe Areas and NFZs..... 92
Interdiction 107
Summary of Findings and Policy Implications 120

CHAPTER FIVE

Conclusions and Policy Implications.....123
What Limited Interventions Can and Cannot Accomplish.....123
Costs of Military Interventions129
Concluding Thoughts on Intervention132

APPENDIXES

A. Models for Limited Stabilization 141
B. Limited Strike Statistical Models and Results 171
C. Statistical Models Assessing U.S. Containment Efforts201
D. Case Studies for Mitigation..... 211
E. Case Studies for Interdiction..... 227
F. Costs of U.S. Military Interventions.....235
Online Appendix. Visualization of Limited Strike Statistical Results

Available for download at www.rand.org/t/RR2037

References241

Figures and Tables

Figures

- 1.1. Mapping Limited Intervention Options for Irregular Warfare 8
- 21. Intervention Sizes and Troop-Contributing Countries in Selected Interventions29
- 22. Force-to-Population Ratios for Selected Foreign Military Interventions..... 30
- 23. Propensity for Foreign Military Intervention as a Function of Insurgent Strength 36
- 24. Intervening Force Size and the Probability of Favorable Outcomes 40
- 25. Foreign Military Intervention and Conflict Intensity 44
- 26. Foreign Military Intervention and Conflict Duration.....45
- 27. Foreign Military Intervention and Conflict Duration, by Intervening Country 46
- 28. War Recurrence After Foreign Military Intervention..... 48
- 29. War Recurrence Associated with Different Interveners49
- 210. War Recurrence Associated with Different Scenarios 50
- 31. Count of U.S. Drone Strikes by Year 57
- 32. Distribution of Drone Strikes in Pakistan and Yemen, 2004–2015.....63
- 33. Scale of U.S. Drone Campaigns in Pakistan and Yemen..... 64
- 34. Levels of Violence in Pakistan and Yemen65
- 35. Changes in Militant Attacks in Pakistan over Time 71
- A.1. Troop Effects Across Different Thresholds159
- B.1. Number of Militant Attacks in North Waziristan and Other FATA, Pakistan, 2004–2014.....174

B2	Number of Militant Attacks in Yemen, 2011–2014.....	175
B3	Number of Propaganda Statements in Pakistan, 2007–2014	177
B4	Number of Propaganda Statements in Yemen, 2007–2014... ..	178
E1.	Opium Production and Prices in Afghanistan, 1999–2015	229
E2	ISIL Revenue Sources, 2015	233

Tables

31.	Marginal Effects of Drone Strikes on Militant Activity and Propaganda Output in Pakistan and Yemen.....	73
32	Marginal Effects of HVI Removals on Militant Activity and Propaganda Output in Pakistan and Yemen.....	75
33.	Marginal Effects of Civilian Casualties on Militant Activity and Propaganda Output in Pakistan and Yemen.....	77
41.	Safe Areas	96
42.	NFZs.....	97
43.	Interdiction Typology	111
5.1.	Approximate Costs of Selected U.S. Interventions	130
A1.	Conflict Outcomes and Foreign Intervention.....	146
A2	Conflict Recurrence and Foreign Intervention	147
A3.	Summary Statistics.....	150
A4	Logistic Models of Pro-Government Intervention.....	154
A5.	Logistic Models of Conflict Outcomes	157
A6.	Fixed-Effects Models of Levels of Violence (CIVTOT)	161
A7.	Cox Proportional Hazard Models of Civil War Duration.....	163
A8.	Cox Proportional Hazard Models of Civil War Recurrence	167
B1.	Summary of Month-to-Month Model Results.....	183
B2	Change in Militant Violence, Months 0–3 and Months 4–6, in Pakistan	185
B3.	Change in Militant Violence, Months 0–3 and Months 4–6, in Yemen	186
B4.	Change in Militant Violence, by Month, in Pakistan	187
B5.	Change in Militant Violence, by Month, in Yemen.....	189
B6.	Change in Propaganda Statements, Months 0–3 and Months 4–6, in Pakistan	191

B.7.	Change in Propaganda Statements, Months 0–3 and Months 4–6, in Yemen	192
B.8.	Change in Statements per Drone Strike, by Month, in Pakistan	193
B.9.	Change in Statements per Drone Strike, by Month, in Yemen.....	194
B.10.	Change in Statements in Months Following HVI Removal, by Month, in Pakistan	195
B.11.	Change in Statements in Months Following HVI Removal, by Month, in Yemen.....	196
B.12.	Change in Statements in Months Following Civilian Fatalities, by Month, in Pakistan	197
B.13.	Change in Statements in Months Following HVI Removal, by Month, in Yemen.....	198
C.1.	Statistical Models Assessing the Likelihood and Size of U.S. Military Assistance to States Bordering Those in Conflict.....	204
C.2.	Statistical Models Assessing the Likelihood of Conflict in States Bordering Those in Conflict	206
C.3.	Statistical Models Assessing the Likelihood of Conflict in Higher GDP per Capita States Bordering Other States in Conflict.....	208
C.4.	Statistical Models Assessing the Likelihood of Conflict in More-Democratic States Bordering Other States in Conflict.....	209

Summary

Following the protracted and costly counterinsurgency campaigns in Iraq and Afghanistan, the United States has turned to lower-cost, light- or small-footprint options. These options emphasize airpower and limited commitments of U.S. ground forces (typically special operations forces) to attain narrowly defined objectives, such as the weakening of specific terrorist organizations. This approach to combating irregular threats has been visible in limited U.S. military interventions in such countries as Somalia, Yemen, Libya, and Iraq (again).

For a time, this light-footprint approach achieved something like consensus within the U.S. defense community. More recently, however, it has come under criticism from two sides — from those who think that the United States should not be intervening at all and from those who think that the United States should use force more robustly when it does make the decision to intervene. Rigorous, evidence-based reckonings of the uses and limitations of these operations have been rare.

This report engages these debates by rigorously evaluating the effectiveness of limited military interventions. More specifically, the report examines three different types of operations, comparing their outcomes with those of larger interventions and the option of nonintervention:

- *limited stabilization*: small-scale military operations conducted by ground forces (typically supported by airpower) intended to terminate a conflict, either by helping the supported government win or by enforcing a negotiated settlement on terms that are at least acceptable (if not favorable) to the government

- *limited strike*: the use of air strikes (typically, although not always, conducted by unmanned aerial vehicles, or drones) or direct action by special operations forces to kill or capture militants, especially militant leaders, in an effort to degrade the capabilities of militant organizations
- *indirect options*: operations to limit the consequences of ongoing political violence, by strengthening front-line states (those countries neighboring a country suffering civil war) to prevent conflict spillover, by interdicting the resource flows that sustain militant organizations, or by mitigating the humanitarian suffering caused by conflict.

Research Approach

Different research approaches are appropriate for assessing each of these policy options. For most of these types of intervention, we had large numbers of cases to compare and contrast and relatively high-quality data, so we were able to employ statistical models. These models help us to estimate the likely impact of various policy choices and thus are particularly appropriate when assessing cost-benefit trade-offs. Where statistical methods were inappropriate because of a limited number of cases or poor data quality, we used qualitative approaches.

To assess the effects of ground interventions on conflict outcomes, intensity, duration, and recurrence, we conducted statistical analyses of 250 cases of civil war or insurgency with more than 50 instances of foreign military intervention. For these analyses, we drew primarily on existing, well-regarded data sets on conflict, supplementing existing data sources with additional research on the details of intervening military forces.

The United States possesses a number of military options for pursuing limited strikes against militant organizations. In practice, however, when the United States does not have a sizable military presence on the ground, the vast majority of such strikes have been conducted by unmanned aerial vehicles. Consequently, in our analysis, we focused on the effects of U.S. drone strikes — specifically, the nearly 500 such

strikes conducted between 2002 and 2014 in Pakistan and Yemen. The large number of drone strikes allowed us to conduct a statistical analysis of the effects on militants' ability to conduct attacks and issue propaganda. By comparing the effects of the drone campaigns in the very different contexts of Pakistan and Yemen, we can understand the ways in which operational environments influence the success of limited strikes.

Finally, to assess the wide range of indirect options available to the United States, we employed both quantitative and qualitative analyses. To evaluate the effectiveness of using military assistance to buttress neighboring states against the risk of conflict spillover, we used a statistical model of the risk of conflict spillover and how that risk has been affected by increases in U.S. military aid. In the cases of interdiction and mitigation operations, we used case studies to derive a number of broad trends.

Findings

By leveraging data on hundreds of cases and employing a variety of advanced statistical methods, we can develop a highly detailed and nuanced picture of the consequences of the full range of limited intervention options.

Limited Stabilization

For all of their costs and risks, foreign military interventions can substantially improve the odds of achieving a positive outcome in a conflict (either a victory for the partner government or a negotiated settlement that is acceptable to it).

- **Small interventions can reduce the odds of defeat, but not even large interventions can significantly improve the chances of outright victory.** Intervening forces can influence the outcomes of an insurgency or other civil war in many ways—most obviously through direct combat but also by training and advising indigenous forces, providing combat enablers that the part-

ner government might lack (such as signals intelligence or aviation), and facilitating the distribution of civil assistance. Not all of these functions require large numbers of troops. Consequently, it should come as no surprise that even small numbers of troops can make a meaningful difference in conflict outcomes. According to our models, interventions of 1,000 soldiers improve the probability of a negotiated settlement between the government and rebels from 23 to approximately 46 percent, and larger interventions can improve these odds still more – albeit at a diminishing rate of return. But while foreign interventions can help prevent the defeat of a partner government, they do not, on average, increase the chances of military victory. This inability of foreign military force to secure victory holds true regardless of the number of troops deployed; even large interventions do not appear capable of decisively defeating insurgents, in most cases.

The positive contributions of military interventions, however, often come at a cost in terms of conflict intensity, duration, and likelihood of recurrence, although the effects differ depending on the nature of the intervening country and the operational environment.

- **Foreign interventions by non-Western countries into ongoing conflicts are generally associated with higher levels of violence.** Foreign military interventions might suppress violence by decisively tilting the balance of power in favor of the government, or they might exacerbate violence by provoking nationalist backlash or removing the partner government's incentive to compromise. Although either of these effects might predominate in individual cases of conflict, on average, we find that the United States, France, and United Kingdom neither worsen nor improve levels of violence during ongoing wars.¹ Interventions by other countries, however, are associated with more-intense conflicts. Decisionmakers in the United States should carefully weigh this

¹ Of course, preemptive interventions launched into countries that were not at war (such as the U.S. intervention in Iraq in 2003) will, by definition, increase levels of violence.

risk of intensified violence when they consider asking U.S. allies to conduct interventions that the United States itself is unwilling to undertake.

- **Foreign interventions are associated with much longer wars.** Foreign intervention might shorten wars by tipping the balance of power decisively in favor of the government, or they might prolong wars by expanding the number of actors involved, increasing uncertainty about the true balance of power (because of uncertainty about whether foreign interveners will remain committed to fighting) or provoking countervailing interventions on behalf of rebels. Interventions — especially those of the United States — are associated with much lengthier periods of fighting. More specifically, interventions are associated with wars lasting some 50 to 60 percent longer than those not experiencing intervention.
- **The durability of the outcomes achieved through foreign military intervention depends on the level of development of the partner state and the identity of the intervening state.** Internal wars recur at an extremely high rate. Roughly half of wars, once ended, will resume again within a quarter century or less, and more than one-third relapse into violence within five years of the end of the earlier war. Obviously, a foreign military intervention can hardly be considered a strategic success if a victory, once won, disintegrates soon thereafter. But the durability of a post-conflict political order is heavily influenced by the conflict-affected country's level of development, with less developed countries being much more likely to experience conflict recurrence in the wake of foreign intervention. Rates of conflict recurrence also vary between intervening countries. Interventions by the United States tend to have lower rates of war recurrence, while interventions by non-Western interveners are associated with extremely high rates of war recurrence.

Limited Strike

By assessing the effects of drone strikes on multiple dimensions of militant capabilities and in two different operational contexts, we can develop a highly nuanced picture of the effectiveness of these strikes.

- **Drone strikes have had opposite effects depending on the intensity of the drone campaign and the operational environment in which it is conducted.** In Pakistan, where the U.S. drone campaign was intensive and the United States' partner (the government of Pakistan) was largely able to contain the threat posed by militant groups, drone strikes were consistently associated with lower levels of militant activity. Each drone strike was associated with a decline of nearly two militant attacks in the first six months following the strike – or about a 12 percent decline in militant attacks for each strike in those first six months. In contrast, in Yemen, where the drone campaign was much less intensive and the partner regime was collapsing, U.S. drone strikes were consistently counterproductive – that is, they were associated with higher levels of militant activity.
- **The disruptive effects of drone strikes are limited to militant attacks.** On average, these strikes do not appear to meaningfully disrupt and degrade militants' ability to produce propaganda.
- **The effects of drone strikes decline rapidly over time.** In the first three months following a drone strike, the strikes have relatively substantial effects (both positive, in the case of Pakistan, and negative, in the case of Yemen). But in every case, the change in militant activity declines in the following three months, often fading into statistical insignificance. We do not consider the effect of drone strikes past the first six months, when their effects become increasingly difficult to distinguish from other changes on the ground. Drone strikes may continue to exercise effects on levels of militant activity, but our analysis suggests that these effects are likely to be small.
- **Successful leadership targeting has substantial effects – both favorable and unfavorable.** Successful strikes against so-called high-value individuals (HVIs) in Pakistan are associated with sizable declines in militant attacks. On the other hand, in Yemen, where drone strikes again appear to have counterproductive effects, HVI removals are associated with large increases in both militant attacks and propaganda output. And even in Pakistan, the positive effects of HVI removals are limited to mili-

tant attacks; they actually appear to spur increases in propaganda statements.

- **Unsurprisingly, civilian casualties associated with drone strikes have some counterproductive results.** Unfortunately, poor data quality limited our ability to estimate these effects with any precision.

Indirect Options

In an effort to limit the costs and risks of direct military intervention, the United States often turns to indirect options, such as efforts to contain a conflict within a single country; initiatives to interdict a targeted militant group's flows of revenues, people, or materiel; or such operations as no-fly zones (NFZs) or safe areas designed to mitigate the humanitarian costs of conflict. In general, these options cost the United States less to implement than do direct interventions. They also tend to be limited, however, in what they can accomplish on the ground.

- **Efforts to contain conflicts by providing military assistance to neighboring partner states do not appear to be effective.** The United States typically increases its security assistance to partner nations that border countries in conflict, likely with the intention of increasing resilience in the face of a high risk of conflict spillover. But there is no evidence that such assistance actually decreases the risk of violent conflict in these partner nations; they descend into war about as often as states that do not receive U.S. military aid.
- **Operations to mitigate the humanitarian consequences of wars – such as NFZs or safe areas – are typically much more costly and carry much greater risk than anticipated.** NFZs are attractive in that they minimize risk to the United States. But they seldom provide substantial protection to civilians without corresponding efforts on the ground. Safe areas established by ground forces can be much more effective at protecting civilians, especially when the populations to be protected are highly concentrated, but such safe areas usually require major military

commitments to accomplish their objectives. Historical efforts to create such safe areas “on the cheap” often resulted in disaster. In part because of these limitations, both safe areas and NFZs carry considerable risk of mission creep.

- **Interdiction is considerably more promising as a supporting element in a strategy than as the central pillar of a strategy, let alone a policy used in isolation.** Several factors are required to make the approach promising, including the dependence of the targeted group on the flow of resources, materiel, or people to be interdicted; the target’s adaptability; geography; and the cooperation of key external actors (e.g., key transit states or countries that provide markets for contraband that funds militant activity). Even where all of these factors are favorable, interdiction generally only weakens targeted groups and is thus best understood as a supporting element in a broader strategy.

Policy Implications

Taken together, these findings suggest a nuanced interpretation of the effects of limited interventions.

The insertion of foreign ground forces appears to be the option most likely to fundamentally alter the trajectory of a conflict and secure an end to fighting on terms the United States will find acceptable. Even in the cases of large troop deployments, however, these interventions tend to improve the odds of a political solution through a negotiated settlement, but they do not appear able to secure an outright military victory. Where the United States is unwilling to accept such ambiguous outcomes, it would be best not to intervene at all.

There are many less costly alternatives to direct intervention by U.S. forces on the ground. All of these options, however, come with their own limitations.

Many U.S. decisionmakers hope to share the burdens of intervention in ongoing conflicts by asking U.S. allies and partners to intervene instead. In many cases, such burden-sharing is entirely appropriate. But it does come with risks. Interventions by many of the United States’

partners are associated with somewhat higher intensities of violence and higher risk of war recurrence after a peace is eventually achieved.

Alternatively, the United States could seek to disrupt and degrade militant groups in these conflicts through airpower—in particular, through drone strikes. But such strikes appear to achieve only limited goals, and only in certain contexts. Drone strikes can be successful at disrupting militant attacks, but they appear unable to reduce militant propaganda activity. And even the positive effects on militant attacks are limited to contexts in which the U.S. drone campaign is extensive and enduring and conducted in conjunction with at least a minimally capable partner on the ground. In other contexts, drone strikes appear to undermine the achievement of U.S. strategic goals.

Finally, the United States can turn to indirect measures, such as seeking to contain a conflict, mitigate its humanitarian consequences, or interdict the various streams (of people, revenues, and materiel) that sustain militant groups. But all of these options appear to be effective in only relatively narrow circumstances and are best understood as elements supporting a larger, more costly, and more intensive approach to managing the conflict.

The findings of this report do not suggest a simple remedy for cases of insurgencies and civil wars that threaten U.S. interests. The United States typically contemplates military action in such conflicts only because all of the simple, inexpensive, and low-risk options have already failed. What this report aims to do instead is provide a rigorous and empirically grounded evaluation of the costs and trade-offs involved in a variety of approaches to managing these conflicts.

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Abbreviations

ACD	Armed Conflict Dataset
AQSI	al-Qaeda Statement Index
BSA	Bosnian Serb Army
ECOMOG	Economic Community of West African States Cease-Fire Monitoring Group
ECOWAS	Economic Community of West African States
FATA	Federally Administered Tribal Areas
FROLINAT	National Liberation Front of Chad
GDP	gross domestic product
HVI	high-value individual
IDP	internally displaced person
ISIL	Islamic State of Iraq and the Levant
ISR	intelligence, surveillance, and reconnaissance
LTTE	Liberation Tigers of Tamil Eelam
MEPV	Major Episodes of Political Violence
NATO	North Atlantic Treaty Organization
NFZ	no-fly zone
NPFL	National Patriotic Front of Liberia
OEF	Operation Enduring Freedom
OEF-A	Operation Enduring Freedom, Afghanistan
OEF-P	Operation Enduring Freedom, Philippines
OIF	Operation Iraqi Freedom

OIR	Operation Inherent Resolve
PRIO	Peace Research Institute Oslo
RPF	Rwandan Patriotic Front
RUF	Revolutionary United Front
SOF	special operations forces
START	Study of Terrorism and Responses to Terrorism
UAV	unmanned aerial vehicle
UCDP	Uppsala Conflict Data Program
UN	United Nations
UNAMIR	United Nations Assistance Mission for Rwanda
UNITAF	Unified Task Force
UNOMIL	United Nations Observer Mission in Liberia
UNOSOM	United Nations Operations in Somalia
UNPROFOR	United Nations Protection Force
UNSC	United Nations Security Council
WSLF	Western Somali Liberation Front

Introduction

The enormous costs and uncertain returns of U.S. military campaigns in Iraq and Afghanistan have led to a widespread aversion to conducting similarly costly interventions in the future.¹ This sentiment was perhaps most memorably captured by former Secretary of Defense Robert Gates, who said that any leader contemplating sending U.S. forces into another large-scale counterinsurgency should “have his head examined.”²

The concerns that motivated the many U.S. military interventions in the post-Cold War era have not, however, gone away. Terrorism and other forms of political violence and instability remain potential threats to the United States and the broader global order that it seeks to maintain. What has changed are U.S. perceptions of the extent of the threat and the resources the United States is willing to dedicate to it.³ Seeking to bring U.S. commitments into alignment with these perceptions of reduced threat, the United States has

¹ For two recent reckonings of the costs and benefits of more than a decade of large-scale counterinsurgency and the implications of this reckoning for the future, see Richard D. Hooker Jr. and Joseph J. Collins, eds., *Lessons Encountered: Learning from the Long War*, Washington, D.C.: National Defense University Press, 2015; and David Martin Jones, Celeste Gventer, and M. L. R. Smith, eds., *The New Counter-Insurgency Era in Critical Perspective*, Basingstoke, UK: Palgrave, 2014.

² Thom Shanker, “Warning Against Wars Like Iraq and Afghanistan,” *New York Times*, February 25, 2011.

³ For an argument that political instability in most parts of the world poses few compelling threats to core U.S. interests, see Patrick Stewart, *Weak Links: Fragile States, Global Threats, and International Security*, New York: Oxford University Press, 2011.

turned to lower-cost, light- or small-footprint options — that is, military operations that emphasize airpower and limited commitments of U.S. ground forces (typically special operations forces [SOF]) used to attain narrowly defined objectives, such as the weakening of specific terrorist organizations.⁴ This approach to combating irregular threats has been visible in limited U.S. military interventions in such countries as Somalia, Yemen, Libya, and Iraq (again). It also became enshrined in U.S. official defense guidance, which stated, “Whenever possible, we will develop innovative, low-cost, and small-footprint approaches to achieve our security objectives,” but “U.S. forces will no longer be sized to conduct large-scale, prolonged stability operations.”⁵

For a time, the light-footprint approach achieved something like consensus within the U.S. defense community. More recently, however, it has come under some criticism from two sides — from those who think that the United States should not be intervening at all and from those who think that the United States should use force more robustly when it does make the decision to intervene. Rigorous, evidence-based reckonings of the uses and limitations of these operations, however, have been rare.⁶

This report engages these debates by rigorously evaluating the effectiveness of limited military interventions. More specifically, it examines three different types of operations, comparing their outcomes with those of larger interventions and the option of nonintervention:

- *limited stabilization*: small-scale military operations conducted by ground forces (typically supported by airpower) intended to terminate a conflict, either by helping the supported government

⁴ David E. Sanger, *Confront and Conceal: Obama’s Secret Wars and Surprising Use of American Power*, New York: Crown Publishers, 2012.

⁵ U.S. Department of Defense, *Sustaining U.S. Global Leadership: Priorities for 21st Century Defense*, Washington, D.C., January 2012, pp. 3, 6.

⁶ For a review of these debates and an initial effort to evaluate them using descriptive statistics and case studies, see Stephen Watts, Caroline Baxter, Molly Dunigan, and Christopher Rizzi, *The Uses and Limits of Small-Scale Military Interventions*, Santa Monica, Calif.: RAND Corporation, MG-1226-RC, 2012, pp. 7–9.

win or by enforcing a negotiated settlement on terms that are at least acceptable (if not favorable) to the government

- *limited strike*: the use of air strikes (typically, although not always, conducted by unmanned aerial vehicles, or drones) or direct action by SOF to kill or capture militants, especially militant leaders, in an effort to degrade the capabilities of militant organizations
- *indirect options*: indirect military operations to limit the consequences of ongoing political violence, by strengthening front-line states (those countries neighboring a country suffering civil war) to prevent conflict spillover, by interdicting the resource flows that sustain militant organizations, or by mitigating the humanitarian suffering caused by conflict.

The report examines only operations in support of partner governments; it does not address either peace operations (in which intervening forces remain neutral between the government and insurgents) or unconventional warfare or subversion (in which intervening forces seek to overthrow an existing government, such as U.S. support to Afghan mujahideen in the 1980s or various parties' support to opponents of the Assad regime in Syria today).

The remainder of this chapter provides a brief review of the policy debates we seek to evaluate, followed by an overview of our research approach and argument. Each of the subsequent three chapters is devoted to one of the three types of limited intervention described above. The report concludes with a discussion of the policy implications of our findings, including the implications for future decisions about whether and how to intervene and the U.S. military force structure that would be required to execute these decisions.

An Overview of Recent Policy Debates on Limited Intervention

Coming into the 21st century, many analysts in the policy and academic communities agreed that intervention in ongoing civil wars usually had to be large to be effective. The practice of providing support

to a favored side in a civil war, as had been common during the proxy wars of the Cold War era, had generally fallen out of favor, replaced by a desire to resolve the root causes of violence by brokering a fair and balanced negotiated settlement. Experience suggested, however, that, unless all of the parties to a conflict willingly embraced an end to fighting, intervening forces used to impose or police a settlement had to be robust.⁷ The many failures of small United Nations (UN) peace operations in the 1990s led the UN to embrace a “bigger is better” doctrine for forces deployed in nonconsensual stabilization missions.⁸

This same thinking led many to anticipate that the U.S.-led invasions of Afghanistan and then Iraq would require similarly large forces to stabilize the governments that the United States hoped to establish after overthrowing the existing regimes.⁹ When post-invasion Iraq fell into chaos, proponents of large-scale intervention appeared to be validated. Rules of thumb that called for extremely large numbers of stabilizing forces (so-called force-to-population ratios) were enshrined in U.S. military doctrine.¹⁰

⁷ See, for instance, James Dobbins, Seth G. Jones, Keith Crane, and Beth Cole DeGrasse, *The Beginner's Guide to Nation-Building*, Santa Monica, Calif.: RAND Corporation, MG-557-SRF, 2007, pp. 38–41; James T. Quinlivan, “Force Requirements in Stability Operations,” *Parameters: U.S. Army War College Quarterly*, Vol. 25, No. 4, Winter 1995–1996.

⁸ This consensus was captured in the so-called Brahimi Commission Report. See UN General Assembly and Security Council, *Report of the Panel on United Nations Peace Operations*, New York, August 21, 2000. See also Paul Collier, *Wars, Guns, and Votes: Democracy in Dangerous Places*, New York: HarperCollins, 2010.

⁹ Nora Bensahel, Olga Oliker, Keith Crane, Richard R. Brennan Jr., Heather S. Gregg, Thomas Sullivan, and Andrew Rathmell, *After Saddam: Prewar Planning and the Occupation of Iraq*, Santa Monica, Calif.: RAND Corporation, MG-642-A, 2008, Ch. 2.

¹⁰ James Quinlivan famously proposed as a rule of thumb a ratio of 20 security forces for every 1,000 inhabitants of the country to be stabilized (sometimes known as the “20:k rule”); see Quinlivan, 1995–1996. This ratio briefly became official U.S. military doctrine; see Department of the Army, *Field Manual 3-24: Counterinsurgency*, Washington, D.C., December 2006. For reviews of debates over force-sizing for stability operations and force ratios, see James Andrew Zanella, *Combat Power Analysis Is Combat Power Density*, Fort Leavenworth, Kan.: School for Advanced Military Studies, 2012; and Shawn Woodford, “Force Ratios and Counterinsurgency,” *Mystics and Statistics*, Dupuy Institute, January 4, 2016.

As the enormous costs and uncertain returns of large-scale counterinsurgency warfare in Iraq (and later Afghanistan) became clear, however, many in the U.S. defense community came to criticize such interventions. Some claimed that large interventions were actually counterproductive: They arguably inflamed nationalist resistance and distorted partner-nation politics and the local economy in destabilizing ways.¹¹ Others contended simply that such vast operations were fiscally and politically unsustainable for the United States:

American strategy was to “drain the swamp” by helping build effective, responsive governments and prosperous economies. . . . The great flaw with this idea is its massive inefficiency – the costs of any gains to American security far outweigh the benefits. . . . The world is full of “swamps.” By all measures, they are growing, not shrinking. The economic and human costs of stabilizing them and making them prosperous are astronomical. In the last few decades of the 20th century and the first of the 21st century, the United States could afford an expensive and inefficient “drain the swamps” strategy. But as we grapple with an aging population, exploding health care costs, decaying infrastructure, and mounting educational challenges, the American people will no longer tolerate such inefficiency. This suggests that future military operations will not emulate Iraq and Afghanistan.¹²

Consequently, defense thinkers and decisionmakers increasingly sought to bring the costs (or means) of U.S. intervention into alignment with strategic ends by changing the ways in which the United States intervened. Apparently successful small-scale U.S. interventions in the Philippines and Colombia seemed to suggest that the United States could often realize its core interests by supporting partner nations to

¹¹ See, especially, David Kilcullen, *The Accidental Guerrilla: Fighting Small Wars in the Midst of a Big One*, New York: Oxford University Press, 2009. These arguments will be reviewed in greater depth in Chapter Two.

¹² Steven Metz, *The Army's Strategic Role*, Carlisle Barracks, Pa.: Strategic Studies Institute, Army War College, 2009. See also Afghanistan Study Group, *A New Way Forward: Rethinking U.S. Strategy in Afghanistan*, Washington, D.C., 2010, p. 9.

fight militants rather than by doing the fighting itself.¹³ Where no suitable partner government existed, many argued for a policy of threat management: disrupting and degrading threatening militant organizations rather than pursuing the excessively ambitious goal of destroying them entirely and empowering a local government to prevent their return. Such a light-footprint approach became the hallmark of the Obama administration's approach to irregular threats.¹⁴

Recently, however, the light-footprint approach has come under criticism. Although no one is calling for a return to large-scale counterinsurgency of the sort practiced in Iraq and Afghanistan, many are calling for more-robust uses of force than the United States has been willing to embrace for the past several years. The United States' inability to disengage from Iraq and Afghanistan has suggested to many observers that more troops deployed for longer periods are necessary to stabilize these fragile regimes. The collapse of government forces in Yemen (previously hailed by the United States as a success story for the light-footprint approach) called into question the ability of the United States to rely on weak partners.¹⁵ Many have criticized the limited role the United States has set for itself in Syria and Libya: In Libya, some called for the United States to deploy military forces to help stabilize the country after the 2011 air campaign that forced Muammar Gaddafi from power; in Syria, many have called for no-fly zones (NFZs) or safe areas to protect civilians.¹⁶ Meanwhile, the resilience of al Qaeda,

¹³ For a review of these arguments, see Stephen Watts, Jason H. Campbell, Patrick B. Johnston, Sameer Lalwani, and Sarah H. Bana, *Countering Others' Insurgencies: Understanding U.S. Small-Footprint Interventions in Local Context*, Santa Monica, Calif.: RAND Corporation, RR-513-SRF, 2014.

¹⁴ Sanger, 2012.

¹⁵ Rebecca Kaplan, "Yemen Instability Reveals Limits of U.S. Counterterrorism Strategy," *CBS News*, January 23, 2015.

¹⁶ On Libya, see, for instance, Christopher S. Chivvis, "Use Force to Forge Peace in Libya," *U.S. News & World Report*, February 17, 2016b. On Syria, see Nicholas Burns and James Jeffrey, "The Diplomatic Case for America to Create a Safe Zone in Syria," *Washington Post*, February 4, 2016. For a broader overview of military options in Syria, see General Martin E. Dempsey, U.S. Army, correspondence with Senator Carl Levin, Washington, D.C., July 19, 2013.

despite years of drone strikes in Pakistan, Yemen, and (to a much lesser extent) Somalia, leads many to worry that the United States is committing itself to a semipermanent state of low-intensity war.¹⁷

These debates seem unlikely to go away. In the near term, U.S. decisionmakers face pressing questions about whether to continue military interventions throughout the Greater Middle East, what can realistically be accomplished through these missions, and how these military operations should be conducted and scaled. These and similar contingencies seem likely to endure for the foreseeable future.

Looking to the longer term, U.S. defense planners must decide which investments to make in capabilities for large-scale irregular warfare, as well as for light-footprint operations at a time when the United States faces many other spending priorities. Clearly, sentiment both in the policy community and among the public has shifted decisively against wars like those in Iraq and Afghanistan. On the other hand, there are a number of scenarios where it is hard to rule out large-scale counterinsurgency or stability operations *ex ante*. Examples include the following:

- the aftermath of a conventional war in which the defeated U.S. adversary faces internal collapse
- the defense of a critical ally targeted for subversion or other forms of proxy warfare by a U.S. adversary
- collapse of a nuclear-armed state with a highly dispersed nuclear weapon infrastructure, elements of which may fall into the hands of extremists.

Force structure decisions, of course, derive from a much wider variety of considerations than simple estimates of the likely effectiveness of different types of operations. But without such estimates of operational effectiveness, well-grounded force structure decisions are impossible.¹⁸

¹⁷ See, for instance, Micah Zenko, "The True Forever War," *Foreign Policy*, January 24, 2014.

¹⁸ Zanella, 2012.

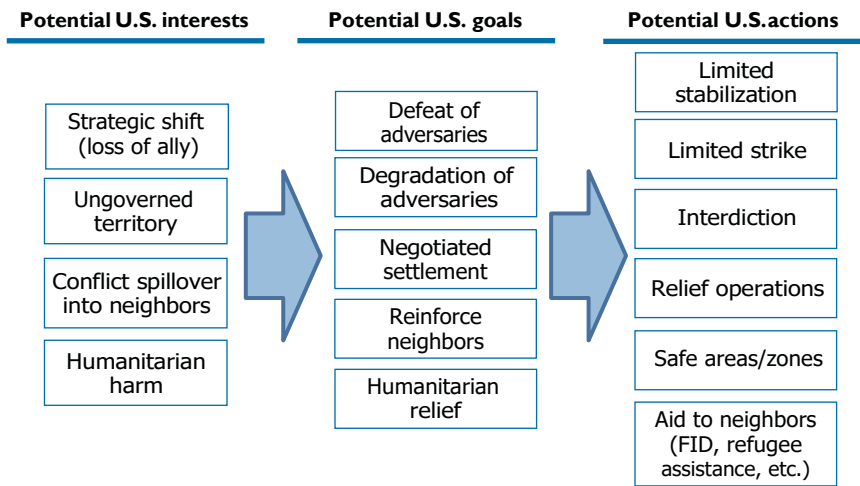
A Framework for Evaluating the Effectiveness of Limited Interventions

This report provides rigorous, predominantly quantitative analyses of the effectiveness of different types of limited interventions in a variety of contexts. In doing so, it seeks to inform policy decisions about when and where to intervene and what forces the United States requires to achieve its objectives.

The subsequent chapters are organized around different types of limited interventions. Figure 1.1 represents the many possible objectives that limited interventions might seek to achieve and the types of operations that might be used to achieve these objectives.

Chapter Two is dedicated to an analysis of limited stabilization operations. It evaluates the ability of such operations to defeat insurgents outright or to help a partner government achieve a negotiated conflict settlement that would not have been possible without foreign military intervention. It also examines the durability of these outcomes: Do government victories or negotiated settlements achieved with the

Figure 1.1
Mapping Limited Intervention Options for Irregular Warfare



NOTE: FID = foreign internal defense.

help of foreign intervention prove more brittle and susceptible to war recurrence than those achieved without intervention? How does the size of the military intervention affect these results – do much larger deployments of foreign forces substantially improve outcomes? Can the United States rely on allies to provide the forces for intervention, as it has done in Somalia in recent years? Or do the odds of success improve greatly if the United States – or another democratic, highly capable partner, such as France or the United Kingdom – provides the intervening forces? And, finally, is success dependent on the characteristics of the partner nation? Can the United States achieve results that are both favorable and durable only when it intervenes in relatively well-governed states, for instance, or in cases where rebels do not have a state sponsor? The chapter provides answers to these questions through a statistical analysis of 250 wars, including dozens of foreign interventions.

Chapter Three examines limited strike operations. Where the United States either cannot or chooses not to intervene overtly on the ground, can it instead accomplish the more modest objective of disrupting and degrading threatening terrorist or militant organizations through targeted killings? Although such targeted killings can be conducted through air strikes or direct action by SOF, in practice, the United States' only sustained limited strike campaigns without a large deployment of ground forces have been conducted by unmanned aerial vehicles (UAVs – also known as remotely piloted aircraft or, more commonly, drones). Consequently, the chapter focuses on a comparison of the U.S. drone campaigns conducted in Pakistan and Yemen. Do terrorist and militant groups disrupted and degraded through air strikes stay disrupted and degraded for long, or are they able to regenerate quickly? How does the intensity of the drone campaign affect the success of U.S. efforts? Should the United States narrowly focus its campaign on high-value individuals (HVIs – the leadership of the targeted militant organizations), or is it necessary to conduct a broader campaign? How do the strength of the partner nation and its ability to conduct its own military operations affect outcomes? Do civilian fatalities make drone strikes counterproductive? The analysis in this chapter uses data on hundreds of drone strikes in both Pakistan and Yemen

and various measures of militant groups' capabilities to evaluate the effectiveness of these strikes in different circumstances.

Chapter Four turns to indirect military operations — efforts to contain the consequences of violence through buttressing nearby governments, protecting civilians, or interdicting the flows that sustain insurgents rather than to directly influence the course of fighting through combat operations. The chapter first uses statistical analysis to examine the extent to which U.S. security-sector assistance can bolster front-line states and make them more resistant to conflict spillover from a neighboring state. The chapter then uses qualitative analysis to assess the United States' ability to interdict flows of funding, foreign fighters, weapons, and other forms of materiel to weaken insurgents. Finally, the chapter qualitatively explores the conditions under which military operations can help to shield civilians from the worst consequences of civil wars, even if these operations do not seek to directly affect the outcome of the war.

Chapter Five concludes the report with a brief summary of our research findings and a discussion of the policy implications of our research.

Throughout this report, we have sought to make our analysis as accessible as possible by avoiding (to the extent we can) technical jargon and using tables and figures to help our audience understand our data and results without needing to understand the underlying statistical techniques. For those who want to better understand the details of our statistical analyses, we have included a number of technical appendixes. These appendixes provide detailed explanations of our data, model specifications, findings, and checks for robustness. Where statistical analyses were impossible and we depended instead on qualitative data (specifically, in our analyses of interdiction campaigns and mitigation operations, such as NFZs), the appendixes provide details of the brief case studies from which we drew our conclusions.

Limited Stabilization

Operation Inherent Resolve (OIR) – the U.S.-led military operation to destroy the Islamic State of Iraq and the Levant (ISIL) – marks the first sizable U.S. commitment of ground forces in combat since the United States began to draw down its forces in Afghanistan and Iraq. To date, OIR has involved more than 100,000 air sorties and several thousand U.S. ground troops.¹ The operation suggests that the United States is likely to continue to get drawn into such conflicts, no matter how anxious it is to rebalance toward East Asia or shift toward preparing for wars with near-peer competitors.

Yet it remains unclear how much the United States can accomplish through these interventions. Proponents claim that by jettisoning transformational objectives, such as democracy promotion, and focusing on much more narrowly defined security objectives, the United States can protect its national interests at a reasonable cost.² Skeptics argue that these narrow military efforts simply forestall the inevitable by not grappling with the root causes of violence; even if a particular militant group is defeated, these skeptics claim, others will simply rise up to take their place.³

¹ Richard Sisk, “Number of US Troops in Iraq More Than 4,000, Exceeds Previous Claims,” *Military.com*, February 3, 2016.

² Kilcullen, 2009; Robert D. Kaplan, “Imperial Grunts,” *The Atlantic*, October 2005; Max Boot and Richard Bennett, “Treading Softly in the Philippines,” *Weekly Standard*, Vol. 14, No. 16, January 5–12, 2009.

³ For criticisms of light-footprint interventions, see, for example, Richard K. Betts, “Pick Your Battles: Ending America’s Era of Permanent War,” *Foreign Affairs*, November/

This chapter seeks to provide a better empirical basis for arbitrating these debates. Through a quantitative analysis of 250 conflicts and dozens of foreign military interventions, the chapter addresses three sets of questions:

- How does the deployment of foreign military forces influence the outcomes of insurgencies and other forms of civil war? Can these forces secure a favorable outcome, understood as either a victory for the supported government or a negotiated settlement acceptable to the partner government? Does foreign intervention make these conflicts worse – by either increasing the intensity of violence or prolonging the duration of the wars? If conflict is brought to an end, how long does peace endure? Does it return as soon as foreign forces withdraw?
- Assuming that foreign military interventions can contribute to achieving positive outcomes, how much is enough? Do interventions need to be large to be effective, as an earlier wave of scholarship and policy commentary suggested? Or can limited commitments of foreign ground forces achieve important goals?
- Do the records of different intervening countries vary appreciably? Can the United States rely on allies to help achieve its goals in an effort to limit U.S. commitments? What are the costs – understood in terms of conflict outcomes and the intensity and duration of conflict – of relying on less capable allies or allies that do not share the United States' interests and values?

Our analysis offers nuanced answers to these questions. Foreign military interventions typically do improve the odds of securing a favorable outcome. And force size does matter. Limited interventions can improve the odds of resolving a conflict on terms the United States or another intervener finds acceptable, but limited commitments may produce smaller improvements in the odds of success. While larger interventions typically yield a more substantial improvement in the

chances of a favorable outcome, this benefit comes at a steeper cost. The diminishing returns from larger deployments imply a relatively lower return on investment.

But these findings come with critical caveats. Although limited interventions can improve the odds of success somewhat, in difficult environments, failure is still likely. In the worst environments, only large interventions may provide even a reasonable chance of securing the intervener's goals. Moreover, the nature of the intervener matters considerably. Although U.S. decisionmakers are attracted by the prospect of limiting costs by relying on allies, most allies come with critical drawbacks, including higher risks of intensifying the levels of violence in these conflicts and a higher rate of war recurrence after the initial war ends.

The remainder of this chapter lays out our analysis in four steps. It first briefly reviews the policy debates around limited deployments of ground forces into irregular warfare environments, distilling specific hypotheses to be tested statistically. The second section lays out the research approach—the definitions, data, and methods used in our analysis. The third section summarizes our findings, and the chapter concludes with a discussion of the policy implications. As with the rest of this report, the emphasis in this chapter is on a clear and concise summary of our analysis and its relevance for ongoing policy debates. For those readers who want to understand the details of the statistical analysis, these can be found in Appendix A.

The Policy Debate

Many of the debates around limited interventions revolve around three central questions: First, can foreign military interventions in insurgencies and civil wars secure political outcomes that are both favorable and durable? Second, if foreign interventions can secure favorable outcomes, on what scale must foreigners intervene to be effective? And, finally, do intervention outcomes depend on who is intervening? More specifically, are highly capable, disciplined troops from Western democracies likely to produce appreciably different outcomes than troops from

other countries that may not have the same high-end capabilities but may also operate with greater familiarity with counterinsurgency environments and with fewer political constraints? This section reviews the debates around each of these questions in turn before distilling from them hypotheses for statistical analysis.

The Role of Military Force

In discussions of civil conflicts, one often hears the aphorism that “there is no such thing as a military solution” to a given conflict. Skeptics of military force seldom claim that it plays no meaningful role in such circumstances. Rather, they are generally making one or both of two more-nuanced arguments.

First, given that the United States and other Western democracies are unwilling to impose a draconian peace in cases of insurgency or civil war, they commonly turn to negotiated settlements to end wars. Yet the very presence of foreign invaders complicates the search for a negotiated settlement. The presence of foreign military forces may incite nationalist reactions among the population and delegitimize the indigenous government (seen as a pawn of foreign powers), thus making insurgents unwilling or unable to negotiate while foreigners remain. Meanwhile, the government may be emboldened by foreign support, weakening its willingness to pay the political price of the compromises necessary to achieve a negotiated solution.⁴

Second, skeptics argue that military force may quell violence for a time, but durable peace is best achieved through good governance and broader governing coalitions.⁵ And, unfortunately, good

⁴ For arguments that foreign interveners spur nationalist backlash, see, for instance, Kilculen, 2009. For a quantitative argument that foreign interventions on behalf of governments prolong wars, see Patrick T Brandt, T. David Mason, Mehmet Gurses, Nicolai Petrovsky, and Dagmar Radin, “When and How the Fighting Stops: Explaining the Duration and Outcome of Civil Wars,” *Defence and Peace Economics*, Vol. 19, No. 6, 2008.

⁵ See, for instance, Håvard Hegre and Håvard Møkleiv Nygård, “Governance and Conflict Relapse,” *Journal of Conflict Resolution*, Vol. 59, No. 6, 2015; Barbara F. Walter, “Why Bad Governance Leads to Repeat Civil War,” *Journal of Conflict Resolution*, Vol. 59, No. 7, 2014; and Madhav Joshi and David T. Mason, “Civil War Settlements, Size of Governing Coalition, and Durability of Peace in Post-Civil War States,” *International Interactions*, Vol. 37,

governance – whether understood in terms of capable institutions or democracy – typically evolves only over an extended period, usually decades or more.⁶ Unless intervening powers can commit to remaining for decades, they cannot influence political dynamics over a sufficiently long period to yield durable effects.

There is a substantial element of truth to both of these arguments. Yet they also overlook a number of reasons to believe that military dynamics can shift the likelihood of durable peace by changing the resources and incentives for peace.

For one thing, fighting takes a tremendous toll on a country experiencing civil war – so much so that a team of analysts writing for the World Bank described civil wars as “development in reverse” and warned that countries experiencing them could wind up in a “conflict trap” from which it would be extremely difficult to escape.⁷ To the extent that foreign intervention can bring an end to fighting, it can free up indigenous resources for governments to govern more effectively.

Second, better military outcomes open opportunities for better political settlements. Negotiated settlements to civil wars and insurgencies often suffer from a two-stage problem. For a negotiated settlement to be attractive to all parties, it must have extremely strong guarantees that no one side will be able to hijack the state in the post-war period and use it as an instrument of repression. Yet power-sharing guarantees that are strong enough to reassure all of the warring parties tend to be so strong that they lead to governmental paralysis, bloated bud-

No. 4, 2011; Charles T. Call, *Why Peace Fails: The Causes and Prevention of Civil War Recurrence*, Washington, D.C.: Georgetown University Press, 2012.

⁶ Thomas Flores and Irfan Nooruddin, *Elections in Hard Times: Building Stronger Democracies in the 21st Century*, New York: Cambridge University Press; Washington, D.C.: Woodrow Wilson Center Press, 2016; Lant Pritchett, Michael Woolcock, and Matt Andrews, “Looking Like a State: Techniques of Persistent Failure in State Capability for Implementation,” *Journal of Development Studies*, Vol. 49, 2013; Andreas Wimmer, “Nation Building: A Long-Term Perspective and Global Analysis,” *European Sociological Review*, Vol. 31, No. 1, 2015.

⁷ Paul Collier, V. L. Elliott, Håvard Hegre, Anke Hoeffler, Marta Reynal-Querol, and Nicholas Sambanis, *Breaking the Conflict Trap: Civil War and Development Policy*, Washington, D.C.: World Bank and Oxford University Press, 2003.

gets, and inherent incentives to resort to violence as a negotiating tool.⁸ The most-effective power-sharing arrangements may be those offered by victors – or at least by the side in a conflict that has gained such a level of military superiority that it can insist on workable political arrangements as the price for peace, even if guarantees for weaker parties are correspondingly reduced.⁹ The Dayton Accords, for instance, provided sufficient guarantees for the Bosnian Serbs that it ended the war in Bosnia in 1995, but only at the expense of creating completely unworkable power-sharing arrangements that led to almost complete paralysis of the Bosnian state.

Third, to the extent foreign military interveners can signal their willingness to return, they can exercise substantial effects on the politics of a post-war country long after they have withdrawn. They may be able to deter political rivals from returning to violence as a negotiating tool during the course of normal governing disputes. And the threat to end support for local partners can, at least under some circumstances, provide external interveners with considerable leverage. In the case of Sierra Leone, British leverage as a result of both its development assistance and its previous military intervention allowed it to force the sitting president of Sierra Leone to accept his electoral defeat and peacefully cede power – the first case of peaceful alternation of executive power in the country's history.¹⁰

In the end, so-called military solutions by themselves guarantee nothing. But they can help to create more-favorable circumstances for an acceptable post-war political order to endure. They can thus improve not only the odds of a military victory in the short term but also the

⁸ See, for instance, Philip G. Roeder and Donald Rothchild, eds., *Sustainable Peace: Power and Democracy After Civil Wars*, Ithaca, N.Y.: Cornell University Press, 2005.

⁹ For a related argument, see Bumba Mukherjee, "Why Political Power-Sharing Agreements Lead to Enduring Peaceful Resolution of Some Civil Wars, but Not Others?" *International Studies Quarterly*, Vol. 50, 2006b. Also in this vein of research, Joshi and Mason (2011) argued that when conflicts do end in military victories, victorious governments are more likely than rebels to expand the size of post-war coalitions. This tends to be peace-promoting.

¹⁰ Jimmy D. Kandeh, "Rogue Incumbents, Donor Assistance, and Sierra Leone's Second Post-Conflict Elections of 2007," *Journal of Modern African Studies*, Vol. 46, No. 4, 2008.

odds of creating favorable political dynamics capable of cementing the peace in the longer term.

Is Bigger Better?

Assuming that foreign military forces can help to secure favorable outcomes, how many are required? This question has largely been ignored by the scholarly community, but it is of critical importance for defense planners.¹¹

As discussed in the previous chapter, traditionally, defense planners have looked to force ratios – in particular, the ratio of counterinsurgent forces to the local population – to calculate force requirements.¹² Yet these ratios are premised on the concept of population-centric warfare – that is, the notion that counterinsurgencies are won by protecting the civilian population, members of which reward the government by providing critical information about insurgents, which in turn enables effective military operations. However, in practice, counterinsurgency is a combination of population-centric and enemy-centric operations. While a very large number of foreign forces are needed to protect large populations, many fewer may be required to improve the effectiveness of enemy-centric military operations.

Foreign military forces can influence the course of a war through a wide range of mechanisms, only some of which require large numbers of forces:

- **Direct combat:** Most obviously, foreign forces can engage in direct combat, either to protect the local population and critical infrastructure or to target insurgents. While the former role almost inevitably requires substantial forces, the latter role – particularly if it is focused on insurgent leadership or HVIs – can involve many fewer forces. Even at the height of the war in Afghanistan, for instance, the famed Joint Special Operations

¹¹ For an important exception, see Jeffrey A. Friedman, “Manpower and Counterinsurgency: Empirical Foundations for Theory and Doctrine,” *Security Studies*, Vol. 20, No. 4, 2011.

¹² Friedman, 2011; Quinlivan, 1995–1996; Woodford, 2016; Zanella, 2012.

Command task forces responsible for targeting HVIs had fewer than 4,000 operators.¹³

- **Training and advising:** Developing competent, disciplined, and accountable indigenous security forces is a critical element of counterinsurgency. Overhauling even the entire security sector of a partner nation — defense institutions, sustainment capabilities, intelligence networks, and so on — does not require nearly as many intervening forces as does providing security directly to the local population. It can nonetheless require a sizable effort, including regular military forces, as well as the special forces that specialize in such missions. The scale of such missions becomes larger if intervening forces engage in operational advise and assist activities in which they accompany indigenous forces on combat missions.¹⁴
- **Technical military enablers:** In many cases, external interveners can provide technical capabilities that the partner government lacks. Most governments battling insurgencies, for instance, lack sophisticated intelligence, surveillance, and reconnaissance (ISR) capabilities, and the effectiveness of their military forces is greatly enhanced if outsiders can provide these resources.¹⁵ The United States and other technologically sophisticated interveners can provide indigenous counterinsurgents the same combination of robust ISR capabilities and precision strike that proved effective in Iraq and Afghanistan; indeed, the United States reportedly

¹³ See, for instance, Wesley Morgan, “The Not-So-Secret History of the U.S. Military’s Elite Joint Special Operations Command,” *Washington Post*, December 16, 2015. Of course, the number of personnel involved in actual direct action against militants does not include the much larger numbers required to support them with intelligence, logistics, personnel recovery, and other capabilities. The number of personnel in the task forces, however, provides a rough indication of the scale of these operations.

¹⁴ For a recent overview of U.S. operational advise and assist activities, see Souad Mekhennet and Missy Ryan, “Outside the Wire: How U.S. Special Operations Troops Secretly Help Foreign Forces Target Terrorists,” *Washington Post*, April 16, 2016.

¹⁵ See, for instance, Linda Robinson, Patrick B. Johnston, and Gillian S. Oak, *U.S. Special Operations Forces in the Philippines, 2001–2014*, Santa Monica, Calif.: RAND Corporation, RR-1236-OSD, 2016.

augmented the capabilities of its partners in Colombia in precisely this manner.¹⁶ Outside powers can also provide logistics and aviation support to their partners. None of these capabilities requires a large foreign footprint, and many of these technical enablers can be provided by private military contractors rather than uniformed military personnel. In Sierra Leone, for instance, the firm Executive Outcomes provided aviation support.

- **Civilian assistance:** Many civilian aid organizations find it difficult to operate in highly insecure environments. In such cases, intervening military forces can help to support civilian assistance by providing both protection and transportation. Without the military footprint, civilian assistance also becomes difficult, as is currently the case in Afghanistan, for example.¹⁷

For some of these functions of foreign interveners, bigger is clearly better: Larger numbers of intervening forces should be able to achieve better results in direct combat, for instance, and a larger footprint should also facilitate civilian assistance across larger areas of conflict-affected countries. But in other cases — in particular, providing technical enablers and advice and training — relatively few foreign forces are required to achieve the desired effect.

Understanding whether bigger is truly better, however, requires more than understanding the technical functions that intervening forces perform. It also requires understanding the broader political and military contexts.

Critics of large-footprint operations contend that a greater foreign presence is counterproductive for at least three reasons. First, they argue that large numbers of foreign forces prompt a nationalist backlash, creating new insurgents from among those resentful of the foreign presence.¹⁸ Second, they claim that a large footprint creates a variety of political pathologies. A large foreign presence and the money that

¹⁶ Dana Priest, "Covert Action in Colombia," *Washington Post*, December 21, 2013.

¹⁷ Missy Ryan, "If U.S. Troops Leave Afghanistan, Much Civilian Aid May Go Too," *Reuters*, December 26, 2013.

