Crude Interruption:
How the Proximity of Assets and People Shapes Political Conflict

Graeme Blair

A Dissertation
Presented to the Faculty of Princeton University
in Candidacy for the Degree of Doctor of Philosophy

Recommended for Acceptance by the Department of Politics

Advisor: Evan S. Lieberman

May 2016
Abstract

Do natural resources like oil and diamonds cause civil conflict? If so, why? In many developing countries, profits from natural resources dwarf the national budget. Yet instead of financing a path to prosperity, prominent cases of civil war from the Aceh conflict in Indonesia to the Biafran War in Nigeria have convinced policymakers and scholars that there is a link between resources and conflict. This view held sway over several decades, but recent theoretical scrutiny and new empirical analyses of the issue suggest that the observed correlation may be spurious.

I reconcile these two views and argue that oil does cause civil war, but only under a limited set of circumstances. I develop a theory of asset proximity that predicts that oil only causes civil wars over local demands such as fiscal autonomy or secession and only when it is discovered near populated areas. People living near natural resources can often interrupt resource extraction through protests, sabotage, and strikes. In doing so, they also interrupt state revenues, because the state owns, controls, or heavily taxes natural resource production around the world. As a result, by virtue of their location, people living near natural resources and other valuable assets often hold considerable leverage with the state. The state will often be forced to acquiesce to their demands to avoid further revenue losses. If these bargains break down, violent conflict may result.

I leverage a mixed-methods research design to test the implications of this theory. I combine detailed geographic data on the timing and location of oil discoveries around the world; individual-level survey data from the oil region in Nigeria; and qualitative evidence from Nigeria. I test the implications of the theory in two ways: first, I assess the predictions of the model, relying on the natural experiment of the essentially random occurrence of oil discovery in
exploration wells. I then evaluate the mechanism connecting the proximity of people and oil infrastructure to violent conflict. To do this, I rely on evidence from oil production interruptions, state policy changes, and violent conflict in the Nigerian oil region in the last decade.
Acknowledgements

I thank Evan Lieberman for championing this project since its first days and encouraging me at every stage to do work outside my comfort zone. Kosuke Imai pushed me to work harder and smarter throughout my time at Princeton, to focus on doing good work, and to communicate it well. I also thank Kosuke for his support in funding and implementing the survey research in Nigeria. Carles Boix pushed me to ask bigger and more important questions. Betsy Paluck was the force that caused me to invest in the fieldwork that yielded Chapter 5 and was a supporter throughout. I also thank Jake Shapiro who served as an informal but crucial fifth member of my committee and offered guidance at numerous critical points.

I owe intellectual debts to many people from my fieldwork in Nigeria and I cannot acknowledge most by name. However, I thank in particular Belema Papamie, whose friendship and guidance made my time in Port Harcourt possible and whose perspective on the Niger Delta informed much of what I have written here. I am also grateful to Patrick Naagbanton for generously sharing his time at several early and critical points.

Many talented and dedicated people contributed to the survey research reported in Chapter 4. I thank Chike Egbulefu for outstanding field management in Port Harcourt and Mariam Fagbemi for oversight; Clinton Okpowhor and Charles Uche for assistance with Pidgin translation; and the excellent field teams based in Benin City and Port Harcourt. Patrick Naagbanton, Jo Croft, Miabiye Kuromiema, and Inemo Samiama merit special thanks for their assistance in access to remote communities during piloting. Rebecca Littman also deserves special thanks for her generosity in providing advice and Pidgin English tips while we worked on a related project in the Niger Delta. I also thank Jo Croft for assistance in obtaining the government database of oil spills. Thanks finally to Kate Baldwin, John Campbell, Jason Lyall, Abbey
Steele, and Alex Scacco for comments on aspects of the design of the survey.

I gratefully acknowledge financial support from the National Science Foundation (Grant SES-1226228), the International Growth Centre (Grant RA-2010-12-013), the Bobst Center for Peace and Justice at Princeton University, and the Princeton Institute for International and Regional Studies. I am also grateful for fellowships from the Woodrow Wilson Scholars at Princeton, the Princeton Institute for International Relations, the Program in Quantitative and Analytical Political Science at Princeton, and Evidence in Governance in Politics that made possible time in the field and writing.