¹⁸ Kilcullen, 2009.

typically flows from it, for instance, can induce corruption.¹⁹ It can also breed overconfidence and thus intransigence in the partner regime: If partner-nation officials feel that a strong foreign power is dedicated to helping them defeat their adversaries, then they may become less willing to compromise with even that portion of the opposition that could be brought into the political system through concessions. Third, foreign interveners may lose leverage with their partners by committing large numbers of ground forces. When a country engages in a large-scale military intervention, it places a considerable amount of its prestige at stake; a defeat for its partner is a loss of prestige for the intervener. Consequently, the intervener finds it difficult to compel its local partner to comply with its demands by threatening to withdraw its forces and allow the partner to be defeated. Such a loss of leverage was clearly visible in South Vietnam, where the United States was unable to induce the Saigon regime to undertake any of the political reforms on which U.S. counterinsurgency strategy was based.²⁰

Of course, if the partner nation collapses – or is at imminent risk of collapsing – the intervener may have little choice but to commit to large-scale combat operations or withdraw. The large U.S. interventions in South Vietnam and Afghanistan, after all, did not start out as large-footprint operations. The United States began both of them as small-scale interventions, with the expectation that it would provide limited support to local allies but little more. Similarly, the United States invaded Iraq in 2003 with the expectation that its long-term stabilization responsibilities would be small. The scale of many interventions, in other words, may be determined by the strength of the insurgency and the weaknesses of the partner government, rather than the other way around, as some skeptics of large-scale interventions seem to contend.

¹⁹ See, for instance, Paul Fishstein and Andrew Wilder, *Winning Hearts and Minds? Examining the Relationship Between Aid and Security in Afghanistan*, Medford, Mass.: Feinstein International Center, Tufts University, 2011.

²⁰ Douglas S. Blaufarb, *The Counterinsurgency Era: U.S. Doctrine and Performance*, New York: Free Press, 1977; D. Michael Shafer, *Deadly Paradigms: The Failure of U.S. Counterinsurgency Policy*, Princeton, N.J.: Princeton University Press, 1988.

Is the West the Best for Such Contingencies?

If large numbers of intervening forces are indeed necessary to stabilize a conflict-affected country, but the United States is seeking to limit the resources it commits to such contingencies, it could seek to enlist allies and partners to provide these forces. Just as the United States implemented security assistance programs in the 1990s specifically to train and support African countries providing troops to UN peace operations, in the past decade the United States has come to depend on partners from Africa and elsewhere to conduct counterinsurgency and stability operations. Perhaps the best examples are the African Union Mission in Somalia (AMISOM) and the French, African Union, and UN operations in Mali.

Often, developing countries are the ones that contribute troops for such missions. These countries sometimes participate to get financial support or training and equipment for their militaries from wealthier countries. Sometimes they contribute forces to win favor from the United States or other powerful states with an interest in the interventions. And sometimes they conduct such interventions to pursue their own security interests.

Although it is clear why such a model is attractive to the United States, it is less clear whether many of the willing allies or partners are appropriate for such missions. There are at least three reasons why such troop-contributing countries might be problematic.

In some cases, these countries' personnel are underpaid and poorly equipped, which makes them less operationally effective and sometimes prone to corruption. In the case of the Nigerian-led intervention in Liberia, the locals who were supposed to be protected by the Economic Community of West African States Cease-Fire Monitoring Group, or ECOMOG, joked that the mission's acronym stood for "every car or moveable object gone."²¹

Second, many developing countries' militaries operate with a lower concern for civilian casualties than is considered acceptable in the United States or other Western democracies. Although the United

²¹ Herbert Howe, "Lessons of Liberia: ECOMOG and Regional Peacekeeping," *International Security*, Vol. 21, No. 3, 1996–1997.

States has engaged in extremely violent campaigns in such places as Ramadi and Fallujah, it is generally constrained from inflicting the levels of violence practiced by many authoritarian regimes.²²

Finally, many developing countries participate in military interventions only when their vital interests are at stake, which typically means that they operate only in neighboring or nearby states. There are many advantages that derive from such circumstances. Because these countries often are pursuing their own vital interests, such interveners can prove willing to bear high fatalities in their interventions, and because they often share borders or histories with the countries in which they are intervening, they may have much greater familiarity with the local context than would the United States or close U.S. allies, such as the United Kingdom or France. At the same time, there can be disadvantages to such operations. Many such intervening countries participate in interventions to pursue narrow, self-interested security agendas (without a commitment to what Westerners would consider an inclusive or sustainable peace), or they intervene in countries with which they have historically bad relations. While all foreign interveners are typically regarded with suspicion, such forces can be particularly problematic. Ethiopia's first intervention against Islamist militants in Somalia, for instance, quickly proved counterproductive, in part, for these reasons.²³

²² See, for instance, Daniel Byman, "'Death Solves All Problems': The Authoritarian Model of Counterinsurgency," *Journal of Strategic Studies*, Vol. 39, No. 1, 2016; Gil Merom, *How Democracies Lose Small Wars: State, Society, and the Failures of France in Algeria, Israel in Lebanon, and the United States in Vietnam*, New York: Cambridge University Press, 2003. It is important to note, however, that many scholars have argued that democracies are no more likely to be constrained in war than are autocracies. See, for instance, Benjamin Valentino, Paul Huth, and Dylan Balch-Lindsay, "'Draining the Sea': Mass Killing and Guerrilla Warfare," *International Organization*, Vol. 58, No. 2, 2004; Alexander B. Downes, "Desperate Times, Desperate Measures: The Causes of Civilian Victimization in Warfare," *International Security*, Vol. 30, 2006; and Alexander B. Downes, "Restraint or Propellant? Democracy and Civilian Fatalities in Interstate Wars," *Journal of Conflict Resolution*, Vol. 51, No. 6, 2007.

²³ Bronwyn E. Bruton and Paul D. Williams, *Counterinsurgency in Somalia: Lessons Learned from the African Union Mission in Somalia, 2007–2013*, JSOU Report 14-5, MacDill, Fla.: Joint Special Operations University, September 2014.

Arguments to Be Tested

In all three of these debates — over whether force can yield enduring favorable results, how large is the effort required, and who must provide the necessary forces — there are important arguments to be made on each side. To rigorously assess these arguments, we first distill the debates into a series of formal propositions before turning to the data and methods with which we will evaluate them.

Conflict Outcomes

Admiral Mike Mullens, former Chairman of the Joint Chiefs of Staff, was one of several U.S. defense officials to have noted that the United States “cannot kill [its] way to victory.”²⁴ Without effective governance being exercised by partner governments in the areas where the United States is battling militants, these groups can regenerate any losses they sustain in combat. Consequently, the first question our analysis must address is whether interventions help partner governments win in their battles against militants or achieve a negotiated settlement at least minimally acceptable to the supported government. Three propositions emerge from the debates reviewed above:

- Foreign military interventions make favorable conflict outcomes more (or, alternatively, less) likely.
- Larger interventions are more (or, alternatively, less) likely to succeed.
- Interventions by highly capable Western militaries are more (or, alternatively, less) likely, on average, to contribute to favorable conflict outcomes.

Conflict Intensity

Foreign military interventions may weaken insurgencies even if they cannot bring a war to a decisive end. Consequently, they may make civil conflicts less intense. This may be the case, in particular, if they are conducted by capable, disciplined forces deployed by advanced industrialized democracies with an aversion to inflicting high levels of civil-

²⁴ John Shovelan, “U.S. Can’t Kill Its Way to Afghan Victory: Pentagon Boss,” *ABC News*, September 11, 2008.

ian casualties. On the other hand, foreign military interventions – and especially large interventions – may stoke nationalist passions, weaken the parties' willingness to compromise, and induce other foreign powers to intervene on behalf of their local proxies, thereby making wars more intense. Moreover, countries such as the United States, France, and the UK may in practice fight counterinsurgencies with much less precision than "hearts and minds" doctrines would suggest, making these countries no more likely – and perhaps even less likely – to limit the intensity of violence than other intervening countries.²⁵ Four propositions can be derived from this discussion:

- Foreign military interventions on behalf of supported governments make civil conflicts more (or less) intense.
- Foreign military interventions on behalf of supported governments make civil conflicts more intense if and only if there is a countervailing foreign intervention on behalf of insurgents.
- Larger interventions make civil conflicts more (or less) intense.
- Interventions by democracies with capable, disciplined militaries make conflicts more (or less) intense.

Conflict Duration

Foreign military interventions may shorten wars by introducing sufficient resources in support of the government to bring the conflict to a decisive end. To the extent that they do shorten wars, we should expect large interventions to lead to shorter wars than do small ones since they more decisively tip the balance of power. On the other hand, large interventions can prolong wars for several reasons. They can introduce greater uncertainty in the calculations of all actors; insurgents, for instance, may try to wait out the intervener, uncertain of how long the intervener will remain committed. Foreign interventions also introduce a new set of actors that must be satisfied in any peace negotiations, thereby complicating and potentially prolonging them.²⁶ And,

²⁵ See, for instance, Paul Dixon, "'Hearts and Minds'? British Counter-Insurgency from Malaya to Iraq," *Journal of Strategic Studies*, Vol. 32, No. 3, 2009.

²⁶ David E. Cunningham, "Veto Players and Civil War Duration," *American Journal of Political Science*, Vol. 50, No. 4, 2006.

as with the above discussion of conflict intensity, foreign interventions may prompt countervailing interventions by foreign powers on behalf of insurgents.²⁷

- Foreign military interventions prolong (or shorten) civil wars.
- Foreign interventions prolong wars if and only if there is a countervailing foreign intervention on behalf of insurgents.
- Larger interventions lead to longer (or shorter) civil wars than do small ones.

Conflict Recurrence

Finally, interventions may lengthen the period over which a post-conflict political order remains stable. First, interventions may contribute to more-decisive military outcomes — that is, either an outright military victory for the government or at least a peace deal negotiated from a position of strength and thus one that is more likely to be sustainable. Second, interventions may make conflict recurrence less likely insofar as the intervener is perceived as willing to return to ensure the stability of its local partners. In either case, larger interventions would be more likely than small ones to reduce the incidence of conflict recurrence: Larger interventions more decisively tip the balance of power, thus potentially making outright victory more likely. And they provide a costly signal of the intervening state's willingness to pay a high price to ensure favorable outcomes.

Once again, however, the opposite case can also be made. Foreign military interventions inject greater uncertainty into all parties' calculations because no one can be certain that the intervening state will return again if the peace breaks down (a point many observers made when advocating for a continued U.S. presence in Iraq). Those groups who resent the post-war political order may judge that they can return to war and that the outside power, which had previously intervened, will be unwilling to renew its costly commitment to the partner government. Regardless of whether or not the intervener is actually willing

²⁷ Dylan Balch-Lindsay and Andrew J. Enterline, "Killing Time: The World Politics of Civil War Duration, 1820–1992," *International Studies Quarterly*, Vol. 44, No. 4, 2000.

to return, the uncertainty over its intentions may make renewed war more likely.

- Foreign military interventions prolong (or shorten) the periods of peace following the end of the wars in which the interventions occurred.
- Foreign military interventions prolong post-conflict peace if and only if they result in military victories for the supported governments.
- Larger military interventions are followed by longer periods of peace than are smaller ones.

Research Approach

Neither deductive logic nor specific cases can determine which of these various effects of intervention is more likely; strong arguments can be made on either side, and individual cases can be found to illustrate all of these claims. Yet policymakers may want a sense of the baseline likelihood of success (as measured by a variety of indicators) to help them make not only decisions about individual cases but also force structure decisions based on potential contingencies in the future, the specific details of which are completely unknown. For these purposes, statistical analysis can provide important insights.

To test these various propositions, we compared the outcomes of 51 cases of intervention into ongoing civil conflicts with the outcomes of nearly 200 conflicts in which an intervention did not occur. We also compared results between different types of intervention depending on the size of the intervention and who the interveners were.

Cases: Conflicts and Interventions

Our information on conflicts comes from the Uppsala Conflict Data Program–Peace Research Institute Oslo (UCDP-PRIO) Armed Conflict Dataset (ACD).²⁸ The ACD is a conflict-year data set with infor-

²⁸ Nils Petter Gleditsch, Peter Wallensteen, Mikael Eriksson, Margareta Sollenberg, and Håvard Strand, “Armed Conflict 1946–2001: A New Dataset,” *Journal of Peace Research*,

mation about armed conflict where at least one party is the government of a state in the period 1946–2014. UCDP defines *conflict* as “a contested incompatibility that concerns government and/or territory where the use of armed force between two parties, of which at least one is the government of a state, results in at least 25 battle-related deaths.”²⁹ For the purpose of our investigation, we excluded any conflict that did not eventually reach a cumulative battle-related death threshold of 1,000. This criterion eliminates those observations of lesser severity and is more in line with traditional typologies of “war” that aim to discriminate it from other types of violence. To evaluate propositions about the intensity and duration of conflict and the duration of post-conflict peace, we used country-year data – that is, data on a particular country for a single year. For our models of conflict outcomes, we converted the country-year information into war episodes spanning multiple years, according to the start and end dates of each episode. Using these procedures, we found 250 cases of conflict.

Our models estimate the effects of foreign military interventions in these cases of conflict. We define an *intervention* on behalf of a government as explicit military support in the form of troops committed to combat in the conflict. This excludes cases where governments offer military equipment, hardware, or financial support to other states fighting civil wars but without any boots on the ground. This definition also does not include purely advise and assist missions in which foreign troops do not assume combat roles within the conflict (although advisory roles often are *one* of the important functions assumed by those troops, and they do count as intervening forces in our analysis). As a threshold, each foreign intervention must consist of at least 100 troops overtly committed at some point during the conflict. This requirement eliminates the deployment of small numbers of SOF and covert operations.

We collected extensive data on the number and types of foreign forces deployed in each intervention.³⁰ For the country-year analysis, we are able to find approximate data on specific numbers of troops deployed to a given country during a specific year. This allows us to capture variation in the troop levels within the conflict. For the models looking at conflicts as single episodes, we use the maximum numbers of troops that were deployed on behalf of the government at any time during the conflict.³¹ We also at times distinguish between U.S. interventions, UK interventions, French interventions, and those instigated by other countries.

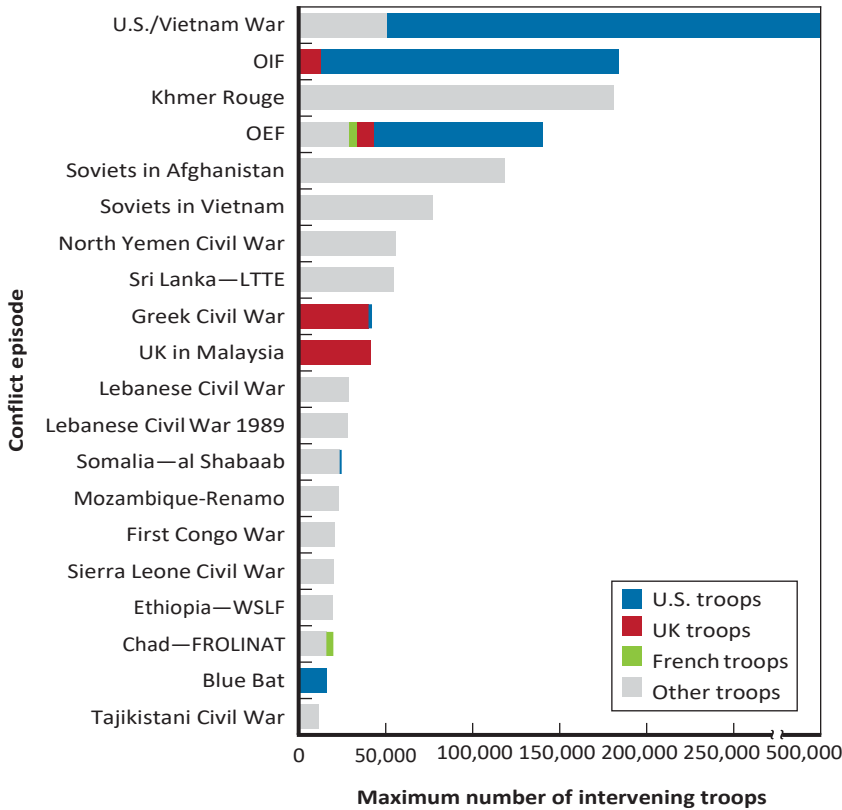
Figure 2.1 depicts the size and troop-contributing countries for the interventions in our data set. Although the vast majority of the literature on counterinsurgency focuses on large interventions, such as those in Vietnam, Iraq, and Afghanistan, such interventions actually compose an extremely small proportion of the whole; limited interventions are the norm. Only five interventions (including Operation Iraqi Freedom [OIF]; Operation Enduring Freedom, Afghanistan [OEF-A]; and Vietnam) in the past 70 years involved more than 100,000 foreign forces at the height of intervention.

Figure 2.2 recalibrates the size of the interventions by force-to-population levels. Notably, the large majority of these interventions reach only a small fraction of the force-to-population ratio of 20 security personnel for every 1,000 inhabitants (the so-called 20:k rule) that was at one time specified in U.S. military doctrine. By this metric as well, most interventions are more limited in scope.

³⁰ To construct these covariates, we gathered the information about interventions from various open sources. These sources include a number of existing social science data sets, as well as original research conducted in both official sources (for U.S. and UK interventions) and media outlets, such as the *New York Times* and British Broadcasting Service (BBC). For further details, see Appendix A.

³¹ Setting force size variables to their maximum observed values is consistent with other studies on the effects of intervention and reflects the fullest commitment to the host government. See, for example, Friedman, 2011.

Figure 2.1
Intervention Sizes and Troop-Contributing Countries in Selected Interventions



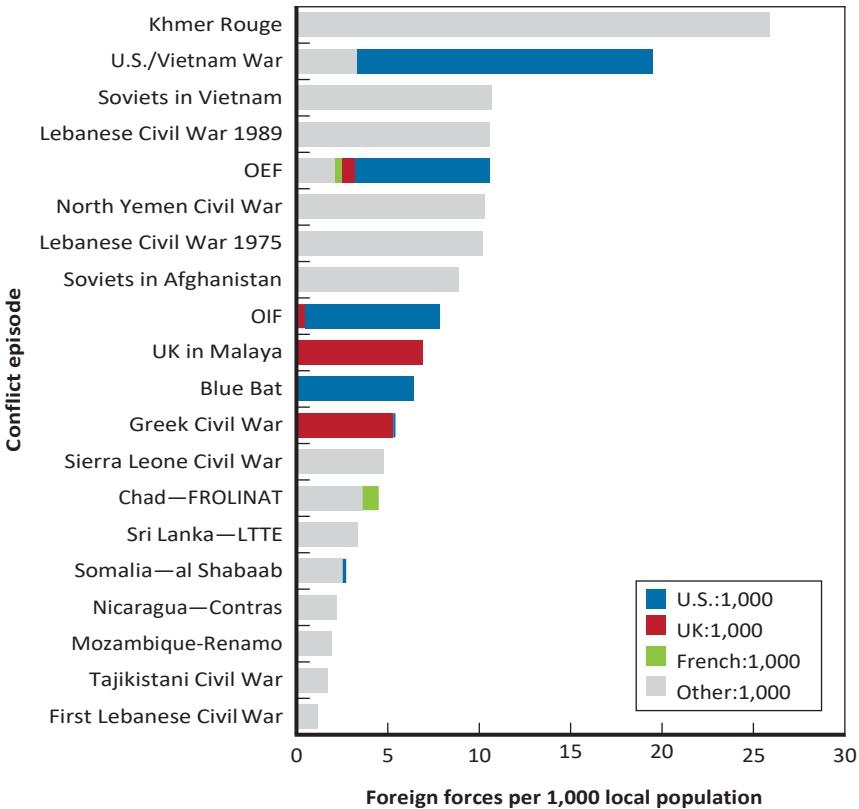
NOTE: OEF = Operation Enduring Freedom; LTTE = Liberation Tigers of Tamil Eelam; WSLF = Western Somali Liberation Front; FROLINAT = National Liberation Front of Chad.

RAND RR2037-2.1

Outcomes: Measures of Success

As discussed previously, four different measures of success feature in our analysis of the effects of interventions on civil conflicts: conflict outcome, conflict intensity, conflict duration, and conflict recurrence (or peace duration).

Figure 2.2
Force-to-Population Ratios for Selected Foreign Military Interventions



RAND RR2037-2.2

Data on conflict outcomes were drawn from the UCDP’s Conflict Termination data set, with appropriate updates for conflicts that have ended since 2010.³² We focus on four possible outcomes: government victory, rebel victory, peace agreements, and low activity (in

³² Joakim Kreutz, “How and When Armed Conflicts End: Introducing the UCDP Conflict Termination Dataset,” *Journal of Peace Research*, Vol. 47, No. 2, 2010.

which levels of violence decline below a minimal threshold of 25 battle deaths but without any formal end to the conflict).³³

Since estimated death tolls in periods of conflict are notoriously unreliable (especially in earlier periods and in less well-publicized conflicts), and UCDP data on battle-related deaths only cover 1989–2015, we instead rely on an 11-point scale of conflict intensity known as the Major Episodes of Political Violence (MEPV) data set.³⁴ This data source includes information on episodes of major political violence defined as “the systematic and sustained use of lethal violence by organized groups that result in at least 500 directly-related deaths over the course of the episode.”³⁵ Conflict episodes are scored according to a ten-point scale of increasing severity, with 10 corresponding to episodes of “extermination and annihilation” (e.g., the Holocaust) and 1 corresponding to episodes of “sporadic or expressive political violence” (e.g., unrest in the United States from 1965 to 1968).³⁶ The data set distinguishes between episodes of civil violence and ethnic violence, defining violence related to political identity as “civil” and violence related to social identity as “ethnic.”³⁷ In our analysis, we examine the civil violence score and the ethnic violence score for each year in each country separately, and we examine the sum of the two scores.

Data on conflict and peace duration come from the same UCDP data set from which we determined our set of cases of conflict. Each

³³ We combine two different outcomes in the UCDP data set — *peace agreements* and *cease-fires and truces* — into a single category of *agreement*. This approach is similar to David E. Cunningham, Kristian Skrede Gleditsch, and Idean Salehyan, “It Takes Two: A Dyadic Analysis of Civil War Duration and Outcome,” *Journal of Conflict Resolution*, Vol. 53, No. 4, 2009.

³⁴ Monty G. Marshall, *Major Episodes of Political Violence (MEPV) and Conflict Regions, 1946–2015*, Vienna, Va.: Center for Systemic Peace, My 25, 2016.

³⁵ Marshall, 2016.

³⁶ The value 0 corresponds to no violence. The illustrative examples used here are taken from Daniel Egel, Adam Grissom, Jennifer Kavanagh, and Howard Shatz, *Estimating the Value of Overseas Security Commitments*, Santa Monica, Calif.: RAND Corporation, RR-518-AF, 2016, which employs the same MEPV data set.

³⁷ Additional details on the distinction between civil and ethnic violence can be found in the MEPV codebook; see Marshall, 2016.

conflict in this data set is assigned a start and an end date, which allows us to determine whether the conflict recurred and the number of days between episodes that did recur. The average conflict in this data set lasts approximately six years, although the duration of conflicts has been increasing over time, with conflicts in the post-Cold War era lasting approximately 19 percent longer than earlier ones. Just shy of 45 percent of the conflicts in the data set experienced a conflict relapse.³⁸ And the average time between episodes of war recurrence is just over two years, suggesting that most conflicts that backslide into violence after they end do so in a relatively short time.

Controlling for Context

Obviously, military interventions are but one of many factors that influence the trajectories of civil conflicts. Our models therefore incorporate data on a number of contextual factors that should also be expected to influence outcomes. We present a short overview of these contextual factors here, with a more detailed accounting in Appendix A:

- **Economic and political development:** Higher levels of economic development provide the fiscal base and human capital necessary to make governments more-effective providers of social services and enforcers of security, both of which may depress levels of conflict.³⁹ Higher levels of economic development also increase the opportunity costs of turning to rebellion instead of normal employment in the licit economy. Political institutions, such as democracy and the rule of law, are also important contributors to stability.⁴⁰ While data availability for wars dating many decades back is sometimes limited, we employ several variables

³⁸ All nonrecurring conflicts in the ACD data are right-censored as of December 31, 2014.

³⁹ James D. Fearon and David D. Laitin, "Ethnicity, Insurgency, and Civil War," *American Political Science Review*, Vol. 97, No. 1, 2003.

⁴⁰ Caroline Hartzell and Matthew Hoddie, "Institutionalizing Peace: Power Sharing and Post-Civil War Conflict Management," *American Journal of Political Science*, Vol. 47, No. 2, 2003; Caroline Hartzell, Matthew Hoddie, and Donald Rothchild, "Stabilizing the Peace After Civil War: An Investigation of Some Key Variables," *International Organization*, Vol. 55, No. 1, 2001; Walter, 2014.

that reflect various levels of political and economic development. These variables include gross domestic product (GDP) per capita, a regime-type rating (using the Polity2 scores), and a host of social inclusion proxies for each country.⁴¹

- **Insurgent strength:** All else equal, stronger rebels should be expected to make government victory less common and rebel victories more common. But military interventions might be particularly influential in cases where rebels are strong: Since foreign military interventions can change the military balance of power but might not be able to eliminate insurgents that are weak and scattered, these interventions might only change conflict trajectories where rebels are strongest.⁴² Because accurate numbers of rebel fighters are nearly impossible to acquire, we use a simple five-point indicator of the fighting capacity of rebels relative to the local government, with a 3 indicating parity, a 1 indicating a strong imbalance in favor of the government, and a 5 indicating a strong imbalance in favor of the rebels.⁴³
- **Insurgent goals:** Separatist conflicts may not pose the same existential threat to a government as ones motivated by insurgents' desire to seize control of the central government and thus might

⁴¹ Our GDP indicators come from the World Bank's World Development Indicators database. We employ the Polity2 variable, which converts "standardized authority codes" to conventional polity scores. For detailed information, see Monty G. Marshall, Ted Robert Gurr, and Keith Jagers, *PolityTMIV Project: Political Regime Characteristics and Transitions, 1800–2015; Dataset Users' Manual*, Vienna, Va.: Center for Systemic Peace, 2016. For measures of social exclusion, we use the Ethnic Power Relationship data from Andreas Wimmer, Lars-Erik Cederman, and Brian Min, "Ethnic Politics and Armed Conflict: A Configurational Analysis of a New Global Dataset," *American Sociological Review*, Vol. 74, No. 2, 2009. This data set also includes information on oil production per capita (in barrels). We, at times, also include an indicator of ethnic fractionalization from Alberto Alesina, Arnaud Devleeschauwer, William Easterly, Sergio Kurlat, and Romain Wacziarg, "Fractionalization," *Journal of Economic Growth*, Vol. 8, No. 2, 2003.

⁴² Patricia L. Sullivan and Johannes Karreth, "The Conditional Impact of Military Intervention on Internal Armed Conflict Outcomes," *Conflict Management and Peace Science*, Vol. 32, No. 3, 2014.

⁴³ David E. Cunningham, Kristian Skrede Gleditsch, and Idean Salehyan, "Non-State Actors in Civil Wars: A New Dataset," *Conflict Management and Peace Science*, Vol. 30, No. 5, 2013.

be more amenable to negotiated outcomes. We account for this admittedly crude difference in the war aims of insurgents with a variable that distinguishes among conflicts over governmental control, conflicts motivated by separatist purposes, and conflicts driven by both motivations.⁴⁴

- **State sponsorship:** Just as interventions on behalf of governments may shorten wars, so too may interventions on behalf of rebels. Countervailing foreign interventions may greatly prolong wars.⁴⁵ We therefore include a binary indicator of state support for insurgents, which may take the form of equipment, finance, troops on the ground, or rebel sanctuaries in neighboring countries.
- **Natural resources:** Not all revenues for insurgency or financial incentives for rebellion need come from foreign governments. Natural resource rents — such as so-called blood diamonds or oil fields that can be captured by rebels — may also fuel civil wars. We therefore take into consideration a country's level of oil production and the country's level of natural resource rents. The former is measured in terms of barrels of oil and the latter is taken as a percentage of total GDP.⁴⁶

⁴⁴ By way of illustration, the Tigrayan People's Liberation Front fought just such an evolving war against the Ethiopian regime. The group's original aim in the 1970s was more along the lines of succession. By the time it proved the victor in a multisided war ending in 1991, it assumed control of the entire country. Data for this variable come from UCDP's ACD (see Gleditsch et al., 2002; Marie Allansson, Erik Melander, and Lotta Themnér, "Organized Violence, 1989–2016," *Journal of Peace Research*, Vol. 54, No. 4, 2017). Other studies employ an "identity war" indicator to distinguish ethnic or religious wars from others (e.g., Michael W. Doyle and Nicholas Sambanis, "International Peacebuilding: A Theoretical and Quantitative Analysis," *American Political Science Review*, Vol. 94, No. 4, 2000). All of these proxies are imperfect.

⁴⁵ Balch-Lindsay and Enterline, 2000.

⁴⁶ Paul Collier and Anke Hoeffler were the first to quantify this argument; see Paul Collier and Anke Hoeffler, "Greed and Grievance in Civil Wars," *Oxford Economic Papers*, Vol. 56, No. 4, 2004. For a sophisticated treatment of the many ways in which natural resources may have a variety of different effects on conflict trajectories, see Michael L. Ross, "How Do Natural Resources Influence Civil War? Evidence from Thirteen Cases," *International Organization*, Vol. 58, Winter 2004. Data limitations emerge for many of the older conflicts, but we are able to include these variables in many of our robustness checks.

- **Peace operations:** Scholars have argued that peace operations are likely to prolong a war if deployed during an ongoing conflict but should help stabilize the peace once a war comes to an end.⁴⁷ We therefore include a variable reflecting the presence of peace operations during the conflict.
- **Other variables:** We have also included a number of other variables to account for potentially relevant contextual factors, including the duration of the war (which we treat as both a dependent and independent variable), the population size of the country at war, and whether the conflict occurred during the Cold War.⁴⁸

Selection Effects and Two-Stage Model Specifications

Typically, statistical analyses of interventions compare the average outcomes of interventions with the average outcomes in cases where foreign powers did *not* intervene. Unfortunately, such a comparison is likely to be misleading.⁴⁹ Military interventions are relatively rare; nearly all countries prefer to employ lower-cost, lower-risk options whenever possible. As a result, countries usually intervene in only the most difficult circumstances, when other options have failed. By the same token, large interventions tend to take place in the most challenging environments of all. The large-scale U.S. interventions in South Vietnam and Afghanistan, for instance, did not start out as large operations; they only became large after much smaller deployments had failed.

⁴⁷ Patrick M. Regan, "Third-Party Interventions and the Duration of Intrastate Conflicts," *Journal of Conflict Resolution*, Vol. 46, No. 1, 2002; Doyle and Sambanis, 2000; Kreutz, 2010; Virginia Page Fortna, *Does Peacekeeping Work? Shaping Belligerents' Choices After Civil War*, Princeton, N.J.: Princeton University Press, 2008; Barbara Walter, "The Critical Barrier to Civil War Settlement," *International Organization*, Vol. 51, No. 3, 1997; Bumba Mukherjee, "Does Third-Party Enforcement or Domestic Institutions Promote Enduring Peace After Civil Wars? Policy Lessons from an Empirical Test," *Foreign Policy Analysis*, Vol. 2, 2006b.

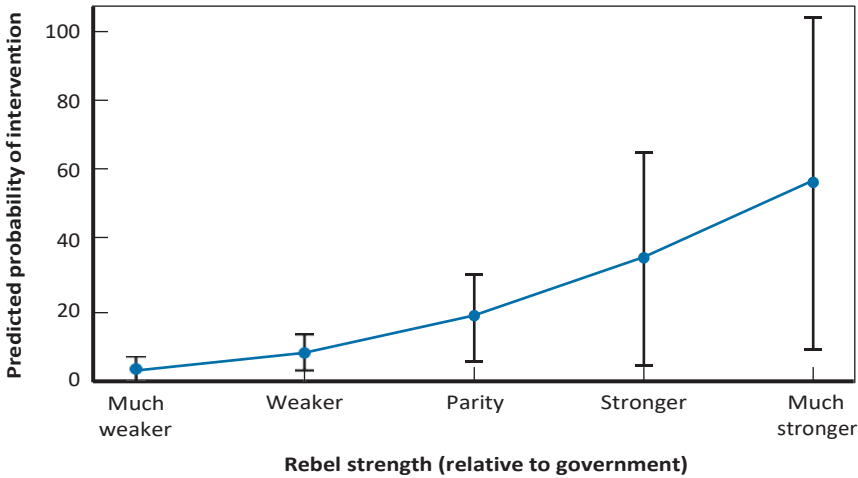
⁴⁸ Interventions may help governments win, but evidence suggests that interventions have a diminishing impact as the war continues; see Dylan Balch-Lindsay, Andrew J. Enterline, and Kyle A. Joyce, "Third-Party Intervention and the Civil War Process," *Journal of Peace Research*, Vol. 45, No. 3, 2008. We take the natural log of war duration (measured in days) and population size to correct for skew.

⁴⁹ Stephen E. Gent, "Going in When It Counts: Military Intervention and the Outcome of Civil Conflicts," *International Studies Quarterly*, Vol. 52, 2008.

Figure 2.3 provides one illustration of this phenomenon. In civil wars in which rebels are weaker than the government (which is most wars), foreign powers intervene in just shy of 16 percent of these cases (all else being equal). But as the graphic suggests, the likelihood of foreign intervention rises to upward of 60 percent in cases where rebels are much stronger than the governments they face. This is nearly triple the likelihood of intervention in cases where rebels are equal in strength to the government.⁵⁰ Clearly, foreigners elect to intervene in the more difficult cases.

This statistical problem is formally known as one of *selection effects*: The policy (or other treatment) being analyzed is not randomly distributed among cases (as in a drug-testing trial) but is instead focused on (selected for) a subset of cases that may look very different from the average case. Many statistical models attempt to deal with this problem

Figure 2.3
Propensity for Foreign Military Intervention as a Function of Insurgent Strength



SOURCE: Authors' calculations.

RAND RR2037-2.3

⁵⁰ See the following section and Appendix A for details of the models used to estimate intervention propensity.

by simply including control variables. If these models were perfectly specified, then the use of such controls might be adequate. But typically models are only rough approximations; a large number of factors that cannot easily be captured in statistical models also influence outcomes. By failing to control for selection effects, these models implicitly assumed that all of these unobserved factors are set to their average value, but we have reason to believe, in cases of military interventions, that they are particularly challenging. Interveners go where governments are more at risk of falling at the hands of insurgent groups.

In our models for predicting war outcomes — duration and recurrence — we use propensity-weighting procedures to adjust for the presence of selection effects. This procedure involves a two-step modeling process. The first step is intended to predict those conflicts where interventions by foreign countries are most likely to transpire. This step is implemented through a logistic regression where *foreign intervention* is the outcome (dependent variable). With the results of this model, we generate the propensity score, which represents an estimate of the probability that an intervention will take place in any given conflict. The second step of the process depends on the specific outcome variable of interest. For conflict outcomes (i.e., government victory, negotiated settlement, or rebel victory), we estimate a second logistic regression model that incorporates the propensity scores generated in the first stage.⁵¹ This process accounts for the problem of selection by weighting each observation (i.e., conflict) in the second-stage regression so that the sample is more reflective of the countries likely to experience interventions. The modeling approach is similar for conflict duration and recurrence. The first-stage regression is the same as before, but now the second-stage models estimate a hazard function. These second-stage regressions (also called *survival models*) similarly use the propensity weights to help estimate the effects of intervention on the duration of recurrence of conflicts. As with the other details of our research design, the precise model specifications can be found in Appendix A.

⁵¹ More specifically, each observation in the second-stage model is weighted by the inverse of the propensity score.

Findings

Because success cannot be judged through any one metric, we analyze the effects of military interventions on four different dimensions:

- conflict outcomes
- conflict intensity
- conflict duration
- conflict recurrence.

These analyses allow us to provide a nuanced answer to the question of what are the likely effects of interventions across a range of important outcomes.

Conflict Outcomes

Are incumbent governments that are fighting insurgencies more likely to win or avoid losses when third parties intervene on their behalf? Does the answer to this question depend on the size of the intervening forces or the country conducting the intervention? To answer these questions, we built statistical models to predict war outcomes with and without foreign military interventions. To correct for the selection effects described above, we use a two-stage model. In the first stage, a logistic regression analysis determines where outside parties are most likely to intervene. In the second stage, we use another logistic regression to estimate the likelihood of different war outcomes, adjusting for the selection effects discovered in the first stage.⁵²

Our first-stage model supports the intuition that foreigners typically intervene in the hardest cases – wars that likely would have ended in disaster for the partner government but for strong action by outside powers. Interventions are associated with powerful rebels and conflicts over who controls the central government (as opposed to less threatening conflicts over peripheral regions).⁵³ In contrast to those who argue

⁵² Our data set includes 250 observations, 29 of which were ongoing as of December 31, 2014, and not included in the analysis of conflict outcome. See Appendix A for more details.

⁵³ In our simplest first-stage model, for rebel strength, $p = 0.058$. Both war duration and war type (center-seeking versus peripheral) are highly statistically significant predictors of inter-

that interventions are highly motivated by foreigners' desire to control natural resources, we find that interventions on behalf of governments are *negatively* associated with the target state's level of oil production.⁵⁴ The model also suggests that wars attracting pro-government interventions are also those where peacekeepers are likely to be present.⁵⁵

If we disaggregate the interventions by the United States, France, and the UK from all other interventions, the results alter slightly. Those three countries tend to intervene in countries that score at least somewhat better on the Polity2 democracy index and in countries where ethnic fractionalization is higher. These three countries are less likely to intervene in cases where there is a UN peacekeeping operation (perhaps because they insist on maintaining control of foreign military operations themselves). Again, the presence of oil is negatively associated with the likelihood of intervention for these three countries, while it has no statistically significant effect on the intervention of other countries. Also of interest, the United States, France, and the UK appear to be driving the aggregate result that interveners go to where governments are at risk of falling entirely, as opposed to losing peripheral territory.⁵⁶

With a clearer picture of where foreigners send their troops, we can now develop more-precise estimates of their likely effects. In particular, knowing that foreign military interventions tend to take place in the most-difficult circumstances, we can compare the outcomes of interventions with the outcomes of wars in similarly challenging contexts but in which foreigners did not intervene. This is the objective of our second-stage models.

vention, with $p < 0.001$.

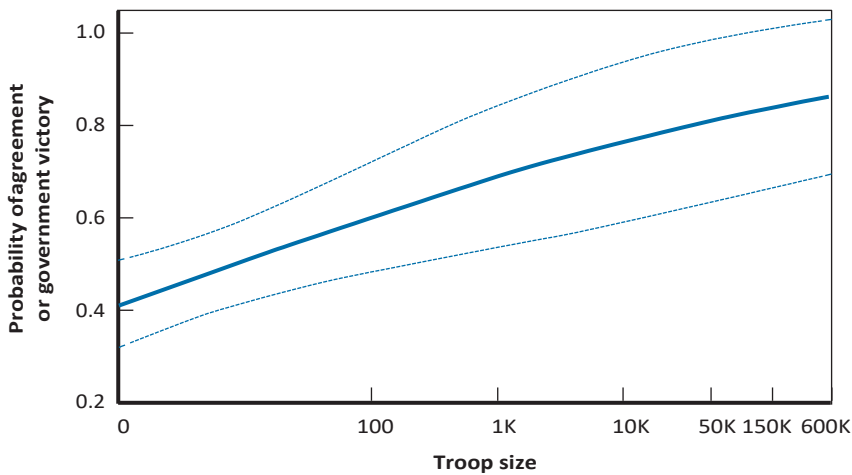
⁵⁴ For the log of oil production, the coefficient is negative (-0.16) and highly statistically significant ($p = 0.002$).

⁵⁵ The variable for peacekeeping operations is highly statistically significant ($p < 0.001$) for our simplest first-stage model but varies when we disaggregate based on intervening country. This result is consistent with those who have argued that peacekeepers are sent to the most-difficult conflicts; see Fortna, 2008.

⁵⁶ Appendix A provides a lengthy treatment of these issues.

In these second-stage models, we estimate the effects of the size of foreign military interventions (measured in terms of the maximum number of foreign troops deployed and in terms of force-to-population ratios) on conflict outcomes. We find that intervening troop numbers have a positive and statistically significant impact on the likelihood of reaching a favorable outcome (i.e., a government victory or negotiated settlement).⁵⁷ To get a better sense of how much these troops matter, we plot the estimated probability of achieving a favorable outcome across varying levels of troops. Figure 2.4 shows the predicted probability

Figure 2.4
Intervening Force Size and the Probability of Favorable Outcomes



SOURCES: UCDP Armed Conflict and War Termination data sets (see Gleditsch et al., 2002; Kreutz, 2010) and authors’ calculations.
NOTES: The dashed lines represent a 95 percent confidence interval. The x-axis is on a log scale.

RAND RR2037-2.4

⁵⁷ For presentational simplicity, we illustrate the effects of troops on an outcome measure that combines government victory and negotiated agreements. These are favorable outcomes compared with unresolved conflict (i.e., low activity) or outright rebel victory. In Appendix A, we separate out these favorable outcomes and find that agreements are largely driving this result.

of government victory or agreement as a function of the maximum number of troops, while holding all other variables at their means.

Two important findings are evident from the figure. First, even small interventions can have a positive effect on conflict outcomes. According to our models, interventions of 1,000 troops improve the probability of a favorable outcome from 41 percent to roughly 69 percent. Second, more boots on the ground typically improve the odds of successful outcomes, but they are subject to diminishing returns.⁵⁸ Larger numbers of forces can influence the course of wars in ways that small interventions cannot—in particular, by engaging in large-scale combat and providing security to large portions of the population. But the return on investment is substantially lower: The first 1,000 intervening troops provide a greater increase in the odds of success (from 41 to 69 percent) than the subsequent 50,000 troops provide (from 69 to 81 percent).⁵⁹

The model used to generate these results aggregated *all* of the interventions. The results of categorizing interventions into two groups—those by the United States, France, and the UK in one and all others in another—suggest similarities across the two groups. Both categories generate positive statistically significant estimates of troop levels on government outcomes.

The control variables we included to capture the effects of local context perform largely as expected in our models, although not all of

⁵⁸ The x-axis is on a log scale and visually obscures this result. If the axis were in real terms, the curve would be much flatter past 1,000 troops. That said, we should be cautious reading too much into the predictions at the far end of troops range. Roughly 75 percent of the interventions in our data set are fewer than 25,000 troops. In fact, 62 percent of the interventions are fewer than 10,000. This clustering of the data at lower numbers of intervening troops makes substantiating inferences further from the majority of the data highly model-dependent. That is, hypotheticals or counterfactuals about, say, the effect of half a million troops on government success are extremely difficult to predict—they are so far away from the data, even when the data “fit” the model well.

⁵⁹ The confidence intervals also widen as the number of troops increases. This is to be expected because the data contain fewer values corresponding to higher levels of interventions. But the increase in the expected probability of a favorable outcome on account of troops is well above the baseline or predicted probability of government victory in the absence of intervention.

them achieve statistical significance. As we would expect based on previous findings, wars where UN peacekeepers are present tend to have more-favorable outcomes. Neither rebel strength nor foreign support for rebels is a statistically significant determinant of outcomes once foreign interventions on behalf of the government are included in the models. More-democratic governance (represented by higher Polity2 scores) is also positively correlated with attaining some form of settlement, as are peacekeeping operations.

Conflict Intensity

Even if interventions are able to secure more-favorable outcomes, do they do so only at the cost of greatly elevated levels of violence and destruction? To answer this question, we constructed a different model to predict levels of conflict intensity.⁶⁰ Unfortunately, the statistical techniques appropriate for the available data on conflict intensity do not allow us to control for selection effects directly, as we do on our analysis of conflict outcomes. Since interveners tend to send troops to the most-difficult conflicts, and we are unable to explicitly correct for these selection effects in this analysis, our results may well overstate the negative effects of intervention.

According to our analysis, foreign military interventions are associated with a higher intensity of violence, and this relationship holds regardless of whether there is a countervailing intervention on behalf of insurgents.⁶¹ But this relationship only appears in cases of civil, not ethnic, violence, and the substantive effects are relatively small, on average. Increasing the number of foreign troops from zero to the size of the largest intervention in our data set is only associated with an increase in the estimated intensity of violence from a value of 3.96 on

⁶⁰ More specifically, we developed cross-country regression models using country-level panel data but limited to the years in which the conflicts are active. As with the rest of our analysis, we only summarize our basic findings here; details of model specification and findings can be found in Appendix A.

⁶¹ The relationship is statistically significant across a range of model specifications for all types of violence and for civil violence alone, with *p*-values for the log of foreign troop numbers ranging from 0.011 to 0.045 in the alternative specifications. The results are not statistically significant when looking solely at ethnic violence.

the 11-point MEPV scale to 5.48. Increasing the number of foreign troops from zero to the average number of troops in a foreign intervention is associated with only a very small increase in the intensity of conflict (from 3.96 to 4.16 on the MEPV scale).

Looking at the record of different intervening countries provides even more insight into these relationships. Interventions by U.S., French, or British forces are not associated with a statistically significant difference – either more or less – in the intensity of violence on average (although there are doubtless individual interventions in which this has been the case).⁶² In contrast, when we separate out the interventions by all other countries, we find that they remain statistically associated with increased levels of violence. More specifically, they are associated with an increase in intensity of approximately one point on the MEPV scale of violence. According to the MEPV scale, this translates to roughly an increase from between 50,000 and 100,000 deaths in conflict in the absence of foreign interventions (and in the case of average interventions by Western forces) to between 100,000 and 500,000 deaths in wars in which non-Western countries intervene. Again, however, since we cannot control for selection effects in this model, this relationship could be driven by non-Western states selecting more-intense conflicts in which to intervene.⁶³

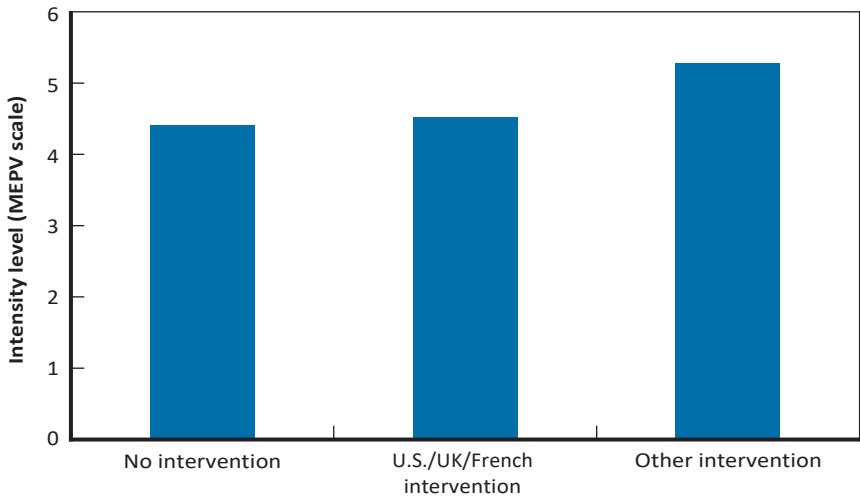
Figure 2.5 summarizes the relationships between foreign military interventions and levels of violence.

The control variables in our models perform much as we would expect. External support to rebels significantly increases violence, but it does so whether or not there is a corresponding intervention on behalf of the government. Unsurprisingly, various indicators of political inclusion and good governance are associated with lower levels of violence: Higher proportions of politically excluded persons within a country are

⁶² *P*-values for the log of numbers of U.S., French, or British troops range from 0.263 to 0.511 in different model specifications – nowhere near statistical significance regardless of the model.

⁶³ The effects of other foreign troops are statistically significant ($p=0.048$) in our model for all forms of violence but miss the threshold for statistical significance when we restrict our model only to subtypes of violence (civil and ethnic).

Figure 2.5
Foreign Military Intervention and Conflict Intensity



SOURCES: MEPV data (Marshall, 2016) and authors’ calculations.

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associated with higher conflict intensity, while higher levels of democracy (as measured by Polity2 scores) are associated with less political violence (although this latter result was not consistently statistically significant across all the models we estimated). Larger populations are positively correlated with more political violence.

Conflict Duration

Just as we might question whether interventions can be justified if they lead to much more intense conflicts, we might also question whether they can be justified if they prolong conflicts. The evidence on war intensity suggests that foreign interventions on behalf of governments are not associated with more-intense conflicts, on average. The evidence on conflict duration is more cautionary.

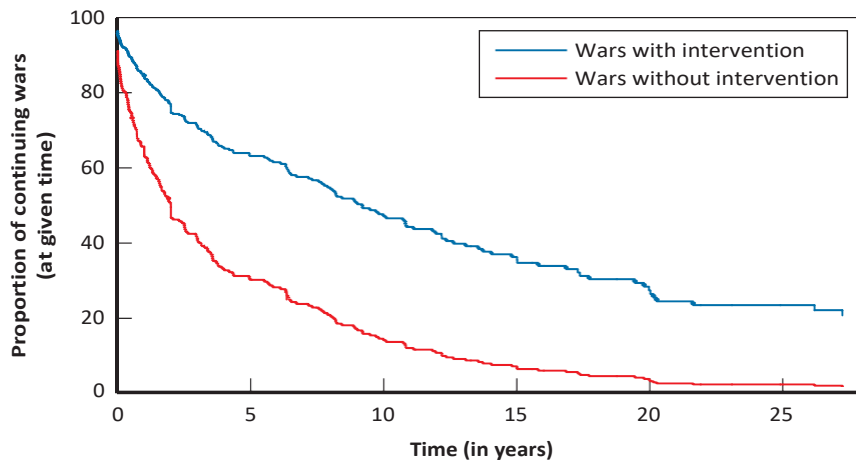
To estimate the effects of foreign interventions on the duration of ongoing wars, we employed Cox proportional hazard models.⁶⁴ These

⁶⁴ Janet M. Box-Steffensmeier and Bradford S. Jones, *Event History Modeling: A Guide for Social Scientists*, New York: Cambridge University Press, 2004.

models provide an estimate of how likely a given event is within a specified period. In the case of our models, we estimated how likely a war was to terminate on any given day, with and without foreign interventions. As with our models of conflict outcomes, our data on war duration come from the UCDP's ACD and include the estimated propensity weights to help correct for selection.⁶⁵

Foreign military interventions are associated with wars that are considerably longer than those without foreign interventions. Depending on the model, interventions may increase the risk of a longer war by 50 to 60 percent.⁶⁶ Figure 2.6 shows the likelihood that a war will have ended at any given point in time, with separate estimates for wars with and without foreign intervention. Crucially, this result is not only associated with less capable interveners. A U.S. intervention is especially

Figure 2.6
Foreign Military Intervention and Conflict Duration



SOURCES: UCDP ACD data (see Gleditsch et al., 2002; Allansson, Melander, and Themnér, 2017) and authors' calculations.

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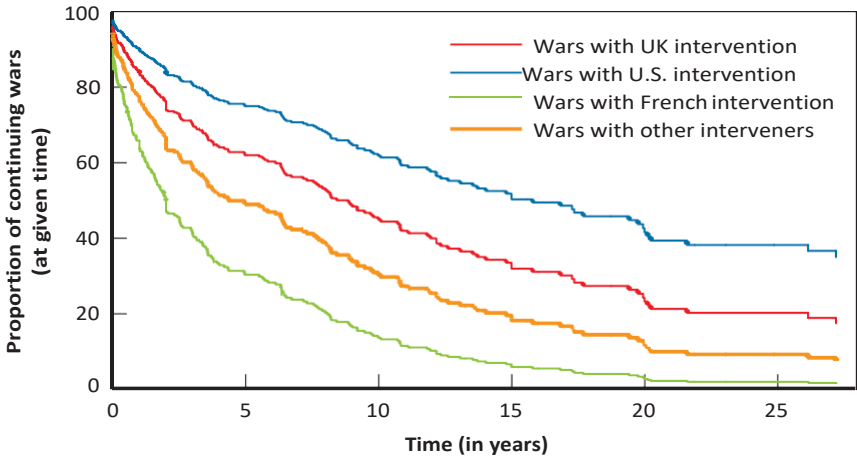
⁶⁵ Gleditsch et al., 2002; Allansson, Melander, and Themnér, 2017.

⁶⁶ Precise hazard ratios and measures of statistical significance vary by model; for details, see Appendix A.

associated with a higher risk of war perpetuation (see Figure 2.7). These findings are consistent with existing work in the field.⁶⁷

Selection effects, however, greatly complicate our interpretation of these results: Are interventions responsible for longer wars, or do interveners choose to send troops to challenging contexts in which conflict would have been likely to endure with or without the presence of foreigners? Evidence suggests that selection effects are at least in part responsible for the relationship between foreign interventions and lengthy wars. The wars that governments win tend to be shorter – in fact, these wars last roughly half as long as other conflicts. And we know from our two-stage models that foreign powers seldom intervene where a government is likely to win without help. Thus, foreigners are

Figure 2.7
Foreign Military Intervention and Conflict Duration, by Intervening Country



SOURCES: UCDP ACD data (see Gleditsch et al., 2002; Allansson, Melander, and Themnér, 2017) and authors’ calculations.

RAND RR2037-2.7

⁶⁷ See, for instance, Cunningham, 2006; and David E. Cunningham, “Blocking Resolution: How External States Can Prolong Civil Wars,” *Journal of Peace Research*, Vol. 47, No. 2, 2010.

selecting to intervene in those wars that are already likely to be longer than average. While we have included propensity weights in our duration models, we cannot be sure that the selection problem has been entirely corrected. To the extent this problem persists, it may be inflating the observed effect of intervention on conflict duration.

Contextual variables influence the duration of wars largely in ways that we would expect, although there are some surprises. Wars where rebel or opposition groups receive some form of assistance from outside parties are longer, on average, by up to 50 percent.⁶⁸ Political exclusion tends to prolong wars (by up to 75 percent), although democracy per se does not bring wars to a quicker conclusion. In fact, democracy (as measured by Polity2 scores) increases the duration of war by approximately 5 percent.⁶⁹

Conflict Recurrence

As the example of Iraq after the departure of U.S. forces in 2011 suggests, even if an intervening country brings a war to a favorable conclusion (from its perspective), it may matter little if the partner country simply returns to war within a few short years. In aggregate, post-war countries are at very high risk of returning to war: More than half of countries that terminate their conflicts (112 of the 221 episodes in our data set) return to war.⁷⁰

Although all post-conflict political orders are fragile, our analysis makes clear that foreign intervention during a war is associated with even higher levels of fragility during the subsequent peace. In fact, all interventions taken together have an estimated impact of roughly dou-

⁶⁸ In our model with intervener country specified, the hazard ratio for rebel support is 0.499, and it is statistically significant at less than the $p = 0.001$ level.

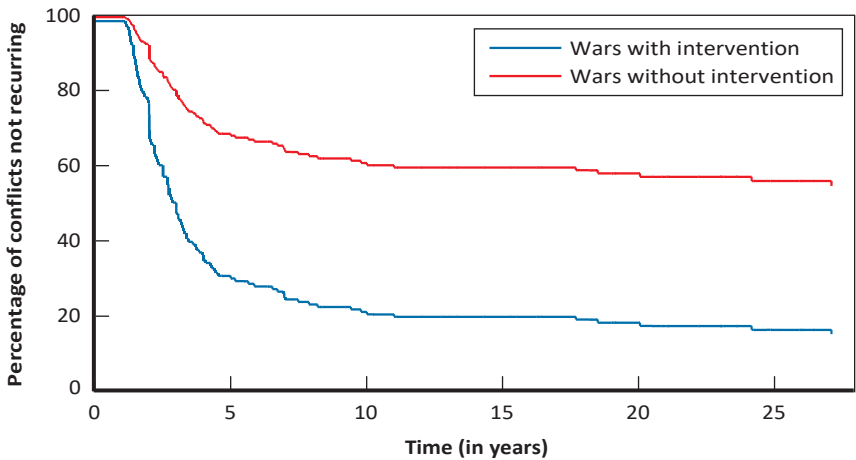
⁶⁹ The hazard ratio for the political exclusion variable is 0.21 in most models and significant at $p < 0.01$. The Polity2 hazard ratio is 0.94 and $p < 0.01$ in the model specifying intervener countries.

⁷⁰ To be counted as an instance of war recurrence in our models, the subsequent conflict must include at least some of the anti-government combatants from the first episode – that is, we do not count conflicts in which the warring parties in the subsequent conflict were entirely different from those in the first one.

bling the risk of conflict relapse.⁷¹ Figure 2.8 compares the duration of post-conflict political orders achieved with and without foreign intervention. As can be seen in the figure, periods of peace after a foreign intervention tend to be much shorter-lived. Historically, 83 percent of countries in which foreigners intervened on behalf of the government returned to war within a quarter century. These results suggest that foreign intervention does indeed introduce greater uncertainty into the calculations of local actors, making them more likely to renew political conflicts in the post-war period.

The number of troops involved in the foreign intervention seems unrelated to the likelihood of conflict recurrence; regardless of whether the foreign intervention was large or small, the likelihood of war recurrence is roughly equally as great. The nationality of the intervener, on

Figure 2.8
War Recurrence After Foreign Military Intervention



SOURCES: UCDP ACD data (see Gleditsch et al., 2002; Allansson, Melander, and Themnér, 2017) and authors' calculations.

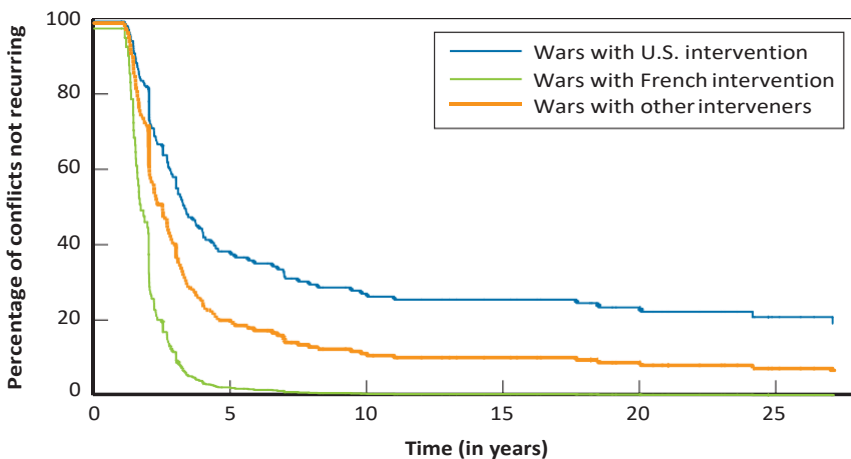
RAND RR2037-2.8

⁷¹ The hazard ratios associated with foreign military intervention during the original war-time period range between 1.9 and 2.2 in our various models, with *p*-values consistently below 0.05.

the other hand, appears to matter quite a lot. When we disaggregate the interventions by country, we find that U.S. interventions are followed by a somewhat elevated risk of war recurrence, but not enough to be statistically significant. However, interventions by non-Western countries are extremely highly correlated with war recurrence.⁷² Figure 2.9 illustrates the varying rates at which post-conflict political orders break down and return to war.⁷³

Finally, we also incorporated interactive modeling techniques to probe whether military interventions into more-developed countries were less prone to this war-renewal problem. We distinguished between countries with higher GDP per capita and those with lower GDP fig-

Figure 2.9
War Recurrence Associated with Different Interveners



SOURCES: UCDP ACD data (see Gleditsch et al., 2002; Allansson, Melander, and Themnér, 2017) and authors' calculations.

RAND RR2037-2.9

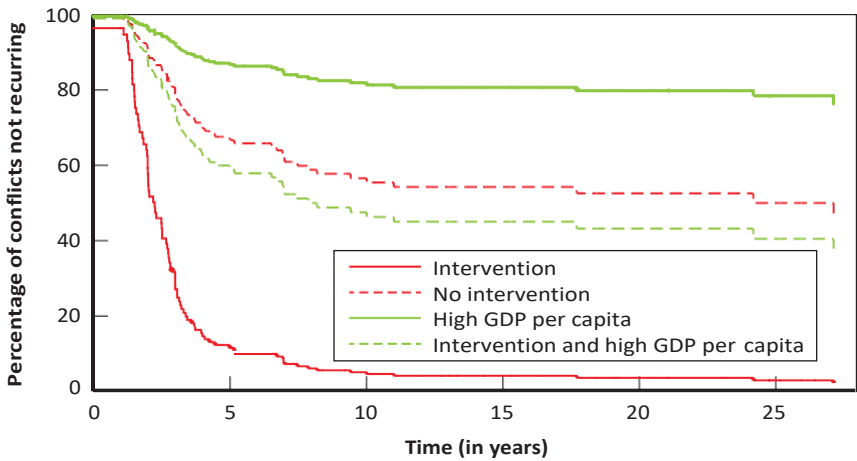
⁷² The estimated hazard ratio for U.S. interventions is 1.57, but it is not statistically different from 1. By contrast, other intervening countries have a hazard ratio of 3.43, which is statistically significant ($p < 0.01$).

⁷³ There were not enough British interventions to produce reliable estimates for the United Kingdom.

ures.⁷⁴ When we employ this indicator for state capacity, we find that interventions in lower GDP countries are still highly associated with peace failure after wars end.⁷⁵ But the estimated effect of interventions in countries with higher GDP is in the opposite direction – in fact, our model estimates the decrease to be upward of a 60 percent reduction in the risk of recurrence.⁷⁶ This result suggests that a more capable host country can significantly mitigate the risk of renewed wars following a foreign military intervention.

Figure 2.10 offers a visual interpretation of this trend. It shows the predicted percentages of peace survival under various scenarios. It includes the survival functions of peace in four cases: interventions, the

Figure 2.10
War Recurrence Associated with Different Scenarios



SOURCES: UCDP ACD data (see Gleditsch et al., 2002; Allansson, Melander, and Themnér, 2017) and authors’ calculations.
RAND RR2037-2.10

⁷⁴ Missing data on GDP per capita reduces the set of observations from the original 250 cases. However results are still quite robust even with this subset of the data.

⁷⁵ The estimated hazard ratio for intervention (in the absence of high GDP) is nearly 3.9 ($p < 0.01$).

⁷⁶ The hazard ratio on the interaction term is roughly 0.36 ($p < 0.01$).

absence of interventions, high GDP per capita, and interventions into countries with high GDP per capita. The lower curve indicates that peace tends to eventually fail in countries with interventions (in the absence of high GDP per capita). But the conditioning effect of higher GDP per capita is evident in the top curve. In fact, the survival rate of peace in this case is greater than in those without any intervention at all.⁷⁷ Foreign military interventions in more-developed states with higher institutional capacity, in short, seem to produce more-stable outcomes. This result is not just because these states already have a higher propensity to stability – the interventions themselves may have more-constructive effects in these contexts.

Of interest, our results also suggest that war recurrence has become more frequent since the end of the Cold War. On average, our models suggest that the Cold War reduced the risk of war recurrence by roughly 35 percent – a finding in line with studies that have found that the Cold War-era superpowers tended to strengthen their allies in developing countries, making them more-powerful counterinsurgents than has typically been the case in the post-Cold War world.⁷⁸ Also of interest is the effect that rebel assistance has on post-conflict stability: It tends to greatly increase the risk of war recurrence, generally by around 90 percent or more.⁷⁹ This is not a surprising finding, because rebel assistance and sanctuary allow insurgents not only to sustain their efforts but also to regroup in the event of a loss or a break in fighting. More surprisingly, there was no evidence that peacekeeping operations reduce the likelihood of conflict recurrence.

⁷⁷ The high rates of peace failure indicated in the survival curve associated with intervention are on account of the truncated data set. As noted, we lose observations because of missing data on GDP per capita.

⁷⁸ The estimated effect is usually statistically significant at around the level of $p = 0.05$ to 0.09 , depending on the model specification. On the effects of the Cold War on patterns of insurgency more generally, see Stathis N. Kalyvas and Laia Balcels, "International System and Technologies of Rebellion: How the End of the Cold War Shaped Internal Conflict," *American Political Science Review*, Vol. 104, No. 3, August 2010.

⁷⁹ Hazard ratios range from 1.94 to 2.32, with p -values consistently significant at $p < 0.05$.

Summary of Findings and Policy Implications

We began this analysis by asking three questions: Can foreign military interventions succeed in achieving interveners' goals in ongoing irregular conflicts? If so, how many forces are needed to succeed? And does the nature of the intervener — its capabilities and political constraints — affect the odds of success and the likelihood of unintended and negative consequences?

Regarding the first of these questions, we found that foreign military interventions can indeed influence war outcomes. They substantially improve the odds of a favorable outcome (i.e., a government victory or a negotiated settlement that is acceptable to the partner government). Foreign interventions, however, are associated with longer wars and a higher risk of war recurrence, at least in partner countries with low levels of development.

The number of intervening forces matters, but these numbers are associated with diminishing returns to scale. Even light-footprint interventions of a few hundred or a few thousand forces can substantially improve the odds of an acceptable outcome. In such cases, however, there remains a sizable chance (somewhere between one in three and one in four in our models) that the partner government will be defeated outright by rebel forces. Where U.S. vital interests are at stake, U.S. decisionmakers may be unwilling to accept these odds of defeat, in which case larger interventions may be justifiable. Even where the United States is willing to accept extremely large costs to avoid defeat, however, it should have limited expectations about what it can achieve. The addition of tens of thousands of troops beyond the first few thousand only modestly improves the odds of success, and there is considerable uncertainty about even those modest gains because of the small number of large interventions in the past several decades. Large interventions can help a beleaguered partner stave off defeat while the forces remain deployed, but there are clear limits to the extent to which foreign resources can substitute for basic competence and capacity in partner governments.

Finally, U.S. decisionmakers have sought to share the burden of stabilizing fragile and conflict-affected states, including by turning to

U.S. allies and partners to intervene in lower-priority countries, such as Somalia. Our findings suggest that interventions by a wide range of countries can succeed in bringing a war to a favorable conclusion. Non-Western countries are associated with higher intensities of violence, however, and other interveners experience higher rates of conflict recurrence in the countries in which they intervene than does the United States. Burden-sharing, in other words, may well be appropriate, but it comes with its own limitations.

Limited Strike

If the United States either cannot or chooses not to intervene overtly on the ground, can it instead accomplish the more modest objective of disrupting and degrading terrorist or militant organizations through precision air strikes and targeted killings? Although such targeted killings can be conducted through either air strikes or direct action by SOF, in practice, the United States' only sustained limited strike campaigns without a large deployment of ground forces have been conducted using UAVs.¹

Remotely targeting terrorist networks—including key leaders and HVIs—has played an important role in the United States' strategy against terrorist organizations in numerous countries worldwide. The United States has had differing operational objectives and varying levels of ground presence in these countries, ranging from relatively small advisory and assistance missions in Pakistan and Yemen to large-scale counterinsurgency operations in Iraq and Afghanistan. However, protracted wars with large costs in blood and treasure have prompted a shift toward the former, which aims to disrupt, degrade, and defeat ter-

¹ A review of UCDP's list of "internationalized intrastate conflicts" and the Congressional Research Service's list of U.S. military interventions revealed no additional cases of large-scale U.S. campaigns against nonstate actors since 1946, besides those covered in the previous chapter and this one. See Barbara Salazar Torreon, *Instances of Use of United States Armed Forces Abroad, 1798–2015*, Washington, D.C.: Congressional Research Service, October 15, 2015. Of course, the United States has employed airpower alone against a number of state actors, including Serbia in the 1999 NATO air campaign over Kosovo and the 2011 strikes against the regime of Muammar Gaddafi in Libya.

rorist groups while avoiding many of the costs and commitments seen in both Iraq and Afghanistan in the previous decade.

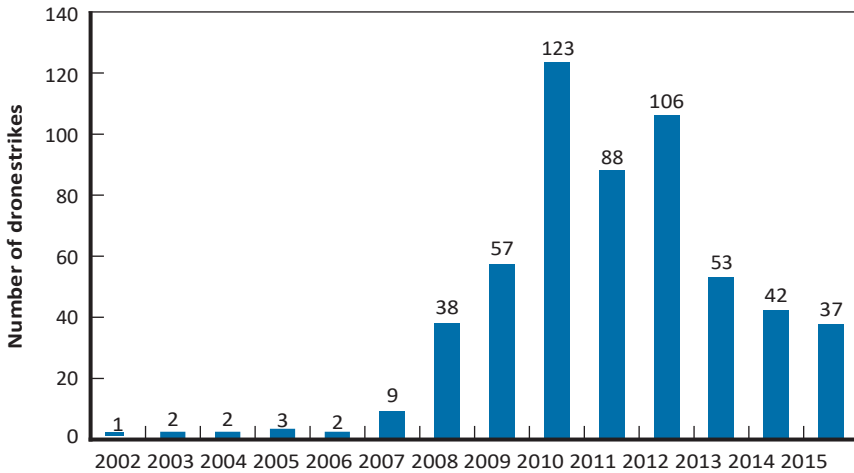
As U.S. strategy has shifted away from interventions involving large commitments of ground forces, the United States has increasingly relied on targeted strikes aimed at decentralized threat networks that al Qaeda, the Islamic State, and their adherents have constructed in parts of the Muslim world. Part of such a strategy involves direct kinetic (lethal) action against terrorist networks, whether by the United States (the primary focus of this chapter) or partner-nation forces. Databases compiled from open-source media reporting on drone strikes show how drone strikes have increased remarkably since the beginning of the U.S. war on terror in 2001 and 2002. Data from the New America Foundation indicate that, as of October 2015, the United States has conducted nearly 550 strikes in Pakistan and Yemen since 2002, the majority of which occurred after 2008 under the Obama administration, as well as a few dozen strikes and raids against al Qaeda affiliates in Somalia (see Figure 3.1).² Although the number of publicly reported strikes in each of these countries has decreased since 2013, the overall increase (or put differently, “the rise of the drone”) is both striking and undeniable.

The effectiveness of these drone strikes, however, remains a topic of intense debate. This chapter analyzes three sets of questions central to these debates:

- Is there any rigorous evidence that drone strikes do indeed disrupt and degrade targeted militant organizations, or do they strengthen such groups by serving as a recruiting tool among populations outraged by these attacks?
- To the extent that drone strikes exercise significant effects, how long do these effects endure? Can these organizations quickly regenerate their losses and resume normal operations? Alternatively, do the recruitment effects of such strikes rapidly fade?
- How does operational context—including the characteristics of the local conflict in which the United States targets militants and

² New America Foundation, “International Security Data Site,” website, undated-b.

Figure 3.1
Count of U.S. Drone Strikes by Year



SOURCES: New America Foundation, undated-b (as of October 10, 2015); authors' calculations.

NOTE: Data include reported strikes in Pakistan, Somalia, and Yemen.

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the intensity of the U.S. campaign — affect the outcomes of these strikes? How do the targets of drone strikes affect the outcomes? More specifically, do the effects differ depending on whether militant leaders or noncombatants are among those killed?

The Policy Debate

Proponents of targeted killings argue that these measures disrupt and degrade militant capabilities and that these effects can be substantial and enduring. While insurgent and terrorist organizations can usually recruit new foot soldiers with little difficulty, the leadership of such groups represents a key vulnerability. Militant leaders — often referred to as HVIs by the U.S. military — devise these groups' strategies and plans, serve as critical conduits for illicit flows of finances and materiel, decide how to allocate resources, provide technical skill sets (such

as high-quality bomb-making), and attract recruits. None of these functions can be quickly learned; to the contrary, the high mortality rate of insurgencies in their early years suggests that these qualities are extremely difficult to acquire. Consequently, many rigorous studies of the effects of leadership strikes have found that these operations can have sizable and enduring – indeed, sometimes decisive – consequences for insurgencies and terrorist organizations. These studies find that decapitating insurgent and terrorist groups is correlated with substantial decreases in the quantity and lethality of a group's attacks, as well as decreases in the lifespan of these groups and their probability of winning.³ Surgical strikes might also disrupt militant activity by destroying physical infrastructure used by militants, such as buildings used as hideouts and vehicles used for logistics. Finally, targeted killings can deter militant activity by causing militants to go to ground to avoid the potentially fatal consequences of engaging in operational activities.⁴

Drones provide an almost ideal platform for conducting such attacks. They have a unique ability to conduct protracted and persistent ISR that could be helpful for identifying and killing enemy fighters.⁵ For example, a Reaper drone can hover at a high altitude over a given area of interest for a prolonged period, during which it can give decisionmakers the situational awareness and information necessary to selectively and precisely target the enemy. According to data declassified by the U.S. government in summer 2016, strikes conducted between 2009 and the end of 2015 in unspecified countries where the

³ Patrick B. Johnston, "Does Decapitation Work? Assessing the Effectiveness of Leadership Targeting in Counterinsurgency Campaigns," *International Security*, Vol. 36, No. 4, 2012; Bryan Price, "Targeting Top Terrorists: How Leadership Decapitation Contributes to Counterterrorism," *International Security*, Vol. 36, No. 4, 2012; and Michael Tiernay, "Killing Kony: Leadership Change and Civil War Termination," *Journal of Conflict Resolution*, Vol. 59, No. 2, March 2015.

⁴ Patrick B. Johnston and Anoop K. Sarbahi, "The Impact of U.S. Drone Strikes on Terrorism in Pakistan," *International Studies Quarterly*, 2016.

⁵ Daniel L. Byman, "Why Drones Work: The Case for Washington's Weapon of Choice," *Foreign Affairs*, Vol. 92, No. 4, 2013.

United States is not at war have killed between 2,372 and 2,581 militant combatants.⁶

However, many analysts disagree that surgical strikes are an effective tool against insurgent and terrorist groups. Skeptics typically argue that removing militant leadership is largely inconsequential and that drone strikes in general and civilian casualties in particular may radicalize civilian populations and ultimately create more new militants and militant sympathizers than they eliminate. Jenna Jordan, among other scholars, argues that capturing or killing terrorist leaders might not only be ineffective but also have “counterproductive consequences, emboldening or strengthening the [terrorist] organization.”⁷ Jordan goes on to argue that because organizations such as al Qaeda and ISIL have developed extensive bureaucracies, the effects of taking individual leaders off the battlefield are muted.⁸ Austin Long makes a similar argument, suggesting that the effectiveness of leadership targeting depends on the institutionalization of the group.⁹

Other research suggests that inflicting civilian casualties has counterproductive effects, tending to increase militant-initiated attacks in Iraq, Afghanistan, and possibly other theaters in which the U.S. military has been active.¹⁰ However, the effects of collateral damage inflicted by targeted strikes remain unclear. Data on these incidents

⁶ Karen DeYoung and Greg Miller, “White House Releases Its Count of Civilian Deaths in Counterterrorism Operations Under Obama,” *Washington Post*, July 1, 2016.

⁷ Jenna Jordan, “When Heads Roll: Assessing the Effectiveness of Leadership Decapitation,” *Security Studies*, Vol. 18, No. 4, 2009; and Jenna Jordan, “Attacking the Leader, Missing the Mark: Why Terrorist Groups Survive Decapitation Strikes,” *International Security*, Vol. 38, No. 4, Spring 2014. For a skeptical view of the extent to which drone strikes radicalize local populations, see, for instance, C. Christine Fair, Karl Kaltenthaler, and William J. Miller, “Pakistani Opposition to American Drone Strikes,” *Political Science Quarterly*, Vol. 129, No. 1, 2014; and C. Christine Fair, Karl Kaltenthaler, and William J. Miller, “Pakistani Political Communication and Public Opinion on U.S. Drone Attacks,” *Journal of Strategic Studies*, Vol. 38, No. 6, 2015.

⁸ Jordan, 2014, pp. 7–9.

⁹ Austin Long, “Whack-a-Mole or Coup de Grace? Institutionalization and Leadership Targeting in Iraq and Afghanistan,” *Security Studies*, Vol. 23, No. 3, 2014.

¹⁰ Luke Condra and Jacob N. Shapiro, “Who Takes the Blame? The Strategic Effects of Collateral Damage,” *American Journal of Political Science*, Vol. 56, No. 1, 2012; Jason Lyall,

are often unreliable: There are substantial discrepancies between official U.S. government estimates of collateral damage inflicted in targeted strikes and estimates offered by nongovernmental institutions that track and attempt to document collateral damage attributable to U.S. targeted strikes.¹¹ Moreover, even though the United States has acknowledged that targeted strikes have inflicted collateral damage, even observers who view collateral estimates as too low generally agree that drone strikes tend to be significantly more precise than other potential targeting methods (such as cruise missiles and so-called dumb bombs).

To develop a clearer understanding of the effects of targeted strikes, this chapter compares the U.S. drone campaigns conducted in Pakistan and Yemen. More specifically, it analyzes several research questions in light of these conflicts:

- Do limited strikes, on balance, weaken targeted groups (by disrupting and degrading their command and control and other critical capabilities), or do they, on balance, strengthen them (in particular, by provoking popular outrage and thus strengthening militant recruitment efforts)?
- Do terrorist and militant groups that are disrupted and degraded through air strikes stay disrupted and degraded for long (as indicated by various measures of militant capabilities), or are they rapidly able to reconstitute their capabilities?
- Should the United States focus its campaign narrowly on HVIs – key militant group leaders – or undertake broader campaigns aimed at curbing the operational capacity of these organizations?
- Do the civilian casualties inflicted by strikes undermine their effectiveness as a tool to degrade militant organizations?
- Does the strength of the partner nation and its ability to conduct its own military operations affect outcomes?

“Bombing to Lose? Airpower and the Dynamics of Violence in Counterinsurgency Wars,” unpublished manuscript, Yale University, August 2014.

¹¹ See, for example, DeYoung and Miller, 2016.

The analysis in this chapter uses data on hundreds of drone strikes in both Pakistan and Yemen and various measures of militant groups' capabilities to evaluate the effectiveness of these strikes in different circumstances.

Research Approach

Investigating these questions using statistical methods allows for a data-driven assessment approach, which, with few exceptions, previous analyses have failed to do.¹² Although qualitative case studies are useful for understanding the effects of specific events, quantitative methods help to identify the broader patterns necessary for analyzing the impact of targeted strikes. To be clear, our analysis in this chapter does not provide insight into campaign-level outcomes but rather focuses on local conflict variation. The results will provide insight into how militant activity varies in areas that are affected by drone strikes, compared with those without drone strikes, but will not assess the effect of drone strikes on the fight against al Qaeda more broadly.

Cases

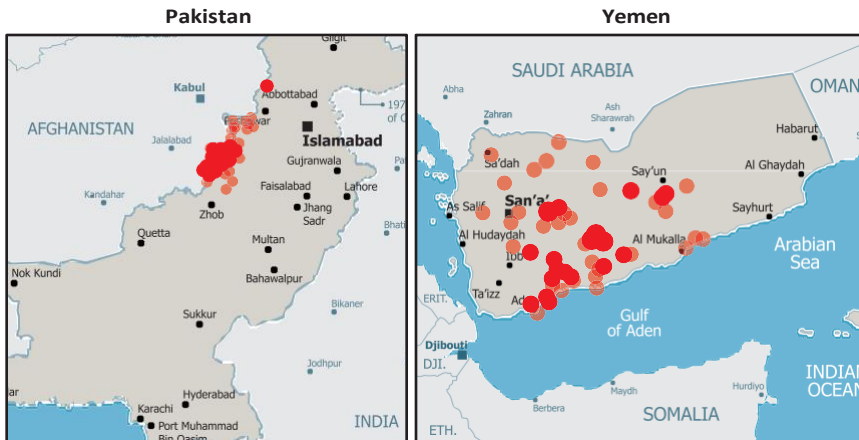
One difference between this chapter and others in this report is that the statistical analysis here focuses on two cases of limited U.S. intervention – Pakistan and Yemen – in which targeted strikes have played a substantial part in the U.S. military's overall role, rather than analyzing a larger number of countries. We decided on this approach largely because there are only a handful of cases in which the United States has conducted limited interventions where targeted strikes have been a centerpiece of the broader campaign strategy and where it deployed very few troops. In both countries, the United States has had, at various times, relatively small advisory missions comprising mainly SOF. But unlike in other cases, such as the Phil-

¹² Notable exceptions include Johnston and Sarbahi, 2016; and Megan Smith and James Igoe Walsh, "Do Drone Strikes Degrade al Qaeda? Evidence from Propaganda Output," *Terrorism and Political Violence*, Vol. 25, No. 2, 2013.

ippines and Colombia, in the two cases we study in this chapter, the U.S. advisory presence was extremely small. Meanwhile, the scale of its targeted strikes against militant groups—including al Qaeda and al Qaeda-linked militant networks, such as Tehrik-i-Taliban Pakistan and the Haqqani network in Pakistan and al Qaeda in the Arabian Peninsula and Ansar al-Sharia in Yemen—was large.

Because enemy militant groups in Pakistan and Yemen are engaged in local insurgencies (despite several of them having regional and global ambitions), and because U.S. strikes have been largely focused on dismantling al Qaeda affiliates and adherents and preventing them from threatening host-nation partner governments, our statistical analysis is conducted at the subnational level, as is appropriate for the war context in each country. In Pakistan, the United States has focused primarily on militants operating in the Federally Administered Tribal Areas (FATA) in the northwest region of the country; in Yemen, U.S. involvement has been broader geographically, reflecting the greater geographic dispersion of al Qaeda in the Arabian Peninsula and Ansar al-Sharia (see Figure 3.2). Consequently, we decided to focus our analysis of Pakistan at the district level in FATA and at the provincial, or governorate, level in Yemen. We also analyzed slightly different periods, depending on the country and outcome of interest. In assessing militant attacks, we focused on the active phases of U.S. intervention, 2004–2014 for Pakistan and 2011–2014 for Yemen. When evaluating militant propaganda activity, both data and modeling issues dictated focusing on the same period for both countries, 2007–2014.

The generalizability of our findings is, of course, limited because we only examine two countries; it could be that drone strikes in other contexts have different effects. The similarities and contrasts between Pakistan and Yemen, however, provide excellent opportunities to test the effects of operational environment on drone strikes' effectiveness. In both cases, the United States targeted radical Islamist militant groups. Yet the scale and operational environments of the two U.S. drone campaigns differed radically. In Pakistan, the United States launched 380 drone strikes, mostly between 2008 and 2014, while in Yemen, the

Figure 3.2**Distribution of Drone Strikes in Pakistan and Yemen, 2004–2015**

SOURCE: New America Foundation, undated-b.

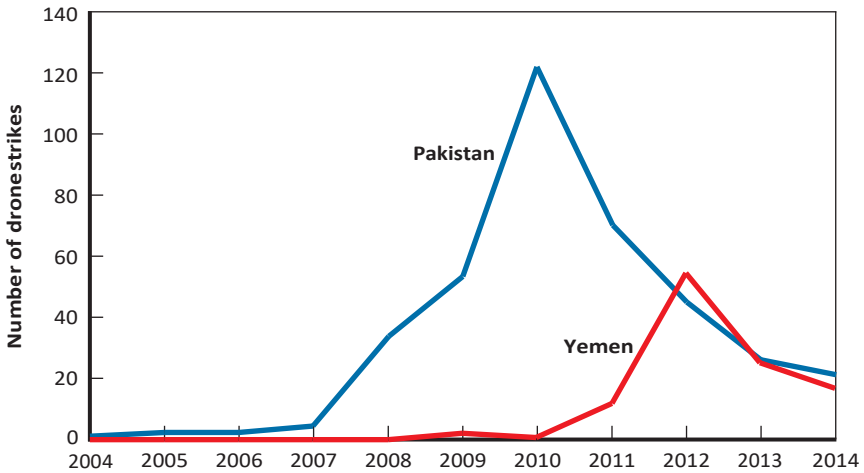
RAND RR2037-3.2

United States launched 109 strikes over 2011–2014, as illustrated in Figure 3.3.¹³

At the same time, the operational environment differed greatly between the two countries. Pakistan certainly suffered from problems of poor governance and weak state reach in its periphery. But it was relatively secure in its core regions and possessed highly capable security forces. The conflicts in FATA and the Khyber Pakhtunkhwa province were bloody, but they were for the most part contained within

¹³ Data on drone strikes come from the New America Foundation, perhaps the most complete, publicly available source of information on drone strikes in Pakistan and Yemen (New America Foundation, undated-b). Of course, the data have some limitations. The most significant limitation of the drone data is that, as with any data set built from public media reports, it cannot be compared with any official U.S. government or other classified data set (if such a data set exists). Another possible limitation of the drone data pertinent to our analysis is that the number of casualties inflicted is sometimes unclear, contentious, or reported differently across different sources. It is difficult for reporters to access many of the sites where strikes occur, so local reports are often reported in the sources that are most commonly used to code the data in the New America Foundation's database. We attempted to mitigate measurement error in these count variables by transforming them to binary variables, on the assumption that, for example, civilian casualties occurring or not occurring in a given strike were more likely to be reported accurately than exact counts.

Figure 3.3
Scale of U.S. Drone Campaigns in Pakistan and Yemen



SOURCE: New America Foundation, undated-b (as of October 10, 2015).

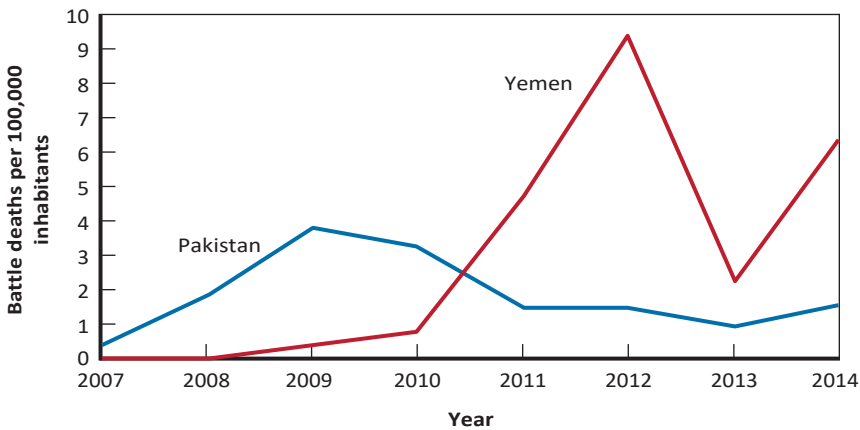
RAND RR2037-3.3

these peripheral regions. In Yemen, on the other hand, the government was in disarray, its security forces were relatively weak compared with the insurgents they faced, and levels of violence (relative to population size) were several times as high as they were in Pakistan, as shown in Figure 3.4. Thus, we might expect to see important differences in the outcomes of the drone campaigns in the two countries.

Outcomes: Measures of Success

Evaluating the extent to which limited strikes disrupt and degrade militants' capabilities poses a number of challenges because these organizations' capabilities cannot be observed directly. Instead, we can only observe their level of activity in various fields and infer their capabilities from these actions. In the case of drone strikes in Pakistan and Yemen, the United States has sought to achieve at least three goals: degrading militant groups' abilities to directly conduct transnational terrorist operations, degrading militant groups' ability to pose threats to U.S. partner regimes in those two countries, and degrading militant

Figure 3.4
Levels of Violence in Pakistan and Yemen



SOURCES: UCDP Battle-Related Deaths data (see Allansson, Melander, and Themnér, 2017) and authors' calculations.

RAND RR2037-3.4

groups' ability to inspire and recruit militants elsewhere. The first of these is the most important of the three, but it is also the most difficult to observe, especially at the unclassified level. The last two, however, provide important opportunities for analysis. To the extent that drone strikes can depress both local attacks by militant groups and their propaganda output, we can infer that these groups are suffering broader damage to their capabilities, even if we cannot directly observe their abilities for launching transnational acts of terrorism.

Local Attacks

One of the United States' goals in its drone campaigns has been to assist partner governments battling local militant groups, even if those partnerships are often extremely contentious. In the case of Pakistan, for instance,

The U.S. use of drones . . . began, at least partly, as an unadmitted example of active assistance for the Pakistani state against Islamist insurgents. That probably still remains one of its functions. Even though the Pakistani government has publicly criti-

cised the drone strikes, they have never closed their airspace to US aircraft. Repeated decapitation drone strikes against terrorists with international ambitions become hard to distinguish from the attrition of local insurgents. The strikes may stir up inexhaustible rage against the cowardly, high-technology West, and its local puppets, as the Pakistani Taliban insists. Or – and the experiment has not been running long enough to give a clear result – they may be essential to create a hurting stalemate in which negotiations become possible and extremism can be reduced.¹⁴

To assess the effect of U.S. air strikes on militant operational capacity at the level of administrative units in Pakistan and Yemen, both in the short term and in the longer term, we analyze changes in the number and lethality of militant attacks in these areas over the course of up to six months following a strike.¹⁵ In keeping with the motivation for the analysis, we analyze not only drone strikes but also whether removing HVIs and inflicting (reported) civilian casualties influenced these outcomes. Our data on number and lethality of militant attacks come from the Global Terrorism Database, which provides detailed information about militant attacks, the date of occurrence, their location, and fatalities caused.¹⁶

¹⁴ Paul Schulte, “‘What Do We Do If We Are Never Going to Do This Again?’ Western Counter-Insurgency Choices After Iraq and Afghanistan,” in David Martin Jones, Celeste Gventer, and M. L. R. Smith, eds., *The New Counter-Insurgency Era in Critical Perspective*, Basingstoke, UK: Palgrave, 2014, p. 354.

¹⁵ Our targeted strikes data come from the New America Foundation. For each reported drone strike, researchers vetted information from multiple sources and captured information on its date and location, whether or not an HVI was killed, and estimates of the number of civilian and other casualties that occurred. These data were aggregated per district and month for Pakistan and per province and month for Yemen. See New America Foundation, undated-b.

¹⁶ The Global Terrorism Database is maintained by the National Consortium for the Study of Terrorism and Responses to Terrorism (START) at the University of Maryland. These data were also aggregated to the province month (that is, the data are aggregated by the number of strikes and number of deaths in a given district in a given month). For more information on these data, see Global Terrorism Database, “Codebook: Inclusion Criteria and Variables,” College Park: University of Maryland, June 2016. The data do have some limitations, but these limitations should not affect our analysis. In particular, there are some inconsistencies over time in the sources used to identify terrorist attacks, as well as some revi-

Propaganda Activity

Another goal of the U.S. drone campaign is to degrade the ability of militant groups to inspire additional attacks, both domestic and transnational, as well as their ability to recruit. While these capabilities are difficult to observe directly, militant groups attempt to recruit and rally supporters through their production of propaganda statements. These statements vary in theme but cover topics ranging from calls to jihad, to claims for perpetrated attacks, to ideological statements that explain group objectives and strategies. The ability of a group to produce such propaganda can serve as a proxy for its ability to mobilize resources and supporters and to organize and execute political action.¹⁷ It can also serve as a proxy for group strength. Furthermore, propaganda output is an important objective of terrorist groups in its own right because it allows them to communicate with a wider audience, to recruit followers, to mobilize supporters and possible funds, to claim attacks, and to communicate their agendas to a broader audience.¹⁸

To assess the effect of drone strikes on the ability of militant groups to mobilize supporters and organize politically, we analyze the relationship between drone strikes (and the fatalities they cause) and the production of propaganda, as measured by the number of statements produced in each month by key groups in both Pakistan and Yemen. For Pakistan, groups captured in our data include al Qaeda (core leadership), the Haqqani network, al Qaeda in the Indian Subcontinent,

sions to the definitions used to classify what is and is not terrorism. However, neither issue should have a significant effect on our analysis. First, changes in definitions of terrorism are most problematic for researchers doing long-time series analyses. Definitions have been more or less consistent, however, over the periods that we consider here. Second, although sources used in the database do change from year to year, these changes should affect all areas of Pakistan and all areas of Yemen equally. Because the most important sources of variation are cross-district or cross-province within Pakistan and within Yemen, changes in sources used should not affect our results.

¹⁷ Smith and Walsh, 2013.

¹⁸ Brian Jenkins, *International Terrorism*, Los Angeles: Crescent, 1975; Gabriel Weimann and C. Winn, *The Theater of Terror: Mass Media and International Terrorism*, New York: Longman, 1994; Smith and Walsh, 2013.

and Tehrik-i-Taliban Pakistan. For Yemen, we include al Qaeda in the Arabian Peninsula and its offshoot, Ansar al-Sharia (in Yemen).

Our data on statements were collected from three unique databases: the SITE Intelligence Group's Jihadist Threat Enterprise, Jane's Terrorism and Insurgency Centre's Events Database, and the al-Qaeda Statement Index (AQSI) hosted by Haverford College's Global Terrorism Research Project.¹⁹ Our analysis of these statements occurred at the country-month level, and we considered the effect of drone strikes, HVI removals, and civilian casualties on propaganda output in Yemen and Pakistan over the six months after a drone strike.²⁰

Model Specification

The statistical models used for the analysis of militant violence and propaganda build on prior work by Patrick Johnston and Anoop Sarbahi and, to a much lesser extent, Megan Smith and James Igoe Walsh but extend on it in important ways.²¹ The models for the two outcomes (effects of drone strikes on militant violence and the effects of drones on propaganda) were nearly identical, with a few small exceptions. In both cases, we relied on negative binomial time series models, a specific type of regression used when the dependent variable of interest is a count variable (takes values 0, 1, 2, 3, etc.) that has many zeroes, as is the case in the data sets used for this analysis.²² For the models looking

¹⁹ For additional information, see: SITE Intelligence Group, Jihadist Threat Enterprise, homepage, undated; Jane's Terrorism and Insurgency Centre, "Events Database," undated; and Global Terrorism Research Project, al-Qaeda Statement Index, Haverford College, undated.

²⁰ We coded statements into four types: ideological statements, calls to jihad, external-activity statements, and internal organization statements. Statements were coded by a single coder with substantive experience working with these statements. Statements were coded based on titles, abstracts, and text analysis. Each statement could be coded into only one of the four categories. In total, we coded 631 as ideological statements, 441 as calls to jihad, 435 as external activity statements, and 256 as internal organization statements. In general, we did not find significant variation in the types of statements released over time.

²¹ Johnston and Sarbahi, 2016; Smith and Walsh, 2013.

²² Terrorist attacks, for example, are rare events, which explains why many months may have zero values for the dependent variable. For more on negative binomial models, see William H. Greene, *Econometric Analysis*, Upper Saddle River, N.J.: Prentice Hall, 2011.

at the effects of drone strikes on militant violence, the two outcomes of interest (dependent variables) are the number and the lethality of attacks (fatalities caused) per province and per month. For the models assessing the effects of drones on propaganda, our dependent variable of interest is the number of militant propaganda statements per month in Yemen and in Pakistan.

Both models use monthly data (e.g., number of drone strikes, statements, or attacks per month). The unit of observation in the militant violence models is the province- or district-month, while the propaganda statement models use country-months as the unit of observation. In the militant violence models, we also include *fixed effects*, an approach that can be used to account for changing conflict dynamics across areas and time unrelated to drone strikes. However, in the propaganda statement models, because analysis is conducted at the country-month level, we do not have enough observations to include fixed effects. To partially address the lack of fixed effects in these models, we include a control that captures whether or not a military operation conducted by local security forces was occurring in the month of the strike, as this may also affect the number of statements.

The samples of data included in our analysis differ for the two sets of models. For the Pakistan case, our militant violence models cover the period 2004–2014 and focus on the effect of drone strikes in North Waziristan. Thus, changes in the number of attacks are comparisons of changes in North Waziristan and changes in areas without drone strikes, which includes the rest of FATA. The propaganda models look at 2007–2014 and consider the effect of drone strikes in North Waziristan on propaganda output by militant groups in Pakistan writ large. For the Yemen case, the analysis of militant activity covers 2011–2014 and considers the effects of drone strikes on violence in the same district of the strike, as compared with other districts without strikes. The propaganda analysis in Yemen considers the effects of drone strikes on propaganda statements by militant groups at the country level. In Appendix A, we explain the reasons for these different periods.

In both our models for militant violence and for propaganda output, we test three independent variables of interest: number of drone strikes, presence of civilian casualties from drone strikes in a

given month, and presence of HVI removals in a given month.²³ We consider the relationship between the number of drone strikes or the presence of drone-related fatalities and the number of militant attacks in two periods: months 0–3 (the month of the strike and the three subsequent months) and months 4–6 (the fourth through sixth post-strike month). We explored a number of other controls, including population, economic development, and level of urban development. These tended not to be statistically significant and did not substantially affect our results, so we excluded them from the final models.²⁴

An important caveat to our models relates to the impact of spatial and geographic diffusion. One of the reasons it may be hard to isolate the impact of drone strikes on militant groups' capabilities is that drone strikes may reduce militant capabilities in one area by diverting their activity to other areas. These areas might include terrain that protects the group from drone strikes – mountainous regions or regions with lots of trees, for example, or urban areas that allow militants to hide among the rest of the population. Thus, it may appear that drone strikes in North Waziristan reduce violence there by diverting it elsewhere in FATA or in Pakistan. While we do not explicitly address this question here, previous work has shown that, rather than increasing violence in surrounding areas, drone strikes may decrease militant activity in both the targeted areas and those nearby.²⁵

Additional details about model specification, data sources, and robustness checks are included in Appendix B.

²³ The last two variables are coded as dichotomous (0 or 1) variables. We take this approach for two reasons. In the case of HVI removals, there is debate about who qualifies as a high-value target. By using the dichotomous variable, we are able to reduce any bias in the results because of these coding decisions. For civilian deaths, the data are often uncertain and contested. The dichotomous variable in this instance reduces any bias caused by incorrectly reported civilian death totals.

²⁴ Our empirical strategy is motivated by the fact that a number of quasi-random factors shape the timing of drone strikes on a weekly basis. These include weather, bureaucratic, and technological factors. See Appendix B for more details.

²⁵ Johnston and Sarbahi, 2016.

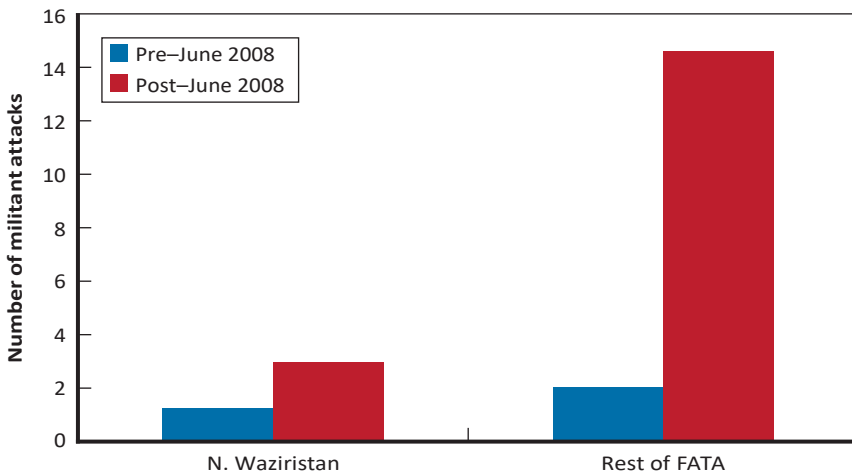
Findings

As noted, there are two main arguments for how drone strikes might affect militant violence and propaganda production, summarized as the disruption and recruitment effects. First, drone strikes may disrupt group capacity and interfere with groups' ability to perpetrate attacks and issue propaganda statements. Second, drone strikes may inflame militant groups and their supporters, leading to more attacks, more recruiting, and more propaganda statements. In this section, we use the results from our analysis to assess these claims in the cases of Yemen and Pakistan.

Overall Findings

We can begin to get a sense of the efficacy of the U.S. drone campaigns by comparing militant activity in Pakistan's North Waziristan, where the United States launched an intensive campaign of air strikes beginning in 2008, with that of the other agencies in FATA, which were not subjected to intensive attacks. Figure 3.5 illustrates the difference

Figure 3.5
Changes in Militant Attacks in Pakistan over Time



SOURCES: Global Terrorism Database, 2016; authors' calculations.

RAND RR2037-3.5

in levels of violence between North Waziristan and the rest of FATA before and after the intensification of drone strikes. As can be seen in the figure, although violence increased in both North Waziristan and the rest of FATA after June 2008, this increase was significantly larger in the rest of FATA and only modest in North Waziristan.

Of course, the divergent trajectories of North Waziristan and the other tribal agencies beg the question of whether drone strikes were actually responsible for the much slower increase in violence in North Waziristan. For instance, the pattern in these results is also consistent with militants in North Waziristan being those who are most closely aligned with the state. To answer this question, and to understand whether the effects of drone strikes differed depending on operational context or the dimension of militant capabilities being degraded, we analyzed data from Pakistan and Yemen using the models described in the previous section.

The results of our analysis of the effects of all drone strikes are summarized in Table 3.1. The table presents the marginal effect of a drone strike in two periods, months 0–3 and months 4–6.²⁶ The marginal effect is represented in two ways: in terms of militant attacks and in terms of propaganda production. In the table, favorable outcomes (i.e., declines in militant activity) are shaded in green when the effects of U.S. drone strikes are statistically significant. Unfavorable outcomes (i.e., increases in militant activity) are indicated in red. The numbers in the table represent the change in a particular type of militant activity for each drone strike launched by the United States, while asterisks are used to indicate levels of statistical significance. In Appendix B, we present marginal effects by month in the form of graphs, which show the decay rate of the effect of drone strikes by month.

As indicated in Table 3.1, our models yield three important insights into the effects of drone strikes.

²⁶ The baseline for the increases and decreases in attacks and statements presented here are agencies, districts, and provinces without drone strikes in the same periods. For Pakistan, this includes non-North Waziristan agencies and districts in FATA without drone strikes. In Yemen, this includes province-months that did not have drone strikes.

Table 3.1
Marginal Effects of Drone Strikes on Militant Activity and Propaganda
Output in Pakistan and Yemen

	Time Frame	Pakistan	Yemen
Militant attacks (change in attacks per drone strike)	Months 0–3	–1.1***	0.6**
	Months 4–6	–0.6***	0.2
Propaganda output (change in statements per drone strike)	Months 0–3	–0.4	2.6***
	Months 4–6	–0.2	0.9

NOTES: Results are marginal effects of a drone strike over the period specified. Green cells represent statistically significant favorable outcomes—that is, declines in militant activity associated with drone strikes. Red cells represent statistically significant unfavorable outcomes. Levels of statistical significance are indicated by asterisks: * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$. Supporting regression tables are in Tables B.2, B.3, B.6, and B.7.

First, drone strikes have opposite effects in Pakistan and Yemen. In Pakistan, where the U.S. drone campaign was intensive and the United States' partner was largely able to contain the threat posed by militant groups, drone strikes are consistently associated with lower levels of militant activity. Each drone strike is associated with a decline of nearly two militant attacks in the first six months following the strike—or about a 12 percent decline in militant attacks for each strike in those first six months. In contrast, in Yemen, where the drone campaign was much less intensive and the partner regime was collapsing, U.S. drone strikes are consistently counterproductive—that is, they are associated with higher levels of militant activity. However, the increase is relatively small, amounting to an increase of only about 5 percent in the number of militant attacks.

Second, the positive effects of drone strikes are limited to militant attacks. At least when considered as a whole, these strikes do not appear to meaningfully disrupt and degrade militants' ability to produce propaganda.

Third, the effects of drone strikes decline rapidly over time. In the first three months following a drone strike, the strikes have relatively substantial effects (positive, in the case of Pakistan, and negative, in the case of Yemen). But in every case, the change in militant activ-

ity declines in the following three months, often fading into statistical insignificance. It is important to note that we do not consider the effect of drone strikes past the first six months, when their effects become increasingly difficult to distinguish from other changes on the ground. Drone strikes may continue to exercise effects on levels of militant activity, but our analysis suggests that these effects are likely to be small.

These results essentially remain unchanged regardless of whether we look at the lethality of attacks (rather than their number) or specific kinds of propaganda statements.

Leadership Targeting

The discussion thus far has focused on the effects of all drone strikes. But there is an active debate within the policy community about whether drone strikes should be targeted narrowly at high-level militant leaders (HVIs) or if all strikes against militants are useful measures in dismantling militant networks. Our data on HVI removals also come from the New America Foundation, which identifies each leader killed in a drone strike, along with the date and location of the strike.²⁷ However, there is significant debate and sometimes disagreement over which leaders should be classified as high-value targets. To address this challenge, rather than using the number of leaders killed in a province in a month, we include a dichotomous variable that takes a value of 1 if any leader has been killed in a province in a given month and 0 otherwise. This reduces any bias that might be introduced into the results because of decisions about which militant deaths should be classified as HVI removals. Despite these possible data concerns, as Table 3.2 reveals, these findings are remarkably consistent with those derived from examining all drone strikes.

As with all drone strikes, strikes against HVIs in Pakistan appear to disrupt and degrade militants' capabilities for launching attacks but not their propaganda capabilities, while the effects of drone strikes

²⁷ New America Foundation, undated-b.

Table 3.2
Marginal Effects of HVI Removals on Militant Activity and Propaganda Output in Pakistan and Yemen

	Time Frame	Pakistan	Yemen
Militant attacks (change in attacks after a month with any HVI removal)	Months 0–3	–2.6***	1.8**
	Months 4–6	–1.7**	1.1**
Propaganda output (change in statements after a month with any HVI removal)	Months 0–3	5.3*	6.6***
	Months 4–6	1.4	11.3***

NOTES: Results are marginal effects of a drone strike over the period specified. Green cells represent statistically significant favorable outcomes—that is, declines in militant activity associated with drone strikes. Red cells represent statistically significant unfavorable outcomes. Levels of statistical significance are indicated by asterisks: * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$. Supporting regression tables are in Tables B.2, B.3, B.6, and B.7.

appear more problematic in Yemen.²⁸ Moreover, the statistically significant effects of drone strikes appear to substantially diminish within a matter of months. There are two major differences, however. HVI removals have substantively much larger effects—both favorable and unfavorable—than do ordinary drone strikes. Successful strikes against HVIs in Pakistan are associated with a decline of more than four militant attacks in the subsequent six-month period—more than twice the decline from drone strikes taken as a whole. This disruption effect appears to apply only to militant attacks. HVI removals in Pakistan actually increase the number of propaganda statements in the subsequent six months, by about five statements in the six months after a month with a successful strike. On the other hand, in Yemen, where drone strikes again appear to have counterproductive effects, HVI removals are associated with an increase of about three militant attacks in the subsequent six months and an extremely large increase in propaganda output—an additional 18 public declarations for each

²⁸ The negative consequences in Yemen, however, are restricted to propaganda output; in the case of militant attacks, the effects of HVI removals are statistically insignificant.

month with an HVI removal, or more than six times the effect of an ordinary drone strike.

Similar to our findings for all drones strikes, our results remain largely the same if we look at the lethality of attacks (rather than their number) or specific kinds of propaganda statements.²⁹

Civilian Casualties

Obviously, civilian fatalities are to be avoided for ethical and legal reasons, independent of any operational utility to be derived from highly discriminate attacks. Nonetheless, it is also important to understand the operational consequences of harm to civilians.

As can be seen in Table 3.3, the effects of civilian casualties are almost consistently negative. The only statistically significant finding, however, comes in relation to militant attacks in Yemen. These attacks rise by at least 1.2 attacks in the six months following a strike with civilian casualties. Surprisingly, propaganda activity does not increase significantly in either Pakistan or Yemen. However, there is some evidence of an increase in propaganda following civilian casualties in Yemen, where the results barely miss reaching levels associated with statistical significance.

Unfortunately, as with our data on HVIs, our data on civilians should also be considered only a rough approximation of the true numbers of civilians harmed through these strikes. Our use of indicator variables somewhat addresses this concern, but our results should be interpreted with caution. We suspect that the limited statistical significance of our findings derives from uneven data quality regarding civilian casualties, which is notoriously difficult to collect.

²⁹ It is worth noting that our analysis of HVI strikes is not conditional on other operational strikes occurring at the same time. We do not have good event-based data on Pakistani, Yemeni, or U.S. special operations raids conducted during the period under analysis. We do not believe that HVI targeting is conditional on other strikes, but it might be conditional on broader military operations (e.g., the operational tempo of HVI-targeting increased in Iraq during the surge). We do have data on Pakistani and Yemeni military operations during this period, but, in general, the inclusion of these variables did not affect the results. This may be because the United States did not have ground presence in either Pakistan or Yemen and so had little ability to coordinate ground operations and air strikes.