I was lucky to be a part of a large cohort of comparativists at Princeton who generously commented on many iterations of this work. I particularly thank Yanilda Gonzalez, Erin Lin, and Sarah El-Kazaz who supported me while we were conducting fieldwork on different continents. I am grateful to Peter Buisseret, Shelby Grossman, Gabriel Moctezuma Lopez, Bryn Rosenfeld, and Carlos Velasco both for their friendship and for being important interlocutors during my work on this project. Finally, I am grateful to have met Rohan Mukherjee, with whom I never discussed this work over seven years of friendship at Princeton but who has nonetheless made its completion possible.

It is my parents and my sister to whom I owe the largest debt. My parents inspired me to look outward early on and encouraged — and put up with — my explorations in Africa over many years. My sister Susannah has been my biggest supporter during this process, beginning with the day she moved me into graduate school.
To my sister, Susannah, for life across the (Hudson) River.
## Contents

Abstract iii

Acknowledgements v

1 Introduction 1

1 Puzzle ................................................................. 3

2 The Argument ....................................................... 4

3 Why Interruptions Matter ........................................... 5

4 Alternative Arguments ............................................. 7

5 Beyond Oil and Armed Conflict ................................. 9

6 Overview of Evidence ............................................. 10

7 Road Map ............................................................. 12

Appendices 15

1.A Estimating the Magnitude of Oil Production Interruption in Nigeria 15

2 Asset Proximity 21

1 Asset Proximity ..................................................... 23

2 The Effects of Revenue Interruptions ............................. 34

3 Concluding Remarks ............................................... 43

3 Why Oil Causes Civil War: Cross-National Evidence on the Role of the Proximity of Peo-viii
ple to Oil Production

1 An Application of the Theory of Asset Proximity ........................................... 47
2 Research design .................................................................................................. 58
3 Data ................................................................................................................... 68
4 Methods ............................................................................................................. 73
5 Results ............................................................................................................... 77
6 Alternative Explanations .................................................................................. 87
7 Conclusion ......................................................................................................... 89

Appendices

3.A Oil reserves data .............................................................................................. 91
3.B The Effect of Oil on Civil War ........................................................................ 92
3.C Additional Results .......................................................................................... 96
3.D Additional Balance Plots ................................................................................ 97
3.E Summary statistics for control variables in matching analyses .................... 98

4 Do Local Civilians Collaborate with Armed Groups to Interrupt Oil Production? Evidence from Nigeria

1 Civilian Collaboration in Conflicts over State Revenue Sources ..................... 102
2 How Armed Groups Perpetrate Oil Production Interruptions in Nigeria .......... 105
3 Research Design ................................................................................................. 107
4 Statistical Analysis for the Randomized Response Technique ........................ 125
5 Results ............................................................................................................... 126
6 Alternative Explanations .................................................................................. 138
7 Conclusion ......................................................................................................... 142
List of Tables

3.A.1 Oil reserves accounting for the United States demonstrates the complex components of oil reserves, several of which contain exactly the sort of political manipulation the data aim to remove ......................................................... 92

3.E.1 Summary Statistics for Control Variables Used in Matching Analyses ........ 98

4.A.1 Armed Group Camp Locations ................................................................. 145

5.1 Tests of the theory proposed in Chapter 2, a discussion of possible research designs to evaluate the tests with evidence, and the empirical findings of this chapter 163

5.1 Examples of the Use of Interruption Tactics in the Niger Delta, 1997–2000 .... 165
List of Figures

1.1

Nigeria Experienced a Dramatic Interruption to Oil Production from 2006 to July
2009, During Which 1.5 Billion Barrels of Oil and 100 Billion USD Were Lost . . .