Table 3.3**Marginal Effects of Civilian Casualties on Militant Activity and Propaganda Output in Pakistan and Yemen**

	Time Frame	Pakistan	Yemen
Militant attacks (change in attacks with civilian casualty)	Months 0–3	–1.7	1
	Months 4–6	0.1	1.2**
Propaganda output (change in statements after any month with civilian casualty)	Months 0–3	4.2	7.7
	Months 4–6	2.4	4.8

NOTES: Results are marginal effects of a drone strike over the period specified. Green cells (not applicable in this table) represent statistically significant, favorable outcomes—that is, declines in militant activity associated with drone strikes. Red cells represent statistically significant unfavorable outcomes. Levels of statistical significance are indicated by asterisks: * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$. Supporting regression tables are in Tables B.2, B.3, B.6, and B.7.

Summary of Findings and Policy Implications

Our review of the policy debates around drone strikes highlighted two arguments with opposing implications. Proponents of these strikes highlight their disruption effects—that is, their ability to disrupt and degrade critical functions of militant movements, such as command and control, financing, and logistics, by killing key leaders and making others so preoccupied with operational security that their effectiveness is limited. Opponents tend to highlight their recruitment effects—that is, their alleged tendency to radicalize local populations and thus increase streams of recruits for the targeted militant organizations, their potential to unite militant factions that might otherwise have been fractured, and so on. The changes in militant activity associated with drone strikes that we have found in our analysis are consistent with a relatively nuanced interpretation of these two competing types of effects.

The fact that we cannot directly observe militant organizations' capabilities—and, in particular, their capabilities for conducting transnational terrorism—limits, to some extent, the policy implications we can draw from our analysis. On the other hand, the relatively consistent pattern of outcomes that emerges across two different measures of

militants' capabilities provides one of the best empirical bases for policymaking that we have been able to identify in the policy debates on drone strikes. Here we highlight three central findings of our analysis and their implications for policy.

Matching Strategy to Operational Environment

In the case of U.S. drone strikes in North Waziristan, Pakistan, the drone campaign was intensive and conducted in at least partial coordination with a relatively capable partner government. In this context, disruption effects appear to predominate over recruitment effects, at least in the short term and for certain types of militant activities. Militants' ability to launch local attacks (as measured by both the number of attacks and their lethality) was substantially degraded by drone strikes: Each drone strike was associated with approximately a 12 percent decline in militant attacks in the subsequent six months. A similar disruption effect was not, however, visible in terms of these groups' propaganda output. Contrary to the claims of critics of drone strikes about recruitment effects, there was little indication in either the short term or longer term that the targeted groups were strengthened in Pakistan, regardless of whether militant strength is measured in terms of local attacks or propaganda output.³⁰

The results of U.S. drone strikes in Yemen, however, were almost entirely different. In Yemen, the U.S. drone campaign was sporadic, not reaching anywhere near the same intensity that it reached in Pakistan. Moreover, the strikes were conducted in a country in which the central government was collapsing. In this context, U.S. drone strikes not only failed to weaken the militants but also, in general, appeared to have had counterproductive results — that is, the recruitment effects appear to have substantially exceeded the disruption effects. In the months immediately following U.S. drone strikes in Yemen, local militant attacks and propaganda output both increased.

³⁰ The one exception is the increase in propaganda output observed following HVI removals. However, as noted, this effect is relatively modest, amounting to only four statements over a six-month period.

What explains these opposing outcomes in Pakistan and Yemen? Our ability to definitively explain these differences is limited because we only have two cases on which to draw. Nonetheless, a relatively clear picture emerges by comparing the contexts in which the United States acted and the intensity of the U.S. strikes. In the case of Pakistan, the United States conducted an intensive campaign of drone strikes against militant organizations that were largely confined to the country's peripheral regions. The government of Pakistan maintained an extremely capable military and other security services. U.S. drone strikes served as a tool to disrupt and degrade a threat that was largely contained but could not be eliminated, because of the state's political and resource limitations. In Yemen, in contrast, the U.S. drone campaign took place in the context of an imploding state. Here a much less intensive campaign stood little chance of substantially degrading militant movements that were quickly coming to overpower the regime – and, in fact, the drone strikes appear to have been counterproductive, at least in terms of local militant activity and propaganda output.

The strongly divergent results of the drone campaigns in Pakistan and Yemen highlight the importance of matching strategy to operational environment. Where militant groups operate unopposed by capable local forces, anything less than an intensive and sustained U.S. air strike campaign is unlikely to make a substantial difference in their capabilities, and even a large-scale effort may well fall short of what is needed to degrade them appreciably.

The Importance of Discriminate Strikes

As we would expect from past analyses of leadership-targeting, where drone strikes have positive effects, they appear to have much larger effects when they successfully target HVIs rather than lower-level militants. Indeed, these effects appear to be more than twice as large, as measured in declines in local militant attacks. On the other hand, in environments where drone strikes are counterproductive, HVI strikes also appear to be particularly counterproductive – in terms of both militant attacks and propaganda activity.

Our ability to understand the full consequences of civilian casualties from drone strikes was likely limited by the quality of the data

available. Nonetheless, the fact that civilian deaths from drone strikes appear to have spurred somewhat higher levels of local militant attacks in Yemen serves as a cautionary note.

Setting Realistic Goals

Even where drone strikes have positive effects — specifically, in reducing local militant attacks in Pakistan — these effects diminish rapidly. Their effects in the first three months following a drone strike are nearly twice as large as in the subsequent three months, when they begin to taper off toward statistical insignificance. These results suggest that to substantially degrade militant activity, a drone campaign must be large scale (or extremely successful in finding and striking top leadership targets) and enduring; as the pace of U.S. drone strikes declined in North Waziristan, militant activity ramped up again.

Moreover, the gains of the drone campaign were confined to suppressing local militant attacks. Propaganda activity was not diminished even in the more favorable environment in Pakistan (and was even increased following HVI removals). To the extent that the United States seeks to curb these organizations' ability to inspire acts of terrorism abroad, drone strikes appear to have little (positive) effect.

In sum, sizable drone campaigns do appear to be able to substantially degrade militants' abilities to carry out attacks when conducted in the appropriate operational environment. But even then, these campaigns seem to exercise only short-term effects unless either they are sustained indefinitely or the local partner government can effectively co-opt or suppress the targeted groups. And to the extent that militant groups' primary threat to the United States is through their ability to inspire terrorism across borders, even these limited gains may not make the United States substantially safer.

A Caveat: External Validity

One of the key observations emerging from the discussion in this chapter is that the context in which targeted strikes occur matters to the outcome and impact of those strikes. Strikes appear to have different effects in Yemen and Pakistan because of the local context, the capacity of the partner nation, and the organization of the U.S. campaign.

The importance of context raises the question of how generalizable the results from these two cases are to the more general strategy of using limited strikes as a military strategy. There is some qualitative evidence from other cases to support the efficacy of limited strikes. For example, there are several cases where U.S. advice and assistance to partner-nation counterterrorism targeting has been effective and helpful, including Colombia and the Philippines. U.S. air strikes in Iraq during OIR have also been somewhat effective. So while there may be some generalizability from the cases presented here, additional empirical analysis of these cases, as well as Somalia, Afghanistan, and Libya, would be helpful for testing our theoretical intuitions. Such analysis could begin to explore how and why context matters to the outcomes of targeted strikes. However, while this additional empirical analysis would test the external validity of our cases, each of these cases also has issues that would complicate an actual effort to extend our approach to new cases without major modification.

Indirect Options: Interdiction, Mitigation, and Containment

The limited stabilization and limited strike operations examined in the preceding chapters are direct approaches to reducing or eliminating security threats. Although both seek to limit the costs and risks of intervention for the United States, each focuses on attacking the problem by attacking the enemy from which the threat comes. This chapter considers three alternative approaches that, at least their pure forms,¹ instead emphasize damage control. In a sense, they seek to play the ball, not the man.

Containment comprises policies designed to prevent or limit the spread of conflicts, in particular to keep instability from spilling across borders and into countries whose fates may matter more to the United States than does that of the original location of the conflict. Military interventions have often been motivated in large part by the desire to protect important allies or other security interests that might be imperiled by the spread of nearby internal conflicts. The U.S. decision to intervene in the Vietnam War is the most conspicuous example of this pattern: South Vietnam's intrinsic importance to the United States was modest, especially after the fall of Sukarno's pro-communist regime in Indonesia in 1965–1966, but Washington feared that the defeat of South Vietnam would lead other, more important, “dominoes” to fall.

¹ All three of these approaches can also be used – and indeed are often employed – in support of more-direct strategies.

Mitigation strategies seek to reduce the humanitarian effects of ongoing conflicts, notably by creating areas of sanctuary in which civilian populations can be protected or by facilitating the delivery of humanitarian aid. In the 1990s, establishing and protecting, or at least promising to protect, formal safe areas was a central element of Western involvement in Croatia and Bosnia following the breakup of Yugoslavia, as well as of U.S. involvement in Iraq in the years following the 1991 Gulf War. Delivering aid to civilians led to the initial U.S. and UN intervention in Somalia during the same period, until that operation evolved into a more traditional military intervention against one side in the ongoing civil war.

Finally, *interdiction* strategies attempt to limit the threat posed or the harm caused by the actors they target, but unlike limited strike or limited stabilization, they do so indirectly. Materiel interdiction interferes with the target's ability to import weapons or other assets to sustain its operations. Commodity interdiction impedes the target's ability to export such goods as oil, minerals, or drugs as a source of income to enable its activities. Recent examples of such efforts by the United States and its allies include a number of military-enforced arms embargoes, the ongoing campaign to prevent the Taliban from exporting opium from Afghanistan, and the interdiction campaign against ISIL's production and smuggling of oil from Syria and Iraq.

Much as with the analysis of limited stabilization and limited strike operations in previous chapters, we evaluated the effectiveness of containment measures using statistical analysis. In the cases of interdiction and mitigation operations, however, we have relied on qualitative analyses because either the number of cases or the availability of data was limited.

Containment

The potential for a conflict in one country to spill over or infect neighboring countries is an important motivation for outside states considering direct military intervention. Research has shown that conflict can be directly transmitted to vulnerable neighbors — for example through

cross-border ethnic ties and common separatist aspirations.² Given this risk of contagion, but knowing the high costs that often accompany direct military intervention, some analysts have argued that a preferred option may be to buttress nearby states to better resist the spillover of conflict.³ U.S. assistance that helps to strengthen the security forces of neighboring states may help the country resist this contagion. Supporting this argument is research that shows clearly that greater state capacity reduces a state's likelihood of experiencing internal conflict, and there is more-limited research showing evidence that states with greater capacity are, in fact, better able to specifically resist the spillover of conflict.⁴ If U.S. military assistance can be used to improve the capacity of neighboring states, then this could be a useful tool in limiting conflict contagion.

However, there are reasons for caution regarding whether the final link in this chain, the ability of U.S. assistance to actually strengthen the capabilities of local partner states, is likely to hold. A recent RAND case study analysis of efforts to build partner capacity finds that such assistance was most effective under certain conditions, such as when the partner nation is highly capable and shares security interests with the United States.⁵ When such conditions are not present, expecta-

² Halvard Buhaug and Kristian Skrede Gleditsch, "Contagion or Confusion? Why Conflicts Cluster in Space," *International Studies Quarterly*, Vol. 52, No. 2, 2008; Kristian Skrede Gleditsch, "Transnational Dimensions of Civil War," *Journal of Peace Research*, Vol. 44, No. 3, 2007. It should be noted, however, that some apparent contagion is simply a reflection of shared or geographically clustered structural factors, such as poverty or levels of democracy.

³ See, for example, Daniel L. Byman, "Containing Syria's Chaos," *National Interest*, October/November 2015; Daniel L. Byman and Kenneth M. Pollack, *Things Fall Apart: Containing the Spillover from an Iraqi Civil War*, Washington, D.C.: Brookings Institution Press, 2008. Direct intervention may also increase costs to the United States by increasing the potential for terrorism. See Robert Pape, "It's the Occupation, Stupid," *Foreign Policy*, October 18, 2010.

⁴ Fearon and Laitin, 2003; Collier and Hoeffler, 2004; Alex Braithwaite, "Resisting Infection: How State Capacity Conditions Conflict Contagion," *Journal of Peace Research*, Vol. 47, No. 3, 2010.

⁵ Christopher Paul, Colin P. Clarke, Beth Grill, Stephanie Young, Jennifer D. P. Moroney, Joe Hogler, and Christine Leah, *What Works Best When Building Partner Capacity and Under*

tions for success should be limited, although skillful implementation of assistance programs can still increase the odds.⁶ A statistically based RAND study of the effects of U.S. assistance on the fragility of states (fragility being highly correlated with the risk of conflict) has similar findings: Assistance was most effective in more-capable and more-democratic states, and the positive effects that do occur tend to take several years to become apparent.⁷ This study also finds that the provision of equipment or materiel had no effect on reducing state fragility; positive effects are found only for nonmateriel aid, such as that meant to strengthen state institutions and programs.

This research suggests that the prospects for using security assistance to mitigate the risk of conflict spillover may be limited. Rapid increases in state capacity appear to be difficult to achieve and may, in any event, be achievable primarily in those states that are already relatively capable and democratic. Depending on the neighborhood where a conflict is taking place, those attributes may be in short supply, and in their absence, the effectiveness of U.S. security assistance is likely to be limited.

To assess the potential viability of containing conflict by increasing assistance to nearby states, our research focuses on two main questions:

- Has the United States historically increased military assistance to states whose neighbors are in conflict?
- Does U.S. military assistance decrease the likelihood that a state will experience conflict, given that one of its neighbors is experiencing conflict?

What Circumstances? Santa Monica, Calif.: RAND Corporation, MG-1253/1-OSD, 2013.

⁶ Christopher Paul, Jennifer D. P. Moroney, Beth Grill, Colin P. Clarke, Lisa Saum-Manning, Heather Peterson, and Brian J. Gordon, *What Works Best When Building Partner Capacity in Challenging Contexts?* Santa Monica, Calif.: RAND Corporation, RR-937-OSD, 2015.

⁷ Michael J. McNerney, Angela O'Mahony, Thomas S. Szayna, Derek Eaton, Caroline Baxter, Colin P. Clarke, Emma Cutrufello, Michael McGee, Heather Peterson, and Leslie A. Payne, *Assessing Security Cooperation as a Preventive Tool*, Santa Monica, Calif.: RAND Corporation, RR-350-A, 2014.

The first question relates to whether “surging” assistance to neighboring states in the event of a conflict is a policy that the United States has actually pursued in the past. If the United States has not typically or frequently used military assistance as a tool in these circumstances, it will of course be more difficult to assess its potential effectiveness by looking at the historical record. Our second question focused on the effectiveness of providing such assistance in these circumstances. When looking at the set of states whose neighbors are experiencing conflict, is increased U.S. military assistance associated with a reduced likelihood that they will later fall into conflict as well?

We focus on military assistance for two reasons. First, prior research and our own exploratory research suggest that economic or development assistance appears to be distributed to very different sets of countries than military assistance is.⁸ Second, we assumed that development assistance would be less likely to affect the types of state capacity most useful in resisting conflict spillover in the near term, making it a more challenging test.⁹

Research Approach

We chose a quantitative, statistical approach to be able to assess the overall prevalence and effectiveness of U.S. containment efforts. While more-focused case studies are useful for understanding when and why U.S. assistance may or may not have been effective in preventing conflict spillover, we felt that, given the lack of prior research on the link between U.S. assistance and conflict spillover, it would be most fruitful to start with a broader approach that could identify overall patterns in the provision and effectiveness of such assistance.

In these models, we focus on the amount of U.S. military assistance provided to countries that were not currently in conflict.¹⁰ We

⁸ McNerney et al., 2014.

⁹ If we were to find that military assistance has substantial effects in reducing conflict spillover, then a future analysis of the effects of economic or development assistance might also be worth undertaking.

¹⁰ Our military assistance data come from the Greenbook data collected by the U.S. Agency for International Development, intended to include all types of U.S. government assistance

eliminate those countries already experiencing conflict, because assistance to them would less plausibly constitute an attempt to prevent conflict spillover and more likely be a response to already ongoing internal conflict. We then assess the extent to which having a neighbor that was experiencing conflict was associated with higher levels of U.S. military assistance.

To identify neighboring countries in conflict, we rely on the ACD from UCDP.¹¹ We limit the set of conflicts to those of higher intensity, where there were more than 1,000 battle deaths attributed to the conflict in a given year. We feel that lower-intensity conflicts, those that only need to exceed a threshold of 25 battle deaths per year, would not necessarily be seen as a sufficient threat to prompt concerns over the possibility of contagion. Further, we limit the conflicts considered to those that were internal in nature, rather than those that were fought between two states, because the dynamics governing spillover of interstate conflicts may not be similarly related to state capacity. We then calculate whether any of a state's neighbors were experiencing these higher-intensity internal conflicts in a given year.¹²

Our models include a number of control variables, designed to account for the overall risk of conflict in the state, as well as the likeli-

to other countries. These data split all assistance into two categories: military and economic. As noted, we focused on military assistance in our analysis. Military assistance includes a wide range of programs, from Foreign Military Financing through training and education programs to logistical support and counternarcotics efforts. See U.S. Agency for International Development, *U.S. Overseas Loans and Grants, Obligations and Loan Authorizations, July 1, 1945–September 30, 2013*, Washington, D.C., 2014.

¹¹ UCDP data are perhaps the most widely used data source for academic analysis of violent armed conflict. The data and codebooks, which are updated annually, can be found at UCDP, "UCDP Downloads," web page, undated. Also see Gleditsch et al., 2002; and Allansson, Melander, and Themnér, 2017.

¹² Data on which states were neighbors to one another come from the Direct Contiguity data set. See Douglas M. Stinnett, Jaroslav Tir, Philip Schafer, Paul F. Diehl, and Charles Gochman, "The Correlates of War Project Direct Contiguity Data, Version 3," *Conflict Management and Peace Science*, Vol. 19, No. 2, 2002. Specifically, we count states as neighbors if they either shared a land border or were separated by fewer than 25 miles of water.

hood that U.S. assistance would be provided in the first place.¹³ Full details on the control variables included are available in Appendix C, but some of the most prominent variables included GDP per capita, the state's level of democracy, and whether the state was a U.S. treaty ally.¹⁴

Findings

With regard to our first question, whether the United States has historically increased military assistance to countries bordering those in conflict, we do find clear supporting evidence.¹⁵ We constructed a two-stage model, the first stage to assess the likelihood that a country would receive any level of U.S. military assistance and the second stage to assess how large that assistance was likely to be.

In the first stage, we find that the presence of a conflict in a neighboring state makes the United States roughly 3.2 percent more likely to provide any level of military assistance. While this effect was statistically significant, it is also substantively small, suggesting that the United States only rarely initiates a new security assistance relationship to limit conflict spillover.

In the second stage, we find that the effect of a neighboring conflict on the amount of assistance the United States provides is more dramatic. In general, U.S. military assistance increases by 47 percent over the previous year when a neighboring state is in conflict.

¹³ These models include logit models for assessing the likelihood of binary dependent variables, such as the incidence of conflict or the provision of U.S. military assistance, and two-stage Heckman selection models for assessing the size of factors, such as the amount of U.S. military assistance, contingent on that assistance being provided in the first place. Full details on these models are included in Appendix C.

¹⁴ We also introduce a time lag for our variables of interest. In doing so, we hope to ensure that the conflict spillover we measured was indeed taking place in the proposed direction. Without a time lag, it would be difficult to know whether conflict was spilling over from a neighboring country to the observation country, or vice versa. In addition, a time lag helps to take into account the fact that U.S. assistance decisions are typically not made rapidly and, even when they are programs, take time to be implemented and have an effect. We explore lags of different durations, up to five years prior. When relevant, these different lags will be discussed in the results section.

¹⁵ The full statistical results and regression tables for all analyses described in this section are available in Appendix C.

These results suggest that the United States, primarily within the network of states with which it already has an established security relationship, has historically been likely to notably increase the amount of assistance it provides to partners bordering those in conflict. For example, U.S. military assistance to Pakistan increased sharply from the early 1980s, corresponding with the intensification of the Soviet conflict in neighboring Afghanistan. The conflict in Bosnia in the early 1990s was also associated with substantial increases in U.S. military assistance to neighboring countries, such as Albania and Croatia.

There is no evidence, however, that these increased levels of security assistance to front-line states actually reduce the likelihood of violence spreading. In our models assessing whether U.S. military assistance has been associated with a reduced likelihood of conflict spillover, we find no supporting evidence when all types of states are considered.¹⁶ Indeed, the level of military assistance in the previous year is actually positively associated with the incidence of conflict, although the relationship is weak, both in terms of statistical significance and substantively.¹⁷ While we suspect that this positive relationship is driven by the fact that the recipients of U.S. military assistance tend to be at greater risk of conflict than we can fully capture using our control variables, and that this relationship may therefore not be causal, we cannot say for sure without much more detailed analysis of individual cases.¹⁸ We perform a similar analysis of the relationship between the percentage change in military assistance and the likelihood of conflict and find no statistically significant relationship. The recent failure of ongoing U.S. military assistance to Iraq to prevent the spillover of the conflict in Syria in 2014 provides one illustration of the overall ineffectiveness of

¹⁶ As an alternative, we conducted a similar analysis of U.S. economic assistance and find no statistically significant effects on the likelihood of conflict in those models either.

¹⁷ The *p*-value of the relationship between the level of military assistance in the prior year and the incidence of conflict was 0.075, indicating a weak level of statistical significance. Increasing assistance tenfold, from \$100,000 to \$1,000,000 per year, was associated with a 9.6 percent increase in the likelihood of conflict.

¹⁸ While this finding might be the result of selection effects, it is worth noting that the positive relationship is robust across multiple different lag specifications, up to an eight-year lag.

military assistance in containing the spread of conflicts. Similarly, substantial assistance to the government of Laos in the late 1950s and early 1960s did not prevent that country from becoming heavily involved in the neighboring war in Vietnam.

In addition, previous RAND analyses of the effectiveness of U.S. assistance in reducing state fragility suggest that the effects are likely concentrated in more-capable, more-democratic states. We also conducted a number of subgroup analyses, limiting the set of states to only those with GDP per capita greater than \$1,000, or to those states that were relatively democratic.¹⁹

Overall, these models find few statistically significant relationships, and those that do exist (including one in which increases in U.S. assistance are, in fact, associated with a reduced likelihood of conflict) are highly sensitive to model specification (that is, changes in the ways that key variables are measured or the periods over which potential effects are observed). We therefore had a low degree of confidence in these subgroup results, although we do provide the details in Appendix C.

Conclusion

In aggregate, our results highlight that, while the United States does indeed appear to increase military assistance to front-line states to help reduce the likelihood of conflict spillover, there is little, if any, evidence that, at least in aggregate, the assistance is effective in doing so. Indeed, the most consistent relationship we find is a positive one between U.S. military assistance and conflict, although we suspect that this is likely driven by selection effects. It is quite possible that the United States targets its increased assistance to the hardest cases, when conflict was in fact quite likely to spill over, in ways beyond what we can capture using our control variables for the risk of conflict. If that is the case, then this selection effect is likely masking any conflict-reducing effect that such assistance may have. However, the scale and direction of this selection effect are difficult to determine. It could also be the case that the

¹⁹ We define *relatively democratic states* as those that had a five or higher on the Polity2 scale (which runs from -10 to +10). See Marshall, Gurr, and Jaggers, 2016.

United States avoids hopeless causes in targeting its assistance, which would have the opposite effect and tend to overstate the effectiveness of the policy.

Our findings do not necessarily mean that U.S. military assistance programs are never effective in containing conflicts from spilling over borders. The literature previously cited in this chapter and some of our subgroup analyses of states that are relatively wealthier or more democratic suggest that such assistance may have modest conflict-reducing effects in generally more-favorable circumstances, where recipient states are already relatively more capable. However, the evidence for such successes in our analysis is quite limited.

Overall, these findings suggest that increasing assistance to nearby states as a means of containing conflict is unlikely to be effective in most cases. One potentially interesting avenue for future research could be to assess the effectiveness of such assistance as a complement to other types of conflict containment or mitigation strategies, including but not limited to military intervention. It may well be that the United States often provides higher levels of assistance when it is unwilling to do more than that — and in doing so asks assistance programs to do more to strengthen states than they realistically can, particularly over the short term. In instances where greater military assistance is combined with other efforts, including the provision of limited U.S. forces, it may be that all efforts can become more effective in containing the spillover of conflict.

Mitigation: Safe Areas and NFZs

What Are Safe Areas and NFZs?

The resources and political will to carry out a robust military intervention in the event of a conflict or mass atrocity are not always forthcoming. In these instances, the United States and other members of the international community may wish to pursue mitigation efforts to minimize civilian deaths and reduce the risk of conflict spillover by stemming refugee flows. A mitigation strategy is particularly compel-

ling when civilians are targeted directly, as in genocides or instances of ethnic cleansing, and begin to flee their homes as a result.²⁰

Humanitarian military interventions can be categorized according to four possible purposes: delivering humanitarian aid, protecting humanitarian aid operations, protecting victims of violence, and defeating perpetrators of violence.²¹ Previous sections of this report have focused on military interventions that aim to defeat the perpetrators of violence and bring conflict to an end; such interventions tend to be the most resource-intensive. This section focuses on interventions that aim to protect civilians and deliver and protect humanitarian aid operations, primarily through the creation of safe areas or NFZs.

A *safe area* refers to “operations undertaken by international actors that have the primary purpose of providing direct protection to civilians and internally displaced persons (IDPs) within a state’s borders in a temporary and designated geographic area.”²² A safe area is created

- during conflict or war
- by international or external actors
- within the borders of a country experiencing conflict
- to protect civilians — not just provide aid — within a specified geographic area.

In nearly all of the cases considered here, safe areas were established through UN resolutions, and military troops or peacekeepers were deployed to protect civilians and humanitarian aid operations within these areas. There are two variations on safe areas: (1) larger safe areas that physically protect civilians where they normally live (*safe zones*) and (2) smaller safe areas that protect IDPs in specific places

²⁰ Barry R. Posen, “Military Responses to Refugee Disasters,” *International Security*, Vol. 21, No. 1, 1996.

²¹ Taylor B. Seybolt, *Humanitarian Military Intervention: The Conditions for Success and Failure*, New York: Oxford University Press/SIPRI, 2007, pp. 39–40.

²² Phil Orchard, “Revisiting Humanitarian Safe Areas for Civilian Protection,” *Global Governance*, Vol. 20, No. 1, 2014, p. 55.

within the borders of their country (*safe havens*).²³ Both types aim to protect the civilian population by denying belligerents access to the safe area through the threat or use of military force. Here, the two types are discussed together as *safe areas*, since the commonalities in their execution offer similar insights for undertaking a mitigation effort.

Our analysis identified the following five safe areas:²⁴

- northern Iraq, 1991–2003
- Liberia, 1992–1996
- Somalia, 1993–1994
- Bosnia, 1993–1995
- Rwanda, 1994.

In addition to safe areas, which require ground forces to execute, we also examined NFZs as a means of protecting civilians through limited military operations. NFZs are established in conflict zones to protect civilians by “deny[ing] an enemy the use of a designated airspace,” and they are enforced to varying degrees through the use of “regular air sorties.”²⁵

We identified four NFZs – areas in which military or nonmilitary flights are banned – that have been created since the 1990s:

²³ Posen, 1996, pp. 77–78, 93–104. Posen argues that “safe havens should be viewed as analytically distinct from safe zones. They are primarily refuges, not places of normal existence. They are an expedient to be adopted only in the most dire circumstances. They are very demanding of every aspect of military power, ground and air, and logistics” (p. 110).

²⁴ There were two near-miss cases from the 1990s that we examined but that did not qualify based on our criteria: Sri Lankan Open Relief Centers (ORCs) from 1990 to 2002 and Afghan IDP camps from 1994 to 1996 did not have military components. Both were run by the United Nations High Commissioner for Refugees and were successful as long as the belligerents agreed not to fight in the safe areas. According to Phil Orchard (2014), security in the Sri Lankan ORCs was “relative”: One ORC “was shut down by government forces for a year,” and the government “routinely removed people” from another ORC to torture them. Similarly, in the Afghan case, a “lack of security and the hazard of land mines [were] a major impediment to effective relief delivery.”

²⁵ Alexander Benard, “Lessons from Iraq and Bosnia on the Theory and Practice of No-Fly Zones,” *Journal of Strategic Studies*, Vol. 27, No. 3, 2004, p. 455.

- northern Iraq, 1991–2003
- southern Iraq, 1992–2003
- Bosnia, 1992–1995
- Libya, 2011.

Two of these — the NFZs in northern Iraq and Bosnia — were implemented, in part, to defend the safe areas in those regions from attack.

In the following sections, we provide a comparative overview of the safe areas and NFZs listed above before evaluating lessons and implications of these historical cases for future operations.

Evaluating Historical Cases

Tables 4.1 and 4.2 provide an overview of important details regarding the safe areas and NFZs explored in our analysis. More details regarding each case are in Appendix D.

Outcomes

This section assesses the extent to which each safe area protected the civilian population living within it. According to this metric, the record of safe areas has been mixed. Although several of these humanitarian missions led to follow-on missions with different objectives — such as nation-building or defeating a belligerent — these follow-on missions are not assessed here.

Provide Comfort and Northern Watch (Iraq): largely successful. The safe area that U.S. troops spearheaded to protect the Kurds in northern Iraq, which was situated within an NFZ extending from the 36th parallel to Iraq's northern border, is generally regarded as the most successful. The Iraqi safe area and NFZ protected Kurdish refugees and IDPs by using force to push Iraqi ground and air forces to leave — and stay out of — the area; within a month of the operation's start, roughly 200,000 Kurdish refugees left Turkey to return to their homes within the protected space.²⁶

²⁶ Seybolt, 2007, p. 192; J. R. McKay, *Shifting Sands: Air Coercion and Iraq, 1991–2003*, Ottawa, Canada: Ministry of National Defense, 2014, p. 80.

Table 4.1
Safe Areas

Country	Time Frame	UN Security Council Resolution	Main Enforcer	Operation Name	Maximum Troops
Iraq (northern)	1991–2003	688	U.S., UK, France	Provide Comfort	20,000 (U.S.: >10,000) (with northern Iraq NFZ) ^a
Liberia	1992–1996	866, 1020	ECOWAS, UN	ECOMOG	19,000 (Nigeria: ~8,000) ^b
Somalia	1992–1993	751, 775, 794, 814, 837	UNITAF, U.S., UN	Restore Hope	38,000 (U.S.: 26,000) ^c
Bosnia	1993–1995	819, 824, 836, 844	UN	UNPROFOR	11,500 ^d
Rwanda	1994	812, 929	UN, France	UNAMIR, Turquoise	3,000 (France: 2,500) ^e

NOTES: ECOWAS = Economic Community of West African States; UNPROFOR = United Nations Protection Force; UNITAF = Unified Task Force; UNAMIR = United Nations Assistance Mission for Rwanda. See United Nations Security Council, “Security Council Resolutions,” web page, undated.

^a Daniel L. Haulman, “Crisis in Iraq: Operation PROVIDE COMFORT,” in A. Timothy Warnock, ed., *Short of War: Major USAF Contingency Operations, 1947–1997*, Maxwell Air Force Base, Ala.: Air University Press, 2000a, p. 181.

^b Quentin Outram, “Cruel Wars and Safe Havens: Humanitarian Aid in Liberia, 1989–1996,” *Disasters*, Vol. 21, No. 3, 1997, p. 195.

^c Daniel L. Haulman, “Crisis in Somalia: Operations PROVIDE RELIEF and RESTORE HOPE,” in A. Timothy Warnock, ed., *Short of War: Major USAF Contingency Operations, 1947–1997*, Maxwell Air Force Base, Ala.: Air University Press, 2000b, p. 210; U.S. General Accounting Office, *Peace Operations: Cost of DOD Operations in Somalia*, Washington, D.C., March 1994; U.S. General Accounting Office, *Peace Operations: Heavy Use of Key Capabilities May Affect Response to Regional Conflicts*, Washington, D.C., March 1995.

^d International Institute for Strategic Studies, *The Military Balance 1994*, London, 1994, pp. 274–275; International Institute for Strategic Studies, *The Military Balance 1995*, London, 1995, p. 304.

^e Donald C. F. Daniel, Bradd C. Hayes, and Chantal de Jonge Oudraat, *Coercive Inducement and the Containment of International Crises*, Washington, D.C.: United States Institute for Peace, 1999, p. 130.

Table 4.2
NFZs

Country	Time Frame	UN Security Council Resolution	Main Enforcer	Operation Name	Maximum Troops	Number of Aircraft	Total Sorties
Iraq (northern)	1991–2003	688	U.S. (plus coalition)	Northern Watch	20,000 (U.S.: >10,000) ^a (with northern Iraq as the safe area)	45 ^b	>75,000 ^c
Iraq (southern)	1992–2003	688, 949	U.S.	Southern Watch	25,000 ^d	270 ^e	150,000 ^f
Bosnia	1992–1995	781, 816, 836, 844	NATO	Sky Monitor, Deny Flight, Deliberate Force	5,000 ^g	>400 ^h	109,000 ⁱ
Libya	2011	1970, 1973	NATO	Odyssey Dawn, Unified Protector	8,000 ^j	260 ^k	26,500 ^l

^a Haulman, 2000a, p. 181.^b Linda D. Kozaryn, "Patrolling Iraq's Northern Skies," *American Forces Press Service*, U.S. Department of Defense, June 1, 1998.^c Karl P. Mueller, *Denying Flight: Strategic Options for Employing No-Fly Zones*, Santa Monica, Calif.: RAND Corporation, RR-423-AF, 2013, p. 4.^d William J. Allen, "Crisis in Southern Iraq: Operation SOUTHERN WATCH," in A. Timothy Warnock, ed., *Short of War: Major USAF Contingency Operations, 1947–1997*, Maxwell Air Force Base, Ala.: Air University Press, 2000, p. 193.^e Allen, 2000, p. 193.^f K. Mueller, 2013, p. 5.^g Richard L. Sargent, "Aircraft Used in Deliberate Force," in Robert C. Owen, ed., *Deliberate Force: A Case Study in Effective Air Campaigning*, Maxwell Air Force Base, Ala.: Air University Press, 2000, p. 200.^h Sargent, 2000, p. 200.ⁱ Kurt Miller, *Deny Flight and Deliberate Force: An Effective Use of Airpower?* Leavenworth, Kan.: U.S. Army Command and General Staff College, June 1997, p. 47.^j NATO, "Operation UNIFIED PROTECTOR Final Mission Stats," fact sheet, November 2, 2011.^k NATO, 2011.^l NATO, 2011.

ECOMOG (Liberia): partially successful. ECOMOG²⁷ operations during the civil war in Liberia were criticized for several issues. Nigeria, which had a stake in the outcome of the conflict, contributed the bulk of ECOMOG troops; this meant that, from the start, ECOMOG was not perceived as a neutral party. ECOMOG forces were accused of cooperating with and providing sanctuary to forces fighting against Charles Taylor's National Patriotic Front of Liberia, looting the property of those they were charged with protecting and ultimately prolonging the conflict.²⁸ Yet ECOMOG's safe area in Monrovia had some success in protecting roughly 700,000 IDPs who took refuge in the capital.²⁹

UNITAF (Somalia): largely successful. Although the U.S.-led UNITAF successfully provided humanitarian aid and protection for thousands of IDPs starving in the midst of civil war and famine in Somalia — thus saving an estimated quarter of a million lives³⁰ — it did not accomplish this goal without the significant commitment of nearly 40,000 troops and billions of dollars. In addition, this success was quickly overshadowed by the loss of 18 American lives at the hands of Somali militiamen in the battle of Mogadishu in October 1993, which took place when a smaller UN peacekeeping force took over peace operations in Somalia and expanded the mission's mandate to cover nation-building.³¹ Although the humanitarian mission to protect civilians succeeded, the follow-on nation-building mission expanded the objectives without providing the resources or willingness necessary to achieve those objectives. The failure of this nation-building mission,

²⁷ In some places, ECOMOG appears to refer to the Economic Community of West African States *Military Observer Group*.

²⁸ Christopher Tuck, "'Every Car or Moving Objective Gone': The ECOMOG Intervention in Liberia," *African Studies Quarterly*, Vol. 4, No. 1, 2000.

²⁹ Quentin Outram, "Cruel Wars and Safe Havens: Humanitarian Aid in Liberia, 1989–1996," *Disasters*, Vol. 21, No. 3, 1997, p. 194.

³⁰ Chester A. Crocker, "The Lessons of Somalia: Not Everything Went Wrong," *Foreign Affairs*, May–June 1995, p. 3.

³¹ Crocker, 1995, pp. 5–6.

however, does not diminish the success of the more limited safe-area effort.

UNPROFOR, Deny Flight, and Deliberate Force (Bosnia): partially successful. Bosnian Serb attackers overtook two of the six Bosnian safe areas, with disastrous consequences for the Bosnian Muslim civilians taking shelter there. The safe-area failures in Bosnia ultimately led to an expanded intervention with more-aggressive NATO air strikes designed to prevent further violations of the remaining safe areas and compel the Bosnian Serbs to stop fighting and come to the negotiating table, which happened less than six months later.³²

UNAMIR and Operation Turquoise (Rwanda): largely unsuccessful. The American experience in Somalia negatively influenced outside forces' willingness to intervene during the Rwandan genocide, in which nearly a million people lost their lives in 100 days. Yet even though the UN withdrew 2,000 peacekeepers when the killing started in April 1994, leaving just 540 troops on the ground, that meager remaining force—authorized to use force only in self-defense—managed to save roughly 20,000 lives by defending civilians in four Kigali locations.³³ In June 1994, after much of the killing had already occurred, the UN authorized a French intervention, code-named Operation Turquoise, to protect civilians. The French sent 2,500 troops and established a *zone humanitaire sure* (safe area) in southwestern Rwanda. Although the operation saved tens of thousands of lives and helped encourage some IDPs to stay in Rwanda instead of fleeing to Zaire (now the Democratic Republic of the Congo), the safe area was mired in controversy because it protected mostly Hutus, who had carried out the genocide against their Tutsi countrymen.³⁴

In addition, two NFZs were implemented to protect civilians without an explicit safe area designated on the ground.

³² Seybolt, 2007, p. 240.

³³ Seybolt, 2007, pp. 206–207.

³⁴ Larry Minear and Philippe Guillot, *Soldiers to the Rescue: Humanitarian Lessons from Rwanda*, Paris: Organisation for Economic Co-operation and Development, 1996, pp. 103–108.

Operation Southern Watch (Iraq): largely unsuccessful. While Kurds rebelled against the repressive Baathist regime in northern Iraq, Shi'as rebelled in southern Iraq. Although U.S. forces never created a safe area in the south as they had in the north, they did create an NFZ south of the 32nd (and later the 33rd) parallel with the goals of protecting the Shi'a population and deterring future Iraqi aggression. The NFZ succeeded in limiting Iraqi government aerial incursions into southern Iraq, but Iraqi forces adapted to this limitation by substituting artillery fire for airpower. Because there was no safe area defended by ground troops, the Shi'as arguably did not fare as well as the Kurds in the north.³⁵

Operations Odyssey Dawn and Unified Protector (Libya): largely successful. When Libyan dictator Muammar Gaddafi began to retaliate against civilians in the wake of popular uprisings in February 2011, the Arab League voted for an NFZ over Libya. The Libyan NFZ authorized by the UN Security Council and implemented by NATO forces had an explicit mandate to protect civilians, which meant that the rules of engagement allowed for air strikes against Libyan government ground forces and military installations.³⁶ The Libyan operation lasted seven months and accomplished its main objective of preventing Gaddafi's forces from inflicting further casualties on the population,³⁷ although the country remains in political turmoil as of January 2017, as U.S. air strikes attempt to destroy ISIL training camps.³⁸ The success or failure of the ongoing expanded U.S. mission to defeat violent extremism in Libya, however, does not affect the success of the previous NFZ effort.

³⁵ McKay, 2014, p. 95; K. Mueller, 2013, pp. 4–5.

³⁶ K. Mueller, 2013, p. 5.

³⁷ Christopher S. Chivvis, *Toppling Qaddafi: Libya and the Limits of Liberal Intervention*, New York: Cambridge University Press, 2014, pp. 174–176.

³⁸ Dominic Tierney, "How Not to Plan for 'The Day After' in Libya," *The Atlantic*, August 9, 2016; Gordon Lubold, "U.S. Bombers Hit Islamic State in Libya," *Wall Street Journal*, January 19, 2017.

Lessons and Implications

Safe Areas Require Sufficient Capabilities and Willingness to Suffer Costs

The biggest factors influencing a safe area's ability to protect the civilian population are the intervener's resolve and capabilities. The threat to use force may prevent some attacks on safe areas, but belligerents inevitably test the credibility of such threats. When this happens, foreign military forces defending the safe areas must be willing and able to follow threats with action.³⁹ The consequences of inaction in such instances can be painful. In May 1995, after Bosnian Serbs took 370 UN peacekeepers hostage in response to NATO air strikes on a Bosnian Serb Army (BSA) ammunition depot, the UN decided to hold off on additional NATO air strikes.⁴⁰ Two months later, Bosnian Serbs overran the Srebrenica safe area while the 300 UN peacekeepers charged with protecting it stood by and watched. Eight thousand Bosnian Muslim men and boys perished.⁴¹ In Rwanda, the deaths of ten Belgian peacekeepers at the hands of Hutu soldiers led to a withdrawal of most UN troops. With just over 500 troops remaining, UNAMIR was unable to prevent the genocidal slaughter of 800,000 Tutsis and moderate Hutus. Nonetheless, the small force protected thousands of civilians in the few months that it took the Rwandan Patriotic Front (RPF) to drive Hutu forces out of Rwanda, suggesting that — at least for a short period and when facing a poorly disciplined and equipped force — “even a minor presence could save many lives” because “militiamen who were very good at bludgeoning unarmed civilians melted away when confronted by soldiers.”⁴² The intervener's political will to

³⁹ Posen, 1996, pp. 82, 86; Seybolt, 2007, p. 180.

⁴⁰ Daniel L. Haulman, “Resolution of Bosnian Crisis: Operation DENY FLIGHT,” in A. Timothy Warnock, ed., *Short of War: Major USAF Contingency Operations, 1947–1997*, Maxwell Air Force Base, Ala.: Air University Press, 2000c, p. 225.

⁴¹ United Nations General Assembly, *Report of the Secretary-General Pursuant to General Assembly Resolution 53/35: The Fall of Srebrenica*, New York, November 15, 1999; Ronald M. Reed, “Chariots of Fire: Rules of Engagement in Operation Deliberate Force,” in Robert C. Owen, ed., *Deliberate Force: A Case Study in Effective Air Campaigning*, Maxwell Air Force Base, Ala.: Air University Press, 2000, p. 403.

⁴² Seybolt, 2007, pp. 207–208.

tolerate casualties, therefore, is a factor that is arguably just as important as its possession of sufficient capabilities.

While the defense of safe areas requires a sizable ground presence, safe areas appear to be most effective when located within an NFZ enforced by an air force that is authorized and willing to use air strikes, as in Bosnia and Iraq.⁴³ However, those cases also make clear that airpower alone is insufficient to protect civilians targeted by artillery and ground troops. Ultimately, the scale of the capabilities required to defend a safe area depends on a variety of factors, including the locations and size of the safe area and the capabilities and resolve of the parties targeting civilians. Although a few hundred UN peacekeepers in Rwanda might have been able to intimidate some Hutu militiamen armed with machetes, tens of thousands of UN peacekeepers in Bosnia – supported by NATO airpower – were unable to defend two of the six safe areas in the country.

Safe Areas and NFZs Require Robust Rules of Engagement

Safe areas also typically require a willingness to use force in support of the mission's mandate, even if doing so may mean abandoning neutrality in the event that the warring parties do not all pose an equal threat to that mandate. These points are highlighted by looking at the failure of UN safe area operations in the 1990s. UN failures to protect civilians in safe areas from mass atrocities in Rwanda and Bosnia led the United Nations to conduct a thorough and independent examination of its approach to peace operations. The conclusions of this study were summarized in what is often called the Brahimi Report, published in 2000.⁴⁴ The Brahimi Report identified several causes of these missions' shortcomings and made suggestions for updating the doctrine and strategy of UN peace operations.

First, UN peace operations in the 1990s strived for *impartiality*. However, the need for safe areas tends to be most acute in situations

⁴³ Posen, 1996, p. 100.

⁴⁴ United Nations General Assembly and Security Council, *Report of the Panel on United Nations Peace Operations*, New York, August 21, 2000.

where at least one party to a conflict is targeting civilians, and thus the mission to protect those civilians inherently means that safe-area and NFZ interventions cannot be neutral. The costs of attempts to maintain neutrality could be high. For example, to limit collateral damage and decrease the risk of escalation, UN operations in Bosnia had extremely restrictive rules of engagement and complicated command and control systems for approving NATO air strikes. But these rules led to a delay in approving NATO close air support missions that contributed to the fall of Srebrenica and Zepa in July 1995:

Even though NATO aircraft were available and present during the Bosnian Serb siege of Srebrenica, the UN did not turn its key until nearly three days after the attack had begun. . . . [D]espite repeated requests for CAS [close air support] from the Dutch peacekeepers on the ground in Srebrenica – with NATO CAS aircraft on airborne alert over the Adriatic – the UN approved only one last-minute CAS mission, which helped the peacekeepers regroup north of Srebrenica but did not stop the BSA from taking the town.⁴⁵

The Brahimi Report acknowledges that “no failure did more to damage the standing and credibility of United Nations peacekeeping in the 1990s than its reluctance to distinguish victim from aggressor.”⁴⁶ To remedy this, the report argued that “mandates should specify an operation’s authority to use force” and that UN operations should consist of larger and better-equipped forces capable of acting as “a credible deterrent.”⁴⁷ Most important, it concluded, “peacekeepers – troops or police – who witness violence against civilians should be presumed to be authorized to stop it.”⁴⁸

Second, UN forces – reliant on a diverse set of member countries for troops – were often less willing to accept casualties. In Soma-

⁴⁵ Reed, 2000, p. 403.

⁴⁶ United Nations General Assembly and Security Council, 2000, p. ix.

⁴⁷ United Nations General Assembly and Security Council, 2000, p. 9.

⁴⁸ United Nations General Assembly and Security Council, 2000, p. 11.

lia and Rwanda, for example, several member countries withdrew their troops after suffering casualties, leaving a small, underresourced force behind to attempt to protect civilians. In Bosnia, the Bosnian Serb tactic of taking UN troops hostage hindered UN forces' willingness to defend the safe areas against BSA incursions. The Brahimi Report acknowledges that these incidents have made it more difficult for UN member states to garner the domestic support to endorse UN peace operations; it also notes that "developed States tend not to see strategic national interests at stake," which exacerbates this problem of getting well-trained and well-equipped forces to participate in UN peace operations in a timely manner.⁴⁹ In contrast, U.S.-led efforts in Iraq and NATO efforts in Libya arguably were more effective because forces were able to deploy rapidly with sufficient force and were willing to suffer costs, including casualties. A safe area appears more likely to succeed if it is created by a UN mandate but defended by a coalition of states under the leadership of one powerful state with unified command and control.⁵⁰ Recognizing this fact, the UN sometimes puts a highly capable troop-contributing country in charge of potential flashpoints, as it did, for instance, in the Democratic Republic of the Congo, where the European Union-led International Emergency Multinational Force was deployed in 2003 to reestablish control when the weak UN Organization Mission in the Democratic Republic of the Congo (MONUC) forces faltered. Despite the widespread recognition of previous shortcomings, gaps between the quantity and quality of troops required to successfully protect civilians and the forces that UN member states are willing to commit remain an issue today.⁵¹

⁴⁹ United Nations General Assembly and Security Council, 2000, pp. 17–18.

⁵⁰ Seybolt, 2007, p. 273.

⁵¹ Ray Murphy, "UN Peacekeeping in the Democratic Republic of the Congo and the Protection of Civilians," *Journal of Conflict and Security Law*, Vol. 21, No. 2, 2016, pp. 217–218.

Safe Areas Are Most Useful to Protect Geographically Concentrated Populations in Instances Where Potential Interveners Are Unwilling to Intervene Directly in a Conflict

Safe areas appear to be most relevant when

- violence is carried out against a particular subpopulation, particularly one that is located in “geographically limited areas” or is “too weak militarily to defend itself”⁵²
- interveners are concerned about the effects of refugee movements on neighboring states, but less willing to pay the much higher costs necessary to decisively influence outcomes.

For example, the Mass Atrocity Response Operations (MARO) Handbook discusses safe areas as

an appropriate approach when violence against particular victim concentrations is imminent and when the [intervening force’s] land force strength is limited. In extreme situations, it might serve as a way to save some lives, when a wider protection effort is not possible. It may also be used as a precursor to other approaches in the early stages of a MARO effort, or as a supplemental approach.⁵³

Although safe areas can be somewhat effective in protecting civilians and mitigating spillover flows when direct intervention is not desirable or possible, they generally require substantial investments of resources — and sufficient military muscle — to accomplish their goals. Yet the instances where states are not willing to intervene directly but are willing to commit substantial resources may be limited, as can be seen by the very few safe areas and NFZs that have been attempted since the mid-1990s. Safe areas may be most attractive in cases of ethnic

⁵² Posen, 1996, pp. 95–96.

⁵³ Sarah Sewall, Dwight Raymond, and Sally Chin, *Mass Atrocity Response Operations: A Military Planning Handbook*, Cambridge, Mass.: Carr Center for Human Rights Policy, Harvard Kennedy School of Government; Carlisle, Pa.: U.S. Army Peacekeeping and Stability Operations Institute, U.S. Army War College, 2010, pp. 77–80, 86.

cleansing or genocide, where U.S. national interests are not directly at stake but sufficient international political will and resources to deal with the humanitarian crisis are available.

Conclusion

This analysis suggests that, while safe areas may be a useful policy option to prevent atrocities against civilians, they generally require substantial resources and a commitment to use force to be effective. This may help to explain why policymakers have only infrequently used safe areas since the prominent failures of the 1990s. Identifying cases where safe areas may be advisable in the future should be done with caution.

Since 2011, for instance, there have been several calls for U.S. and NATO forces to create a safe area or an NFZ in Syria to protect civilians targeted by Syrian government and ISIL forces, at least in part to stop the flow of refugees into neighboring Turkey and Europe. As recently as February 2016, two former U.S. diplomats suggested that the U.S. military consider creating a safe area within an NFZ in Syria to protect civilians.⁵⁴ The lessons described here suggest caution, however. A 2013 RAND analysis of options for using U.S. airpower in Syria evaluated the possibility of creating NFZs to defend safe areas and concluded that “negating Syrian airpower would have only a marginal direct effect on civilian casualties, which have mostly been caused by ground forces.”⁵⁵ Therefore, although “airpower could play a major role in defending designated safe areas against attack by regime forces[,] . . . there is a need for effective defensive forces on the ground.”⁵⁶ Most important, the report contended that defending safe areas would be equivalent to “full intervention on the side of the opposition.”⁵⁷ This, in

⁵⁴ Burns and Jeffrey, 2016.

⁵⁵ Karl P. Mueller, Jeffrey Martini, and Thomas Hamilton, *Airpower Options for Syria: Assessing Objectives and Missions for Aerial Intervention*, Santa Monica, Calif.: RAND Corporation, RR-446-CMEPP, 2013, p. 1.

⁵⁶ Mueller, Martini, and Hamilton, 2013, p. 2.

⁵⁷ Mueller, Martini, and Hamilton, 2013, p. 2. For their detailed treatment of the combined safe area and NFZ option in Syria, see pp. 10–12.

turn, “could become a prolonged and demanding commitment” that “might well lead to even deeper involvement in the war.”⁵⁸

Indeed, safe areas and NFZs typically carry a risk of mission creep or escalation. The failures of the safe areas and NFZ in Bosnia led to an intensified air campaign designed to bring Serbs to the negotiating table in the hopes of ending the conflict. Further, the NFZs in Iraq ultimately did not end until the 2003 U.S. invasion. In most cases, then, safe areas are not likely to either be or remain limited in scope. While they sometimes may achieve worthy goals, they are perhaps best considered as a complement to, rather than a substitute for, robust military intervention into a conflict.

Interdiction

Interdiction strategies target the flow of resources into or out of a target nation or territory to reduce or eliminate the threat posed by an enemy. Interdiction is an indirect alternative to direct intervention, as in stabilization or strike approaches, in the sense that it seeks to affect the behavior of the enemy without directly engaging its armed forces. However, unlike containment or mitigation, it strikes at the adversary’s capability to act rather than trying to change the consequences of its actions.

For strategists seeking approaches to address security threats posed by militant groups while minimizing their own military liabilities, interdiction has appealing features. Although mitigation strategies avoid, or at least seek to avoid, directly confronting the adversary, establishing protected areas in the territory where the enemy is operating typically entails substantial risks of being dragged deeper into the conflict. Containment strategies keep the enemy at arm’s length, but while they may protect neighboring states, they do not improve the situation for those the enemy is attacking at home, which may be strategically or politically unsatisfactory. Interdiction, in contrast, promises to undermine the enemy’s power from a relatively safe distance,

⁵⁸ Mueller, Martini, and Hamilton, 2013, p. 12.

particularly in cases where the target group draws its strength in large part from external sources.⁵⁹

This discussion focuses on the use of interdiction on its own, or at least as the central element of a strategy for addressing the threat to national security interests posed by an enemy. In most, if not all, of the many cases in which interdiction has been employed by the United States or other countries, it has been one element in a larger warfighting strategy, contributing to an overall effort to weaken and defeat or coerce an opponent. Indeed, interdiction is an almost inevitable part of almost any war effort when the opportunity for it to help weaken the opponent exists – not trying to reduce an enemy's access to valuable imports and external assistance while fighting against it would be peculiar.⁶⁰ Thus, we will refer to examples involving interdiction playing such supporting strategic roles, but without losing sight of the central question of whether interdiction has the potential to serve as an alternative to directly attacking an opponent rather than simply as a way to make an opponent more vulnerable to direct attack.⁶¹

When interdiction involving the use of military forces occurs as part – often a relatively small part – of a broader campaign to weaken or defeat an enemy, it is often known as *economic warfare*. This can range from nonviolent efforts to deny one's enemy access to imports of strategic minerals or advanced technologies to blockades that prevent enemy imports or exports by sinking ships or intercepting aircraft. States can wage economic warfare as stand-alone campaigns as well,

⁵⁹ Paul Staniland, "Defeating Transnational Insurgencies: The Best Offense Is a Good Fence," *The Washington Quarterly*, Vol. 29, No. 1, Winter 2005–2006.

⁶⁰ It would not be without precedent, however. There have been cases in which belligerents have simultaneously fought and traded with each other, usually because both expect a relative advantage from the exchange, or because one or both of the parties expect to prevail regardless and prefer not to inconvenience themselves unnecessarily. See Mancur Olson, *The Economics of the Wartime Shortage*, Durham, N.C.: Duke University Press, 1963.

⁶¹ Interdiction by military means is also used as an enforcement mechanism in coercive economic sanction efforts outside the realm of warfare, where weakening the target is at most a secondary effect of economic pressure intended to alter its domestic or international behavior. Among the vast literature on economic sanctions, a good starting point is Jonathan Kirshner, "The Microfoundations of Economic Sanctions," *Security Studies*, Vol. 6, No. 3, Spring 1997.

however. During the Cold War, the United States and its allies established a multilateral regime called CoCom (for “Coordinating Committee”) to prevent exports of militarily useful technology to the Soviet Union and other communist countries.⁶² Narrower arrangements, such as the Missile Technology Control Regime, similarly seek to limit access to particular military technologies.

When we consider interdiction as an alternative to military intervention, it is usually with the hope that it will alter not merely the target’s military strength but also, as a result, its behavior. It will therefore be most relevant in cases where the actions a country seeks to prevent or the threats it seeks to reduce are ones that stretch the enemy’s capabilities to the limit, so that marginal reductions in resources will substantially alter the situation. Unfortunately, this limits the utility of interdiction as an approach for protecting civilians from harm, because predation against civilians is relatively easy to carry out even with very limited resources, so a reduction in resources is unlikely to make it impossible to continue.

Varieties of Interdiction

Interdiction targets the movement of resources into or out of the target’s territory or organization. It can take a variety of forms, depending on the direction of the flow and the nature of the resource being interdicted. In the crudest terms, the resources that are generally of interest fall into four categories: personnel, materiel, money, and information (such as denying technical know-how for bomb-making to militant groups). Of these, interfering with the movement of information to weaken or impoverish the target group appears to be growing increasingly difficult in a globalizing world characterized by pro-

⁶² Michael Mastanduno, *Economic Containment: CoCom and the Politics of East-West Trade*, Ithaca, N.Y.: Cornell University Press, 1992. Regimes such as CoCom are not *economic sanctions*, as that term is commonly used, because they are essentially noncoercive. Economic sanctions are usually conditional, with the sanction imposing a punishment against the target that will be applied until it complies with a coercive demand. CoCom was not a system for preventing technology exports to the USSR until it behaved better but rather a means of making the Soviet Union less capable and dangerous than it otherwise would have been, and its restrictions remained in place until the Soviet Union had ceased to exist.

liferating communications modes and rapidly expanding bandwidth.⁶³ Much the same is true of physically interdicting financial flows, since these now usually do not involve transporting currency or treasure across borders.⁶⁴ More saliently for this discussion, although financial interdiction and information interdiction can be powerful tools of counterinsurgency, they mostly involve the use of nonmilitary instruments of power or, in some cases, applying threats or other pressure against external sponsors to coerce them to stop sending assistance to militant or other target groups.⁶⁵ Thus, beyond noting the frequent strategic importance, we will not concentrate on these types of interdiction here.

Interdicting the movement of more-tangible things – goods and people – can take four forms that are often of interest when waging campaigns to degrade militant groups or other types of enemy: foreign fighter interdiction, safe-haven interdiction, materiel interdiction, and commodity interdiction. At the risk of oversimplification, these four types of interdiction can be understood in terms of whether an intervener seeks to stem flows of people or goods and whether it seeks to stem inflows or outflows. These four types of interdiction are summarized in Table 4.3.

Foreign Fighters

The first form of interdiction involves intercepting flows of foreign fighters or recruits from abroad into the area where the group operates. Such influxes of personnel can be a major source of strength for insurgent groups or similar entities, most starkly illustrated by the wave of enthusiastic recruits that left their home countries to join ISIL when it was apparently on the rise (although many of them found the real-

⁶³ Jonathan Kirshner, ed., *Globalization and National Security*, New York: Routledge, 2006.

⁶⁴ There are occasional cases in which money can be interdicted physically to notable effect, illustrated most notably in recent days when a series of coalition air strikes against currency stockpiles destroyed hundreds of millions of dollars worth of ISIL's cash reserves, much of which ISIL had looted from bank vaults in Mosul during the group's early expansion in Iraq. BBC, "Islamic State: Up to \$800M of Funds 'Destroyed by Strikes,'" April 26, 2016.

⁶⁵ Colin P. Clarke, *Terrorism Inc.: The Financing of Terrorism, Insurgency and Irregular Warfare*, Santa Barbara, Calif.: Praeger, 2015.

Table 4.3
Interdiction Typology

	Personnel	Goods
Inflows	Foreign fighters	Materiel
Outflows	Safe havens	Commodities

ity of their new situations to fall well short of their expectations). Of course, most insurgencies do not inspire foreign recruits to join their cause in large numbers, but for those that do, interfering with the process should, by definition, reduce the growth of the group. However, intercepting recruits en route to enlist tends to be difficult – individual people are small and usually inconspicuous, and borders of states in war zones are frequently porous. It is not surprising, therefore, that emphasis is typically placed on efforts to reduce the supply of recruits at their sources through information operations to delegitimize or deglamorize the enemy cause, or to prevent their embarkation or their transit through relatively well-governed territories.⁶⁶ Interdiction to prevent the movement of trainers into areas where they can assist militant groups is similarly the natural domain of police and intelligence agencies.

Safe Havens

Military forces tend to have a much greater role to play in interdicting movements of enemy personnel to and from external sanctuaries. The existence of such safe havens is strongly associated with success for insurgencies, so denying the enemy's access to safe havens can contribute greatly to counterinsurgent victory.⁶⁷ The requirements for depriving militants of external sanctuaries vary depending on a number of

⁶⁶ Staniland, 2005–2006; Daniel L. Byman and Jeremy Shapiro, *Be Afraid. Be a Little Afraid: The Threat of Terrorism from Western Foreign Fighters in Syria and Iraq*, Washington, D.C.: Brookings Institution, November 2014.

⁶⁷ Idean Salehyan, "Transnational Rebels: Neighboring States as Sanctuary for Rebel Groups," *World Politics*, Vol. 59, No. 2, January 2007; Ben Connable and Martin C. Libicki, *How Insurgencies End*, Santa Monica, Calif.: RAND Corporation, MG-965-MCIA, 2010.

factors related to geography and the nature of the haven.⁶⁸ Where sanctuaries are willingly provided by external powers, eliminating them can be done by making the state in question change its behavior or, under favorable circumstances, by directly attacking the militants (an approach that falls into the domain of limited strike, discussed above, or more-than-limited military action, most famously exemplified by U.S. military strikes on a massive scale against enemy rear areas in Cambodia and Laos during the Vietnam War). If sanctuaries exist instead because the local government is unable to exercise effective control over its territory,⁶⁹ the natural response would be to provide assistance in solving that lack of capacity (see the discussion of containment earlier in this chapter). Finally, a limited stabilization approach might include assisting the host-nation government to better control its borders to place external havens out of reach of the enemy.

Materiel

The two forms of interdiction of greatest salience in this section both relate to impeding the movement of physical goods.⁷⁰ *Materiel interdiction* seeks to reduce or prevent the flow of important resources, such as weapons to an enemy to undermine its military power. In the simplest terms, materiel interdiction tries to stop the enemy from importing things it needs to fight. Imported weaponry is a frequent interdiction target in fighting insurgencies or other nonstate actors because such entities typically lack the ability to produce their own armaments, or at

⁶⁸ See Daniel L. Byman, *Deadly Connections: States That Sponsor Terrorism*, Cambridge, UK: Cambridge University Press, 2005.

⁶⁹ Angel Rabasa, Steven Boraz, Peter Chalk, Kim Cragin, Theodore W. Karasik, Jennifer D. P. Moroney, Kevin A. O'Brien, and John E. Peters, *Ungoverned Territories: Understanding and Reducing Terrorism Risks*, Santa Monica, Calif.: RAND Corporation, MG-561-AF, 2007.

⁷⁰ Another variety of interdiction would be a pure blockade strategy, with the goal of completely isolating an enemy from imports to starve it into submission. Although such indiscriminate blockades have long been a tool of warfare, we do not focus on them here because they tend to most severely affect civilians rather than enemy leaders and combatants and therefore have been relatively unpopular with Western leaders in recent years. See John Mueller and Karl P. Mueller, "The Methodology of Mass Destruction: Assessing Threats in the New World Order," *Journal of Strategic Studies*, Vol. 23, No. 1, March 2000.

least advanced ones; without a supply of such weapons, nonstate actors tend to be at a serious disadvantage in conflicts against state enemies. Similarly, most states' military capabilities would be reduced if they did not have access to advanced systems that they do not themselves manufacture.

Materiel interdiction can have several different purposes. Directed at a target that is actively involved in fighting an internal or external enemy, a shortage of the wherewithal to wage war could shift the balance of capabilities in the conflict toward a victory by the favored side or a negotiated settlement that might otherwise not have come about. Lacking the means to fight could also make the target less aggressive in the future even if it is not being seriously challenged on a current battlefield and could make the target less dangerous to future enemies.

However, sometimes arms embargoes and other measures are imposed with little expectation that they will actually achieve such effects. Instead, they might be established as a political gesture by states or organizations that consider it imperative to "do something" to punish or to signal displeasure toward the target. In these cases, cutting off exports of arms, in particular, is a natural sanction to impose — it distances former suppliers from complicity in misbehavior involving the weapons they exported, and its effects are directed explicitly at the military or security forces of the target state rather than a populace that may have had little say in its leaders' actions.

As of August 2016, the Stockholm International Peace Research Institute's database of international arms embargoes listed 12 active embargoes imposed against states or militant groups by the UN, with compliance mandatory for its members, along with active European Union arms embargoes against 12 additional states or organizations.⁷¹ In many of these embargoes, the enforcement mechanisms involve little or no actual interdiction by military forces, depending on export and transit restrictions that are monitored and, if necessary, enforced

⁷¹ Stockholm International Peace Research Institute, "Arms Embargoes," database, undated. This list does not include export control regimes relating to specific technologies, such as the Missile Technology Control Regime or embargoes or arms export restrictions imposed by individual countries, alliances, or ad hoc coalitions, such as Israel's and Egypt's efforts to prevent weapons from flowing into Gaza.

by police and intelligence agencies. In some cases, however, substantial military forces are deployed to carry out the interdiction, typically by detecting and intercepting the smuggling of arms or other contraband in defiance of the embargo. For example, during the breakup of Yugoslavia in the early 1990s, the United States and other NATO members deployed naval and air forces to monitor and later to interdict shipments of weapons to former Yugoslav states in violation of the UN prohibition on providing them with arms, in Operations Maritime Monitor, Sky Monitor, Sharp Fence, Maritime Guard, Sharp Guard, and Deny Flight.⁷² Substantial multinational naval forces have subsequently deployed to the western Indian Ocean and the Mediterranean Sea to enforce arms embargoes against Somalia and Libya.

Arms embargoes sometimes appear to contribute to behavior changes by the targeted regimes or groups – but more often do not.⁷³ Western powers' attempts to interdict arms during the wars in the former Yugoslavia illustrate some of the obstacles that interveners often face. NATO and western European Union members' efforts were substantial – Operation Sharp Guard saw more than 7,000 ships boarded and inspected in the Adriatic or diverted for in-port inspection between 1992 and 1996.⁷⁴ But Yugoslavia was awash in weapons, having been among the world's most thoroughly armed states during the Cold War, as it sought to deter attack from both East and West,⁷⁵ and each of the warring parties in Croatia and Bosnia-Herzegovina enjoyed significant, and sometimes intense, support from external sponsors, which could reach them by many avenues. In the end, the materiel interdiction effort was most notable for being a stepping-stone to larger-scale

⁷² NATO, *NATO's Operations: 1949–Present*, Brussels, 2009.

⁷³ Damien Fruchart, Paul Holtom, Daniel Strandow, Siemon T. Wezeman, and Peter Wallensteen, *United Nations Arms Embargoes: Their Impact on Arms Flows and Target Behaviour*, Solna, Sweden: Stockholm International Peace Research Institute; Uppsala, Sweden: Uppsala University, 2007.

⁷⁴ Operation Joint Endeavor, "NATO/WEU Operation Sharp Guard," fact sheet, October 2, 1996.

⁷⁵ Adam Roberts, *Nations in Arms*, 2nd ed., London: Macmillan, 1986.

UN and NATO military intervention that ultimately brought about a settlement of the Bosnian civil war in 1995.⁷⁶

Commodities

The final variation of the interdiction approach, *commodity interdiction*, focuses on exports rather than imports, specifically preventing target groups from shipping goods to external customers to earn money that can be used to finance military or other operations. Trade boycotts or blockades have long been a staple of economic sanctions against states,⁷⁷ but some substate militant groups also possess goods to export and can derive considerable wealth from doing so. The exports to be interdicted might be almost anything in principle, but in practice this form of interdiction is relevant primarily in cases where the enemy has the ability to produce and sell commodities that are highly lucrative and reasonably easy to transport, such as oil, high-value mineral resources, or narcotics. Because the unimpeded ability to export these types of goods can be a source of game-changing financial resources, denying such income to an opponent can profoundly affect its ability to fight or govern, especially if the enemy has grown dependent on it.

As with materiel interdiction, commodity interdiction ultimately strikes at the opponent's sources of power, and the two often use the same tools and techniques, even to the point that the boundary between them can sometimes become indistinct. Among their most important commonalities is that both forms of interdiction are not purely military – often, military forces play little or no role in carrying out the interdiction, although we focus on the use of military means here. Just as the principal element of most arms embargoes is agreements among producer states not to sell weapons (or certain types of weapons) to the target, the best way to prevent an actor from exporting a commodity is to get all of its potential customers to agree not to buy the good, if this is possible. Thus, the central element in international efforts to prevent combatants in African civil wars from financ-

⁷⁶ Robert C. Owen, ed., *Operation Deliberate Force: A Case Study in Effective Air Campaigning*, Maxwell Air Force Base, Ala.: Air University Press, 1999.

⁷⁷ Kirshner, 1997.

ing their activities by exporting conflict diamonds was not physically interdicting diamond shipments (an exceptionally difficult task given the ease with which gems can be transported and concealed) but diplomatic and legal measures, such as the Kimberley Process Certification Scheme to exclude conflict diamonds from the marketplace.⁷⁸

Two commodity interdiction efforts in which military forces have played a central role have loomed especially large in recent U.S. national security policy: the campaign to reduce opium exports from Afghanistan to deny the resulting income to the Taliban, from 2002 to 2014, and the ongoing campaign to prevent exports of petroleum products by ISIL from Syrian and Iraqi oil fields under its control. In both cases, production and export of these commodities has been a notable source of income for these adversaries and thus a natural target in the broader military campaigns against them. Examining these efforts helps illuminate the challenges involved in commodity interdiction strategies, but two features of these cases are important to note in the context of this discussion. First, the wars against the Taliban and, arguably, against ISIL do not fall comfortably into the *limited intervention* category. Second, the counter-drug efforts in Afghanistan and the counter-oil campaign against ISIL have attacked production of these commodities, in addition to the export transportation of them – indeed, opium and oil production have been the principal foci.⁷⁹ (See Appendix E for descriptions of these two cases.)

Interdiction Opportunities and Obstacles

Opportunities for successful interdiction vary widely among potential targets and from one conflict to another. Several factors are required to make the approach promising enough to merit serious attention, and even where these are present, it is import for strategists to anticipate

⁷⁸ Clive Wright, “Tackling Conflict Diamonds: The Kimberley Process Certification Scheme,” *International Peacekeeping*, Vol. 11, No. 4, 2004. See also Elisabeth Gilmore, Nils Petter Gleditsch, Päivi Lujala, and Jan Ketil Rød, “Conflict Diamonds: A New Dataset,” *Conflict Management and Peace Science*, Vol. 22, No. 3, 2005.

⁷⁹ Strategists should note that the effects of attacking production and transport will rarely be more than partially additive – the less of a commodity that is produced, the lower the demands will be for transportation capacity to deliver it to its destination.

ways in which interdiction efforts may be undermined. Additionally, in most cases, interdiction will be considerably more promising as one of multiple elements in a strategy to combat an enemy or mitigate the effects of its actions than as the central pillar of a strategy, let alone as a policy used in isolation.⁸⁰

For materiel interdiction – and for interdiction of other sorts of resources, such as external training – first and foremost, the target must be seriously dependent on its imports of whatever is being interdicted for it to be sensitive to a reduction or interruption of that supply. This is an almost banal observation, but this requirement can significantly limit the utility of such approaches. An insurgency with fairly limited materiel needs – because it is small or faces weak opposition from its opponents – will be relatively hard to weaken through interdiction. Similarly, preventing the flow of weapons into an area in which they are abundant, such as following the demise of a heavily armed government, will be less consequential than doing the same where arms are scarce. On the other hand, it is worth noting that interdiction might be preventively useful, for example, by keeping a weak or nascent insurgency from becoming more powerful as a result of gaining access to new capabilities or resources. Weapons flowing from Libya into Mali after the defeat of the Gaddafi regime, for instance, played a major role in destabilizing Mali.⁸¹

Conversely, commodity interdiction requires that the target depend substantially on the income it derives from exporting what is being interdicted. On an even more basic level, it needs to possess such a valuable and exportable commodity. While some insurgencies control oilfields, diamond mines or other mineral resources, or fields and facilities for producing drugs, many are not so fortunate as to enjoy such assets on a consequential scale. When the enemy does reap substantial wealth from smuggling (or otherwise exporting) a valuable commodity, interdicting this is likely to be an almost automatic response. However,

⁸⁰ David Lektzian and Patrick M. Regan, “Economic Sanctions, Military Interventions, and Civil Conflict Outcomes,” *Journal of Peace Research*, Vol. 53, No. 4, 2016.

⁸¹ Christopher S. Chivvis, *The French War on Al Qa’ida in Africa*, Cambridge, UK: Cambridge University Press, 2016.

as demonstrated by the counternarcotics efforts against the Taliban and other narco-trafficking insurgents, some valuable commodities are more difficult to interdict than others. In contrast to opium, which is compact relative to its value and easily transported, oil is bulkier and requires specialized equipment in order to be moved in large quantity.

In both commodity and materiel interdiction, a key factor in shaping the enemy's vulnerability to interdiction will be the extent to which its resources are being stressed by the demands of warfare or governance. Just as an army that is not fighting requires much less sustainment than one that is engaged in heavy combat, a militant group whose capabilities are being pushed to the limit will be much more sensitive to interdiction of its resources, particularly in the near term, than one that is under less pressure and therefore has a reserve of uncommitted human and materiel capacity to draw on if its situation becomes less benign. In short, being weakened militarily only matters to the extent that the target needs military strength, and reduced capability to control a restive populace is significant only insofar as there is potential for unrest and rebellion. In this sense, ISIL is a relatively promising target for commodity interdiction, since it requires financing not only for the costs associated with sustaining and employing its armed forces against the forces that are attacking it but also for governing the substantial areas and populations in Syria and Iraq over which it exercises its dominion.

For both of these types of interdiction, geography is an enormously important factor in determining whether interdiction is physically feasible. An enemy with extensive and porous land borders and well served with smuggling routes — Afghanistan has long been a classic example — will be a markedly more challenging target for an interdiction campaign than one that is geographically isolated and where illicit movements of goods into or out of its territory will be relatively conspicuous. The interdicting power will also need access to the areas where interdiction would occur, which (except when these are international waters) generally depends on the consent and participation of neighboring states.

If the situation is one in which the target does depend heavily on being able to import or export something that is susceptible to inter-

diction, several other factors may or may not prevent the interdiction effort from getting traction. Two of these loom large.

The first is the target's potential for internal adaptation to deal with the interdiction. Such measures can take a variety of forms, including conservation or reallocation of scarce resources, substitutions to replace them, or mobilizing domestic sources of production to compensate for the loss of imported goods.⁸² The target may also be able to alter its activities to achieve its objectives in ways that are less dependent on the interdicted resources. Such adaptation is often difficult – adversaries of the United States frequently prove to be less flexible and adaptable than one might expect. However, strategists invite disappointment and disaster if they fail to anticipate the extent to which necessity can be the mother of invention.

The second is the presence or absence of external actors willing and able to provide workarounds to enable the target to evade or reduce the effects of the interdiction. This might take the form of providing an alternative source of supply for imports, offering an alternative market for exports, or serving as an alternative path for the movement of goods. As scholars of economic sanctions often observe, embargoes or boycotts (of trade, finance, or other flows of resources) for which there is broad international consensus and support are vastly more potent than ones that are undermined by sanctions-busting powers either sympathetic to the target entity or simply attracted by the opportunity to profit from being willing to sell, buy, or help when others are not.⁸³

Much the same is true, and for essentially the same reasons, with respect to military and political as well as economic pressure against nonstate groups. Having an external sponsor or facilitator is very often a vital source of strength for an insurgency, especially if it can and will provide a territorial sanctuary where the militants can build their capabilities and take refuge when necessary.⁸⁴ If the target group can be iso-

⁸² For a useful primer, focusing on state adaptations to economic warfare but equally applicable to substate organizations, see Olson, 1963.

⁸³ See, for example, Kirshner, 1997.

⁸⁴ Idean Salehyan, *Rebels Without Borders: Transnational Insurgencies in World Politics*, Ithaca, N.Y.: Cornell University Press, 2009; Connable and Libicki, 2010.

lated from such support, either through physical interdiction or, more typically, through coercive diplomatic, economic, or military pressure against the state or other entities providing it, and if the target group also faces a capable adversary and cannot draw on an internal resource windfall to make up the loss, the result can easily be catastrophic.

Summary of Findings and Policy Implications

All of the indirect options reviewed here are motivated by a desire to limit the consequences of conflict without accepting the costs and risks of direct intervention. In general, these options cost less for the United States to implement than do direct military interventions. These options are limited, however, in what they can accomplish on the ground.

Efforts to contain conflicts by providing military assistance to neighboring partner states do not appear to be effective overall. The United States typically increases its security assistance to existing partner nations that border countries in conflict, likely with the intention of increasing their resilience in the face of a high risk of conflict spillover. But there is no evidence that such assistance actually decreases the risk of violent conflict in these countries; they descend into war about as often as states that do not receive U.S. military aid.

Operations to mitigate the humanitarian consequences of wars — such as NFZs or safe areas — are typically much more costly and carry much greater risk than anticipated. NFZs are attractive in that they minimize risk to the United States. But they seldom provide substantial protection to civilians without corresponding efforts on the ground. Safe areas established by ground forces can be much more effective in protecting civilians, especially when the populations to be protected are highly concentrated, but such safe areas usually require major military commitments to be effective. Historical efforts to create such safe areas “on the cheap” often resulted in disaster. In part because of these limitations, both safe areas and NFZs carry considerable risk of mission creep.

Interdiction is considerably more promising as a supporting element in a strategy than as the central pillar of a strategy, let alone

a policy used in isolation. Several factors are required to make the approach promising, including (1) the dependence of the targeted group on the flow of resources, materiel, or people to be interdicted; (2) the target's adaptability; (3) geography; and (4) the cooperation of key external actors (e.g., key transit states or countries that provide markets for contraband that funds militant activity). Even where all of these factors are favorable, interdiction generally only weakens targeted groups and is thus best understood as a supporting element in a broader strategy.

Conclusions and Policy Implications

The record of military interventions into irregular wars is sobering. We have examined large interventions and small ones, ground operations and air strikes, direct approaches and indirect ones, and operations conducted by the United States and other Western powers and ones conducted by non-Western interveners. Many of these options can improve the odds of a successful outcome at least in the short term, but all of them involve difficult trade-offs and sizable risks. There are no silver bullets to decisively defeat militants at relatively low cost to the United States.

This report does, however, provide a rigorous empirical reckoning of the sorts of operations that may be appropriate for achieving modest goals in the appropriate circumstances. In this concluding chapter, we first take stock of what our research has shown about what limited interventions can and cannot accomplish. We then review the costs of interventions (both large and small) and conclude with a discussion of how best to match military options with diverse strategic goals and operational contexts.

What Limited Interventions Can and Cannot Accomplish

Limited interventions can be grouped into three categories: limited stabilization missions involving boots on the ground; limited strikes (principally by air, although in some cases executed by SOF); and indirect options to contain and mitigate conflicts or interdict the flows of people, revenues, and materiel that sustain the conflicts.

Limited Stabilization

For all of their costs and risks, foreign military interventions can substantially improve the odds of achieving a positive outcome in a conflict (either a victory for the partner government or a negotiated settlement that is acceptable to it).

- Small interventions can reduce the odds of defeat, but not even large interventions can significantly improve the chances of outright victory. Intervening forces can influence the outcomes of an insurgency or other civil war in many ways – most obviously through direct combat but also by training and advising indigenous forces, by providing combat enablers that the partner government might lack (such as signals intelligence or aviation), or by facilitating the distribution of civil assistance. Not all of these functions require large numbers of troops. Consequently, it should come as no surprise that even small numbers of troops can make a meaningful difference in conflict outcomes. According to our models, interventions of 1,000 soldiers improve the probability of a negotiated settlement between the government and rebels from 23 to approximately 46 percent, and larger interventions can improve these odds still more – albeit at a diminishing rate of return. But while foreign interventions can help prevent the defeat of a partner government, they do not, on average, increase the chances of military victory. This inability of foreign military force to secure victory holds true regardless of the number of troops deployed; even large interventions do not appear capable of decisively defeating insurgents in most cases.

While military interventions can therefore make defeat less likely, the efforts often come at a cost in terms of conflict intensity, duration, and likelihood of recurrence, although the effects differ depending on the nature of the intervening country and the operational environment:

- **Foreign interventions by non-Western countries into ongoing conflicts are generally associated with higher levels of violence.** Foreign military interventions might suppress violence by

decisively tilting the balance of power in favor of the government, or they might exacerbate it by provoking nationalist backlash or removing the partner government's incentive to compromise. Although either of these effects might predominate in individual cases of conflict, on average we find that interventions by the United States, France, and the UK are associated with neither more- nor less-intense violence than in cases where there is no foreign intervention.¹ Interventions by other countries, however, are associated with more-intense conflicts. It is unclear whether other interveners are choosing to become involved in more-violent conflicts or if they are causing the conflicts to become more intense. Decisionmakers in the United States, however, should carefully weigh this risk of intensified violence when they consider asking U.S. allies to conduct interventions that the United States itself is unwilling to undertake.

- **Foreign interventions are associated with much longer wars.** Foreign intervention might shorten wars by tipping the balance of power decisively in favor of the government, or they might prolong wars by expanding the number of actors involved, increasing uncertainty about the true balance of power (because of uncertainty about whether foreign interveners will remain committed to fighting) or provoking countervailing interventions on behalf of rebels. Interventions — especially those of the United States — are associated with much lengthier periods of fighting. More specifically, interventions are associated with wars lasting some 50 to 60 percent longer than those not experiencing intervention.
- **The durability of the outcomes achieved through foreign military intervention depends on the level of development of the partner state and the identity of the intervening state.** Internal wars recur at an extremely high rate. Roughly half of wars, once ended, will resume again within a quarter century or less, and more than a third relapse into violence within five years of the end of the earlier war. Obviously, a foreign military inter-

¹ Of course, preemptive interventions launched into countries that were not at war (such as the U.S. intervention in Iraq in 2003) will, by definition, increase levels of violence.

vention can hardly be considered a strategic success if a victory, once won, disintegrates soon thereafter. But the durability of a post-conflict political order is heavily influenced by the conflict-affected country's level of development, with less developed countries being much more likely to experience conflict recurrence in the wake of foreign intervention. Rates of conflict recurrence also vary between intervening countries. Interventions by the United States tend to have lower rates of war recurrence, while interventions by non-Western interveners are associated with extremely high rates of war recurrence.

Limited Strike

By assessing the effects of drone strikes on multiple dimensions of militant capabilities and in two different operational contexts, we can develop a highly nuanced picture of the effectiveness of these strikes:

- **Drone strikes have had opposite effects depending on the intensity of the drone campaign and the operational environment in which it is conducted.** In Pakistan, where the U.S. drone campaign was intensive and the United States' partner (the government of Pakistan) was largely able to contain the threat posed by militant groups, drone strikes are consistently associated with lower levels of militant activity. Each drone strike is associated with a decline of nearly two militant attacks in the first six months following the strike – or about a 12 percent decline in militant attacks for each strike in those first six months. In contrast, in Yemen, where the drone campaign was much less intensive and the partner regime was collapsing, U.S. drone strikes are consistently counterproductive – that is, they are associated with higher levels of militant activity.
- **The disruptive effects of drone strikes do not extend to propaganda output.** On average, these strikes do not appear to meaningfully disrupt and degrade militants' ability to produce propaganda (and may incite more when targeted at HIVIs), even though they do limit local militant attacks in Pakistan.

- **The effects of drone strikes decline rapidly over time.** In the first three months following a drone strike, the strikes have relatively substantial effects (both positive, in the case of Pakistan, and negative, in the case of Yemen). But in every case, the change in militant activity declines in the following three months, often fading into statistical insignificance. We do not consider the effect of drone strikes past the first six months, when their effects become increasingly difficult to distinguish from other changes on the ground. Drone strikes may continue to exercise effects on levels of militant activity, but our analysis suggests that these effects are likely to be small.
- **Successful leadership targeting has substantial effects—both favorable and unfavorable.** Successful strikes against HVIs in Pakistan are associated with sizable declines in militant attacks. On the other hand, in Yemen, HVI removals are associated with large increases in both militant attacks and propaganda output. And even in Pakistan, the positive effects of HVI removals are limited to militant attacks; they actually appear to spur increases in propaganda statements.
- **Unsurprisingly, civilian casualties associated with drone strikes appear to have some counterproductive results.** Unfortunately, poor data quality limited our ability to estimate these effects with any precision.

Indirect Options

In an effort to limit the costs and risks of direct military intervention, the United States often turns to indirect options, such as efforts to contain a conflict within a single country; initiatives to interdict a targeted militant group's flows of revenues, people, or materiel; or such operations as NFZs or safe areas designed to mitigate the humanitarian costs of conflict. In general, these options cost the United States less to implement than do direct interventions. They also tend to be limited, however, in what they can accomplish on the ground.

- **Efforts to contain conflicts by providing military assistance to neighboring partner states do not appear to be effective.**

The United States typically increases its security assistance to partner nations that border countries in conflict, likely with the intention of increasing their resilience in the face of a high risk of conflict spillover. But there is no evidence that such assistance actually decreases the risk of violent conflict in these countries; they descend into war about as often as states that do not receive U.S. military aid.

- **Operations to mitigate the humanitarian consequences of wars—such as NFZs or safe areas—are typically much more costly and carry much greater risk than anticipated.** NFZs are attractive in that they minimize risk to the United States. But they seldom provide substantial protection to civilians without corresponding efforts on the ground. Safe areas established by ground forces can be much more effective in protecting civilians, especially when the populations to be protected are highly concentrated, but such safe areas usually require major military commitments to accomplish their objectives. Historical efforts to create such safe areas “on the cheap” often resulted in disaster. In part because of these limitations, both safe areas and NFZs carry considerable risk of mission creep.
- **Interdiction is considerably more promising as a supporting element in a strategy than as the central pillar of a strategy, let alone a policy used in isolation.** Several factors are required to make the approach promising, including (1) the dependence of the targeted group on the flow of resources, materiel, or people to be interdicted; (2) the target’s adaptability; (3) geography; and (4) the cooperation of key external actors (e.g., key transit states or countries that provide markets for contraband that funds militant activity). Even where all of these factors are favorable, interdiction generally only weakens targeted groups and is thus best understood as a supporting element in a broader strategy.

Costs of Military Interventions

This report has focused on the effectiveness of various options for military interventions. Policymakers, however, must consider not only the likely benefits of potential choices but also their costs.

We have attempted to assess negative and positive outcomes from interventions – the higher likelihood of war recurrence after foreign intervention, for instance, or the counterproductive effects of the U.S. drone campaign in Yemen. Beyond these immediate consequences, there are doubtless more-diffuse consequences of interventions, such as drone strikes’ potential to erode global norms.² Although these diffuse consequences have been beyond the scope of this study, they too deserve the attention of policymakers considering intervention.

While a full reckoning of the costs and benefits of military interventions is impossible within a single study, to place their benefits in perspective, we can at least summarize their direct operational costs. Table 5.1 provides an overview of selected U.S. military interventions, their force requirements, their dollar costs, and their costs in terms of the lives of U.S. service members. The table is meant only as an illustration; it is far from comprehensive, and the dollar costs, in particular, provide only rough estimates of the true costs, since there are no official standards for what counts as a direct cost of an intervention.³

² See, for instance, Lynn E. Davis, Michael J. McNerney, and Michael D. Greenberg, *Clarifying the Rules for Targeted Killing: An Analytical Framework for Policies Involving Long-Range Armed Drones*, Santa Monica, Calif.: RAND Corporation, RR-1610-OSF, 2016.

³ See Appendix F for a discussion of data sources and limitations. Note that U.S. casualty figures refer to service members killed in an operation; they include fatalities because of hostile action and other causes, but they do not include U.S. civilians – either government personnel or contractors. Costs of the war in Vietnam reflect only a low-end estimate based on a narrow interpretation of costs that could be directly attributed to the war, while the costs for the wars in Iraq and Afghanistan are expressed in a range from low-end estimates similar to the one for Vietnam to higher-end estimates that encompass additional expenses, such as medical care for veterans years after the wars ended. The large ranges in the estimated costs of U.S. military aid to front-line states are due to alternative approaches to calculating these costs: The larger estimates include assistance to states that were themselves suffering from internal conflict, while the lower estimates exclude conflict-affected neighboring states.

Table 5.1
Approximate Costs of Selected U.S. Interventions

Conflict	U.S. Operations or Activities	Estimated Maximum U.S. Ground Forces	Approximate Costs (2016 USD)	Estimated U.S. Casualties
Large-scale stability operations				
South Vietnam (government vs. Viet Cong, North Vietnamese Army)	Military Assistance Command, Vietnam (1962–1973)	600,000	\$790 billion	58,220
Iraq (post-invasion stabilization)	Operation Iraqi Freedom (2003–2010), Operation New Dawn (2010–2011)	171,000	\$828 billion–\$2.25 trillion	4,484
Afghanistan (government vs. Taliban, others)	Operation Enduring Freedom, Afghanistan (2001–2014), Operation Freedom’s Sentinel (2014–)	98,000	\$700 billion–\$2.19 trillion	2,370
Small-scale advisory and stability operations				
Philippines (government vs. Communist Party of the Philippines)	Advisory mission and materiel support (1972–1983)	1,200	\$2.5 billion+	83
El Salvador (government vs. Farabundo Martí National Liberation Front)	Advisory mission and materiel support (1981–1992)	800	\$6.66 billion	22
Colombia (government vs. Revolutionary Armed Forces of Colombia, National Liberation Army)	Plan Colombia (2000–2016)	900	\$10 billion	0
Philippines (government vs. Jemaah Islamiyah, Abu Sayyaf Group)	Operation Enduring Freedom, Philippines (2002–2014)	600	\$0.64 billion	17
Iraq and Syria (counter-ISIL)	Operation Inherent Resolve (2014–2016)	4,000+	\$8.7 billion+	22

Table 5.1—Continued

Conflict	U.S. Operations or Activities	Estimated Maximum U.S. Ground Forces	Approximate Costs (2016 USD)	Estimated U.S. Casualties
Safe havens and NFZs				
Iraq (northern Iraq)	Provide Comfort, Northern Watch (1991–2003)	10,000+	\$2.6 billion	15
Somalia (post– Siad Barre collapse)	Operation Restore Hope (1992–1993)	26,000	\$1.2 billion	13
Military assistance to front-line states				
Afghanistan (government, USSR vs. mujahideen)	Military aid to neighboring states (1980–1989)	N/A	\$3.7 billion	N/A
Vietnam (South Vietnam, U.S. vs. North Vietnam)	Military aid to neighboring states (1959–1973)	N/A	\$6 billion– \$13.7 billion	N/A
Nicaragua (Sandinistas vs. Contras)	Military aid to neighboring states (1981–1989)	N/A	\$0.4–\$1 billion	N/A
Bosnia	Military aid to neighboring states (1992–1996)	N/A	\$0.1 billion	N/A

Even recognizing that the costs in Table 5.1 represent only rough approximations, the disparities between the different types of intervention are so large that the overall picture is clear. Large-scale interventions, such as those in Iraq and Afghanistan, entail costs – both dollar costs and casualties – that are frequently two orders of magnitude (100 times) greater than those incurred in small-scale advisory and stability operations or the enforcement of safe areas or NFZs. The costs of these smaller-scale operations are themselves sometimes greater by another two orders of magnitude than are military assistance designed to prevent conflict spillover to front-line states (although these preventive costs vary widely from case to case, with some assistance efforts actually exceeding the costs of small-scale operations).

Taken row by row, even the sizable costs in Table 5.1 are likely misleading. When the United States places its resources and prestige at stake in a military intervention, it seldom is able to confine its actions to a single country for a finite span of time. Conflicts tend to diffuse over space and time, spilling into neighboring countries and recurring – sometimes multiple times – after the initial conflict ends, much like the aftershocks of an earthquake. Similarly, U.S. interventions into those conflicts also tend to involve repeated interventions in the same or nearby countries. These clustering effects can easily multiply the costs of the initial intervention.⁴

Concluding Thoughts on Intervention

The enormous costs of the wars in Iraq and Afghanistan and the United States' overall fiscal challenges have led some to argue that the United States should pursue limited interventions to achieve its security goals. The analysis presented in this report can help to arbitrate some of the debates in the foreign and defense policy communities about the utility of such interventions. Other aspects of these debates, however, depend critically on best guesses about future contingencies or a decisionmaker's risk tolerance or values. In this final section, we briefly recap these high-level debates and discuss the implications of our analysis.

One school of thought in these debates contends that military interventions are the wrong tool for the problem posed by civil wars, insurgencies, and similar conflicts. At their root, all of these are instances of political conflict; therefore, politics – not military force – is central to the resolution of these conflicts.

Although this school of thought rightly points to the importance of politics, it fails to recognize that, in cases of political violence, politics and violence become fused. In the vast majority of cases, there are

⁴ Jennifer Kavanagh, *Are U.S. Military Interventions Contagious over Time? Intervention Timing and Its Implications for Force Planning*, Santa Monica, Calif.: RAND Corporation, RR-192-A, 2013.

neither purely military nor purely political solutions but bargaining that is shaped by the realities of both the battlefield and the political landscape. The analysis in this report clearly demonstrates that foreign military force can influence the outcomes of such conflicts, and at least in some contexts, the effects of military interventions can be durable. While there are many valid reasons why the United States may choose not to intervene, we should not dismiss the potential of interventions to achieve important goals.

A second school of thought contends that large military interventions have a variety of counterproductive results, from arousing nationalist reactions to undermining effective governance in the partner country. For these observers, small-footprint operations are always superior.

Again, the analysis in this report suggests that such claims are wrong. Small-footprint interventions can indeed contribute to favorable outcomes in ongoing conflicts, and even if they cannot bring a war to an end or destroy a militant group outright, they can degrade U.S. adversaries or potentially mitigate the consequences of instability and violence. But their odds of achieving decisive outcomes are lower than in the case of large-scale interventions. Moreover, small-footprint operations can have their own negative consequences, such as the tendency of U.S. drone strikes to incite higher levels of militant activity in Yemen.

A third school of thought comes closest to reflecting our findings. Analysts in this camp advocate for thinking about military interventions in terms of return on investment.⁵ It may be that large-scale interventions can achieve more than small-scale ones. According to this school of thought, however, these gains come at a ruinous cost for the United States—in the case of Iraq and Afghanistan, costs that ran into the trillions of dollars. Consequently, the United States should address the generally lower-level threats posed by irregular warfare through small-scale interventions that keep costs in line with U.S. interests.

⁵ See, for instance, Metz, 2009; and Michael Hirsh, “How America Lost Its Nerve Abroad,” *The Atlantic*, June 11, 2013.

The research presented in this report shows that small numbers of boots on the ground, for instance, can improve the odds of more-favorable outcomes by a substantial margin. Although larger interventions, on average, yield even better odds, military interventions are subject to diminishing returns to scale, such that an additional 10,000 or 20,000 forces for an intervention that is already large typically “buy” the United States much less (in terms of improved probability of success) than the first few thousand.

Thinking about military interventions in terms of return on investment, however, prompts several crucial questions:

- When is the United States willing to lose? Under what conditions will U.S. decisionmakers be willing to make a calculated gamble on a small-scale intervention, have it fail, and simply walk away?
- Can we recognize ahead of time the contingencies in which the United States is likely to fail and simply avoid them?
- Under what conditions can the United States not afford to lose in such irregular conflicts?
- What does winning look like?

We conclude our report with a brief discussion of each of these points.

Return on Investment and Losing Strategically

Some analysts seek to build a comforting narrative around the disappointing outcomes in Iraq and Afghanistan. Where the United States went wrong, they contend, was not necessarily in intervening in these countries but in the scope of the United States’ ambitions. If the United States had not sought to instill liberal democracy in inhospitable environments, it could have secured its essential national interests at much lower costs.

In our research in this report, we define *success* according to a number of metrics: Can intervening states secure a victory or at least a negotiated settlement that is acceptable to the partner government? Once achieved, are these victories or peace deals durable? If intervening states do not seek a decisive end to a conflict, can they at least disrupt

and degrade their enemies at low cost? How durable are these disruption effects?

None of these measures of success involved spreading democracy, protecting women's rights, or any of the other goals that some critics contend were the United States' undoing in Iraq and Afghanistan. Yet even by these minimalist measures of success, limited interventions are not always effective. They can improve the odds of victory or a negotiated settlement in a civil war, but partner governments still lose despite small-scale foreign interventions in a substantial proportion of all cases. Air strikes can indeed disrupt and degrade militants in the right contexts, but even in these favorable environments, many if not all of the effects appear to be relatively short-lived, and the drone campaign in Yemen suggests that the effects can be counterproductive.

When the United States commits military resources even on a small scale, it commits some measure of its national prestige (and the personal prestige of the decisionmakers responsible for the intervention). Are U.S. decisionmakers routinely willing to make small-scale bets in difficult circumstances (such as Yemen, Somalia, or Mali) and then walk away if the costs get too high? In some cases, the United States has done so (such as the Reagan administration's pullout from Lebanon or the Clinton administration's withdrawal from Somalia). Doing so, however, is often a painful choice, which is why, in many cases, the United States instead chooses to escalate its involvement out of all proportion to the underlying interests at stake (as in Vietnam). The return-on-investment argument for limited interventions suggests that decisionmakers can generally achieve the correct balance between interests and commitments.

Where Losing Is Likely

If the United States intends to intervene with some regularity, as the return-on-investment argument implies, it is important to be able to discern, with a relatively high degree of fidelity, what cases are hopeless – at least at any price the United States is willing to pay.

History, however, suggests that recognizing the alleged losers is easier in theory than in practice. For some time, Yemen was hailed as a success story for the light-footprint approach. But then the government

forces that the United States trained quickly collapsed in the face of a rebel onslaught. Similarly, the U.S.-supported mission in Somalia has been cited as a successful case of working through partner governments to stabilize weak and conflict-affected states. But after a brief period of hope, the Transitional Federal Government in Somalia has proven unable (at least thus far) to capitalize on the space created by the African Union Mission in Somalia's military successes, and it is not clear that the United States will be able to find African partners willing to indefinitely sustain high casualties in Somalia.

The analysis in this report suggests that extremely weak states, such as Somalia and Yemen, are generally a losing proposition. Drone strikes in Yemen, for instance, appear to have been counterproductive – at least as measured by militant attacks and propaganda activity, although not necessarily in terms of capacity for organizing transnational terrorism. Our analysis found that military interventions in low-income countries are likely to be plagued by extremely high levels of war recurrence even if the initial conflict is brought to a successful end. Unfortunately, while direct interventions in such countries seem problematic, our analysis suggests that efforts to contain the violence in such countries by bolstering neighboring states' defenses also are unlikely to succeed, at least in aggregate.

There are, of course, exceptions. The British intervention in Sierra Leone helped to stabilize one of the poorest and weakest countries in the world, and it did so with a remarkably small number of British troops (operating in very uneasy partnership with a larger UN troop presence). But, overall, our analysis does not suggest much ground for optimism in such cases of ongoing conflict.⁶

Where the United States Cannot Afford to Lose

The return-on-investment argument assumes that military interventions are analogous to stock markets – if the expected return on investment in any particular case is too low, one should simply look for alternatives. But the market analogy is a very imperfect one for

⁶ Consensual peacekeeping operations where a peace deal has already been brokered are much more likely to achieve positive outcomes.

security matters. Are there cases where the United States could not afford to lose or to fail to act? Or, more precisely, are there cases in which the United States' interests are so vital that the expected returns to military action would justify large interventions, even with their declining returns to scale?

There are at least three cases in which larger-scale stability operations or counterinsurgency might be worth the costs involved:

- in the wake of conventional military operations (as has been necessary in instances ranging from World War II to Operation Desert Storm and OIF)
- in the event that a U.S. adversary sought to subvert critical U.S. partners or allies through irregular or unconventional warfare (as in the proxy wars of the Cold War era)
- in cases where adversaries in the target country have access to weapons of mass destruction that could credibly threaten the U.S. homeland (or key allies), the ability of the United States to deter these adversaries is in substantial doubt, and limited military operations (e.g., by SOF and technical specialists) would be insufficient to secure the materials.

At present, most observers see the contingencies described above as unlikely.⁷ Of course, major conventional operations are also unlikely; it has been more than 60 years since great powers have fought a direct war against one another.

This report does not engage in scenario development or exercises that might define the full set of potential cases that would meet these criteria. Instead, it focuses on a narrower objective: understanding the likelihood that the United States would achieve its objectives in irregular warfare environments *given* that it has chosen to intervene. The analysis described in the other chapters of this report helps to make clear the circumstances in which relying on limited interventions as the best return on investment breaks down.

⁷ See, for instance, Schulte, 2014.

What Winning Looks Like

Finally, as U.S. decisionmakers ponder the anticipated costs and benefits of future military interventions, it is important to consider what winning such an intervention looks like. For some observers, post-World War II Germany and Japan provided a vision of the end state the United States should seek to achieve through interventions. If the experience of Vietnam had not already banished that vision, the wars in Iraq and Afghanistan almost certainly have. Where countries are highly economically developed – with long histories of statehood, well-functioning state institutions, and relatively homogeneous populations – and in cases where U.S. intervention is embraced by much of the population, perhaps such outcomes might be feasible in the future. But for the large majority of conceivable irregular warfare contingencies, Iraq is almost certainly a better guide.

The situation in Iraq remains highly fluid, and it is impossible to say at this point what the ultimate outcome of U.S. interventions there will be. It is nonetheless instructive to compare ongoing U.S. military operations (OIR) with OIF.

Many observers took the rise of ISIL in Iraq as a clear indication of the failure of U.S. policies in the country. At one level, this is doubtless correct: The United States sought to leave behind an Iraq that would be stable, would meet at least minimal thresholds of good governance, and would remain a partner of the United States. ISIL's success in Sunni regions of Iraq highlights the continued absence of inclusive governance in that country. On the other hand, the government of Iraq, with foreign support, has rolled back most of ISIL's territorial gains. It has done so with the commitment of a little over 4,000 U.S. military personnel on the ground, as well as large-scale air strikes.

In 2006–2007 – before U.S. counterinsurgency operations, insurgent missteps, the “awakening” of Sunni tribes, and other factors helped to turn the course of the war – few observers would have imagined that levels of violence would fall as they did between 2008 and 2011. Nor would they have believed that a U.S. force of only 4,000 personnel could have helped to turn the tide in a renewed war. Such an outcome was hardly inevitable; Iraq today could have looked much

like Syria, Yemen, and Libya, without a functioning government and without any clear path to at least minimal levels of stability.

Our analysis suggests that this is what winning may look like in many, if not most, cases where the United States is likely to intervene. Poor governance and war recurrence — particularly in less developed countries — are endemic problems. Military interventions by themselves cannot decisively change the dynamics that give rise to repeated bouts of instability and violence. They can, however, create sufficient levels of stability to provide an opening for gradual improvements in government effectiveness, political inclusion, and economic activity. In such cases, U.S. commitments will likely have to be long term to be effective, and renewed bouts of conflict are likely. In the most difficult cases, large commitments of forces may be necessary to achieve even such a qualified success. Where critical U.S. interests are at stake, even highly qualified success may be worth the costs. Such cases, however, are likely to be extremely rare.

Models for Limited Stabilization

Data, Summary Statistics, Research Design

This appendix is meant to accompany Chapter Two. The appendix provides more detail relevant to the results and models discussed in that chapter. It also includes several additional models not specifically referenced in Chapter Two. In this appendix, we estimate the various effects that interventions on behalf of governments fighting civil wars have on the four primary dependent variables of interest discussed in Chapter Two. These include conflict outcomes, conflict intensities, conflict duration, and conflict recurrence. We also use several statistical methods, including survival modeling, logistic and fixed-effects panel regressions, and propensity-scoring models.

The universe of relevant cases for our study consists of all countries since World War II that have fought or are currently fighting civil wars. Not every war in this data set experienced an intervention on behalf of the government, which raises the issue of selection effects. States may be more likely to intervene on behalf of other states fighting insurgencies when the risk of regime collapse is most dire — i.e., when rebels are strongest and the governments they fight are most vulnerable. We address this selection concern by employing an inverse propensity-weighting estimator (described below) for our models that examine conflict outcomes.

Our information on conflicts comes from the UCDP-PRIO ACD.¹ The ACD is a conflict-year data set with information on armed

¹ Gleditsch et al., 2002; Allansson, Melander, and Themnér, 2017.

conflict where at least one party is the government of a state in the period 1946–2014. UCDP defines *conflict* as “a contested incompatibility that concerns government and/or territory where the use of armed force between two parties, of which at least one is the government of a state, results in at least 25 battle-related deaths.”² For the purpose of our investigation, we excluded any conflict that did not eventually reach a cumulative battle-related death threshold of 1,000. This criterion eliminates those observations of lesser severity and is more in line with traditional typologies of war that aim to distinguish it from other types of violence. We also selected this data set for the basis of our empirical analysis – as opposed to other data sets aimed more specifically at counterinsurgency – for several reasons.³ This data set continues to grow in popularity and use within the academic community, making the replication, modification, and extension of findings easier. The ACD is also updated and revised annually by the Department of Peace Conflict Research at Uppsala University, making it generally the most up-to-date data set on conflict.

All observations in the ACD are based on a 25-battle-death criterion and presented in conflict-year form. This setup is appropriate for our models estimating levels of violence. However, for several of our models, we converted the conflict-year information into war episodes spanning multiple years, according to the start and end dates of each episode. For the purposes of identifying the beginning of each episode, we utilized the precise date given for start dates (i.e., *startdate2*) in the ACD data set. When the episode ended (according to the *epend* variable and associated date) its duration (in days) was computed by taking the difference between the start date (*startdate2*) and the end date (*epend*) given. This identification criterion yields 250 conflict episodes from 1946 to 2014, 29 of which were ongoing as of December

² Peter Wallensteen and Margareta Sollenberg, “Armed Conflict 1989–2000,” *Journal of Peace Research*, Vol. 38, No. 5, 2001.

³ See, for example, Jason Lyall and Isaiah Wilson III, “Rage Against the Machines: Explaining Outcomes in Counterinsurgency Wars,” *International Organization*, Vol. 63, 2009.

31, 2014. The average duration of conflict in the data set is just under six years.⁴

This identification technique also permits us to determine whether the conflict recurred and the number of days between episodes that do recur. All nonrecurring conflicts in the ACD data are right-censored as of December 31, 2014. Roughly 49 percent of the conflicts in the data set experience a conflict relapse.⁵ And the average time between episodes of war recurrence is just over two years, suggesting that most conflicts that backslide into violence after they end do so in a relatively short time.

We code conflict outcomes in the ACD data set according to the UCDP Conflict Termination Dataset, with appropriate updates for conflicts that have ended since 2009.⁶ The outcome variables in this data set include five categories: government victory, rebel victory, peace agreements, ceasefires and truces, and low activity. We combine the peace agreements and ceasefire outcomes into a single category of *agreement*.⁷ The low-activity outcome indicates that the episode did not attain the threshold of 25 battle deaths and, unless otherwise noted, serves as the omitted category when this variable is employed as a control.

Our data reflecting conflict intensity come from the MEPV data set.⁸ This data source includes information on episodes of *major political violence*, defined as “the systematic and sustained use of lethal violence by organized groups that result in at least 500 directly-related deaths over the course of the episode.”⁹ Conflict episodes are scored according to an 11-point scale of increasing severity. A score of 10 corresponds to episodes of “extermination and annihilation” (e.g., the Holocaust), while a score of 1 represents episodes of “sporadic or expressive political

⁴ This calculation includes ongoing conflicts.

⁵ This calculation excludes ongoing conflicts.

⁶ On the Conflict Termination Dataset, see Kreutz, 2010.

⁷ This approach is similar to Cunningham, Gleditsch, and Salehyan, 2009.

⁸ Marshall, 2016.