6

1.A.1Oil Production Declined in Nigeria from 2006 to mid-2009 (top). Spare Production Capacity in Nigeria Tracked Other OPEC Members Until 2006, When it
Dramatically Increased (bottom) . . . . . . . . . . . . . . . . . . . . . . . . . . . . .

16

1.A.2Nigeria Experienced a Dramatic Interruption to Oil Production from 2006 to July
2009 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .

3.1

19

The timing and location of oil and natural gas exploration well drilling and field
discoveries from 1946 to 2003 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .

62

3.1

Oil discoveries (blue) and land cover (barren land in red) . . . . . . . . . . . . . . .

73

3.1

Civil Wars More Likely to Start in States with Onshore Oil than States with No
Oil, but No Difference Between States with No Oil and States with Offshore Oil .

78

3.2

Oil Substantially Increases the Risk of a Secessionist War Outbreak . . . . . . . . .

80

3.3

Oil Does Not Cause Center-Seeking Civil Wars, and Perhaps Even Prevents Them

81

3.4

Secessionist Civil Wars are Substantially More Likely When Oil is Discovered
Onshore (red), and No Statistical Difference When Oil is Discovered Offshore . .

3.5

83

Effect of Onshore Oil Discoveries on Secessionist Wars is Driven by Finds in
Populated Areas . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .

xii

84


3.6 Effect of Onshore Oil Discoveries on Secessionist Wars is Driven by Finds in Habitabale Areas ................................................................. 85

3.A.1 Huge jumps in oil reserves data in Saudi Arabia, Iraq, Libya, Iran, and Kuwait in the late 1980s do not represent discoveries of new resources or changes in technology ................................................................. 92

3.B.1 States with Oil Discoveries Are No More Likely to Experience New Civil Wars in the 20 Years Following Discovery than States without Oil Discoveries ........ 93

3.B.2 Balance in the Matched (Black Circles) and Unmatched (White Circles) Data ... 95

3.C.1 There is No Effect of Onshore Oil on Center-Seeking Wars (red), Even Perhaps a Negative Effect for Offshore Discoveries (blue) ........................................... 96

3.D.1 Balance in the Matched (Black Circles) and Unmatched (White Circles) Data ... 97

4.1 A Majority of Respondents Live Proximate to Oil Facilities, Nearly Half Pass Them Often ................................................................. 115

4.2 Many Civilians Live in Close Proximity to Armed Groups in the Niger Delta ... 116

4.3 Armed Group Camps Active 2007–09 (green triangles) and Oil Facility Sabotage from 2011–12 (red circles) in the Niger Delta region ............................... 121

4.4 Distribution of Demographic Characteristics for Ordinary People (top row) and Traditional Leaders (bottom row) .............................................. 122

4.1 Many civilians personally knew state counterinsurgency agents, one in ten were solicited for information by them in 2007 and 2008, and two-thirds regularly encounter the agents ................................................................. 128

4.2 Armed groups interact with civilians in a variety of ways, some extractive and some positive, offering opportunities for civilians to engage and share information 130

4.3 Many Civilians Held Personal Connections to Armed Group Members ........ 131
4.4 Civilians Who Live Near Oil Facilities and, Particularly, Near Oil Facility Attacks, Are Most Likely to Share Information with Armed Groups  

4.5 Civilians living close to armed group camps are driving informing: nearly 50% informed to the armed groups. Civilians living further away informed at much lower rates  

4.1 Many Civilians and Their Local Leaders Had Personal Connections to Armed Group Members  

4.2 Minority Ethnic Groups No Less Likely to Cooperate with Militant Groups than the Ijaw  

4.D.1 Civilians whose families were victimized by the armed groups are more likely to inform (more than half did). Yet given the low rates of informing, this explains little of the high informing rate  

4.D.2 Coercion Perpetrated by Either Armed Groups or the State is Rare, Suggesting Coercion is Not Driving High Rates of Informing  

5.1 Oil Production Figures for Nigeria from 1995 to 2001 Indicate Sharp Drop in 1998  

5.2 The Overlap between Ijaws and Oil in the Niger Delta Region  

5.1 Timeline of the Narrative from the Interruption of State Revenues to State Policy Changes in the Niger Delta, 1998 to 2001
CHAPTER 1