⁹ Marshall, 2016.

violence" (e.g., unrest in the United States from 1965 to 1968).¹⁰ And 0 corresponds to the absence of political violence. The measure from the MEPV data set included in our analysis is the sum of the magnitude of all episodes of civil political violence for each country-year observation (abbreviated CIVTOT in the data set). *Civil political violence* is defined to include civil violence, civil warfare, ethnic violence, and ethnic warfare.¹¹

Independent Variables

We define an *intervention* on behalf of a government as explicit military support in the form of troops committed to combat in the conflict. This excludes cases where governments offer military equipment, hardware, or financial support to other states fighting civil wars. It also does not include advise and assist missions, because these troops do not generally assume combat roles within the conflict. As a threshold, each foreign intervention must consist of at least 100 troops at some point during the conflict episode. This eliminates as interventions the deployment of smaller numbers of special forces into war zones, and it also does not consider covert operations.

For the country-year analysis, we are able to match up specific numbers to troops deployed to a given country during that specific year. This allows us to capture variation in the troop levels within the

¹⁰ These illustrative examples are taken from Egel et al., 2016, which employs the same MEPV data set.

¹¹ This description is from Egel et al., 2016, which employs the same measure. Robustness checks (not shown in this appendix) also employ the component variables to the CIVTOT measure, including

- INTVIOL: magnitude score of episode(s) of international violence involving that state in that year, with a scale from 1 (lowest) to 10 (highest) for each MEPV
- INTWAR: magnitude score of episode(s) of international warfare involving that state in that year, with a scale from 1 (lowest) to 10 (highest) for each MEPV
- CIVVIOL: magnitude score of episode(s) of civil violence involving that state in that year, with a scale from 1 (lowest) to 10 (highest) for each MEPV
- CIVWAR: magnitude score of episode(s) of civil warfare involving that state in that year, with a scale of 1 (lowest) to 10 (highest) for each MEPV.

conflict. It is important to note that, at times, the data sources may conflict with respect to the precise levels of troops involved in a conflict. These differences are often small and do not fluctuate greatly; however, sometimes they are more sizable and varied by year. In such cases, we use our best judgment or seek out a third source, which is not always available. In any case, we are confident that, while imperfect, the data collected reflect the best estimates of troop levels by year.

For the models employing episodic data, we use the maximum numbers of troops that were deployed on behalf of the government at any time during the conflict. Setting force-size variables to their maximum-observed values is consistent with other studies on the effects of intervention and reflects the fullest commitment to the host government.¹² We construct three primary explanatory variables of interest. The first is a binary indicator for *intervention* by an external state in support of a government fighting a civil war, as defined above. A second variable, *troop levels*, includes the numbers of troops deployed in a given conflict year. Finally, *max-troops* reflects the maximum number of troops deployed for an entire conflict episode. To construct these measures, we build on existing data sets of intervention and supplement them with information from various open sources, such as the *New York Times* and BBC.¹³

At times, we also distinguish among U.S. interventions, UK interventions, French interventions, and those instigated by other countries. Figure 2.1 depicts the varying degrees of intervention size according to the intervening nation. Of interest, only eight interventions (including OIF, OEF-A, and Vietnam) in the past 70 years involved greater than 50,000 foreign forces at the height of intervention. Most interventions

¹² See, for example, Friedman, 2011.

¹³ All sources are provided within the data set. The primary existing data sets used were from Watts, Baxter, et al., 2012; and the RAND U.S. Ground Intervention Dataset (see Jennifer Kavanagh, Bryan Frederick, Matthew Povlock, Stacie L. Pettyjohn, Angela O'Mahony, Stephen Watts, Nathan Chandler, John Speed Meyers, and Eugeniu Han, *The Past, Present, and Future of U.S. Ground Interventions: Identifying Trends, Characteristics, and Signposts*, Santa Monica, Calif.: RAND Corporation, RR-1831-1, 2017). Primary sources of information for U.S. and UK interventions include government and nongovernment sources. All data used in this analysis are available on request from the authors. The data set and code books include more-detailed information on sources.

in the data set are relatively modest by U.S. standards. In fact, roughly 75 percent are fewer than 25,000 troops.

Figure 2.2 recalibrates the size of the interventions by force to population levels. Only two interventions involved the force-to-population ratios of 20:k (counting only foreign intervening forces) specified in U.S. military doctrine. As is evident in the graphic, most of the interventions are smaller in scale than the level recommended for Western-style counterinsurgency. This trend is especially pronounced for intervening countries other than the United States, the UK, and France.

Table A.1 breaks down the various conflict outcomes depending on the presence or absence of a foreign intervention. At first blush, interventions appear to make settlements more likely. The table also reveals that rebel victories appear relatively uncommon in the presence of a foreign intervener — occurring less than 10 percent of the time an intervention on behalf of the government takes place. This also accounts for only a quarter of all rebel successes. Interventions may be as important, if not more, for preventing government losses as for ensuring their success, which looks to be a more difficult proposition.

In a similar vein, Table A.2 cross-tabulates war recurrence with the intervention indicator. Of the 221 conflicts that are not actively ongoing, 181 did not experience an intervention. For this subset, 49 percent of these conflicts recurred. By contrast, for those conflicts that did include an intervention, 58 percent of them recurred. While this difference is certainly suggestive, it is by no means sufficient to draw any real conclusions. Our empirical models below will provide a more rigorous test of the relationship between intervention and recur-

Table A.1
Conflict Outcomes and Foreign Intervention

Intervention	Agreement	Government Victory	Rebel Victory	Low Activity	Ongoing	Total
No	46	32	18	82	18	196
Yes	22	10	4	7	11	54
Total	68	42	22	89	29	250

Table A.2
Conflict Recurrence and Foreign Intervention

Foreign Intervention	Conflict Recurrence		
	No	Yes	Total
No	92	89	181
Yes	17	23	40
Total	109	112	221

NOTE: This table does not include ongoing conflicts.

rence, along with tests on conflict outcomes, levels of violence, and war duration.

Control Variables

Insurgent strength is a major factor in determining a government's need for assistance from outside parties. Pro-government interventions make victory more likely, but usually only when rebels are as strong or stronger than the government.¹⁴ We account for this important characteristic with a five-point indicator of the fighting capacity of rebels from the nonstate actor data set.¹⁵ The covariate for rebel strength is an ordinal measure of military strength relative to the government (1 = much weaker, 2 = weaker, 3 = parity; 4 = stronger, and 5 = much stronger). Importantly, this measure offers a relative comparison between the governments and the rebels they face.

Pro-government interventions are often countered with assistance to rebelling forces from third parties. Both pro-government and pro-insurgent interventions can be decisive and thereby shorten wars.¹⁶ It is therefore paramount to account for rebel support. Countervailing interventions on behalf of both the government and insurgents may

¹⁴ Sullivan and Karreth, 2014.

¹⁵ Cunningham, Gleditsch, and Salehyan, 2013.

¹⁶ Work also indicates that neutral interventions may lengthen conflicts. See Regan, 2002.

work against one another.¹⁷ We include a separate indicator reflecting several forms of backing on the insurgent side. This includes military assistance, such as equipment, finance, and troops on the ground. This assistance may also take the form of offering rebel sanctuaries in neighboring countries. The binary indicator for rebel support is included to account for this pro-insurgent dynamic from other states.¹⁸

Third-party monitoring enforcement is also a key factor in shaping conflict processes. Much scholarship argues that wars should be less likely to recur when third-party forces are present. Such forces may help with enforcement mechanisms that preserve peace.¹⁹ We therefore include a covariate reflecting the presence of peacekeeping operations during the conflict.

Political institutions, such as democracy and the rule of law, are also important contributors and often mitigating factors to conflict dynamics.²⁰ While data availability for wars dating many decades back is sometimes limited, we employ several controls that reflect various levels of political and economic development. This includes GDP per capita and an ordinal Polity2 indicator (ranging from -10 to 10). We also address this issue by incorporating a host of social inclusion proxies for each country. This includes the percentage of ethnic fractionalization, which measures the proportion of a population deemed to be politically excluded. And we also account for the population size of the country at war.²¹ Again, we take the natural log of the variable to correct for skew.

¹⁷ Balch-Lindsay and Enterline, 2000.

¹⁸ The source for this indicator is the Non-State Actor data set, detailed in Cunningham, Gleditsch, and Salehyan, 2013.

¹⁹ Walter, 1997; Mukherjee, 2006a; Doyle and Sambanis, 2000; Fortna, 2008; Kreutz, 2010.

²⁰ Walter, 2014; Hartzell, Hoddie, and Rothchild, 2001; Hartzell and Hoddie, 2003. See also Monica Duffy Toft, *Securing the Peace: The Durable Settlement of Civil Wars*, Princeton, N.J.: Princeton University Press, 2010; Kreutz, 2010; and Roy Licklider, "The Consequences of Negotiated Settlements in Civil Wars, 1945–1993," *American Political Science Review*, Vol. 89, September 1995, pp. 681–690.

²¹ Our GDP indicators come from the World Bank's World Development Indicators database. We employ the Polity2 variable, which converts "standardized authority codes"

Some have argued that the motivation for a state to intervene in a civil war is a function of the resources potentially available within the state afflicted by insurgency. To address this potentially confounding factor, we also control for a country's level of oil production and natural resource rents. The former is demarcated in the number of barrels of oil, and the latter is taken as a percentage of total GDP. Again, data limitations emerge for many of the older conflicts. But we also include these variables in many of our robustness checks.

Insurgent motivation also remains central to our research questions. Do rebelling forces aim to take over the central government, or do they seek other goals, such as increased autonomy or the complete independence of a separate region? While many civil wars have characteristics of both types of war aims, scholars still make the distinction between *center-seeking* conflicts and *periphery* wars. We account for these admittedly crude differences in the war aims of insurgents with a variable for war type. It distinguishes the conflicts by those fought over autonomy or separatist purposes from those targeted specifically at control of the government. The variable also permits that some conflicts are fought over both (1 = territory, 2 = government, 3 = both). This covariate is taken from the incompatibility variable in the ACD.²²

Table A.3 includes the summary statistics for the control variables.

Controlling for Selection Effects

Prior research and intuition both suggest that interventions, especially large interventions, typically occur in the hard cases. These episodes tend to be conflicts where governments are weakest and insurgents

into conventional polity scores. For detailed information, see Marshall, Gurr, and Jaggers, 2016. For measures of social exclusion, we use the Ethnic Power Relationship data set from Wimmer, Cederman, and Min, 2009. This data set also includes information on oil production per capita (in barrels). We at times also include an indicator of ethnic fractionalization from Alesina et al., 2003.

²² Other studies employ an indicator for identity war to distinguish ethnic or religious wars from others (e.g., Doyle and Sambanis, 2000). All of these proxies are problematic and imperfect.

Table A.3
Summary Statistics

Variable	Observations	Mean	Standard Deviation	Minimum	Maximum
Peacekeeping operations	250	0.116	0.3208673	0	1
Ethnic fractionalization	220	0.5436112	0.2758082	0.0049751	0.9016318
Excluded population (%)	220	0.1391409	0.1832503	0	0.98
GDP (logged)	169	6.478656	1.231817	4.051304	10.52431
Population (logged)	250	16.92685	1.613188	13.36389	20.82616
Oil barrels (logged)	241	5.338557	5.875688	0	15.06651
War type	250	1.5	0.501003	1	2
Polity2	226	-1.300885	6.302571	-10	10
Resource rents (logged)	138	2.347424	1.063775	0.003545	4.25695
Cold War	250	0.584	0.4938823	0	1
Duration (logged)	250	6.187805	2.526958	0	9.812578

pose the most risk to regime stability, usually because they are strong or often because they are benefiting themselves from external assistance. It is only when the conditions of the conflict are most dire that intervention becomes necessary. This is typically when other options have failed. In this regard, interventions are, almost by definition, unnecessary when domestic governments are capable of dealing with rebel-factions themselves. The very need of intervention is itself a strong indication that the government executing the war is likely in a compromised position. This pattern would make interventions appear less successful than they may in fact be, complicating conclusions about force size and campaign effectiveness. This is an example of what is commonly called a *selection effect*.

To address this selection problem, we employ a two-stage modeling strategy. The first stage of the model estimates the likelihood of intervention based on several predictive factors – such as rebel strength, war type, rebel support, and other conflict and country characteristics. The aim of this first model is to determine what factors contribute to the likelihood of foreign intervention in the first place. Having accounted for or predicted where interventions are likely to transpire based on these factors, a second-stage model evaluates the effect of troop levels on a variety of outcome measures. To accomplish this, we employ a modeling technique known as *propensity score estimation*.

Propensity modeling is one of several methods developed to address modes of estimating treatment effects under various sets of assumptions. The propensity score is the probability of treatment – in this case, intervention – conditional on some set of observed covariates.²³ Because ours is what is known as an *observational study* (as opposed to a randomized study), the true propensity score is unknown. Alternatively stated, the goal of the first-stage model is to determine the likelihood that a civil war in any given country will provoke an intervention on behalf of the government. We are unable to know the true answer to this inquiry. But we are able to estimate an answer – i.e., a propensity score – using the data. This technique takes advantage of the control observations – i.e., those not receiving the treatment effect. This process constitutes the first stage of our two-stage estimation.

Effectively, this approach begins by estimating a logistic model where our treatment variable (intervention) is regressed on the observed baseline-conflict characteristics. In our case, this includes the strength of the rebel groups, external support to rebel groups, presence of peacekeepers, the war type, a Cold War indicator, population size, and the amount of oil produced annually. The first two variables help capture the relative threat of some rebel opposition to a partner government. A country may choose to intervene if the government faces an especially strong insurgency or if this opposition enjoys support from external

²³ The propensity-scoring method was developed by Rosenbaum and Ruben. See P. Rosenbaum and D. Rubin, “The Central Role of the Propensity Score in Observational Studies for Causal Effects,” *Biometrika*, Vol. 70, 1983.

actors. Intervention may also be more likely when peacekeepers are present, since these forces may need protection if the conflict escalates. The war type (e.g., periphery or center-seeking) should also figure into this calculus of whether to intervene. However, it is not clear *ex ante* what type of conflict should provoke intervention, and this calculus may play out differently across contexts. We also include an indicator variable for the Cold War, which helps capture the varying strategic logic of intervention over time. As in many countries, U.S. policy on intervention has evolved and has been driven by distinct dynamics (e.g., humanitarian considerations, counterterrorism) since the end of the Cold War. Finally, we include variables for a country's population size and oil production. While these factors might not directly drive intervention choices, they certainly influence the relative costs and potential challenges concomitant with intervention.

With the results of this regression, we are able to estimate the propensity score—the predicted probability of intervention obtained from the fitted regression model. This process is the first stage of our two-stage process and is helpful for eliminating bias. In the second stage, we exploit information derived from the logistic regression to weight observations by the reciprocal of the propensity score—the probability of receiving the treatment. This technique helps balance the treated and untreated observations in our data.²⁴ Adjusting the observations in this manner offers a relatively straightforward way to get at the selection problem likely biasing the data on pro-government interventions.²⁵

²⁴ For more on this and other propensity estimation techniques, see G. Imbens, "Nonparametric Estimation of Average Treatment Effects Under Exogeneity: A Survey," *Review of Economics and Statistics*, Vol. 86, 2004.

²⁵ In addition to inverse propensity weighted (IPW) regression, we also used propensity score matching. We implemented this analysis using the Stata package *psmatch2*. We opted to use propensity score matching instead of other methods (e.g., exact matching) because many of our first-stage covariates are continuous measures. This matching approach is similar to IPW and begins with the same first-stage propensity model. We then use these propensity scores to create a 1-to-k matched sample of treated cases (i.e., conflicts that precipitated interventions) and control cases (i.e., conflicts that did not precipitate interventions). This approach generates a subsample of 87 cases for the conflict outcome models (see Table A.5) and between 87 and 104 cases for the hazard models (see Tables A.7 and A.8), depending on specification. We then regress the outcome measures on the second-stage covariates for

Results: Outcomes

Are incumbent governments fighting insurgencies more likely to win or avoid losses when third parties intervene on their behalf? Does the answer to this question depend on the size of the intervening forces? These are the primary questions we address in this section. As discussed, our primary method for addressing these issues is a two-stage modeling process that employs two logistic regressions. We use this approach to correct for selection effects through propensity estimation. The data set includes 250 observations, 29 of which are ongoing and not included in the analysis on conflict outcomes. A few additional cases drop out because of missing data. All told, we have 241 cases in the first-stage model and 212 in the second stage for conflict outcomes. We subsequently use these same propensity scores in the estimation of conflict duration and recurrence. The number of observations in these later tests varies depending on the controls and model specification.

We first address the issue of what factors encourage pro-government intervention during civil wars. Table A.4 presents four logistic models to examine the likelihood of pro-government *intervention* during civil war. Model 1 estimates this relationship using *all* interventions as the dependent variable. Model 2 examines only those by the United States, the UK, and France. Model 3 considers interventions by countries *other* than the United States, UK, and France. And model 4 probes U.S. interventions only.

For the second-stage regressions, we only use the propensity scores estimated in model 1. Given the small number of interventions in our sample (56 total, with 22 of them by the United States alone), it is difficult to tease out major differences across interveners. And what differ-

the matched data set. For Table A.5, on conflict outcomes, the results are qualitatively the same whether we use IPW or matching. Across all models, matching increases the magnitude and improves the significance of the coefficient on troops. Despite this improvement, only model 6 remains statistically significant. We perform a similar analysis for Tables A.7 and A.8. These results also do not meaningfully vary in either statistical or substantive significance. Although some coefficients marginally change, they typically remain significant for our variables of interest. Minor differences across model specifications and approaches are not terribly surprising given the major sample reduction and corresponding effect on statistical power.

Table A.4
Logistic Models of Pro-Government Intervention

Variable	Model 1: All Interventions	Model 2: U.S., UK, French	Model 3: Other Countries	Model 4: U.S. Only
Rebel strength	0.532* (0.281)	0.284 (0.299)	0.149 (0.354)	0.244 (0.328)
Rebel support	0.565 (0.429)	0.659 (0.510)	0.387 (0.603)	0.364 (0.532)
Cold War	0.337 (0.426)	0.0933 (0.485)	0.666 (0.602)	-0.232 (0.512)
Population (logged)	0.399** (0.180)	0.412** (0.206)	0.0678 (0.260)	0.445** (0.219)
Peacekeeping operations	2.267*** (0.591)	0.239 (0.598)	2.124*** (0.599)	-0.482 (0.749)
War type	2.300*** (0.536)	2.340*** (0.698)	1.283* (0.716)	2.150*** (0.718)
Oil barrels (logged)	-0.164*** (0.0520)	-0.171*** (0.0646)	-0.103 (0.0711)	-0.186*** (0.0711)
Constant	-13.21*** (3.542)	-13.47*** (4.103)	-6.755 (4.825)	-13.33*** (4.332)
Observations	241	241	241	241
Log likelihood	-79.66	-67.18	-53.54	-59.04
Pseudo R-squared	0.366	0.205	0.295	0.172

NOTES: Robust standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

ences we do see may simply be the product of a small sample size. This explanation is especially likely given that we do not see any significant coefficients in the disaggregated models that are not also significant in the aggregated model. That said, comparing across intervening states nonetheless reveals several interesting (albeit suggestive) findings.

As evident in model 1, a potential driver of intervention is the strength of rebels committed to the insurgency. The stronger the insurgents are relative to the host governments, the more likely an intervention. This result offers suggestive evidence that selection may be a

concern. States do not intervene where they are not needed. This result, however, is not particularly robust. It does not hold up across models when we consider subsets of interventions. The model further suggests that civil wars with ongoing peacekeeping operations also tend to attract pro-government interventions. This result may support scholars who argue that peacekeepers are sent to the most-difficult conflicts.²⁶ We should note that the peacekeeping result is only found in models 1 and 3, which suggests that this relationship may be driven by intervening states that are not the United States, the UK, and France.

The indicator for war type in the models also suggests that interveners are less attracted to wars of succession and increased autonomy; they tend to intervene in wars for state control. This result is robust across all four specifications but appears to be especially strong for the United States, the UK, and France. Given the nature of the pro-government interventions, this result may not be terribly surprising. After all, a loss of territory for a country fighting against an insurgency does not represent the same existential threat to the regime – at least not at the level likely to precipitate a third-party intervention from an outside government.

We also find that the amount of oil produced by a country is strongly and *negatively* associated with the likelihood of intervention on behalf of the government. This finding speaks against the argument that a primary motivation for intervening states is oil or control of natural resources. Again, this result is strongest for the U.S., UK, and French interventions. Indeed, it does not hold for the other interveners; oil has no statistically significant impact on the intervention of other countries into civil wars. Finally, population size is positive and significant in models 1, 2, and 4 but insignificant for other interveners.

In sum, disaggregation of the interventions by the United States, the UK, and France from all other interventions alters the picture on intervention, but only slightly. One difference of note is that peacekeeping forces are strongly associated with interventions other than by

²⁶ See Fortna, 2008.

the United States, the UK, and France.²⁷ Also of interest, the United States, the UK, and France appear to be driving the aggregate result that interveners go to where governments are at risk of falling entirely, as opposed to losing bits of territory.

Examining the Second-Stage Models

We present the second-stage models below to examine estimated effects of troop levels on conflict outcomes. All of the inverse propensity scores utilized in the following models were derived from model 1 of Table A.4, which serves as the first-stage of our two-stage process.²⁸ For the second-stage model, we regress several explanatory factors on the following outcome variables: government victory, agreement, and rebel victory. Table A.5 includes three logistic models of conflict outcome. Robust standard errors are clustered on conflict identification. In model 5, the dependent variable is government victory; in model 6, the dependent variable is agreement; in model 7, the dependent variable is rebel victory.

The results from model 5 provide little evidence that more boots on the ground can have a positive and significant impact on government victory. The coefficient for maximum troops is positive but not statistically significant. Model 6 indicates that troops are positively correlated with attaining agreements in civil wars. Here, the coefficient is positive and statistically significant ($p = 0.016$). Finally, the results from model 7 indicate the number of troops intervening do not have a statistically significant effect on rebel victory. The estimated coefficient, however, is negative. In sum, intervening troop numbers have a strongly positive and statistically significant impact on the likelihood of reaching a negotiated settlement. The estimated effects of the control variables we included to capture the effects of local context are largely

²⁷ The United States, the UK, and France also tend to intervene where both Polity2 scores and ethnic fractionalization measures are higher (results not shown).

²⁸ This is the most appropriate candidate because it is the best fit of the models we estimated to predict pro-government intervention.

Table A.5
Logistic Models of Conflict Outcomes

Variable	Model 5: Government Victory	Model 6: Agreement	Model 7: Rebel Victory
Maximum troops (logged)	0.0504 (0.0708)	0.160** (0.0664)	-0.0923 (0.119)
Rebel strength	0.138 (0.298)	-0.389 (0.386)	1.821*** (0.633)
Rebel support	-0.00388 (0.543)	0.140 (0.616)	1.298 (0.830)
Cold War	1.043 (0.692)	-1.270** (0.563)	1.197 (0.792)
Peacekeeping operations	-1.648** (0.744)	1.681** (0.667)	-4.430** (1.860)
War type	0.593 (0.614)	-0.922 (0.593)	0.774 (0.788)
Constant	-3.560*** (1.165)	1.500 (1.277)	-8.792*** (2.318)
Observations	212	212	212
Log likelihood	-156.8	-199	-78.89
Pseudo R-squared	0.0735	0.156	0.316

NOTES: Observations weighted by propensity scores estimated in the first stage (i.e., Table A.4, model 1). Robust standard errors in parentheses. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

as expected in our models, although not all of them achieve statistical significance.

Figure 2.4 in Chapter Two illustrates this finding. The figure represents a model (not shown) that combines negotiated settlements and government victory as the dependent variable. As the figure reveals, increasing troop levels has a positive effect on securing one of these, if not good, then at least preferred, outcomes. Moving from no troops to 1,000 troops is associated with an increase from a 41 percent to a 69 percent chance that the conflict ends in either a government victory or negotiated agreement.

While this increase is certainly a sizable change in probability, it is not obvious whether additional increases provide a similarly significant jump in likelihood. After all, the figure suggests that the marginal effect of troops begins to decline, particularly as we move into the larger range of interventions. To evaluate this trend – and help ensure that these apparent diminishing returns are not an artifact of the logistic functional form – we estimate a series of models (results not shown but available on request) regressing the combined dependent variable (i.e., government victory or agreement) on the standard covariates listed above. However, rather than use the logged troops variable, we created a series of binary variables for different-sized footprints (e.g., no troops, up to 5,000 troops, greater than 5,000 troops). We estimate these models for five different cut points: five, ten, 20, and 50,000.

Figure A.1 plots the probability of government victory or agreement across these different thresholds.²⁹ Recall from Figure 2.4, the baseline probability that a conflict ends in government victory or agreement is around 41 percent. Clearly, troop deployment associates with an increase in this probability. And in all but one case (the 50,000 threshold), this increase appears to be greater for the dummy variable associated with a relatively larger deployment. That being said, the confidence bars around these predictions are fairly large, so much so that we cannot conclude that these larger deployments have a significantly bigger effect than the smaller deployments have. While larger deployments tend to have a bigger effect on the likelihood of government victory or agreement, this effect is not so drastic that we can be sure that it obtains in all cases or is cost-effective given the diminishing returns.

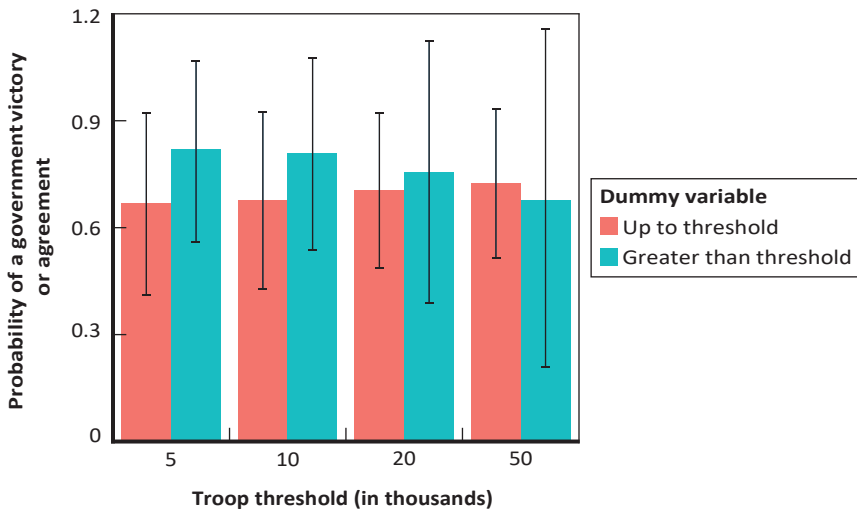
Results: Conflict Intensity and Foreign Interventions

Our method for determining the effect that external interventions have on levels of violence relies on a cross-country regression approach.³⁰ Such

²⁹ Each pair represents a different model that includes dummy variables for “up to X ” and “greater than X ,” where X is the troop threshold. In each of these models, the omitted category is “no troops.” For estimating the likelihood, we hold all other variables at their means.

³⁰ See Collier and Hoeffler, 2004, for more on this method in the study of conflict.

Figure A.1
Troop Effects Across Different Thresholds



SOURCE: Authors' calculations.

RAND RR2037-A.1

models are effective for examining how various socioeconomic, political, and geographic factors impact conflict processes. We specifically use country-level panel data but limit them to the years in which the conflicts are active. Excluding nonwar years from the panel data allows us to specifically examine the potential impact that interventions have on violence during war episodes. Including all country-years introduces too many temporal spans without treatment to conduct meaningful statistical tests. Our analysis also includes conflict-specific fixed effects with robust standard errors clustered on the conflict identifier.

The dependent variable in our analysis is the CIVTOT measure. As noted, this variable is the sum of the magnitude from all episodes of civil political violence by country-year observation.³¹

³¹ The categories of civil political violence are defined as follows:

- Category 10—Extermination and Annihilation
- Category 09—Total Warfare
- Category 08—Technological Warfare

The independent variable of interest in these models is the number of intervening troops each year in any given war. One variant of this variable aggregates all troops intervening in a given war year (*total troops*). A separate version of this variable aggregates all U.S., UK, and French troops on one side and similarly adds the troops from *other* intervening countries in a given conflict year.

Table A.6 includes the results from three fixed-effects models, estimating the intensity of violence using the MEPV measure of civil violence. Model 8 uses the *total* troop measure. Model 9 distinguishes between (1) U.S., UK, and French boots and (2) *other* interveners' boots. Finally, model 10 reproduces the previous model but lags the troop variables by one year. The results for the conflict intensity models suggest that, on average, more intervening troops are positively correlated with higher levels of political violence in a country during conflict. The effect, while statistically significant, is not overwhelming. The mean predicted value of the CIVTOT variable with the number of intervening troops set at 0 is 3.96; changing the (*total* troops) intervention level to its maximum value increases the mean predicted value of the CIVTOT measure to 5.48, an increase of just over 38 percent. A similar move in the troop number variable from 0 to its mean is associated with an increase to 4.16. These results are only slightly attenuated when we lag the troop variables by a single year, as is evident in model 10.

However, when we disaggregate the intervening troop variable between those troops from U.S., UK, and French interventions, on one side, and all *other* interventions on the other side (model 9), the results change. In fact, there is no statistically significant association between U.S., UK, and French troops and levels of violence. We find no system-

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- Category 07 – Pervasive Warfare
 - Category 06 – Extensive Warfare
 - Category 05 – Substantial and Prolonged Warfare
 - Category 04 – Serious Warfare
 - Category 03 – Serious Political Violence
 - Category 02 – Limited Political Violence
 - Category 01 – Sporadic or Expressive Political Violence.

The interested reader should consult the MEPV codebook for more-detailed information on these categories (Marshall, 2016).

Table A.6
Fixed-Effects Models of Levels of Violence (CIVTOT)

Variable	Model 8: Troops Aggregated	Model 9: Troops Disaggregated	Model 10: Troops Lagged 1 Year
U.S., UK, French troops (logged)		0.0358867 (0.0442204)	0.0310296 (0.0454665)
Other troops (logged)		0.1153493** (0.0515793)	0.1012222** (0.0513447)
Total troops (logged)	0.1146852** (0.0449822)		
Rebel support	0.9665386*** (0.364875)	0.9553196*** (0.3657568)	1.030916** (0.457014)
War years (time = t)	0.0299677 (0.0224131)	0.0302983 (0.0227876)	0.0231721 (0.02375)
Polity2	-0.0267462 (0.021574)	-0.0263628 (0.0220272)	-0.0247093 (0.0205986)
Cold War	-0.5379001** (0.2461944)	-0.5573079** (0.2502075)	-0.3856249 (0.2791832)
Oil barrels (logged)	-0.0245105 (0.0386943)	-0.0283149 (0.0391274)	-0.0505858 (0.0452995)
Population (logged)	0.9439398*** (0.1499471)	0.9409482*** (0.1516468)	0.8275495*** (0.1664749)
Excluded population (%)	1.348768*** (0.436444)	1.322131*** (0.4372637)	1.478412*** (0.4734382)
Constant	-13.33257*** (2.423933)	-13.19791*** (2.436588)	-11.17775*** (2.733696)
N	1,211	1,211	1,035
Prob. > chi-squared	0.0000	0.0000	0.000

NOTES: Robust standard errors in parentheses. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

atic evidence that the levels of troops committed by these three governments influence the conflict intensities in either direction. Disaggregating between these three countries produces similarly inconclusive

results.³² The same cannot be said for the *other* interventions. They are positively correlated with higher levels of political violence. This result suggests that other intervening countries are really driving the relationship between troop levels and increasing intensity of violence.

Other variables that are associated with higher aggregate levels of violence during conflict episodes include rebel support, the Cold War dummy, population size, and the level of the excluded population. External support to rebels is associated with higher levels of violence — unsurprisingly, so are higher proportions of politically excluded persons within a country. Larger populaces in general also are positively correlated with more political violence. By contrast, the Cold War is associated with lower levels of the CIVTOT measure. And higher Polity2 scores are also associated with less political violence; but this result is not statistically significant across all the models we estimated.

Results: War Duration and Foreign Interventions

Our analysis on interventions and war duration draws on strategy similar to what we employed for modeling conflict outcomes. We begin by estimating propensity scores using the same first-stage models reported in Table A.4. After creating propensity weights, we then estimate a series of Cox proportional hazard models.³³ Because our interest is on war duration, we define the “failure event” to be the variable for episode end for each war. As noted, when episodes end, they terminate in one of the four outcomes specified (government victory, rebel victory, agreement, and low activity). For these models, the time variable is the number of days between the start of the episode (startdate2) and the day specified as the end of the war. All observations that do not end are right-censored as of December 31, 2014.

Table A.7 shows the results of Cox proportional hazard models from the data. The models estimate the respective effects of each covari-

³² Limited data on UK troops prevented estimations for this country’s troop levels.

³³ Cunningham, 2010, employs the same technique to probe the effect of various types of interventions on war duration. For more on this technique, the interested reader should see Box-Steffensmeier and Jones, 2004.

Table A.7
Cox Proportional Hazard Models of Civil War Duration

Variable	Model 11	Model 12	Model 13	Model 14	Model 15
Maximum troops (logged)	0.879*** (0.0278)	0.922*** (0.0267)			
Any intervention			0.309*** (0.0867)	0.446*** (0.115)	
U.S. intervention					0.150*** (0.0397)
UK intervention					0.126 (0.181)
French intervention					1.563 (0.516)
Other interveners					0.812 (0.162)
Peacekeeping operations	1.039 (0.269)	0.822 (0.253)	1.111 (0.306)	0.818 (0.256)	0.701 (0.174)
Cold War	1.206 (0.292)	0.736 (0.172)	1.358 (0.361)	0.787 (0.185)	0.982 (0.189)
Rebel support	0.715* (0.137)	0.521*** (0.0894)	0.638** (0.125)	0.499*** (0.0826)	0.498*** (0.0884)
Rebel strength	1.172 (0.183)	0.963 (0.214)	1.106 (0.174)	0.905 (0.202)	1.034 (0.145)
War type	0.953 (0.234)	0.949 (0.231)	1.054 (0.270)	1.077 (0.271)	1.383* (0.270)
Population (logged)		0.779** (0.0820)		0.779** (0.0782)	
Polity2		0.939*** (0.0180)		0.944*** (0.0169)	
Excluded population (%)		0.209*** (0.0942)		0.215*** (0.0862)	
Oil barrels (logged)		1.014 (0.0244)		1.010 (0.0238)	
Observations	241	201	241	201	241

NOTES: Observations weighted by propensity scores estimated in the first stage (i.e., Table A.4, model 1). Robust standard errors in parentheses. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

ate on the “hazard” of war ending in a given period, provided that the war has not ended before that period. Time is measured in days. The table reports the hazard ratios and the robust standard errors, clustered by conflict episode, for each of the covariates. Hazard ratios should be interpreted relative to 1, where a hazard ratio of greater than 1 means that the *war ending* is more likely – and war episodes are therefore shorter. Alternatively stated, when hazard ratios are greater than 1, the estimated duration of conflict is shorter on account of the respective explanatory variable. By contrast, a hazard ratio of less than 1 suggests that *war ending* is less likely, or that the episode duration is longer.

The first two models of the table (models 11 and 12) use the logged (maximum) troop numbers associated with the intervention. The former includes only conflict-specific covariates; the latter adds to these country-specific controls. The remaining models in the table use the various intervention dummy variables. In general, both troop number and interventions are strongly associated with longer wars. As noted in Chapter Two, there is likely a selection issue at play here if states intervene in more-complex, and thus longer, wars. As before, we attempt to correct for this problem using propensity weights. Depending on the second-stage model specification, we find that interventions are associated with wars lasting some 50 to 60 percent longer than those not experiencing intervention.

Disaggregating the interventions according to intervener (model 15) also sheds light on duration dynamics. In general, a U.S. intervention increases the risk of war perpetuation, sometimes by as much as 75 percent. To the extent that a selection problem persists (i.e., the propensity weights do not fully capture the selection process), this estimate of U.S. presence on conflict duration may be inflated. The United States may be more likely to send troops to wars that have been going on for some time – as was the case in Vietnam – or that are marked by a myriad of complicating factors, suggesting they should be longer *ex ante* – such as Afghanistan. It is unclear by how much this effect is overstated, however; there are reasons to believe that foreign interventions, in general, prolong wars and that the United States, with its vastly larger resources and military capabilities, may fight on long after other foreign interveners would have withdrawn. Fully capturing

such resolve is especially difficult, and our first-stage propensity model may not be sufficient.

Also of interest, some of the other variables appear to meaningfully and substantially affect the duration of conflict outcomes. This includes the Polity2 covariate, which has a hazard ratio consistently around 0.94, indicating that increases to the regime indicator are likely to increase the length of wars roughly 5 percent — not a substantively huge impact but statistically significant across a series of models. And perhaps least surprisingly, wars where rebel or opposition groups receive some form of assistance from outside parties are also sufficiently longer than conflicts where support is not forthcoming. The average estimated impact is to increase the duration of war by some 40 to 45 percent. Finally, wars transpiring in countries with high populations of “excluded persons” also tend to last much longer.

Results: War Recurrence and Foreign Interventions

The analysis examining the relationship between interventions and war recurrence also does so via a series of Cox proportional hazard models, a generalized form of survival analysis. The event of interest, also known as the failure variable, is the recurrence of war after a prior episode has terminated in one of four outcomes — government victory, rebel victory, agreement, and low activity. The variable for time captures the specific duration of peace after each war. Specifically, it is the number of days between the termination of a conflict episode and (when appropriate) the start of another. As noted, all war episodes that do not start anew are right-censored as of December 31, 2014. We restrict recurrence episodes in the ACD to only those conflicts where there is a *sufficiency of linkage* between the two conflict episodes.³⁴ This essentially requires that at least some part of the anti-government combatants from the first episode also participate in the follow-on war.

³⁴ See Sean Zeigler, “Competitive Alliances and Civil War Recurrence,” *International Studies Quarterly*, Vol. 60, No. 1, 2016.

According to this approach, 112 of the 250 episodes in the data set recur.

Table A.8 shows the results of Cox proportional hazard models from the data. As before, these results represent the second-stage models that include propensity weights. The models estimate the respective effects of each covariate on the “hazard” of war recurrence in a given period, provided that peace has not failed up to that period. Time is measured in days. The table reports the hazard ratios and the robust standard errors, clustered by conflict episode, for each of the covariates. Hazard ratios should be interpreted relative to 1, where a hazard ratio of greater than 1 means that *peace failure* is more likely. Alternatively stated, when hazard ratios are greater than 1, the estimated duration of peace is shorter on account of the respective explanatory variable. By contrast, a hazard ratio of less than 1 suggests that *war recurrence* is less likely, or that the duration of peace is longer. Ongoing conflicts are excluded from the analysis.

Possibly the most important takeaway from our modeling efforts is that intervention is highly associated with the recurrence of conflict.³⁵ Collectively, all the interventions have an estimated impact of roughly doubling the risk of conflict relapse (hazard ratios range between 1.9 and 2.2)—although, interestingly, U.S. interventions do not appear to fit the overall trend in interventions and recurrence. This difference is evident in model 19, which disaggregates interveners by country. As before, we distinguish among U.S., UK, French, and other intervening countries. The estimated hazard ratio for U.S. interventions is 1.6 but is not statistically different from 1. Nor is the French hazard ratio significant. The UK coefficient is approximately 0 and is highly significant. This result is driven by the relatively few number of

³⁵ As the table reveals, the number observations changes fairly significantly across model specification. The most drastic change comes from including Polity2 and GDP in our regressions. Unfortunately, there are not sufficient data on some older conflicts in more-obscure areas. That being said, even though the *N* changes across models, our main results are robust: Interventions tend to increase the likelihood of recurrence. This result holds across all three models that include the aggregated intervention variable. Moreover, we do not lose any power when we disaggregate interventions in model 19.

Table A.8
Cox Proportional Hazard Models of Civil War Recurrence

Variable	Model 16	Model 17	Model 18	Model 19
Any intervention	2.208*** (0.582)	1.938** (0.587)	3.878*** (1.621)	
High GDP			0.868 (0.319)	
Intervention, high GDP			0.357*** (0.136)	
U.S. intervention				1.566 (0.451)
UK intervention				0*** (0)
French intervention				2.619 (1.871)
Other interveners				3.435*** (1.197)
Cold War	0.613* (0.161)	0.568* (0.179)	0.455** (0.153)	0.625* (0.175)
Peacekeeping operations	1.126 (0.453)	1.218 (0.532)	0.608 (0.348)	1.033 (0.440)
Rebel support	1.973*** (0.471)	1.942** (0.564)	2.317** (0.818)	2.072*** (0.522)
Rebel strength	1.024 (0.169)	1.021 (0.171)	0.822 (0.123)	1.024 (0.151)
War type	0.705 (0.172)	0.609* (0.166)	0.931 (0.382)	0.735 (0.158)
Government victory	0.166*** (0.0575)	0.157*** (0.0536)	0.151*** (0.0776)	0.132*** (0.0506)
Rebel victory	0.158** (0.115)	0.266** (0.165)	0.568 (0.304)	0.158*** (0.0995)
Agreement	0.292*** (0.0986)	0.222*** (0.0958)	0.302** (0.148)	0.220*** (0.0861)
Polity2		1.026 (0.0221)		

Table A.8—Continued

Variable	Model 16	Model 17	Model 18	Model 19
Excluded population (%)		1.289 (1.037)		
Oil barrels (logged)		0.957** (0.0192)		
Population (logged)			0.879 (0.116)	
Observations	212	188	143	212

NOTES: Observations weighted by propensity scores estimated in the first stage (i.e., Table A.4, model 1). Robust standard errors in parentheses. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

British interventions in the data set.³⁶ The hazard ratio for other interveners is appreciably large (3.4) and highly statistically significant. This result suggests that other intervening states are largely driving the main results in models 16 and 17. Stepping back, the insignificant results on U.S. interventions are somewhat noteworthy in light of the earlier results on conflict duration. That U.S. interventions are not strongly associated with repeated wars but are associated with longer conflicts may be related. While we do not probe this finding in greater detail in this study, it is a promising avenue for future research.

Of interest, our results also suggest that war recurrence has become more frequent since the end of the Cold War. On average, our models suggest that conflicts in the Cold War had a roughly 35 to 50 percent reduction in their risk of recurrence.³⁷ This relationship may, in part, be an artifact of our data, however. Because we do not have data on conflicts before 1945, it could be that many conflicts in the early Cold War were in fact instances of recurring conflict that are not coded as such because of the lack of data from the previous period.

³⁶ Whether we include or drop this covariate does not qualitatively change the results for other covariates.

³⁷ The estimated effect is usually statistically significant at around the level of $p = 0.05$ to 0.07 , depending on the model specification.

Also of interest is the effect that rebel assistance has on conflict regeneration. Rebel assistance tends to greatly increase the risk of war recurrence. This is not an unsurprising finding, because rebel assistance and sanctuary allow insurgents to not only sustain their efforts but to regroup even after a loss or a break in fighting. The estimated effect of stronger rebels is generally a reduction in the risk of war recurrence: The hazard ratios are consistently less than 1, but only seldom do they approach statistical significance. The same may be said for the presence of peacekeeping operations.

There is, however, strong evidence that interventions where host governments have higher institutional capacities fair far better than interventions in poorer countries. Model 18 includes the interaction of high GDP with the intervention indicator variable. The former is a dummy variable and equal to 1 if the variable for GDP per capita is equal to or greater than the sample mean. The independent effect of intervention remains a statistically significant increase (a hazard ratio of 3.9). But the war-promoting effect of this variable reverses when interacted with the GDP measure. The hazard ratio of the interaction term is estimated at 0.36 (a *p*-value of 0.001).

Limited Strike Statistical Models and Results

In this appendix, we provide additional details on the statistical method, data, and models that we used to conduct our analysis of the effect of drone strikes on militant violence and propaganda output. We begin with a discussion of our data sources and then provide information about our statistical method. We then present additional statistical results, including supplementary analyses and robustness checks, as well as full regression tables for the results presented both in this appendix and in the body of the report.

Data Sources

Independent Variables

As noted, the models for both militant violence and propaganda output presented in this report test three independent variables of interest: number of drone strikes, number of civilian casualties, and number of HVI removals. Data for these variables come from the New America Foundation.¹ This repository is based on open-source news reports from major international wire services (such as the Associated Press and Reuters), leading regional print and television media outlets (such as Dawn, *Express Times*, and Al Jazeera), and major Western news services (such as the BBC, CNN, *New York Times*, and *Washington Post*).²

¹ New America Foundation, undated-b.

² For a more detailed discussion of the New America Foundation's data collection methodology for its database, see New America Foundation, "Drone Wars Methodology," web page, undated-a.

For each publicly known UAV strike, the New America Foundation codes the location and date of the strike, the total number of individuals killed, the number of militants killed, the number of civilians killed, the number of “unknown” killed, the name of the targeted organization, and a description of the target (e.g., vehicle, compound). Fatality estimates are expressed in the form of a range, even if the exact number of deaths is known, such as “between five and eight killed” or “between four and four killed.” Additionally, the database maintains a list of known militant leaders, or HVIs, reportedly killed by drone strikes. This information appears to come from the same sources used to identify the drone attacks themselves (listed above).³ In conducting our statistical analysis for this report, we aggregated these data per district and month for Pakistan’s FATA and per province and month for Yemen.

While these data are generally considered to be some of the best on drone strikes, it is worth noting that there are certain limitations. The most significant limitation of the New America Foundation’s drone data is that — as with any data set built from public media reports — they cannot be compared with any official U.S. government or other classified data set (if such a data set exists). Another possible limitation of the drone data pertinent to our analysis is that the number of casualties inflicted is sometimes unclear, contentious, or reported differently across different sources. It is difficult for reporters to access many of the sites where strikes occur, so local reports are often used to code numbers and types of fatalities in the New America Foundation database. Finally, in the case of HVI removals, there continues to be debate about which militants qualify as high-value targets. In the case of civilian deaths, there is considerable uncertainty about the precise number of deaths from any one strike. We attempted to mitigate measurement error in these count variables by transforming them into binary variables on the assumption that, for example, civilian casualties occurring

³ However, it is not entirely clear whether or not other sources are consulted. New America Foundation does not provide information on the “threshold” above which an individual is classified as a “high value target.”

or not occurring in a given strike were more likely to be reported accurately than exact counts.

Dependent Variables

We had two key outcome variables: militant violence (as measured by attacks and lethality of attacks in Pakistan from 2004 to 2014 and in Yemen from 2011 to 2014) and propaganda statements by groups in Yemen (2007–2014) and Pakistan (2007–2014).

Data for the militant violence variables were collected from the Global Terrorism Database, which is maintained by the National Consortium for the Study of Terrorism and Responses to Terrorism (START) at the University of Maryland.⁴ This database currently contains coded information on more than 150,000 terrorist attacks committed globally from 1970 to 2015, rendering it one of the most comprehensive unclassified resources on terrorist attacks in the world. START collects its data from a vast variety of sources, including news media reports, group claims of attacks, existing data sets, books, journals, and legal documents. Each month, using automated filtering strategies, START initially isolates a set of approximately 400,000 relevant news articles and then further winnows this data haul to approximately 16,000 articles, which are manually reviewed by START researchers.⁵ As open-source information allows, each terrorist event identified is then coded across approximately 75 distinct variables.⁶ For the models

⁴ START, Global Terrorism Database, University of Maryland, undated.

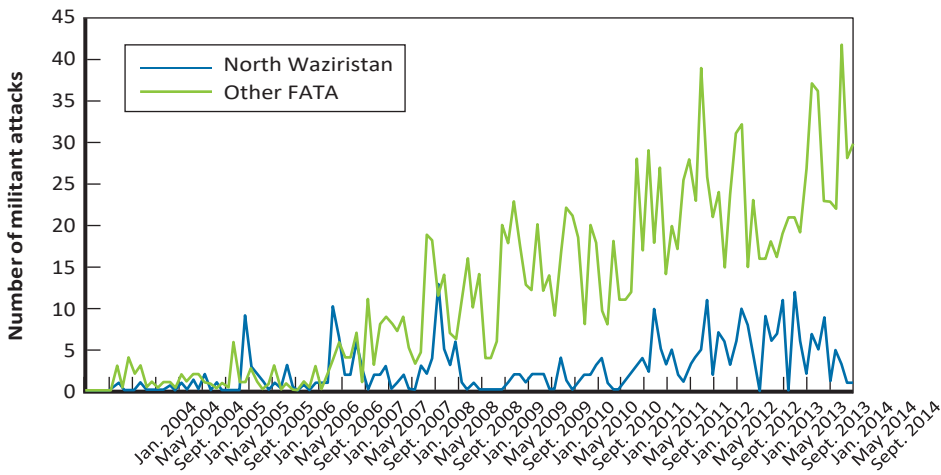
⁵ For a more detailed discussion of START's current data collection methodology, see the Global Terrorism Database's codebook (Global Terrorism Database, 2016).

⁶ The Global Terrorism Database data do have some limitations, but these limitations should not affect our analysis. In particular, there are some inconsistencies over time in the sources used to identify terrorist attacks, as well as some revisions to the definitions used to classify what is and is not terrorism. However, neither issue should have a significant effect on our analysis. First, changes in definitions of terrorism are most problematic for researchers doing long time-series analyses. Definitions have been more or less consistent, however, over the periods that we consider here. Second, although sources used in the Global Terrorism Database do change from year to year, these changes should affect all areas of Pakistan and all areas of Yemen equally. Because the most-important sources of variation are cross-district or cross-province within Pakistan and within Yemen, changes in sources used should not affect our results.

presented in this study, we examined the date and location of each event, as well as the fatalities inflicted for each attack. The number of terrorist attacks observed in Pakistan from 2004 to 2014 totaled 1,873, and the number observed in Yemen from 2011 to 2014 totaled 1,605. Figure B.1 and B.2 show the number of terrorist attacks by month in Pakistan and in Yemen, respectively. In Pakistan, we distinguish between attacks in North Waziristan, where the drone campaign was concentrated, and the rest of FATA.

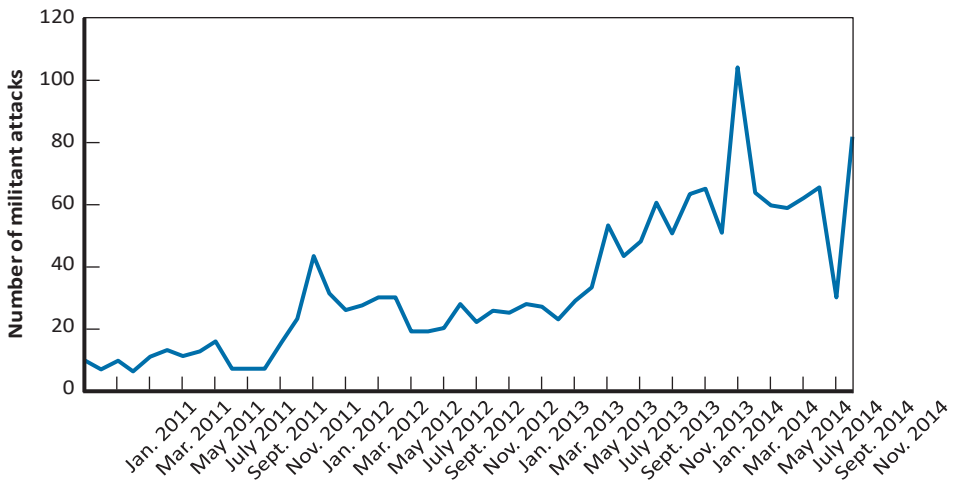
We operationalized our second outcome measure, propaganda output, by using the number of statements released by the six terrorist organizations that have been targeted by the U.S. drone campaigns in Pakistan and Yemen. We used three sources to collect data on statements published over the period 2007 to 2014 by militant groups: the SITE Intelligence Group’s Jihadist Threat Enterprise, Jane’s Terrorism and Insurgency Centre’s Events Database, and the AQSI hosted

Figure B.1
Number of Militant Attacks in North Waziristan and Other FATA, Pakistan, 2004–2014



SOURCES: Global Terrorism Database (START, Global Terrorism Database, and UNIVERSITY of Maryland, undated) and authors’ calculations.

Figure B.2
Number of Militant Attacks in Yemen, 2011–2014



SOURCES: Global Terrorism Database (START, Global Terrorism Database, and University of Maryland, undated) and authors' calculations.

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by Haverford College's Global Terrorism Research Project.⁷ While we observed considerable overlap in propaganda statements across the three data repositories, we also found that they complemented each other by drawing on different collection methodologies. For instance, the SITE Intelligence Group, which translates and analyzes communications issued by more than 200 extremist groups, chiefly monitors primary-source propaganda outlets, including groups' official media-wing websites, social media accounts, and prominent password-protected jihadist Internet forums. SITE's online database contains thousands of statements by terrorist organizations throughout the world, dating back to the early 2000s. By contrast, Jane's Terrorism and Insurgency Center, which maintains a database encompassing hundreds of thousands of terrorism-related events (including issuance of propaganda statements), culls the majority of its data from local and international

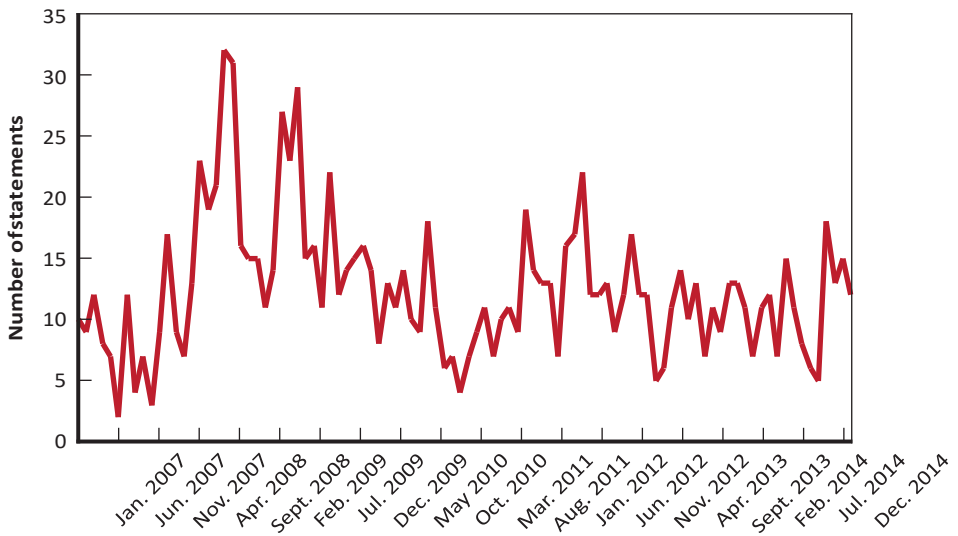
⁷ For additional information, see SITE Intelligence Group, undated; Jane's Terrorism and Insurgency Centre, undated; and Global Terrorism Research Project, undated.

news agencies, such as Al Jazeera, the BBC, Reuters, and the Associated Press. The AQSI, meanwhile, is an ongoing academic research project supported by the Political Science Department of Haverford College. It consists of more than 500 statements issued by the senior leadership of al Qaeda and its affiliates dating back to 1994. The AQSI draws on a range of sources, chief among them the Open Source Enterprise (formerly known as the Open Source Center), which is maintained and operated by the Office of the Director of National Intelligence.

To build the data set for this section of the report, we began by extracting from these sources statements issued by six terrorist organizations that have been targeted by the U.S. drone campaign in Pakistan and Yemen. For Pakistan, groups captured in the data included al Qaeda (core leadership), the Haqqani network, al Qaeda in the Indian Subcontinent, and Tehrik-i-Taliban Pakistan. For Yemen, we included al Qaeda in the Arabian Peninsula, as well as its offshoot, Ansar al-Sharia (in Yemen). After aggregating the statements across all three sources, we observed that SITE, Jane's, or the AQSI would often report the same statement. To eliminate duplicates, we sorted the data set by group, date, and source, carefully ensuring that statements appeared only once. In total, we yielded 1,198 distinct statements by groups in Pakistan and 564 distinct statements by groups in Yemen during the period 2007–2014. Figures B.3 and B.4 illustrate the month-to-month trends in the number of statements in each of our two cases.

Finally, we developed a typology to qualitatively assess propaganda content and coded each statement according to one of four categories. The first category included *ideological, religious, and strategic statements*, such as Quranic debates, calls for the implementation of Sharia law, announcements of new intergroup alliances, criticisms of U.S. or other governmental policies, and discussion of ceasefires and negotiations. The second category included *direct calls to jihad and threats of violence*, including promotion of martyrdom and suicide attacks, promises of revenge against U.S. and other government forces, messages of intimidation to civilian populations, and lone-wolf recruitment efforts. The third category included propaganda celebrating *past or ongoing external operations*, such as attack claims, kidnapping and beheading videos, hostage negotiations, periodic military situa-

Figure B.3
Number of Propaganda Statements in Pakistan, 2007–2014



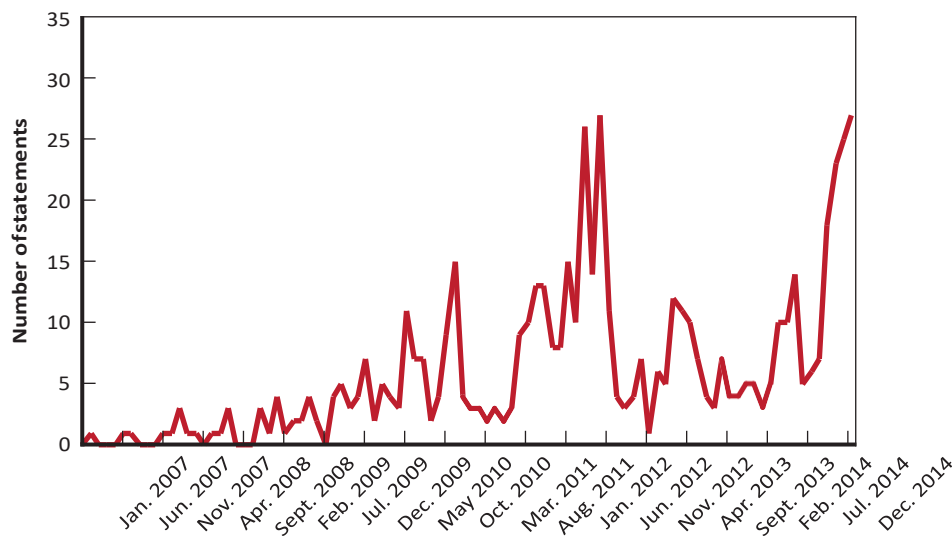
SOURCES: Jihadist Threat Enterprise (SITE Intelligence Group, undated), Events Database (Jane's Terrorism and Insurgency Centre, undated), the AQSI (Global Terrorism Research Project, undated), and authors' calculations.

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tional reports, claims of changes in territorial control, and announcements of troop movements. The final category included statements regarding the groups' *internal organization*, such as announcements about the creation of new bureaucratic structures and changes in leadership; proclamations about group infighting and splintering; confirmations or denials of killed or detained personnel; and publication of eulogies, biographies, and wills of slain fighters.

Statements were coded by a single coder with substantive experience working with these statements. Statements were coded using a combination of title, abstract, and full-text analyses. In some cases, the content was easily discernible from the title or short abstract—for example, cases when a group released a statement taking claim for an attack or acknowledging the death of a senior leader. In other cases, the titles or abstracts were not sufficient to render a judgment, so deeper

Figure B.4
Number of Propaganda Statements in Yemen, 2007–2014



SOURCES: Jihadist Threat Enterprise (SITE Intelligence Group, undated), Events Database (Jane’s Terrorism and Insurgency Centre, undated), the AQSI (Global Terrorism Research Project, undated), and authors’ calculations

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analysis was required. Each statement could be coded into only one of the four statement types. Each of the four statement types was defined so as to minimize bias or ambiguity about where each statement type fell. As a rule, we focused on the primary purpose of the statement when making coding decisions.

In total, we coded 631 statements as ideological statements, 441 as calls to jihad, 435 as external activity statements, and 256 as internal organization statements. We observed little variation in the types of statements released over time. However, the statements did reflect the situation on the ground. So, for instance, during periods when operational tempo increased, claims of attacks would generally move in step.

Statistical Method

The statistical models used for the analysis of militant violence and propaganda were nearly identical, with a few small exceptions. In both cases, we relied on negative binomial models, a specific type of regression used when the dependent variable of interest is a count variable (takes values 0, 1, 2, 3, etc.) that has many zeroes, as is the case in the data sets used for this analysis.⁸

For the models looking at the effect of drone strikes on militant violence, the two dependent variables were the number and the lethality of attacks (fatalities inflicted) per province and per month. Both variables were constructed from the START Global Terrorism Database data.

For the models assessing the effects of drones on propaganda, our dependent variable of interest is the number of statements per month in Yemen and Pakistan, respectively. We test three independent variables of interest: number of drone strikes, number of civilian casualties, and number of HVI removals. For the civilian casualty and HVI models, rather than using the count of leaders or civilians killed, we used 0/1 dichotomous variables that took a value of 1 for any province- or district-month that had a civilian or HVI fatality, respectively. This choice was made because of data-uncertainty considerations. In the case of HVIs, there is considerable disagreement about which militants are significant leaders. As a result, the count variable is likely to have measurement error. In the case of civilians, the count of civilians killed in any attack is notoriously unreliable. The yes/no variable helps reduce bias that might be introduced into our models by imprecise data.

Our empirical strategy is motivated by the fact that several quasi-random factors may affect the timing of drone strikes on a week-to-week basis. These include exogenous weather, bureaucratic, and technological factors. When combined, the factors suggest that the occurrence of any given drone strike has a quasi-random nature. Panel regressions can

⁸ Terrorist attacks, for example, are rare events, which explains why many months may have zero values for the dependent variable. For more on negative binomial models, see William H. Greene, *Econometric Analysis*, Upper Saddle River, N.J.: Prentice Hall, 2011.

account for fixed effects and therefore interpret estimates of the effects of the quasi-random “treatment” as causal. Weather, for instance, can affect the ability to identify key targets and may result in the delay or deferment of a planned mission. The scarcity of drones and the fact that not all drones are weaponized also contribute to the quasi-random nature of drone strikes. If operators of nonweaponized drones are able to identify key targets, they will still need to request support, by which point they might have lost the original targets. Finally, bureaucratic obstacles and scheduling may result in additional delays or cancellations of planned strikes. Key to our identification strategy is that the unit of analysis is relatively small, so we are able to isolate the effect of the drone strikes on attacks or statements.

We constructed two sets of models, one set for militant violence and one for propaganda. In constructing both sets of models, we explored a number of controls, including population, economic development, and level of urban development, all taken from PRIO-GRID data.⁹ These tended not to be statistically significant, so we excluded them from the final models.

One way that the two sets of models differed was their use of *fixed effects*. Fixed effects are one approach that can be used to account for changing conflict dynamics across areas and time unrelated to drone strikes. Fixed effects are helpful for isolating the causal effect of drone strikes (and, in different research contexts, other variables of interest) by controlling for location and time-invariant differences across regions and times in Pakistan and Yemen that might influence differences in militant activities independently of targeted strikes; this could be because of such factors as differences in geography, terrain, and culture. This statistical approach is especially valuable for the type of data sets used in the analysis of militant violence, which is conducted using province-months as the unit of analysis, because it is difficult to obtain

⁹ PRIO-GRID data include detailed data on socioeconomic variables, conflict, ethnic groups, physical attributes, and climate for quadratic grid cells that jointly cover all terrestrial areas of the globe.

up-to-date, reliable subnational data for the countries of interest.¹⁰ We, therefore, did include fixed effects in the models for militant violence.

For the models of propaganda, however, the use of fixed effects is somewhat more problematic. Because the analysis is conducted at the *country-month* level (rather than the province-month), there are only 96 total observations, already on the small side for a rigorous statistical analysis. Adding fixed effects, even at the year level, to any statistical model significantly increases the number of variables included in the regressions, which can affect the ability of the model to detect important systematic relationships between key variables, especially when the number of observations is already small.¹¹ Furthermore, in our models, the year fixed-effect controls were only sometimes statistically significant, suggesting that, at least in these models, there is little evidence that secular time trends unrelated to counterterrorist strikes are associated with groups' propaganda output. As a result, we chose to exclude the fixed-effect controls from the models of drone strikes' effects on propaganda. To partially address the lack of fixed effects in these models, we include a control that captures whether or not a military operation conducted by local security forces was occurring in the month of the strike, as this may also affect the number of statements. We also keep in mind the importance of the overall local context when interpreting and presenting our results.

The samples of data included in our analysis differ for the two sets of models. For the Pakistan case, our militant violence models cover the period 2004–2014 and focus on the effect of drone strikes in North Waziristan. Thus, changes in the number of attacks are changes in North Waziristan in comparison to areas without drone strikes, which includes the rest of FATA. The propaganda models consider 2007–2014 and the effect of drone strikes in North Waziristan on attacks by militant groups in Pakistan writ large. For the Yemen case, the analysis of militant activity covers 2011–2014 and considers the effects of drone strikes on violence in the same district of the strike, as compared with

¹⁰ By way of illustration, the last national census undertaken in Pakistan occurred in 1998, and the last census undertaken in Yemen occurred in 2004.

¹¹ See Greene, 2011, for a more complete treatment of this result.

other districts without strikes. The propaganda analysis in Yemen considers the effects of drone strikes on propaganda statements by militant groups at the country level. The decision to use these different periods reflects data limitations and modeling considerations. First, data on propaganda statements were not as readily available prior to 2007. Second, because this analysis used country-months as the unit of analysis, restricting the data set to 2011–2014 would have left us with only 48 observations, which would have significantly limited our confidence in statistical results associated with these models.

Overview of Supplementary Statistical Analyses

In the main body of the report, we consider the effect of a drone strike, HVI removal, or civilian casualty on the number of militant attacks or statements in two periods: the month of the strike and the following three months (months 0–3) and the fourth through sixth post-strike months. To further explore trends over time, we analyzed the effect of the drone strike by month, from month 0 (the month of the strike) to month 6 (the sixth post-strike month).¹² These models have considerably more “noise,” and the results show much more fluctuation in the direction and the significance of the trends, as is to be expected when analyses are performed on smaller numbers of observations.

In the main body of the report, we focused on the general trends. For readers interested in the more fine-grained results, we provide an overview of the month-by-month results in this appendix, including full regression results. In a supplementary appendix available online, we provide figures representing predicted change in militant violence or statements by month.¹³

Overall, the month-by-month results presented in this appendix are consistent with those presented in the main report. Furthermore,

¹² In other words, the model includes the dependent variable (statements or militant violence) in month t and then the number of drone strikes or drone-caused fatalities in month t and in months $t-1$ through $t-6$.

¹³ See https://www.rand.org/pubs/research_reports/RR2037.html.

the results seem to hold across statement types and for both militant attacks and fatalities. There are some small differences between the monthly analysis and the more aggregated results, but we attribute those largely to the greater fluctuations in data at the month level, as well as data uncertainty associated with HVI removal and civilian casualties. Table B.1 summarizes the general direction of the relationship between (1) drones, HVI removal, and civilian casualties and (2) militant violence or propaganda based on the additional analysis presented in this appendix.

Drone strikes appear to have a disruption effect in Pakistan but a potentially more problematic effect in Yemen, where they increase violence and either increase or have no effect on propaganda. As noted, we hypothesize that this is due to the more coordinated and intensive nature of the drone attack in Pakistan and the greater capacity of the Pakistani military as compared with Yemen. HVI removal similarly has a disruption effect on militant violence in Pakistan but a positive effect in Yemen. However, strikes aimed at HVIs have little effect on propaganda in Yemen and increase propaganda-statement production in the near term in Pakistan. However, this increase is limited in size and does not carry over to our statement-type analyses, suggesting that it may be less robust.

Table B.1
Summary of Month-to-Month Model Results

Outcome		Pakistan	Yemen
Drones	Violence		
	Propaganda		No effect
HVI removal	Violence		
	Propaganda		No effect
Civilian casualty	Violence		
	Propaganda	No effect	High uncertainty

NOTE: Green indicates reduction in violence or statements; red indicates increase in violence or statements.

These findings support the argument that limited strikes can be useful tools when used in the right ways and in the right contexts. Furthermore, most effects exist only in the near term, and most are on the small side. In other words, limited strikes may have temporary effects on militant violence and propaganda but are unlikely to be a long-term solution. Furthermore, our results suggest that the effect of limited strikes is much more significant when looking at militant violence than at propaganda.

Our results on civilian fatalities are somewhat more mixed. There is little evidence that civilian casualties lead to significant backlash, but they may cause some increase in violence in Yemen. The effect of civilian deaths on propaganda is even more uncertain, and we assume that these results are affected by data limitations.

Full Output of the Statistical Analyses

Tables B.2–B.13 (regression tables) cover all models presented in the main body of the report and this appendix.

Table B.2**Change in Militant Violence, Months 0–3 and Months 4–6, in Pakistan**

	Model 1: Number of Terrorist Attacks, Months 0–3	Model 2: Number of Terrorist Attacks, Months 4–6	Model 3: Number of Terrorist Attacks, Months 0–3	Model 4: Number of Terrorist Attacks, Months 4–6	Model 5: Number of Terrorist Attacks, Months 0–3	Model 6: Number of Terrorist Attacks, Months 4–6
Drone strikes, month $t = 0$	–0.135*** (0.0211)	–0.0963*** (0.0197)				
Leaders killed, month $t = 0$			–0.322** (0.127)	–0.267** (0.124)		
Civilian casualties, month $t = 0$					–0.208 (0.183)	0.0159 (0.202)
Constant	2.978*** (0.244)	2.637*** (0.233)	2.915*** (0.243)	2.597*** (0.236)	2.880*** (0.238)	2.561*** (0.229)
Observations	903	882	903	882	903	882
Alpha	0.358	0.374	0.380	0.384	0.380	0.384
Log likelihood	–2,322	–2,123	–2,340	–2,131	–2,342	–2,133
Chi-squared	6,740	1,402	6,590	1,378	6,616	1,382
Pseudo R-squared	0.172	0.164	0.165	0.160	0.164	0.160

NOTES: Negative binomial regression with robust standard errors in parentheses.

*** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$.

Table B.3
Change in Militant Violence, Months 0–3 and Months 4–6, in Yemen

	Model 1: Number of Terrorist Attacks, Months 0–3	Model 2: Number of Terrorist Attacks, Months 4–6	Model 3: Number of Terrorist Attacks, Months 0–3	Model 4: Number of Terrorist Attacks, Months 4–6	Model 5: Number of Terrorist Attacks, Months 0–3	Model 6: Number of Terrorist Attacks, Months 4–6
Drone strikes, month $t = 0$	0.0900** (0.0390)	0.0393 (0.0427)				
Leaders killed, month $t = 0$			0.263* (0.139)	0.193* (0.114)		
Civilian casualties, month $t = 0$					0.149 (0.200)	0.224** (0.0976)
Constant	1.850*** (0.266)	1.590*** (0.296)	1.852*** (0.266)	1.593*** (0.296)	1.846*** (0.267)	1.589*** (0.296)
Observations	945	882	945	882	945	882
Alpha	0.312	0.339	0.313	0.337	0.315	0.338
Log likelihood	–1,943	–1,721	–1,943	–1,720	–1,944	–1,721
Chi-squared	35,813	25,404	35,709	24,973	27,803	25,584
Pseudo R-squared	0.255	0.246	0.255	0.246	0.255	0.246

NOTES: Negative binomial regression with robust standard errors in parentheses.

*** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$.

Table B.4
Change in Militant Violence, by Month, in Pakistan

	Model 1: Number of Terror Attacks	Model 2: Number of Fatalities from Terror Attacks	Model 3: Number of Terror Attacks	Model 4: Number of Fatalities from Terror Attacks	Model 5: Number of Terror Attacks	Model 6: Number of Fatalities from Terror Attacks
Drone strikes, month $t = 0$	-0.0772** (0.0357)	-0.292*** (0.0782)				
Drone strikes, month $t-1$	-0.00455 (0.0399)	0.105* (0.0600)				
Drone strikes, month $t-2$	-0.0628* (0.0373)	0.103* (0.0543)				
Drone strikes, month $t-3$	-0.0223 (0.0434)	-0.171* (0.0979)				
Drone strikes, month $t-4$	-0.00360 (0.0338)	0.0997 (0.0694)				
Drone strikes, month $t-5$	0.00120 (0.0320)	-0.0246 (0.0687)				
Drone strikes, month $t-6$	-0.0209 (0.0293)	-0.0667 (0.0580)				
Leaders killed, month $t = 0$			-0.240 (0.166)	-0.322 (0.346)		
Leaders killed, month $t-1$			-0.233 (0.158)	-0.584** (0.295)		
Leaders killed, month $t-2$			0.0138 (0.151)	0.0124 (0.265)		
Leaders killed, month $t-3$			-0.193 (0.170)	-0.460 (0.306)		
Leaders killed, month $t-4$			-0.0756 (0.185)	-0.165 (0.333)		
Leaders killed, month $t-5$			0.0266 (0.154)	-0.312 (0.292)		
Leaders killed, month $t-6$			-0.273* (0.144)	-0.334 (0.277)		
Civilian casualties, month $t = 0$					0.249 (0.230)	0.866* (0.488)

Table B.4—Continued

	Model 1: Number of Terror Attacks	Model 2: Number of Fatalities from Terror Attacks	Model 3: Number of Terror Attacks	Model 4: Number of Fatalities from Terror Attacks	Model 5: Number of Terror Attacks	Model 6: Number of Fatalities from Terror Attacks
Civilian casualties, month <i>t</i> -1					-0.554** (0.218)	-0.902** (0.403)
Civilian casualties, month <i>t</i> -2					0.116 (0.254)	-0.331 (0.429)
Civilian casualties, month <i>t</i> -3					-0.236 (0.240)	0.0783 (0.440)
Civilian casualties, month <i>t</i> -4					0.0360 (0.242)	0.123 (0.464)
Civilian casualties, month <i>t</i> -5					0.100 (0.232)	0.0818 (0.390)
Civilian casualties, month <i>t</i> -6					0.0638 (0.212)	0.311 (0.418)
Constant	1.300*** (0.210)	3.252*** (0.370)	1.257*** (0.229)	3.370*** (0.391)	1.133*** (0.219)	3.116*** (0.359)
Observations	918	918	918	918	918	918
Alpha	0.335	2.403	0.358	2.447	0.357	2.455
Log likelihood	-1,383	-1,611	-1,392	-1,615	-1,393	-1,616
Chi-squared	22,941	22,278	24,522	22,302	26,959	29,646
Pseudo R-squared	0.205	0.131	0.200	0.128	0.199	0.127

NOTES: Negative binomial regression with robust standard errors in parentheses.

*** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$.

Table B.5
Change in Militant Violence, by Month, in Yemen

	Model 1: Number of Terror Attacks	Model 2: Number of Fatalities from Terror Attacks	Model 3: Number of Terror Attacks	Model 4: Number of Fatalities from Terror Attacks	Model 5: Number of Terror Attacks	Model 6: Number of Fatalities from Terror Attacks
Drone strikes, month $t = 0$	0.0841 (0.0602)	0.129 (0.124)				
Drone strikes, month $t-1$	0.185*** (0.0652)	0.107 (0.108)				
Drone strikes, month $t-2$	0.0448 (0.0597)	0.222 (0.158)				
Drone strikes, month $t-3$	-0.0409 (0.0660)	-0.146 (0.116)				
Drone strikes, month $t-4$	0.0964 (0.0592)	-0.0868 (0.111)				
Drone strikes, month $t-5$	0.0607 (0.0672)	0.0879 (0.142)				
Drone strikes, month $t-6$	-0.0524 (0.0608)	-0.252** (0.119)				
Leaders killed, month $t = 0$			0.297 (0.187)	0.519 (0.347)		
Leaders killed, month $t-1$			0.524*** (0.198)	0.216 (0.358)		
Leaders killed, month $t-2$			0.0315 (0.183)	0.359 (0.389)		
Leaders killed, month $t-3$			0.0826 (0.155)	0.451 (0.394)		
Leaders killed, month $t-4$			0.191 (0.174)	-0.0546 (0.358)		
Leaders killed, month $t-5$			0.253 (0.182)	0.377 (0.395)		
Leaders killed, month $t-6$			0.0641 (0.185)	-0.428 (0.356)		
Civilian casualties, month $t = 0$					0.0941 (0.177)	-0.322 (0.400)

Table B.5—Continued

	Model 1: Number of Terror Attacks	Model 2: Number of Fatalities from Terror Attacks	Model 3: Number of Terror Attacks	Model 4: Number of Fatalities from Terror Attacks	Model 5: Number of Terror Attacks	Model 6: Number of Fatalities from Terror Attacks
Civilian casualties, month <i>t</i> -1					0.387* (0.225)	0.0642 (0.385)
Civilian casualties, month <i>t</i> -2					0.268 (0.316)	-0.411 (0.562)
Civilian casualties, month <i>t</i> -3					0.198 (0.229)	0.205 (0.475)
Civilian casualties, month <i>t</i> -4					0.528*** (0.199)	0.0590 (0.429)
Civilian casualties, month <i>t</i> -5					0.108 (0.167)	-0.0662 (0.416)
Civilian casualties, month <i>t</i> -6					0.212 (0.240)	-0.366 (0.407)
Constant	0.676** (0.318)	1.564** (0.732)	0.724** (0.311)	1.646** (0.696)	0.689** (0.317)	1.547** (0.728)
Observations	1,008	1,008	882	882	1,008	1,008
Alpha	0.402	3.088	0.401	3.076	0.419	3.126
Log likelihood	-1,244	-1,357	-1,160	-1,257	-1,248	-1,360
Chi-squared	20,327	11,599	16,924	11,151	20,469	13,398
Pseudo R-squared	0.248	0.156	0.238	0.148	0.246	0.155

NOTES: Negative binomial regression with robust standard errors in parentheses.

*** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$.

Table B.6
Change in Propaganda Statements, Months 0–3 and Months 4–6, in
Pakistan

	Model 1: Number of Propaganda Statements Months 0–3	Model 2: Number of Propaganda Statements Months 4–6	Model 3: Number of Propaganda Statements Months 0–3	Model 4: Number of Propaganda Statements Months 4–6	Model 5: Number of Propaganda Statements Months 0–3	Model 6: Number of Propaganda Statements Months 4–6
Drone strikes, month $t = 0$	–0.00834 (0.00883)	–0.00441 (0.00701)				
Leaders killed, month $t = 0$			0.105 (0.0645)	0.0397 (0.0631)		
Civilian casualties, month $t = 0$					0.0838 (0.0683)	0.0636 (0.0766)
Ongoing military operation, month $t = 0$	0.310*** (0.0679)	0.397*** (0.0759)	0.312*** (0.068)	0.396*** (0.0755)	0.300*** (0.0677)	0.386*** (0.0795)
Constant	3.844*** (0.0611)	3.533*** (0.0518)	3.768*** (0.0499)	3.501*** (0.0466)	3.796*** (0.0443)	3.504*** (0.0382)
Observations	93	90	93	90	93	90
Alpha	0.0678	0.0622	0.0662	0.0621	0.0675	0.0618
Log likelihood	–379.1	–342.5	–378.2	–342.5	–379	–342.3
Chi-squared	22.99	29.77	23.00	28.29	23.11	30.74
Pseudo R-squared	0.0274	0.0407	0.0297	0.0407	0.0277	0.0412

NOTES: Negative binomial regression with robust standard errors in parentheses.

*** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$.

Table B.7
Change in Propaganda Statements, Months 0–3 and Months 4–6, in Yemen

	Model 1: Number of Propaganda Statements, Months 0–3	Model 2: Number of Propaganda Statements, Months 4–6	Model 3: Number of Propaganda Statements, Months 0–3	Model 4: Number of Propaganda Statements, Months 4–6	Model 5: Number of Propaganda Statements, Months 0–3	Model 6: Number of Propaganda Statements, Months 4–6
Drone strikes, month $t = 0$	0.114*** (0.0343)	0.0516 (0.0508)				
Leaders killed, month $t = 0$			0.501*** (0.164)	0.366** (0.151)		
Civilian casualties, month $t = 0$					0.316 (0.205)	0.263 (0.191)
Ongoing military operation, month $t = 0$	0.460*** (0.146)	0.760*** (0.164)	0.399*** (0.128)	0.678*** (0.170)	0.592*** (0.148)	0.794*** (0.172)
Constant	2.851*** (0.121)	2.641*** (0.129)	2.874*** (0.128)	2.610*** (0.132)	2.944*** (0.119)	2.658*** (0.119)
Observations	93	90	93	90	93	90
Alpha	0.623	0.583	0.639	0.567	0.670	0.583
Log likelihood	–375.2	–342	–376.4	–340.9	–378.6	–342.1
Chi-squared	19.67	21.57	24.36	22.86	17.21	21.43
Pseudo R-squared	0.0204	0.0214	0.0172	0.0247	0.0116	0.0213

NOTES: Negative binomial regression with robust standard errors in parentheses.

*** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$.

Table B.8
Change in Statements per Drone Strike, by Month, in Pakistan

	Model 1: Number of Propaganda Statements	Model 2: Number of Ideological Statements	Model 3: Number of Calls to Jihad	Model 4: Number of External Activity Statements	Model 5: Number of Internal Organization Statements
Drone strikes, month $t = 0$	0.004 (0.010)	0.001 (0.014)	0.014 (0.014)	0.017 (0.021)	-0.023 (0.034)
Drone strikes, month $t-1$	-0.023** (0.01)	-0.044** (0.020)	-0.026 (0.016)	-0.021 (0.024)	0.038 (0.031)
Drone strikes, month $t-2$	-0.022 (0.017)	-0.037 (0.027)	0.033 (0.026)	-0.0714 (0.0419)	-0.039 (0.059)
Drone strikes, month $t-3$	-0.007 (0.016)	-0.033 (0.026)	-0.021 (0.029)	0.055 (0.036)	-0.045 (0.0311)
Drone strikes, month $t-4$	-0.002 (0.014)	0.020 (0.024)	-0.032 (0.028)	0.001 (0.036)	-0.0009 (0.028)
Drone strikes, month $t-5$	0.014 (0.015)	0.01 (0.017)	0.043 (0.022)	0.006 (0.04)	-0.0033 (0.041)
Drone strikes, month $t-6$	-0.006 (0.014)	-0.01 (0.022)	0.011 (0.024)	-0.021 (0.021)	-0.0004 (0.034)
Ongoing military operation, month $t = 0$	0.109 (0.11)	0.22 (0.14)	0.188 (0.185)	-0.106 (0.22)	0.053 (0.28)
Constant	2.61*** (0.131)	1.74*** (0.131)	1.22*** (0.216)	0.92*** (0.211)	0.68** (0.33)
Observations	90	90	90	90	90
Alpha	0.09	0.15	0.14	0.41	0.36
Log likelihood	-272.5	-215	-195	-186.32	-152.9
Chi-squared	10.71	20.69	12.86	9.67	7.03
Pseudo R-squared	0.014	0.037	0.018	0.0203	0.0135

NOTES: Negative binomial regression with robust standard errors in parentheses.

*** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$.

Table B.9
Change in Statements per Drone Strike, by Month, in Yemen

	Model 1: Number of Propaganda Statements	Model 2: Number of Ideological Statements	Model 3: Number of Calls to Jihad	Model 4: Number of External Activity Statements	Model 5: Number of Internal Organization Statements
Drone strikes, month $t = 0$	0.124*** (0.0330)	0.126*** (0.0438)	0.110*** (0.0398)	0.114* (0.0643)	0.112** (0.0542)
Drone strikes, month $t-1$	0.0163 (0.0368)	0.0162 (0.0680)	-0.00457 (0.0506)	0.00655 (0.0662)	0.0797 (0.0841)
Drone strikes, month $t-2$	0.0516 (0.0456)	0.0198 (0.0605)	0.0468 (0.0409)	0.0758 (0.0783)	0.0627 (0.102)
Drone strikes, month $t-3$	-0.0355 (0.0473)	-0.0354 (0.0569)	0.0175 (0.0413)	-0.105 (0.0899)	0.00499 (0.0951)
Drone strikes, month $t-4$	0.0255 (0.0546)	0.00668 (0.0566)	-0.00614 (0.0523)	0.118 (0.105)	-0.0730 (0.0933)
Drone strikes, month $t-5$	-0.0491- (0.0577)	0.0732 (0.0591)	-0.0146 (0.0407)	-0.155 (0.121)	0.0826 (0.0824)
Drone strikes, month $t-6$	0.0910 (0.0656)	0.0608 (0.0700)	0.0628 (0.0392)	0.140 (0.115)	0.0350 (0.0662)
Ongoing military operation, month $t = 0$	0.0841 (0.186)	-0.149 (0.220)	0.254 (0.281)	0.152 (0.336)	-0.0608 (0.413)
Constant	1.455*** (0.150)	0.370*** (0.131)	-0.206 (0.152)	0.390 (0.252)	-0.361* (0.204)
Observations	90	90	90	90	90
Alpha	0.560	0.274	0.0172	1.585	0.906
Log likelihood	-250.4	-152.7	-122	-168.1	-126.3
Chi-squared	39.88	56.81	34.48	17.83	26.29
Pseudo R-squared	0.0395	0.0454	0.0818	0.0243	0.0578

NOTES: Negative binomial regression with robust standard errors in parentheses.

*** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$.

Table B.10
Change in Statements in Months Following HVI Removal, by Month, in
Pakistan

	Model 1: Number of Propaganda Statements	Model 2: Number of Ideological Statements	Model 3: Number of Calls to Jihad	Model 4: Number of External Activity Statements	Model 5: Number of Internal Organization Statements
Leaders killed, month $t = 0$	0.204** (0.0909)	0.143 (0.134)	-0.00895 (0.141)	0.630*** (0.172)	0.116 (0.196)
Leaders killed, month $t-1$	-0.0538 (0.0858)	-0.132 (0.129)	-0.165 (0.135)	0.175 (0.169)	0.0643 (0.200)
Leaders killed, month $t-2$	0.0383 (0.0814)	-0.0230 (0.126)	0.0763 (0.137)	0.0429 (0.175)	0.221 (0.196)
Leaders killed, month $t-3$	0.0822 (0.0875)	0.0863 (0.129)	0.0379 (0.144)	0.273 (0.172)	-0.135 (0.193)
Leaders killed, month $t-4$	-0.0542 (0.0870)	-0.247* (0.127)	-0.0989 (0.140)	0.308* (0.167)	-0.0628 (0.220)
Leaders killed, month $t-5$	0.0839 (0.0853)	0.189 (0.128)	-0.00828 (0.137)	0.0116 (0.167)	0.00262 (0.204)
Leaders killed, month $t-6$	0.118 (0.0880)	0.0183 (0.141)	0.376*** (0.135)	-0.102 (0.174)	0.218 (0.206)
Ongoing military operation, month $t = 0$	0.182** (0.0928)	0.311** (0.133)	0.199 (0.135)	-0.179 (0.191)	0.284 (0.220)
Constant	2.299*** (0.107)	1.430*** (0.150)	1.114*** (0.139)	0.394* (0.237)	0.208 (0.275)
Observations	90	90	90	90	90
Alpha	0.0817	0.155	0.131	0.300	0.357
Log likelihood	-269.8	-216.5	-193.9	-180.7	-152.9
Chi-squared	14.70	16.56	11.69	24.66	4.476
Pseudo R-squared	0.0237	0.0269	0.0236	0.0499	0.0140

NOTES: Negative binomial regression with robust standard errors in parentheses.

*** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$.

Table B.11
Change in Statements in Months Following HVI Removal, by Month, in Yemen

	Model 1: Number of Propaganda Statements	Model 2: Number of Ideological Statements	Model 3: Number of Calls to Jihad	Model 4: Number of External Activity Statements	Model 5: Number of Internal Organization Statements
Leaders killed, month $t = 0$	0.295* (0.173)	0.256 (0.283)	0.328 (0.238)	0.180 (0.358)	0.347 (0.294)
Leaders killed, month $t-1$	-0.0727 (0.183)	-0.225 (0.277)	0.239 (0.256)	-0.375 (0.388)	0.303 (0.355)
Leaders killed, month $t-2$	0.212 (0.179)	0.265 (0.284)	0.230 (0.213)	0.200 (0.405)	-0.101 (0.344)
Leaders killed, month $t-3$	-0.0512 (0.220)	-0.0766 (0.292)	-0.00774 (0.240)	-0.0442 (0.410)	0.222 (0.297)
Leaders killed, month $t-4$	-0.0779 (0.175)	0.151 (0.237)	-0.121 (0.259)	-0.0631 (0.372)	-0.475 (0.342)
Leaders killed, month $t-5$	0.338 (0.213)	0.397 (0.307)	0.249 (0.276)	0.148 (0.395)	0.951*** (0.352)
Leaders killed, month $t-6$	0.178 (0.213)	0.109 (0.307)	0.235 (0.324)	0.181 (0.328)	-0.0962 (0.286)
Ongoing military operation, month $t = 0$	0.128 (0.229)	-0.00620 (0.282)	0.208 (0.205)	0.390 (0.456)	-0.00589 (0.354)
Constant	1.541*** (0.178)	0.274* (0.141)	-0.249 (0.152)	0.598** (0.289)	-0.283 (0.289)
Observations	90	90	90	90	90
Alpha	0.644	0.358	0.0275	1.773	0.957
Log likelihood	-255.2	-154.7	-123.1	-171.2	-128
Chi-squared	10.65	13.23	27	4.020	22.20
Pseudo R-squared	0.0212	0.0329	0.0736	0.00674	0.0453

NOTES: Negative binomial regression with robust standard errors in parentheses.
*** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$.

Table B.12**Change in Statements in Months Following Civilian Fatalities, by Month, in Pakistan**

	Model 1: Number of Propaganda Statements	Model 2: Number of Ideological Statements	Model 3: Number of Calls to Jihad	Model 4: Number of External Activity Statements	Model 5: Number of Internal Organization Statements
Civilian casualties, month $t = 0$	0.116 (0.110)	0.192 (0.155)	0.0830 (0.164)	0.280 (0.233)	-0.279 (0.243)
Civilian casualties, month $t-1$	-0.0746 (0.102)	-0.105 (0.173)	-0.108 (0.176)	0.00605 (0.211)	-0.0535 (0.217)
Civilian casualties, month $t-2$	0.00231 (0.146)	-0.116 (0.177)	0.143 (0.217)	-0.221 (0.220)	0.305 (0.250)
Civilian casualties, month $t-3$	0.136 (0.0979)	0.0665 (0.154)	0.260 (0.179)	0.201 (0.295)	-0.0492 (0.219)
Civilian casualties, month $t-4$	0.140 (0.0976)	0.0967 (0.122)	-0.121 (0.162)	0.571** (0.229)	0.0580 (0.229)
Civilian casualties, month $t-5$	0.159 (0.111)	0.300** (0.148)	0.0967 (0.173)	0.196 (0.222)	-0.0950 (0.277)
Civilian casualties, month $t-6$	0.0178 (0.100)	-0.0565 (0.150)	0.137 (0.168)	0.105 (0.253)	-0.115 (0.228)
Ongoing military operation, month $t = 0$	0.0886 (0.0919)	0.256* (0.136)	0.0689 (0.153)	-0.260 (0.212)	0.208 (0.209)
Constant	2.397*** (0.0693)	1.382*** (0.108)	1.134*** (0.107)	0.774*** (0.132)	0.468** (0.199)
Observations	90	90	90	90	90
Alpha	0.0835	0.155	0.137	0.398	0.376
Log likelihood	-270.6	-216.9	-194.8	-185.1	-153.4

Table B.12—Continued

	Model 1: Number of Propaganda Statements	Model 2: Number of Ideological Statements	Model 3: Number of Calls to Jihad	Model 4: Number of External Activity Statements	Model 5: Number of Internal Organization Statements
Chi-squared	12.22	15.65	10.01	13.76	5.128
Pseudo R-squared	0.0207	0.0250	0.0192	0.0265	0.0103

NOTES: Negative binomial regression with robust standard errors in parentheses.

*** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$.

Table B.13
Change in Statements in Months Following HVI Removal, by Month, in
Yemen

	Model 1: Number of Propaganda Statements	Model 2: Number of Ideological Statements	Model 3: Number of Calls to Jihad	Model 4: Number of External Activity Statements	Model 5: Number of Internal Organization Statements
Civilian casualties, month $t = 0$	0.378 (0.312)	0.428 (0.285)	0.278 (0.339)	0.125 (0.461)	0.617* (0.350)
Civilian casualties, month $t-1$	0.0757 (0.224)	0.0700 (0.287)	0.461* (0.248)	-0.466 (0.361)	0.554* (0.326)
Civilian casualties, month $t-2$	0.175 (0.202)	0.326 (0.255)	-0.0586 (0.256)	-0.0959 (0.309)	0.687* (0.383)
Civilian casualties, month $t-3$	0.113 (0.223)	0.0991 (0.282)	0.536** (0.260)	-0.400 (0.339)	0.307 (0.296)
Civilian casualties, month $t-4$	0.0392 (0.204)	-0.609** (0.309)	0.378 (0.236)	-0.156 (0.324)	0.435 (0.409)
Civilian casualties, month $t-5$	0.279 (0.253)	0.316 (0.260)	0.115 (0.214)	0.0210 (0.490)	0.456 (0.311)

Table B.13—Continued

	Model 1: Number of Propaganda Statements	Model 2: Number of Ideological Statements	Model 3: Number of Calls to Jihad	Model 4: Number of External Activity Statements	Model 5: Number of Internal Organization Statements
Civilian casualties, month $t-6$	0.370 (0.289)	0.153 (0.261)	0.483 (0.303)	0.333 (0.451)	0.103 (0.489)
Ongoing military operation, month $t = 0$	0.326 (0.214)	0.160 (0.249)	0.423 (0.274)	0.463* (0.270)	0.245 (0.365)
Constant	1.535*** (0.207)	0.368** (0.152)	-0.296* (0.168)	0.721** (0.297)	-0.483 (0.296)
Observations	90	90	90	90	90
Alpha	0.681	0.358	0.0700	1.720	0.964
Log likelihood	-256.8	-155	-123	-170.5	-127.7
Chi-squared	7.030	10.13	24.80	7.934	12.43
Pseudo R-squared	0.0150	0.0308	0.0747	0.0106	0.0474

NOTES: Negative binomial regression with robust standard errors in parentheses.

*** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$.

Statistical Models Assessing U.S. Containment Efforts

As discussed in Chapter Four, we developed statistical models to assess the use and effectiveness of U.S. efforts to contain conflict by providing assistance to neighboring states. This appendix provides additional details regarding the construction of these models, as well as the full statistical results tables.

Constructing the Models

The statistical models we constructed assessed the effects that U.S. military assistance might have had on the likelihood that states bordering those in conflict would themselves experience armed conflict. The models assessed the set of all states from 1946 through 2010, the latest year for which data for all relevant variables were available. As noted in Chapter Four, we operationalized armed conflict by drawing on data from the UCDP about high-intensity conflicts involving more than 1,000 battle deaths in a given year.¹ We operationalized nearby armed conflicts by looking at whether any state that either shared a land border or was separated by less than 150 miles of water from the state in question experienced a high-intensity armed conflict in the previous year.

¹ The UCDP data and codebooks are updated annually; see UCDP, undated.

U.S. military assistance, meanwhile, is coded with data from the U.S. Agency for International Development's Greenbook.² In the Greenbook data, military assistance includes funding for a wide range of programs, from Foreign Military Financing through training and education programs to logistical support and counternarcotics efforts. We also assess the annual level of U.S. economic assistance from the same data source.

To better isolate the effects of U.S. military assistance on the likelihood of conflict, we also include a number of control variables. The purpose of these control variables is to include other factors that might be correlated with both the likelihood of conflict and the level of U.S. military assistance. By controlling for these factors, we are able to provide a more accurate picture of the effects of U.S. military assistance itself. The control variables covered two categories: characteristics of the state receiving U.S. assistance and characteristics of the broader relationship between that state and the United States.

The characteristics of the state receiving U.S. assistance that we control for include that state's

- level of wealth (GDP per capita)³
- regime type⁴

² U.S. Agency for International Development, 2014.

³ For variables with large value ranges, including GDP per capita and total population size, we take the inverse hyperbolic sine of the variable as well. Inverse hyperbolic sine is a function similar to a natural log that can be used to prevent outlier values from unduly biasing the results. The GDP per capita figures used are in constant 1990 Geary-Khamis dollars, a unit often used for more-accurate cross-country comparisons. See Angus Maddison and Organisation for Economic Co-operation and Development, *The World Economy: Historical Statistics*; Development Centre of the Organisation for Economic Co-operation and Development, Paris, 2012.

⁴ The regime type measure, from the Polity2 project, reflects the state's level of democracy minus its level of autocracy. The values run from -10 to +10. A value of 6 or higher is typically considered to represent a state that has become a democracy. We included both linear and squared terms of the regime type measure to capture potential nonlinear relationships between the level of democracy and conflict. Monty G. Marshall and Keith Jaggers, Polity IV Data Set, computer file; version p4v2014, College Park: Center for International Development and Conflict Management, University of Maryland, 2002.

- population size⁵
- extent of population facing formal discrimination.⁶

In addition, we then controlled for whether the state had a defensive treaty alliance with the United States, to better isolate whether it was the level of U.S. military assistance having an effect on the likelihood of conflict or other aspects of having a close security relationship with the United States.⁷

Statistical Results Tables

The first set of models we developed were those assessing whether the United States has historically tended to increase military assistance to states bordering those in conflict. To do so, we built a two-stage Heckman selection model, with the first stage assessing the likelihood of any level of U.S. military assistance and the second stage assessing the size of that assistance. In both stages, we focused primarily on the performance of the variable identifying whether the state bordered another that was experiencing high-intensity armed conflict in the previous year. The results of these models are shown in Table C.1.

Of note, in both stages, the variable reflecting whether the state bordered any other states that were experiencing conflict in the previous year is statistically significant and positive. This suggests that the United States has indeed historically increased assistance to such states. As noted in Chapter Four, we then calculated the marginal effect of this variable and find that the United States is 3.2 percent more likely to provide military assistance to states bordering those in conflict and that the amount of assistance it provided to states bordering those in conflict is 47 percent higher. So, while the United States does appear

⁵ David J. Singer, "Reconstructing the Correlates of War Dataset on Material Capabilities of States, 1816–1985," *International Interactions*, Vol. 14, 1987.

⁶ Wimmer, Cederman, and Min, 2009.

⁷ Douglas M. Gibler, *International Military Alliances, 1648–2008*, version 4.1, Washington, D.C., CQ Press, 2009.

Table C.1
Statistical Models Assessing the Likelihood and Size of U.S. Military Assistance to States Bordering Those in Conflict

Variable	Stage 1: Likelihood of U.S. Military Assistance	Stage 2: Size of U.S. Military Assistance
War in neighboring country, 1-year lag	0.148** (0.0678)	0.387*** (0.116)
GDP per capita, 1-year lag, inverse hyperbolic sine	-0.439*** (0.0326)	0.412*** (0.0787)
Polity2, 1-year lag	0.0517*** (0.00424)	-0.0268*** (0.00931)
Polity2 squared, 1-year lag	-0.00925*** (0.000951)	0.00197 (0.00183)
Population size, 1-year lag, inverse hyperbolic sine	0.000640 (0.0187)	0.470*** (0.0349)
Discriminated population, 1-year lag	0.528*** (0.183)	3.599*** (0.312)
Defensive alliance with U.S., 1-year lag	1.075*** (0.0655)	1.551*** (0.154)
Constant	4.150*** (0.313)	6.525*** (0.655)
Observations	6,652	6,652
Log likelihood	-4,199	
Chi-squared	753.5	
Pseudo R-squared	0.0823	
Censored observations		2,983
Wald chi-squared		656.3

NOTES: Standard errors in parentheses. *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$.

to be modestly more likely to provide assistance to new partners with conflict on their borders, it also appears to be willing to substantially increase the amount of assistance provided to all partners in this situation. It is worth noting that this is a general, average figure and that other characteristics of states were also statistically significant in their effects on the likelihood of receiving, and the size of, U.S. military assistance. For example, wealthy states appear to be less likely to receive any U.S. military assistance, but if they do receive it, the amount appears to be larger. U.S. treaty allies, meanwhile, are more likely to receive assistance, and likely to receive a larger amount, as would be expected for states with which the United States has a close relationship.

Having established that the United States does appear to increase military assistance to states bordering those in conflict, we then constructed a series of statistical models to assess whether this assistance is associated with any decrease in the likelihood that these states would themselves experience conflict. Table C.2 presents our baseline findings in this regard.⁸

As these results show, we find no evidence that greater U.S. assistance decreases the likelihood that a state bordering those in conflict would itself experience conflict. There is no statistically significant relationship between the change in the amount of military assistance or the level of economic assistance. There is, meanwhile, actually a weak positive relationship between the level of U.S. military assistance and the likelihood of conflict. While we suspect that this association is driven by selection effects — that is, the tendency for the United States to provide greater assistance precisely to those states most at risk of conflict — that are not adequately accounted for by our control variables, this relationship is nonetheless worthy of further scrutiny in future research. For our purposes, however, the most salient point is that, overall, U.S. military assistance does not appear to reduce the likelihood that states bordering conflict will themselves experience conflict.

⁸ To clarify, the observations in Table C.2 are limited to those where the state bordered a country experiencing high-intensity conflict in the previous year but where that state was not itself experiencing conflict in the previous year.

Table C.2
Statistical Models Assessing the Likelihood of Conflict in States Bordering Those in Conflict

Variable	Military Assistance	Economic Assistance	Change in Military Assistance
U.S. military assistance, 1-year lag, inverse hyperbolic sine	0.0435* (0.0243)		
U.S. economic assistance, 1-year lag, inverse hyperbolic sine		0.0118 (0.0282)	
% change in U.S. military assistance, 1-year lag			-0.0383 (0.0652)
Discriminated population, 1-year lag	1.768** (0.726)	1.898*** (0.707)	1.902*** (0.702)
Polity2, 1-year lag	0.0117 (0.0290)	0.0195 (0.0302)	0.0301 (0.0294)
Polity2 squared, 1-year lag	-0.00691 (0.00657)	-0.00665 (0.00642)	-0.00514 (0.00651)
Population size, 1-year lag, inverse hyperbolic sine	0.142 (0.0998)	0.138 (0.0992)	0.107 (0.100)
GDP per capita, 1-year lag, inverse hyperbolic sine	-0.325 (0.208)	-0.346 (0.224)	-0.418** (0.207)
Defensive alliance with U.S., 1-year lag	-0.185 (1.247)	-0.0601 (1.182)	-0.0409 (1.194)
Peace years ^a	-0.453*** (0.108)	-0.426*** (0.109)	-0.431*** (0.113)
Peace years squared	0.0195*** (0.00663)	0.0185*** (0.00669)	0.0189*** (0.00695)
Peace years cubed	-0.000237** (0.000107)	-0.000228** (0.000108)	-0.000234** (0.000113)
Constant	-0.346 (2.036)	-0.0832 (2.367)	0.998 (2.026)
Observations	1,035	1,035	1,018

Table C.2—Continued

Variable	Military Assistance	Economic Assistance	Change in Military Assistance
Log likelihood	−146	−147.7	−143.7
Chi-squared	49.57	50.40	53.19
Pseudo R-squared	0.154	0.144	0.148

NOTES: Robust standard errors are in parentheses. *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$.

^a To correct for the likely lack of temporal independence of our observations, we also included peace-year polynomial terms, based on the number of years it had been since the state in question last experienced a war. Temporal dependence of observations, if not corrected for, has the potential to give misleading statistical results. For a detailed discussion of temporal dependence and a justification for using peace-year polynomials to correct for it, see David B. Carter and Curtis S. Signorino, “Back to the Future: Modeling Time Dependence in Binary Data,” *Political Analysis*, Vol. 18, No. 3, 2010.

We also conducted a number of subsample analyses to further assess the robustness of our results. Prior RAND research indicates that U.S. security assistance may be more effective in strengthening states that are already relatively more capable and democratic.⁹ To assess whether assistance to such states might also make them less likely to experience armed conflict when their neighbors were in conflict, we built a number of additional statistical models using more-limited samples of states, which can be seen in Tables C.3 and C.4.

As these results show, there is some limited support for the finding that the change, although not the level, of U.S. military assistance may be associated with a lower likelihood of conflict in relatively wealthier or more-democratic states that border other states in conflict. However, these findings are highly contingent. For example, in Table C.3, we find that the percentage change in U.S. military assistance is associated with a lower likelihood of conflict if we consider only states with a GDP per capita of greater than \$1,000, but the relationship loses its statistical significance if we consider only states with a GDP per capita greater than \$2,200. Moreover, values higher than roughly \$2,300 cannot be assessed using these models, given the rarity of high-intensity intrastate

⁹ McNerney et al., 2014.

Table C.3**Statistical Models Assessing the Likelihood of Conflict in Higher GDP per Capita States Bordering Other States in Conflict**

Variable	Level: GDP per Capita > \$1,000	Level and Change: GDP per Capita > \$1,000	Level and Change: GDP per Capita > \$2,200
U.S. military assistance, 1-year lag, inverse hyperbolic sine	0.0413 (0.0371)	0.0596 (0.0411)	0.0372 (0.0642)
% change in U.S. military assistance, 1-year lag		-0.295** (0.130)	-0.196 (0.123)
Number of neighbors		0.00651 (0.153)	0.00621 (0.241)
Discriminated population, 1-year lag	0.516 (1.555)	0.692 (1.562)	2.625 (2.108)
Polity2, 1-year lag	0.0398 (0.0452)	0.0449 (0.0470)	0.0819 (0.0821)
Polity2 squared, 1-year lag	-0.0166* (0.0100)	-0.0136 (0.0103)	-0.0538** (0.0266)
Population size, 1-year lag, inverse hyperbolic sine	0.234* (0.135)	0.173 (0.218)	0.167 (0.413)
GDP per capita, 1-year lag, inverse hyperbolic sine	-0.657* (0.349)	-0.731 (0.468)	-1.992 (1.347)
Defensive alliance with U.S., 1-year lag	-0.133 (1.287)	-0.125 (1.385)	
Peace years	-0.468*** (0.168)	-0.465*** (0.156)	-0.341 (0.259)
Peace years squared	0.0196** (0.00911)	0.0191** (0.00796)	0.0151 (0.0103)
Peace years cubed	-0.000228* (0.000134)	-0.000215** (0.000110)	-0.000172* (0.000101)
Constant	2.050 (3.148)	3.069 (4.645)	14.58 (13.49)
Observations	607	596	363
Log likelihood	-66.38	-61.85	-23.33
Chi-squared	31.37	40.07	31.03
Pseudo R-squared	0.181	0.199	0.325

NOTES: Robust standard errors are in parentheses. *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$.

Table C.4**Statistical Models Assessing the Likelihood of Conflict in More-Democratic States Bordering Other States in Conflict**

Variable	Level: Polity2 > 4	Level and Change: Polity2 > 4	Level and Change: Polity2 > 0
U.S. military assistance, 1-year lag, inverse hyperbolic sine	0.286** (0.122)	0.297** (0.134)	0.100 (0.0636)
% change in U.S. military assistance, 1-year lag		-0.155** (0.0681)	-0.213*** (0.0677)
Number of neighbors	-0.163 (0.163)	-0.196 (0.168)	-0.0379 (0.150)
Discriminated population, 1-year lag	-11.86 (11.66)	-12.77 (12.26)	1.912 (1.598)
Polity2, 1-year lag	1.059 (2.653)	0.902 (2.670)	0.721** (0.367)
Polity2 squared, 1-year lag	-0.0688 (0.178)	-0.0574 (0.178)	-0.0755** (0.0346)
Population size, 1-year lag, inverse hyperbolic sine	0.177 (0.337)	0.175 (0.329)	0.421 (0.317)
GDP per capita, 1-year lag, inverse hyperbolic sine	-1.054* (0.558)	-1.037* (0.537)	0.000977 (0.421)
Peace years	-0.700** (0.323)	-0.690** (0.332)	-0.534*** (0.192)
Peace years squared	0.0316* (0.0184)	0.0314* (0.0191)	0.0214** (0.0109)
Peace years cubed	-0.000402 (0.000272)	-0.000402 (0.000284)	-0.000224 (0.000157)
Constant	-0.676 (9.098)	-0.193 (9.078)	-7.818 (5.284)
Observations	201	198	271
Log likelihood	-27.36	-26.86	-43.32
Chi squared	19.18	27.87	36.92
Pseudo R-squared	0.256	0.266	0.214

NOTES: Robust standard errors are in parentheses. *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$.

war in those states. We find a similar relationship between the percentage change in U.S. military assistance and conflict if we limit our sample to only relatively democratic states, with a Polity2 value greater than 4.0. While this result appears to be robust at lower Polity2 values, it cannot be assessed statistically at higher Polity2 values – including, notably, 6.0 or higher, which would correspond to the standard definition of democracies in the academic literature – because there were too few instances of democratic states bordering those in conflict and later experiencing conflict themselves.