Introduction

Does the presence of natural resources like oil and diamonds cause internal conflict? If so, why? In many developing countries, profits from natural resources dwarf the national budget. Yet instead of financing a path to peace and prosperity, these resources are associated by journalists and policymakers with slow economic growth, illiberal governments, and armed internal conflict. Scholars are less certain of a connection: two books published recently by top academic presses, for example, were titled *The Oil Curse* and *Oil Is Not a Curse*. Despite a decade of theoretical and empirical investigation, it remains unclear why and even whether natural resources are causally related to violent conflict.

In this manuscript, I introduce a new mechanism to explain why natural resources cause conflict: asset proximity. I argue that people living next to major revenue-producing assets are often able to interrupt the state’s collection of revenue from those assets through direct actions such as protests, strikes, and armed conflict. This capability to interrupt state revenues endows people near assets with leverage to demand policy changes from the state, often in the form of transfers. I will argue that the perpetrators of these interruptions are likely to live proximate to assets, both in order to more easily hide among the local population and to obtain the support of ordinary people to avoid detection and arrest.

Asset proximity is far from the first explanation of the relationship between natural resources and conflict. From the Biafran War in Nigeria to the Acehnese conflict in Indonesia, prominent cases of civil war in oil-rich states convinced scholars and practitioners for decades
that oil wealth often leads to conflict. Existing quantitative evidence suggests that oil-rich states are more likely to experience civil wars than others (cf. Collier and Hoeffler, 1998; Ross, 2012). Two mechanisms tie the presence of crude oil to civil war in this scholarship. The first is state weakness. States use the enormous windfalls from oil to substitute for costly-to-collect tax revenues. This diminishes the size and strength of the state bureaucracy. The second mechanism is a state prize effect. Oil motivates non-state groups to obtain power, to capture the prize of control over oil revenues.

However, further scrutiny has cast theoretical and empirical doubt on each mechanism. First, while oil may diminish state capacity in general, we should expect state military capacity to expand, not shrink. Just as oil wealth motivates rebels to seize control of the state, it motivates state leaders to retain power. At the same time, oil wealth provides the means to hold on to power by expanding access to discretionary cash. Recent empirical evidence suggests that, indeed, oil increases state military spending (Cotet and Tsui, 2013). Second, while oil undoubtedly motivates rebels to fight, challenging the state requires both motivation and financing. Non-state armed groups, with few exceptions, cannot obtain funds through the sale of oil, due to the scale of the infrastructure required to extract and transport it.\(^1\) An analysis of 13 likely cases supports this claim, finding that oil never financed non-state armed groups (Ross 2004). Together, this suggests a view that oil may strengthen the hand of the state and diminish the risk of conflict. Some recent quantitative analyses agree and suggest that the observed positive correlation between oil and civil war is spurious (Cotet and Tsui, 2013).

In this manuscript, I reconcile these two views and argue that oil does cause civil war, but only under a limited set of circumstances. Drawing on the theory of asset proximity, I argue that oil only causes civil wars over local demands for fiscal autonomy or secession, and oil

\(^1\)The Islamic State is one of few known exceptions. It was able to profit from oil because it controlled vast territory from oil wells to land borders with nearby states. It was also, arguably, a state.
only causes wars when it is found near people. Existing theories treat the presence of oil as uniformly distributed across the state. Yet oil, like most natural resources, is typically found in just one region. To predict where conflict will break out in an oil state, therefore, the relevant group of potential challengers is not people anywhere in the state, but rather people living in the oil region. By ignoring the geography of people and resources, existing accounts miss dramatic differences in rates of civil war and the mechanism that leads oil to cause civil war.