Given the highly contingent nature of these results, they are not a focus of our discussion in Chapter Four. We did not feel at this stage that the pattern of changes in U.S. military assistance in nonpoor or relatively more-democratic states being associated with a lower likelihood of conflict was sufficiently consistent to inform our broader assessment of the utility of U.S. military assistance for containing conflict. That said, the intermittent results we do find are interesting and are potentially compatible with earlier work that highlights that U.S. security assistance may be more effective in certain types of states. This appears to be an area where future research, including case studies of states with roughly these characteristics, would be useful.

Overall, however, our statistical results do not include any clear or consistent support for the proposition that U.S. military assistance is likely to be an effective tool to strengthen states and contain the spread of conflict.

Case Studies for Mitigation

Northern Iraq, 1991–2003: Operation Provide Comfort and Operation Northern Watch

In late February 1991, the United States and Iraq signed a cease-fire bringing Operation Desert Storm to an end. Just a week later, Iraqi Kurds—emboldened by U.S. encouragement of a popular uprising against Saddam Hussein’s regime and remembering Iraqi government-led atrocities, such as the 1988 chemical attack that killed at least 5,000 Kurds in Halabja¹—took advantage of the perceived opportunity to rebel against Hussein’s Sunni-dominated Baathist regime. Within a few weeks, the Iraqi government moved to crush the rebellion, causing at least 400,000²—and perhaps up to 2 million³—Kurds to flee to Turkey.

At NATO ally Turkey’s urging, U.S. coalition forces began Operation Provide Comfort, which established a safe area that included the northern Iraqi cities of Zakho, al Amadiyah, Suri, and Dohok.⁴ In addition, the U.S. Air Force established an NFZ in the region, which banned fixed-wing and rotary-wing aircraft north of the 36th parallel,

¹ Samantha Power, *“A Problem from Hell”: America and the Age of Genocide*, New York: Perennial, 2003, pp. 189, 237.

² Bill Frelick, “Down the Rabbit Hole: The Strange Logic of Internal Flight Alternative,” in U.S. Committee for Refugees, *World Refugee Survey 1999*, Arlington, Va., 1999, p. 23.

³ David M. Malone, *The International Struggle over Iraq*, New York: Oxford University Press, 2006, p. 85.

⁴ Haulman, 2000a, p. 181.

to protect coalition aircraft and troops providing humanitarian assistance, as well as Kurdish civilians returning to or remaining in the safe areas. Although UN Security Council (UNSC) Resolution 688 did not explicitly establish the NFZ or safe areas, it demanded that Iraq “end [its] repression” of Iraqi civilians and requested that UN member states “contribute to . . . humanitarian relief efforts” in Iraq.⁵ From April to July 1991, more than 200 aircraft and 20,000 coalition troops pushed Iraqi troops out of the safe area and encouraged hundreds of thousands of Kurdish refugees to return to northern Iraq.⁶ In addition, U.S. Air Force transport aircraft airlifted more than 7,000 tons of supplies into the safe area.⁷

Although U.S. ground troops departed northern Iraq in July 1991, leaving control of IDP camps within the safe area to the UN High Commission for Refugees, the NFZ remained in effect through the U.S. invasion of Iraq in March 2003.⁸ The enforcement of the NFZ under Operation Provide Comfort did not proceed entirely smoothly, however. In April 1994, two U.S. Air Force F-15s accidentally fired on two U.S. Black Hawk helicopters providing humanitarian relief; all 26 people on board died.⁹ Then, in late 1996, after Kurdish infighting led one of the two main factions to ally with Hussein’s troops to seize control of a city inside the safe area, the United States launched cruise missiles at radar installations in southern Iraq and extended the southern NFZ to the 33rd parallel (see the Operation Southern Watch section below). In response, the French chose to end their participation in patrolling the northern NFZ. In December 1996, Operation Provide Comfort officially ended, only to be replaced in January 1997 by

⁵ UN Security Council, *Resolution 688 (1991)*, New York, April 5, 1991.

⁶ UN High Commissioner for Refugees, “War and Humanitarian Action: Iraq and the Balkans,” in United Nations High Commissioner for Refugees, *The State of the World’s Refugees 2000: Fifty Years of Humanitarian Action*, Oxford: Oxford University Press, 2000, pp. 216–217.

⁷ Haulman, 2000a, pp. 182–183.

⁸ Malone, 2006, pp. 89–90.

⁹ Haulman, 2000a, p. 185.

Operation Northern Watch, in which U.S. and UK aircraft continued to enforce the northern NFZ.¹⁰

Outcome

The northern Iraq safe area and the NFZ protecting it succeeded in keeping the Iraqi military away and bringing hundreds of thousands of Kurdish refugees back to their homes.¹¹ This, in turn, eased Turkey's concerns about the effects of an influx of Kurdish refugees. For these reasons, Operation Provide Comfort has been widely regarded as the most successful implementation of the safe-area concept, laying the groundwork for future safe areas in Bosnia, Somalia, and Rwanda.

Southern Iraq, 1992–2003: Operation Southern Watch

Like the Kurds in northern Iraq, Shi'as in southern Iraq rebelled against Saddam Hussein's regime in early 1991. The Iraqi government's efforts to combat this insurgency convinced many Shi'as to flee to Saudi Arabia and Iran. By August 1992, the United States, the UK, and France had become concerned about the government's increasingly harsh response to the Shi'a uprising and irritated by the government's reluctance to cooperate with inspections related to weapons of mass destruction and other requirements. Together, they created an NFZ banning rotary- and fixed-wing aircraft in Iraq south of the 32nd parallel, arguing that UNSC Resolution 688 provided the mandate for coalition forces to protect the Shi'a from repression.¹² But the aims of Operation Southern Watch were less clearly humanitarian than those of Operation Provide Comfort. One analysis argues that, "while the rationale for SOUTHERN WATCH was to end the persecution of the Shia, it clearly served other purposes" – it created a forward presence to deter Hussein's regime from further aggression.¹³ In 1996, Iraqi

¹⁰ Malone, 2006, pp. 93–95.

¹¹ UN High Commissioner for Refugees, 2000, p. 217.

¹² Malone, 2006, p. 98.

¹³ McKay, 2014, p. 93.

ground force incursions into the northern NFZ led to the extension of the southern NFZ to the 33rd parallel.

Outcome

Although Operation Southern Watch succeeded in ending most Iraqi air incursions into the southern NFZ, it did not succeed in limiting Iraqi counterinsurgency operations on the ground. In fact, one report suggests that the government substituted artillery for airpower, and the lack of either more-robust rules of engagement or a safe area defended by coalition ground forces limited the coalition's ability to protect Shi'a civilians.¹⁴ Another analysis agrees, asserting that "the southern no-fly zone proved completely ineffective in protecting" the Shi'a population, and Hussein's control on the ground in the south "remained largely intact" because "ground assaults and artillery barrages remained unchallenged by the Coalition."¹⁵

Bosnia, 1992–1995: UNPROFOR and Operation Deny Flight, Operation Deliberate Force

In April 1992, Bosnia – the most ethnically diverse of the Yugoslav republics, roughly half Muslim, a third Orthodox Serb, and a fifth Roman Catholic Croat¹⁶ – seceded from Yugoslavia and declared independence. While the European Communities and the United States quickly recognized the new state, Bosnian Serbs rejected the declaration of independence and moved, with the help of Serb troops from the Yugoslav National Army, to capture Bosnian territory. Over a million civilians were displaced as the BSA undertook a coordinated "ethnic cleansing" campaign designed to remove all non-Serbs from Bosnia.¹⁷

¹⁴ McKay, 2014, pp. 97–98.

¹⁵ Malone, 2006, pp. 98–99.

¹⁶ Power, 2003, p. 247; Jennifer Hyndman, "Preventive, Palliative, or Punitive? Safe Spaces in Bosnia-Herzegovina, Somalia, and Sri Lanka," *Journal of Refugee Studies*, Vol. 16, No. 2, 2003, p. 173.

¹⁷ Hyndman, p. 173; Power, 2003, pp. 249–250.

Before safe areas were established, the UNSC passed two resolutions creating an NFZ. Resolution 781, passed in October 1992, banned all military flights in Bosnia, except for those in support of UN operations, but did not authorize UN member states to engage violators of the NFZ unless it was in self-defense.¹⁸ Although NATO airborne early warning aircraft helped the UN monitor the NFZ from October 1992 to April 1993, as part of Operation Sky Monitor, NATO could not do anything about the 500 flights that violated the NFZ during that period.¹⁹ In March 1993, Resolution 816 expanded the NFZ to include all fixed-wing and rotary-wing aircraft, and it allowed “all necessary measures” to enforce the zone, with one catch – NATO forces were required to receive approval for each air strike from the UN, in what came to be known as the “dual-key” process.²⁰

Still concerned about actions that were “tantamount to genocide” but hesitant to get involved in “another Vietnam,”²¹ U.S. policymakers worked with other members of the UNSC to create safe areas in six cities – Srebrenica, Sarajevo, Žepa, Goražde, Tuzla, and Bihać – to protect civilians. According to Resolutions 819 and 824, which established these enclaves to protect civilians in April and May 1993, the safe areas demanded the withdrawal of Bosnian Serb paramilitary units and called for an end to all armed attacks or other hostile acts.²² Resolution 836, passed in June 1993, authorized UNPROFOR “to deter attacks against the safe areas” and, “acting in self-defence, to take the necessary measures, including the use of force, in reply to bombardments against the safe areas by any of the parties or to armed incursion into them.”²³ In addition, the resolution authorized UN member

¹⁸ Reed, 2000, p. 396.

¹⁹ Reed, 2000, p. 397; Haulman, 2000c, p. 220.

²⁰ UNSC, *Resolution 816 (1993)*, New York, March 31, 1993b; Reed, 2000, pp. 397, 399–402; Haulman, 2000c, pp. 220–221.

²¹ Secretary of State Warren Christopher (March 30, 1993) quoted in Power, 2003, p. 298; Power, 2003, p. 284.

²² UNSC, *Resolution 819*, New York, April 16, 1993c; UNSC, *Resolution 824*, New York, May 6, 1993d.

²³ UNSC, *Resolution 836*, New York, June 4, 1993e.

states to use airpower “in and around the safe areas . . . to support UNPROFOR.”²⁴ The dual-key process, however, remained in effect for these air strikes.²⁵ From April 1993 to July 1995, forces flew nearly 61,000 sorties in support of Operation Deny Flight. Roughly a third of these were close air support sorties, a third were air defense sorties, and a third were reconnaissance and other support sorties.²⁶

Although UNPROFOR requested an additional 32,000 troops to carry out its new mandate, none of the sponsors of Resolution 836 – France, Russia, Spain, the UK, and the United States – “was willing to contribute any additional troops for UNPROFOR.” They did not view UNPROFOR’s deterrent role as requiring “deployment in sufficient strength to repel attacks by military force.”²⁷ Ultimately, the UNSC authorized just 7,600 additional troops, although the Secretary-General acknowledged that the limited number of ground troops to defend the safe areas meant that their defense would depend “on the availability of the air-strike capability provided by Member States.”²⁸ In 1994 and 1995, there were roughly 5,000 total troops defending Sarajevo and Žepa, 5,000 total troops defending Tuzla and Srebrenica, 1,000 defending Bihać, and 500 defending Goražde.²⁹

In July 1995, two of the safe areas – Srebrenica and Žepa – fell to BSA forces, leading to the massacre of more than 8,000 Bosnian Muslim men and boys. Then, in August 1995, a BSA artillery attack killed 37 people in Sarajevo. These events triggered a more aggressive NATO air campaign aimed at thwarting further BSA attacks on the remaining safe areas. Throughout September 1995, NATO aircraft flew sorties attacking Bosnian Serb ammunition bunkers and surface-

²⁴ UNSC, 1993c.

²⁵ Reed, 2000, p. 398.

²⁶ International Institute for Strategic Studies, *The Military Balance 1995*, London, 1995, p. 305.

²⁷ UN General Assembly, 1999, p. 26.

²⁸ UN General Assembly, 1999, p. 26.

²⁹ International Institute for Strategic Studies, *The Military Balance 1994*, London, 1994, pp. 274–275; International Institute for Strategic Studies, 1995, p. 304.

to-air missile sites — and were arguably instrumental in getting Bosnian Serbs to the negotiating table in Dayton.³⁰

Outcome

The safe areas in Bosnia had mixed success in protecting civilians. The establishment of the safe areas did not change the BSA's behavior: The BSA continued to bomb the safe areas, specifically targeting "civilian-inhabited areas, often in ways calculated to maximize civilian casualties."³¹ During the course of the war, each safe area eventually fell victim to BSA attacks, but the four largest safe areas — Sarajevo, Tuzla, Bihać, and Goražde (the one closest to Serbia) — were successfully defended against Serb takeover. The failures to defend Žepa and Srebrenica from the BSA, however, marred the safe-area concept.

UNPROFOR lacked the necessary capabilities and authority to protect civilians who sought refuge in the safe areas. During the conflict, the BSA — arguing that Bosnian Muslims were using the safe areas as sanctuaries from which they could launch attacks and that the use of NATO air strikes showed evidence of UNPROFOR's lack of neutrality — blocked international access to the safe areas and took UNPROFOR troops hostage to pressure NATO to halt its air operations. UNPROFOR struggled to guarantee the security of the safe areas without resorting to the use of force and thereby compromising its humanitarian mission.³² In addition, although close air support for safe areas began following Resolution 836, the dual-key process of obtaining clearance for air strikes from both NATO and UN chains of command prevented timely action in critical situations. The lack of more-robust rules of engagement to protect civilians in the safe areas from attack contributed to the fall of Srebrenica and Žepa.³³

³⁰ Power, 2003, pp. 439–440.

³¹ UN General Assembly, 1999, p. 25.

³² UN General Assembly, 1999, pp. 40, 68.

³³ Reed, 2000, p. 403; Power, 2003, p. 406.

Liberia, 1992–1996: UNOMIL and ECOMOG

From 1989 to 1997, Charles Taylor's National Patriotic Front of Liberia (NPFL) rebel forces fought a civil war against President Samuel Doe's regime, killing 200,000 and displacing 1.2 million. When Doe asked Nigeria for assistance at the beginning of the conflict, ECOWAS established ECOMOG, which deployed with an initial intervention force of 3,000 troops to Monrovia in August 1990. A cease-fire was reached in November 1990. The peace, however, did not last: Taylor's NPFL refused to disarm in accordance with the terms of the Yamoussoukro IV peace agreement and began directly attacking ECOMOG forces during what became known as the "siege of Monrovia," in October 1992. After this challenge, ECOMOG's mission changed to one of peace enforcement, with the more-robust rules of engagement that such an operation implies. This shift led to the creation of a *de facto* safe area in Monrovia.³⁴ In 1993, after ECOWAS helped negotiate another peace agreement, UNSC Resolution 866 authorized the United Nations Observer Mission in Liberia (UNOMIL) to assist ECOMOG – whose troops now numbered 16,000 – in providing humanitarian assistance "without participation in enforcement operations."³⁵

Through its intervention, ECOMOG hoped to stem refugee flows; stop the killing of Nigerian citizens in Monrovia; and stop conflict spillover into neighboring countries, including Sierra Leone, where the Revolutionary United Front rebel group received support from Taylor's NPFL. Geopolitical considerations also motivated Nigeria, which contributed more than half of the forces and finances involved in ECOMOG's mission. In addition to the threat of conflict spillover or the possibility that Nigerian dissidents might find sanctuary and support in Liberia if Taylor came to power, Nigerian leaders feared that Taylor's ties to Nigeria's regional rival and fellow ECOWAS member, Cote d'Ivoire, posed a threat to Nigerian interests.

³⁴ Human Rights Watch, *Waging War to Keep the Peace: The ECOMOG Intervention and Human Rights*, New York, 1993.

³⁵ UNSC, *Resolution 866 (1993)*, New York, September 22, 1993g; UN Department of Public Information, "Liberia – UNOMIL: Mandate," web page, undated.

Outcome

Fighting in Liberia continued until 1996, when Taylor was assured that he would win the presidency in national elections the following year. In the end, ECOMOG protected roughly 700,000 IDPs who sought sanctuary in the capital.³⁶

However, ECOMOG lacked the resources to carry out its mission in full. Especially toward the beginning of the intervention, ECOMOG did not possess the forces necessary to secure the Liberia–Sierra Leone border and interdict NPFL finances. Throughout the intervention, troops were underpaid and often resorted to looting the belongings of the people they were charged to protect.³⁷ In addition, ECOMOG’s role as a neutral peacekeeping force was compromised when it chose a side in the conflict. The intervening forces that constituted ECOMOG were split in their allegiance, with the Francophone forces (led by Cote d’Ivoire) supporting Taylor and the Anglophone forces (led by Nigeria) opposing him. Since Nigerian forces were in the majority, ECOMOG allied itself with and funneled support to the United Liberation Movement and the Armed Forces of Liberia, which fought against the NPFL. These groups – and ECOMOG forces themselves – were accused of human rights violations, including looting and bombing civilian targets. These associations weakened ECOMOG’s moral standing and made it impossible for ECOMOG to maintain even partial consent from the belligerents for its presence.³⁸

Somalia, 1992–1994: UNOSOM I, Operation Restore Hope/UNITAF, and UNOSOM II

After Somali dictator Mohamed Siad Barre fled Somalia amid anti-government riots in January 1991, civil war broke out among regional warlords. The dysfunction and violence combined with a drought to create a famine that left hundreds of thousands hungry and created

³⁶ Outram, 1997, p. 194.

³⁷ Tuck, 2000.

³⁸ Human Rights Watch, 1993.

a million refugees.³⁹ In April 1992, UNSC Resolution 751 responded to the situation by authorizing humanitarian relief operations under UNOSOM.⁴⁰ As militia groups hijacked food supplies and the population's starvation and suffering worsened, the United States added its airlift capabilities to the UNOSOM mission in August 1992 to improve distribution to the neediest civilians. By December, the United States had decided to deploy troops to Somalia to provide security for these humanitarian relief efforts. UNSC Resolution 794 authorized the mission of the U.S.-led UNITAF, with 38,000 soldiers from 23 nations.⁴¹ Although rules of engagement were limited to prevent escalation and to preserve UNITAF's neutrality, troops were heavily armed and capable of creating the security needed to create and enforce a cease-fire between two of the strongest warring parties – those led by Mohamed Farrah Aidid and Ali Mahdi Mohamed – as well as guarantee the delivery of humanitarian aid. By May 1993, UNITAF handed over its responsibilities to the UN under UNOSOM II. Impressed by the success of UNITAF's mission, the UN was pushing to expand operations in Somalia to bring about a political settlement to the conflict. In March 1993, UNSC Resolution 814 broadened the mission's mandate to include peace enforcement,⁴² despite the fact that UN forces lacked qualified and sufficient troops to carry out this mission; by October 1993, UNOSOM II was made up of only 16,000 troops from 21 countries. After Aidid killed 24 Pakistani peacekeepers in June, the UNSC passed Resolution 837, which strengthened the rules of engagement and called for member states to supply the remainder of the 28,000

³⁹ Richard W. Stewart, "Historical Overview: The United States Army in Somalia, 1992–1994," in *United States Forces, Somalia After Action Report and Historical Overview: The United States Army in Somalia, 1992–1994*, Washington, D.C.: Center for Military History United States Army, 2003, pp. 3–4.

⁴⁰ UNSC, *Resolution 751 (1992)*, New York, April 24, 1992a; UN, "Somalia – UNOSOM I: Mandate," web page, undated.

⁴¹ UNSC, *Resolution 794 (1992)*, New York, December 3, 1992c; UN, undated; UN, "Somalia – UNOSOM II: Mandate," web page, undated.

⁴² UNSC, *Resolution 814 (1993)*, New York, March 26, 1993a.

troops that had been recommended in March.⁴³ In August, as conditions in Somalia became more violent, the United States deployed a joint special operations task force to Mogadishu to help UN forces capture Aidid.⁴⁴ It was this second intervention force that suffered the loss of 18 U.S. soldiers in the Battle of Mogadishu on October 3, when Aideed's militia hit an MH-60 Black Hawk with a rocket-propelled grenade and caused the helicopter to crash.⁴⁵ By March 1994, most U.S. troops had withdrawn from Somalia, having failed to bring the Somali conflict to a negotiated settlement.

Outcome

By establishing an initial cease-fire and setting up humanitarian relief sectors in Mogadishu and southern Somalia, UNITAF successfully provided humanitarian aid and protection for thousands of starving IDPs, ultimately saving an estimated quarter of a million lives.⁴⁶ But the events of October 1993 cast a dark shadow on the success of the early, limited operation to provide security for humanitarian relief efforts. This incident served as a cautionary tale against attempts at nation-building,⁴⁷ which influenced subsequent efforts to protect civilians in other conflicts, particularly in Rwanda.

Rwanda, 1994: UNAMIR and Operation Turquoise

On April 6, 1994, Rwanda's President Juvenal Habyarimana – the Hutu leader of a government forged by the Hutu-Tutsi power-sharing agreement laid out in the 1993 Arusha Accords, which sought to end years of civil war – was killed in a plane crash. Within hours, Hutu extremists calling themselves the Interahamwe slaughtered ten Belgian

⁴³ UNSC, *Resolution 837 (1993)*, New York, June 6, 1993f.

⁴⁴ R. Stewart, 2003, pp. 7–10.

⁴⁵ R. Stewart, 2003, pp. 11–13.

⁴⁶ Crocker, 1995, p. 3; R. Stewart, 2003, pp. 6–8.

⁴⁷ Crocker, 1995, pp. 5–6.

UNAMIR peacekeepers, who were stationed in Kigali to help implement the terms of the Arusha Accords; the extremists hoped that this would prompt UN forces to leave Rwanda, similar to the downing of a Black Hawk helicopter in October 1993 that prompted U.S. soldiers to leave Somalia.⁴⁸ In the span of just three days, Hutu militants killed 20,000 Tutsis.⁴⁹ UNAMIR commander Romeo Dallaire requested additional troops – to bring the total number of peacekeepers to 5,000 – and a broader mandate with more-robust rules of engagement to protect civilians. Instead, after Belgium petitioned the United States to support the withdrawal of all UNAMIR troops from Rwanda, the UNSC voted to evacuate most peacekeepers. U.S. officials were indeed worried about the parallels between Rwanda and Somalia; they were concerned that “what would start as a small engagement by foreign troops would end as a large and costly one by Americans.”⁵⁰ Thus, by the end of April, Dallaire was left with just 503 troops, who were tasked with protecting some 20,000 to 25,000 Rwandans who had sought refuge in major Kigali locations defended by UN soldiers.⁵¹

But just as the UNSC voted to reduce UNAMIR’s strength, a few nonpermanent members of the UNSC pushed the UN to establish a new mission in Rwanda, consisting of 5,000 additional, well-armed troops that would take control of Kigali and create safe areas around the country. UNSC Resolution 918 passed in May, but none of the requested UNAMIR peacekeepers ever deployed to Rwanda.⁵²

Instead, in late June, as RPF Tutsi rebel forces began to take control of increasing amounts of Rwandan territory, France – a long-time supporter of the Hutu government in Rwanda – deployed 2,500 soldiers to set up a *zone humanitaire sure* in southern Rwanda to protect refugees, most of whom were Hutus fleeing to neighboring Zaire (the

⁴⁸ Power, 2003, pp. 329–332, 336–337.

⁴⁹ Power, 2003, p. 353.

⁵⁰ Power, 2003, p. 366.

⁵¹ Power, 2003, pp. 367–369; Seybolt, 2007, pp. 206–207.

⁵² UNSC, *Resolution 918 (1994)*, New York, May 17, 1994; Power, 2003, pp. 378–381.

Democratic Republic of the Congo).⁵³ By the time the UN-approved Operation Turquoise was established, most of the Tutsi victims of the genocide had already been killed. When the RPF declared victory and established a government in mid-July, the genocide came to an end.⁵⁴

Outcome

Because “it did not take many UN soldiers to dissuade the Hutu from attacking,”⁵⁵ Dallaire’s force of 503 UNAMIR peacekeepers managed to save roughly 20,000 Rwandans in de facto safe areas around Kigali. Nevertheless, estimates suggest that at least half a million Rwandans — including three-quarters of the Tutsi population in Rwanda at the time — were killed in 100 days.⁵⁶ The controversial French safe-area effort might have saved some several thousand lives. In the end, however, it was the military success of RPF forces that brought both the civil war and the genocide to a close.

Libya, 2011: Operation Odyssey Dawn and Operation Unified Protector

In February 2011, the Arab Spring swept through Libya, igniting an uprising against dictator Muammar Gaddafi’s regime, which had been in power since 1969. Amid fears that Gaddafi might target peaceful demonstrators, UNSC Resolution 1970 enacted an arms embargo on Libya, banned regime officials from traveling, and froze the regime’s assets.⁵⁷ Yet the UNSC was reluctant to endorse a military response until the Arab League voted for an NFZ over Libya, one of its mem-

⁵³ Minear and Guillot, 1996, pp. 103–108.

⁵⁴ Power, 2003, pp. 380–381.

⁵⁵ Power, 2003, p. 368.

⁵⁶ Human Rights Watch, *Leave None to Tell the Story: Genocide in Rwanda*, New York, 1999.

⁵⁷ UNSC, *Resolution 1970 (2011)*, New York, February 26, 2011; Chivvis, 2014, p. 30.

bers.⁵⁸ The United States, United Kingdom, and France—concerned about the appearance of failing to support a pro-democratic rebellion against an authoritarian regime and therefore offering a military option to protect the endangered civilian population of Benghazi—spearheaded UNSC Resolution 1973, which established a ban on all flights in Libya and authorized member states to “take all necessary measures . . . to protect civilians and civilian population areas under threat of attack,” in hopes of bringing about a cease-fire.⁵⁹ The NFZ’s rules of engagement allowed for air strikes against Libyan government ground forces and military installations.⁶⁰

In mid-March, U.S., UK, and French troops began Operation Odyssey Dawn, striking Libyan air defense systems with cruise missiles and Libyan tanks from the air. Although UK and French aircraft flew most sorties, the United States provided most of the missiles, precision-guided munitions, air refueling capabilities, and aerial surveillance capabilities, as well as all electronic warfare capabilities.⁶¹ This effort to provide critical support but allow European allies to take on the bulk of targeting operations was controversially labeled “leading from behind.”⁶² By the end of March, NATO had taken over enforcement of the NFZ under Operation Unified Protector, which persisted until Gaddafi’s death in October 2011.

Outcome

The initial air campaign and NFZ operation in Libya lasted seven months and accomplished its main objective of preventing a civilian massacre, particularly in Benghazi.⁶³ In the immediate aftermath of

⁵⁸ Regional political dynamics played a role in this unprecedented event. See Chivvis, 2014, pp. 53–54.

⁵⁹ UNSC, *Resolution 1973 (2011)*, New York, March 17, 2011.

⁶⁰ K. Mueller, 2013, p. 5.

⁶¹ Chivvis, 2014, pp. 79–81, 89.

⁶² Chivvis, 2014, p. 66; see also pp. 4–5.

⁶³ Chivvis, 2014, pp. 174–176.

Gaddafi's fall in October 2011, the intervention was touted as a success, especially because of its low human and financial cost.⁶⁴

Five years after the operations concluded, however, critics of the intervention have called it an "abject failure," noting that Libya has become a "failed state."⁶⁵ From the end of the intervention through August 2016, the country went through nine prime ministers. Al Qaeda and ISIL have found sanctuary in ungoverned Libya, triggering additional U.S. air strikes.⁶⁶ Reluctant to repeat the lengthy and expensive nation-building exercises in Iraq and Afghanistan, U.S. and NATO forces chose not to engage in stabilization operations following the intervention, even though they interpreted the UN mandate to include regime change (a controversial interpretation among UNSC members).⁶⁷ Thus, the intervention has been criticized both for succumbing to "mission creep" and for its failure to provide for an adequate stabilization force in Libya once Gaddafi had been killed. One 2014 account suggests that some level of ground troops might "have increased the chances of stable recovery from the war."⁶⁸

Perhaps most concerning is the possibility that the intervention increased both the length and the death toll of Libya's civil war. There was little evidence that Gaddafi was in fact targeting civilians in the rebel-held cities that his regime recaptured, but warring factions and terrorist groups active in Libya in recent years have targeted civilians. In addition, by altering the domestic balance of power, the intervention may have emboldened nearly defeated militant rebel groups — many of them radical Islamist groups — to renew their efforts to overthrow

⁶⁴ Chivvis, 2014, pp. 176–177.

⁶⁵ Alan J. Kuperman, "Obama's Libya Debacle: How a Well-Meaning Intervention Ended in Failure," *Foreign Affairs*, March/April 2015.

⁶⁶ Tierney, 2016.

⁶⁷ Chivvis, 2014, pp. 90–91. One effect of the choice to use the UN mandate to oust Gaddafi has been that China and Russia have refused to support UNSC resolutions to authorize the use of force to protect civilians in Syria. See Sarah Brockmeier, "Lessons in Statecraft Still to Be Learned 5 Years After the Libya Intervention," *War on the Rocks*, March 16, 2016.

⁶⁸ Chivvis, 2014, p. 184.

Gaddafi.⁶⁹ As a result, one analysis concludes that NATO's intervention has drastically increased the death toll from the conflict.⁷⁰

⁶⁹ Kuperman, 2015.

⁷⁰ Kuperman, 2015.

Case Studies for Interdiction

Drug Interdiction in Afghanistan

Afghanistan is the largest producer of heroin in the world, accounting for 90 percent of nonpharmaceutical opiate production.¹ The illegal drug trade contributes to crime and corruption in Afghanistan, undermining political stability and security. However, its particular importance to OEF was the wealth that the Taliban derived from drug exports, helping to bankroll its insurgency. UN reports that, while the drug trade “provide[d] enough to finance much of the insurgency in the main poppy growing provinces of Helmand, Kandahar and Uruzgan, the amount of money raised from the drug trade [was] insufficient to meet the cost of insurgent activity elsewhere.” However, by some estimates, roughly a quarter of Taliban funds came through the drug trade in 2009, making a sizable contribution to the insurgency in Afghanistan.²

Therefore, counternarcotics assistance formed a core part of the U.S. intervention in Afghanistan. Between 2002 and 2014, the Department of State provided at least \$4 billion and the Department of Defense at least \$3 billion in counternarcotics assistance, with the

¹ Ed Krayewski, “U.S. Effort to Curb Afghan Heroin Trade a Total Failure,” *Newsweek*, March 27, 2016.

² UNSC, “Letter Dated 4 September 2012 from the Chair of the Security Council Committee Pursuant to Resolution 1988 (2011) Addressed to the President of the Security Council,” September 5, 2012. The UN Office on Drugs and Crime estimated that the Afghan Taliban earned roughly \$155 million from heroin in 2009 (UN Office on Drugs and Crime, *The Global Afghan Opium Trade: A Threat Assessment*, Vienna, July 2011, p. 5).

intention of promoting security and stability but also of interdicting the Taliban's ability to profit from the heroin trade.³ A 10 percent tax rate on poppy harvests in Taliban-controlled areas, the extortion of protection fees and taxes from traffickers and heroin laboratories, and donations from wealthy individuals linked to the drug trade all contribute to the Taliban's coffers.

Early U.S. counternarcotics efforts in Afghanistan focused on large-scale eradication of poppy fields and heroin production. However, this had little impact on the drug trade in Afghanistan; levels of poppy production remained high, and even grew, throughout the course of the war.⁴ Likewise, actual prices and rates of opium production also fluctuated significantly over the course of U.S. interdiction efforts but showed no general improvement (see Figure E.1).⁵

By mid-2009, the United States had acknowledged the limited impact of the eradication strategy. In June 2009, Ambassador Richard Holbrooke, Special Representative for Afghanistan and Pakistan, called U.S. poppy eradication efforts "a failure" that "wasted hundreds and hundreds of millions of dollars," and "did not result in any damage to the Taliban, but they put farmers out of work and they alienated people and drove people into the arms of the Taliban."⁶ The United States changed strategies toward supporting agricultural development and targeting drug traffickers (as opposed to farmers). Funding shifted away from eradication efforts to training and enhancing the interdiction capabilities of the Counter Narcotics Police of Afghanistan – with mentoring and other support from U.S. agencies, including the Drug Enforcement Agency – and supporting agricultural-sector redevelopment, with an emphasis on higher-value crops and value-added process-

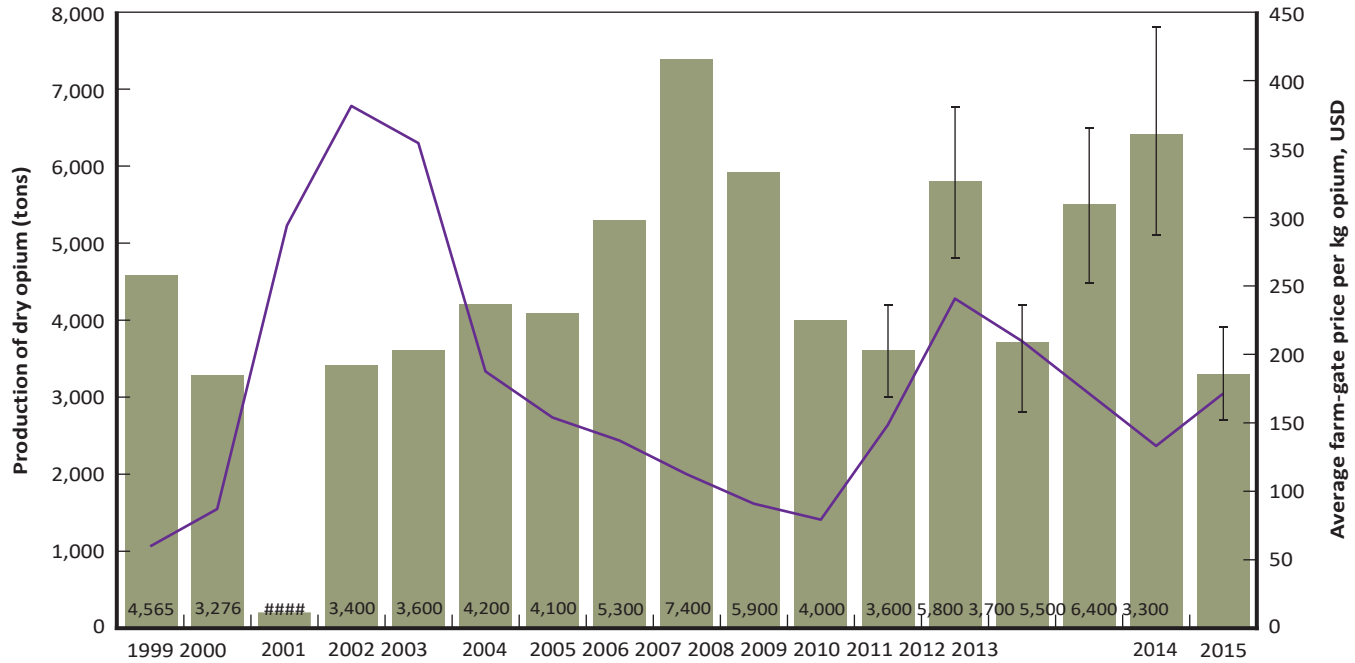
³ Liana Rosen and Kenneth Katzman, *Afghanistan: Drug Trafficking and the 2014 Transition*, Washington, D.C.: Congressional Research Service, May 9, 2014, p. 1.

⁴ UN Office on Drugs and Crime, *Afghanistan Opium Survey 2015*, Vienna, December 2015, p. 12.

⁵ UN Office on Drugs and Crime, 2015, p. 36.

⁶ Rachel Donadio, "New Course for Antidrug Efforts in Afghanistan," *New York Times*, June 27, 2009.

Figure E.1
Opium Production and Prices in Afghanistan, 1999–2015



SOURCE: Office on Drugs and Crime, 2015, p. 36.

NOTE: The Office on Drugs and Crime did not provide a count for 2001.

RAND RR2037-E.1

ing.⁷ While the United States no longer conducted poppy-field eradication, the Afghan government continued on a smaller scale. Between 2008 and 2014, U.S. and International Security Assistance Force interdiction efforts targeted Taliban-linked traffickers, and although it “complicated the Taliban’s logistics, [it] did not severely weaken the Taliban.”⁸

Outcome

Although the United States spent billions of dollars seeking to curb poppy cultivation and heroin production and trafficking, today they continue to thrive, with the Taliban, local government, and police reaping the profits.⁹ A number of factors contributed to this poor outcome. As discussed in the body of the report, geography matters. Commodity interdiction is significantly more challenging against an enemy with widespread smuggling routes and extensive, porous land borders. Successful commodity interdiction depends on gaining access to areas where interdiction would occur and, therefore, meaningful, sustained cooperation and participation of neighboring states (in this case, the participation of Iran and Pakistan). The United States, however, focused its efforts internally, and little was achieved in the way of counternarcotics cooperation. Additionally, research shows that the inelasticity of demand for opium meant that U.S. poppy and opium seizures could actually have the unintended effect of increasing the value of remaining stocks, thus canceling out the financial impact of U.S. efforts.¹⁰ Finally, while the Taliban did and do benefit from opium-related revenues in provinces, drug profits have not provided

⁷ U.S. Department of State, Bureau for South and Central Asian Affairs, *U.S. Counternarcotics Strategy for Afghanistan*, Washington, D.C., March 24, 2010.

⁸ Vanda Felbab-Brown, “High and Low Politics in Afghanistan: The Terrorism-Drugs Nexus and What Can Be Done About It,” Brookings Institution, April 29, 2016.

⁹ Azam Ahmed, “Tasked with Combating Opium, Afghan Officials Profit from It,” *New York Times*, February 15, 2016; Krayewski, 2016.

¹⁰ Jeffrey Clemens, “An Analysis of Economic Warfare,” *American Economic Review*, Vol. 103, No. 3, 2013, p. 526.

the bulk of Taliban funding. Interdiction efforts could have had a greater impact if the Taliban had been more reliant on these sources.

Interdicting ISIL Oil Production

As ISIL's territorial gains allowed the organization to gain control of oil fields in Syria and Iraq, oil revenue increasingly provided a significant portion of ISIL's financing. Estimates of ISIL's revenue from the extraction and sale of oil on its territory vary widely, but U.S. Central Command assessments have ranged as high as \$2 million per day.¹¹ Since 2014, however, a combination of coalition air strikes, territorial losses, and countersmuggling efforts has reduced the organization's ability to extract, refine, sell, and profit from oil fields in territory it holds.

Beginning in September 2014, the U.S.-led coalition began to target ISIL-controlled refineries located in Syria with the intention of diminishing ISIL's oil-based revenue. In spite of periodic air strikes, however, oil revenue continued to form a core component of ISIL financing. ISIL engineers were able to limit disruption to oil flows by quickly repairing the damage. Additionally, seeking to limit civilian casualties, the United States was hesitant to strike other parts of ISIL's oil distribution network, particularly oil tanker trucks.¹² After more than a year of air strikes, a U.S. Treasury official estimated that ISIL still earned up to \$40 million a month from oil and gas products.¹³

In October 2015, the coalition accelerated efforts to interdict ISIL's oil revenue, launching Operation Tidal Wave II. This campaign primarily targets ISIL oil refineries and distribution networks in Syria and seeks "to knock out specific installations for six months to a year[,] . . . targeting fuel oil separators and elements of pumping stations at

¹¹ Helene Cooper and Anne Barnard, "Warplanes Blast Militants' Refineries in Syria, Targeting a Source of Cash," *New York Times*, September 25, 2014.

¹² Michael R. Gordon and Eric Schmitt, "U.S. Steps Up Its Attacks on ISIS-Controlled Oil Fields in Syria," *New York Times*, November 12, 2015.

¹³ Guy Faulconbridge and Jonathan Saul, "Islamic State Oil Is Going to Assad, Some to Turkey, U.S. Official Says," *Reuters*, December 10, 2015.

sites in Islamic State-controlled areas" (only a small minority of ISIL oil funding comes from oil fields in Iraq).¹⁴ One strike destroyed machinery that enabled centralized control of wells at ISIL's largest oil source, al-Omar field.¹⁵ In addition to destroying refinery and well infrastructure, the campaign is estimated to have destroyed more than 600 oil tanker trucks, which form the core of ISIL's oil distribution network.¹⁶

Although coalition forces have made substantial progress in interdicting oil revenue streams, it is important to place oil interdiction efforts in the broader context of ISIL's finances. While coalition interdiction efforts have had an impact on ISIL's ability to profit from oil fields in territory it controls, oil provides only a fraction of the organization's revenue (see Figure E.2). The majority of ISIL's financial resources comes from taxation, extortion, and its 2014 thefts from state-owned banks in Iraq following its seizure of Mosul and other cities; in particular, this included skimming money from the salaries that Baghdad continued to pay public employees living in ISIL-controlled areas.¹⁷ Although oil interdiction efforts have squeezed ISIL's resources, it has adapted: "[A]s other revenue streams have stalled, like banks and oil, the Islamic State has adjusted these rates to make taxation a larger portion of its income."¹⁸

Outcome

Coalition forces have made substantial progress in interdicting ISIL's oil production and exports. While it is difficult to calculate ISIL revenue streams, U.S. officials report that oil revenue has fallen by as much as 30 percent.¹⁹ In addition to reducing ISIL's access to crude oil resources, coalition air strikes and losses of territory have forced ISIL "to rely upon

¹⁴ Gordon and Schmitt, 2015.

¹⁵ Erika Solomon, Robin Kwong, and Steven Bernard, "Inside Isis Inc: The Journey of a Barrel of Oil," *Financial Times*, February 29, 2016.

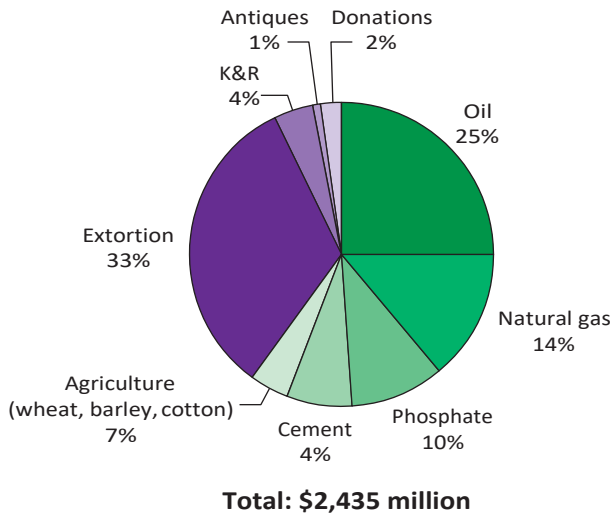
¹⁶ Jim Michaels, "ISIL Oil Trucks, Worth \$11 million, Destroyed in Massive Airstrike," *USA Today*, August 9, 2016.

¹⁷ Howard J. Shatz, "Iraq Is Bankrolling ISIL," *Politico*, May 24, 2015.

¹⁸ Sarah Almukhtar, "ISIS Finances Are Strong," *New York Times*, May 19, 2015.

¹⁹ Patrick B. Johnston, "The Islamic State's Money Problems," *USA Today*, March 4, 2016.

Figure E.2
ISIL Revenue Sources, 2015



SOURCE: Center for the Analysis of Terrorism, *ISIS Financing 2015*, Paris, May 2016, p. 7.

NOTE: K&R = kidnapping and ransom.

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even more primitive refining techniques, including burning the crude in open pits that produce limited yields of poor-quality product.”²⁰ As oil and oil products become scarcer in ISIL-controlled territory, ISIL has to devote a greater percentage of these resources to internal needs, and coalition forces are better able to interdict the external- or export-based revenue stream through air strikes and enhanced border security.²¹

Several factors have contributed to this outcome. ISIL’s relative geographic isolation (when compared with Afghanistan’s porous and extensive borders) and the commitment of neighboring states to interdict ISIL’s oil production and export have contributed to the coalition’s success. Additionally, as outlined in the body of this report, the extent

²⁰ Financial Action Task Force, *Financing of the Terrorist Organisation Islamic State in Iraq and the Levant*, Paris, February 2015, p. 15.

²¹ Financial Action Task Force, 2015, p. 15.

of an enemy's vulnerability to commodity interdiction will be in large part shaped by the degree to which the demands of warfare or governance strain its resources. Early on, military and territorial gains by ISIL strained its resources. Now, coalition air strikes and counteroffensives increase the demands of warfare. Finally, while ISIL has shown an ability to adapt to diminishing oil resources by drawing funding from taxation and extortion, as its territorial control continues to diminish, so too will its revenue base from these areas. Indeed, recent reports indicate that as ISIL has continued to lose control of oil fields and territory, it has had to "cut fighters' pay, levy new taxes, and raise fines"; additionally, the organization has been forced "to sell its remaining [oil] production at steep discounts to persuade truck drivers to collect it and run the gauntlet of U.S.-led airstrikes."²²

²² Ahmed Rasheed, "ISIS Suffers Near Collapse in Oil Revenue as It Loses Territory in Iraq," *Reuters*, July 28, 2016.

Costs of U.S. Military Interventions

Data on U.S. military casualties in large or high-profile operations—such as OEF-A, Operation Freedom’s Sentinel, OIF, Operation New Dawn, and OIR—are available from the Defense Casualty Analysis System.¹ Casualties for smaller interventions, however—OEF-Philippines (OEF-P) and previous U.S. interventions in the Philippines, Colombia, and El Salvador—were compiled from a number of unofficial sources.² Sourcing for financial costs of U.S. interventions is broken out by type below. Casualties for Operations Provide Comfort and Northern Watch came from the U.S. Air Force,³ while information about force levels’ affects on casualties in Operation Restore Hope came from the General Accountability Office, Defense Casualty Analysis System, and UN.⁴

¹ Defense Casualty Analysis System, “U.S. Military Casualties – OCO Casualty Summary by Casualty Type,” web page, updated September 9, 2016.

² For data on OEF-Philippines see iCasualties.org, “Fatalities,” web page, undated (filter by “Country of Death = Philippines”). For data on the Philippines (1972–1983), see MooseRoots, “Find Peacetime Military Casualties,” web page, undated (filter by “Casualty Country = Philippines,” “Between = 01/01/1971 and 12/31/1983”). For data on Plan Colombia (2000–2016), see MooseRoots, undated (filter by “Casualty Country = Colombia,” “Between = 01/01/2000 and 09/12/2016”). For data on El Salvador (1981–1992), see MooseRoots, undated (filter by “Casualty Country = El Salvador,” “Between = 01/01/1981 and 12/31/1992”).

³ Haulman, 2000a, p. 181.

⁴ For troop levels, see U.S. General Accounting Office, *Peace Operations: Cost of DOD Operations in Somalia*, Washington, D.C., March 1994. Published Department of Defense figures place casualties for both Restore Hope and UNOSOM at 43; see Defense Casualty Analysis System, “Worldwide U.S. Active Duty Military Deaths: Selected Military Opera-

Large-Scale Stability Operations

Estimated costs of any U.S. intervention can vary considerably, depending on how they are calculated and what types of costs are included. While some estimates include only direct U.S. military costs or appropriations, others fold in military aid, economic aid, humanitarian aid, and long-term costs (such as benefits to veterans). These disparities have led to significant differences in reported costs of U.S. interventions. For example, cost estimates for the Iraq War range from \$815 billion (\$828 billion, in 2016 U.S. dollars), according to the Congressional Research Service,⁵ to more than \$2.2 trillion. Brown University estimates:

The costs for Iraq are c. \$1.71 trillion [\$1.74 trillion in 2016 U.S. dollars], not including future war costs of veterans care; \$2.21 trillion [\$2.25 trillion in 2016 U.S. dollars] including future costs of veterans care to 2054. The share of total costs attributable to Afghanistan/Pakistan is c. \$1.65 trillion [\$1.68 trillion in 2016 USD], not including future war costs of veterans care; the cost of Afghanistan will be \$2.15 trillion [\$2.19 trillion in 2016 U.S. dollars] including future costs of veterans care to 2054.⁶

The Congressional Research Service estimates that U.S. military costs during the war in Vietnam totaled \$738 billion (\$790 billion in 2016 U.S. dollar) (excluding long-term costs, such as veterans' benefits).⁷ The Congressional Research Service also provides estimates

tions (1980–1996), undated. UN figures place U.S. fatalities for UNOSOM at 30; see UN Peacekeeping, "Fatalities by Nationality and Mission," August 31, 2016.

⁵ A 2014 Congressional Research Service report estimates the Iraq War (OIF and OND) cost \$815 billion (in 2014 U.S. dollars); see Amy Belasco, *The Cost of Iraq, Afghanistan, and Other Global War on Terror Operations Since 9/11*, Washington, D.C.: Congressional Research Service, December 8, 2014.

⁶ Neta C. Crawford, "U.S. Costs of Wars Through 2014: \$4.4 Trillion and Counting, Summary of Costs for the U.S. Wars in Iraq, Afghanistan and Pakistan," unpublished manuscript, Boston University, June 25, 2014, p. 11.

⁷ Stephen Daggett, *Costs of Major U.S. Wars*, Washington, D.C.: Congressional Research Service, June 29, 2010.

for the cost of large-scale post-9/11 conflicts based on Department of Defense, Department of State, and other U.S. agency appropriations (the Department of Defense accounted for 92 percent of the total enacted war funding for OIF, Operation New Dawn, and OEF).⁸ A 2014 report estimates that OEF (Afghanistan and operations in other countries, including Djibouti and the Philippines) cost \$686 billion (in 2014 U.S. dollars).⁹

Small-Scale Advisory Stability Operations

Costs for OEF-Philippines, roughly \$628 million (\$638 million in 2016 U.S. dollars), were calculated based on U.S. Agency for International Development Greenbook reports on U.S. military aid (2002–2014).¹⁰ The Department of Defense reports: “As of July 31, 2016, the total cost of operations related to ISIL since kinetic operations started on August 8, 2014, is \$8.7 billion and the average daily cost is \$12.1 million for 724 days of operations.”¹¹

Cost estimates for historical interventions can be more challenging and must also account for inflation. The estimated cost of U.S. activities in the Philippines (1972–1983), \$2.5 billion, came from previous RAND research.¹² Estimates of U.S. aid to Colombia as part of Plan Colombia (2000–2016) came from media reports but were corroborated with data from the U.S. Agency for International Development’s Greenbook.¹³ A 1993 Army article offers a cost estimate of

⁸ Belasco, 2014.

⁹ Belasco, 2014.

¹⁰ U.S. Agency for International Development, 2014.

¹¹ U.S. Department of Defense, “Operation Inherent Resolve – Targeted Operations Against ISIL Terrorists,” web page, undated.

¹² Watts, Campbell, et al., 2014, pp. 75–76.

¹³ Nick Miroff, “Colombian Peace Deal Could Mark Rare Victory for U.S. Diplomacy,” *Washington Post*, August 27, 2016.

\$4 billion (\$6.6 billion in 2016 U.S. dollars) for the U.S. intervention in El Salvador (1981–1992).¹⁴

Safe Havens and NFZs

U.S. government sources provide financial information on safe havens and NFZs. The Congressional Research Service estimates financial costs of Operations Provide Comfort and Northern Watch (over Iraq) at \$2.6 billion.¹⁵ The General Accounting Office put financial costs of Operation Restore Hope at \$1.2 billion.¹⁶

Military Assistance to Front-Line States

All estimates for military assistance to front-line states were derived from U.S. Agency for International Development's Greenbook.¹⁷

¹⁴ Michael J. Hennelly, "US Policy in El Salvador: Creating Beauty of the Beast?" *Parameters*, 1993.

¹⁵ Nina M. Serafino, *Peacekeeping and Related Stability Operations: Issues of U.S. Military Involvement*, Washington, D.C.: Congressional Research Service, May 2006, p. 16.

¹⁶ Troop levels were derived from U.S. General Accounting Office, 1994.

¹⁷ U.S. Agency for International Development, 2014.

Visualization of Limited Strike Statistical Results

In an online appendix, we supplement Appendix B with figures representing predicted change in militant violence or statements by month. The appendix is available for download at www.rand.org/t/RR2037.

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The foreign policy and defense communities have intensively debated the efficacy of low-cost and small-footprint military options for crises such as those in Afghanistan, Iraq, Libya, Somalia, Syria, and Yemen. This report divides these operations into three types: *limited stabilization* (involving the deployment of hundreds or thousands of ground forces to bring a conflict to a favorable end), *limited strike* (involving airpower—predominantly drone strikes—to disrupt and degrade militant networks), and *indirect options* to contain or mitigate a conflict. The report provides a statistical analysis of hundreds of cases, supplemented by cases studies, to evaluate the strategic effects of each type of operation.

Limited stabilization missions can improve the odds of achieving an acceptable outcome at relatively low cost, but the odds of outright military victory are generally small. Larger numbers of forces, on average, yield better outcomes, but only at extremely high cost. The United States can instead rely on partners to conduct these operations, but doing so often comes with numerous drawbacks.

Limited strike operations can disrupt militant networks—but generally only when they are conducted intensively and in cooperation with a reasonably effective partner on the ground. Where these conditions do not hold, such strikes appear to have counterproductive effects, including increased militant attacks and propaganda activity.

Finally, indirect options were found to have limited effects. Efforts to bolster front-line states to prevent conflict spillover did not have any observable effect. Safe areas, no-fly zones, and interdiction campaigns can all provide important benefits—but usually as elements of a larger military operation, not as alternatives to large-scale intervention.



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