1. Puzzle

Why is the presence of natural resources, and particularly oil and natural gas, associated with the risk of internal conflict in a state? Is this relationship a causal one, or is it confounded by differences between resource-rich and resource-poor countries that existed before resources were discovered? I address these two theoretical and empirical puzzles in this manuscript. I develop a new mechanism to explain why resources are associated with conflict and show that it resolves the empirical puzzle of whether oil causes internal conflict.

The focus on oil and natural gas and internal conflict reflects two concerns. First, scholarship on natural resources overwhelmingly focuses on the case of oil and natural gas, and this is where the arguments are best developed. Second, oil and gas together make up the most valuable commodity in the world, and their discovery in the mid nineteenth century and rise to prominence as a source of energy in the twentieth have shaped the world economy.

Despite the importance of these questions, they remain largely unresolved. There is now a large and robust literature on whether oil and gas have led to a more or less democratic world (Ross, 2001; Haber and Menaldo, 2011). Yet theoretical and empirical evidence on the re-

\[\text{2However, the debates over other resources, including gems, timber, illicit substances such as coca and marijuana, and precious commodities such as gold overlap theoretically with the literature on oil and gas. As I discuss further theoretically in Chapter 2 and empirically in Chapter 3, the argument posed here holds relevance for many of these other resources.}\]
the argument 4

relationship between resources and armed conflict, and particularly internal conflict, has lagged behind, though there are several notable exceptions (Dube and Vargas, 2013; Cotet and Tsui, 2013).

2. The Argument

I propose in this manuscript a theory — asset proximity — to explain why oil causes civil wars when it is found near people. People living near natural resources can often interrupt resource extraction through protests, sabotage, and strikes. Ordinary people play an important supporting role in these interruptions by hiding the perpetrators and helping them to avoid arrest. Locals rely on their specialized knowledge of the terrain and the movements of state security forces and oil industry personnel. When local people interrupt extraction, they also interrupt state revenues, because the state nearly always owns, controls, or heavily taxes natural resource production. As a result, by virtue of their location, people living near natural resources often hold considerable leverage over the state. They can demand a larger share of resource revenues or local policymaking autonomy, and often the state will be forced to acquiesce to avoid further revenue losses. If bargains break down — for example, if the state cannot commit to future revenue sharing — conflict may result.

The proposed theory fits the cases. It suggests that oil caused civil wars in Biafra and Aceh because there were people living near oil wells who could interrupt production. When the local groups who could interrupt oil production could not come to an accord with the state, fighting erupted. In other cases where oil was found offshore and out of reach — in Equatorial Guinea and Brazil, for example — the state could use the oil revenues to build up its military without the threat of local interference with oil production. With a strengthened military, possible challengers were deterred from taking up arms.
The manuscript offers a challenge to the conventional wisdom that natural resources always incite violence against the state. I show instead that they only cause conflicts over local policy and only when people live near the resources at issue. I rely in testing these predictions on a natural experiment that represents a new research design for studying the effects of oil wealth. In addition, I highlight the role that ordinary people play in resource conflicts, helping armed groups avoid state detection and arrest. I document these efforts by gathering new, direct individual-level evidence on the behaviors of civilians in conflict. The project highlights the importance of considering the clustered geography of natural resources and other valuable assets in the state and of the people who can interrupt state revenues collected from these assets.

3. Why Interruptions Matter

The Ijaw are a small minority group living in an area in southeastern Nigeria that surrounds the country’s petroleum extraction infrastructure. In 1997, the group launched a campaign of sabotage, petroleum theft, and violence against the oil industry. The state responded by creating a new state institution to oversee economic development in the region in 2000. I show in Chapter 5 that it was the group’s ability to interrupt state revenues from assets near where they live that endowed it with leverage with the state.

The agreement did not hold. Ijaw leaders began a second wave of oil production interruption in 2006. The state responded again, this time by offering a massive package of economic development aid targeted at the oil region and transfers to the armed groups that were directly involved. In 2009, the state created a new, large line ministry — the Ministry for Niger Delta Affairs — to oversee development programs for the region, a 2 billion USD economic development aid program focused on infrastructure, and an amnesty agreement that provided for
Figure 1.1: Nigeria Experienced a Dramatic Interruption to Oil Production from 2006 to July 2009, During Which 1.5 Billion Barrels of Oil and 100 Billion USD Were Lost. The monthly magnitude of the interruption is estimated (top panel) as well as the monthly lost value in USD (bottom panel). Data extracted from International Energy Agency Monthly Oil Report publications from 2001 to 2010, itself data reported to OPEC by member states. Estimated differences calculated using the the synthetic control method. Details in Appendix 1.A.

salaries for demobilized armed group members.

Why does the ability to interrupt state revenue collection from assets near where the group lived yield such leverage? To illustrate how damaging the ability of asset-proximate groups to interrupt can be to state finances, I estimate the timing and magnitude of the interruption to oil production in Nigeria that preceded the large targeted policy changes in 2009. Figure 1.1 shows the size of the predicted interruption to oil production (Panel A) and, at prevailing oil prices, the monthly lost revenues (Panel B). The interruption of Nigeria’s oil production began in January 2006 and peaked in 2008 and 2009 at a cumulative cost to the treasury of more than 55 billion USD. This is a dramatic interruption for an annual budget of approximately 20 billion USD. A description of the methods used to construct these estimates can be found in Appendix 1.A.
4. Alternative Arguments

I address several classes of alternative mechanisms at each level of analysis in Chapter 3, Chapter 4, and Chapter 5, at the state, individual, and elite level respectively. There are four classes of general explanations for the puzzle raised in this manuscript and I outline them here and note where they are addressed in the theoretical and empirical analyses that follow.

Lack of state capacity. A longstanding argument in the study of resource-rich countries that originates in scholarship on the Middle East “rentier states” suggests that natural resources, especially oil, weaken state institutions generally because they obviate the need to tax citizens (Mahdavy, 1970; el Beblawi and Luciani, 1987; Karl, 1997). The weakening of the bureaucracy for taxation and the coercive institutions that back its imperatives leaves the state less able to fight off armed challenges. In this view, the ability of local people to interrupt state revenues is epiphenomenal to a general weakening of state institutions. Whether or not they could interrupt production, these groups would be able to challenge the state. Yet, as I argue in Chapter 3, though there is less need for the bureaucracy of taxation and with it state institutions to respond to citizens demands, there is an equal and opposite force from the rich elite who wish to protect their rents. Indeed, available empirical evidence suggests state militaries are actually stronger in oil-rich states, not weaker.

Greed and grievances. A second, equally popular, line of thinking suggests that natural resources motivate rebels to fight for a share of resource rents (“greed”) and incites grievances from groups left out of resource revenue distributional deals (“grievances”). In the first view, the geography of resources and people is irrelevant: opportunistic groups across the territory see a more valuable prize to be won in state control. I address this view empirically with ev-
idence that shows that in fact where oil fields are discovered affects whether oil causes civil conflict. In some accounts, grievances are particularly strong for people living in the resource region — they see resources extracted and little coming back. I assess this mechanism in Chapter 4 and Chapter 5. I show that though many activists and ordinary people in Nigeria’s oil patch have grievances, what forced the state to make concessions was not the civil conflict motivated by those grievances but the interruption of state revenues.

**Changing political institutions.** A confounder in the cases including the Niger Delta that I explore in Chapter 4 and Chapter 5 is the liberalization of political institutions in recent waves of democratization. In each case of minority identity groups mobilizing to demand a greater share of resource revenues, the mobilization coincided with relative openings in regimes that had long excluded these groups. At one time, minority groups’ demands could simply be suppressed. Following democratization in Nigeria in 1999, however, repression was no longer an option. I engage this confounder in Chapter 5 and argue that democratization may interact with the ability of local groups to organize to interrupt state revenues. Some repertoires of contention made possible following liberalization are particularly useful in interrupting state revenues. Nevertheless, the theory of asset proximity predicts which groups will gain leverage with the state and where. Democratization only tells us when they may first be able to take action in this way. In other cases, tactics of interruption may be possible even under authoritarianism. I discuss in Chapter 2 several such examples, including the disruption of electricity infrastructure in South Africa during the waning years of Apartheid.

**Lootability** The “lootability” theory of why natural resources are associated with conflict (Snyder and Bhavnani, 2005) is perhaps closest to asset proximity. Lootable resources such as alluvial diamonds offer a potential source of funds for rebels and are difficult for the
state to tax. Lootable resources cause civil conflict, while nonlootable resources contribute to the state’s production of order. This revenue-centered framework marries well with the asset proximity theory proposed in Chapter 2, but focuses too narrowly on the class of resources that can be taxed or not taxed and ignores the possibility of disruption of resources classified by the authors as lootable (oil, most notably). The focus on interruption subsumes both the resources that cannot be easily taxed (alluvial diamonds, for example) and those that can be taxed but for which production and taxation can be interrupted.

5. Beyond Oil and Armed Conflict

Beyond resolving a puzzle in the literature on the effects of natural resources, an important aim of this manuscript is build a theory that explains why small groups of poor people can, at times, gain outsize political influence in politics. Asset proximity can endow groups with substantial power, even in the absence of any other source of leverage such as group size, wealth, or military capability. This mechanism is applied to the narrow context of oil and gas and its effects on violent conflict, which results when bargains between the state and asset-proximate people break down. Yet the mechanism is relevant far beyond countries with wealth from oil and gas and other natural resources and is likely to affect a wide range of political and economic outcomes beyond armed conflict.

The Ijaw in Nigeria, the subject of Chapter 4 and Chapter 5, are one such group. A second prominent example of a minority group gaining outsize influence comes from Bolivia. Despite the relatively large sizes of several indigenous groups in the country, there was no indigenous president from Bolivia’s independence in 1825 through the turn of the 21st century. Yet indigenous groups dominate the region where natural gas is found in the country. Following a series of large-scale protests and blockades of gas access roads, two successive presidents were forced
to resign from their posts. The government first increased dramatically the share of gas revenues retained by the state. This was insufficient to stop the protests. Following the election of an indigenous president, Evo Morales, in 2005, the state nationalized the gas industry to retain an even greater share to be spent in large part on social programs proposed by Morales.

In each case, for the Ijaw and indigenous groups in Bolivia, minority groups without privileged economic positions that had been out of political power for decades (indeed, in each case since decolonization) were suddenly favored economically by the state. I will argue in this manuscript that asset proximity is a plausible explanation for their newfound leverage.

6. Overview of Evidence

I use a mixed-methods research design to test the implications of the theory of asset proximity as a source of bargaining power. I combine detailed data on the timing and location of oil exploration and discoveries around the world, individual-level survey data from the oil region in Nigeria, and qualitative case evidence from Nigeria. I test the implications of the theory in two ways: first, I assess the predictions of the model, relying on the natural experiment of the essentially random occurrence of oil discovery in exploration wells. Then, I evaluate the theorized mechanism, connecting the proximity of people and oil production to violent conflict. To do this, I rely on evidence from oil production interruptions, state bargaining, and violent conflict in the Nigerian oil region from 1998 to 2001.

The outcome at the center of the manuscript — whether a state experiences internal conflict — is at the state level. The first source of evidence, in Chapter 3, assesses whether oil causes conflict depending on whether people are living nearby. However, the decisions made by political actors that lead to the interruption of state revenues and ultimately in some cases to conflict are at two lower levels. First, individuals decide whether to participate in perpetrating inter-
ruptions, and civilians decide whether to cooperate with these perpetrators to enable them to escape detection and capture by the state. In Chapter 4, I employ evidence at the individual level on civilian decisions to cooperate. The second level of decision making is the elite level — the level of the organizers who decide whether to interrupt state revenues and what to demand of the state, and of state leaders who decide how to respond to the demands. I trace the impact of state revenue interruptions from those early decisions of the organizers to the state’s responses in the case of the Niger Delta from 1998 to 2001 in Chapter 5.

In addition to developing evidence to evaluate the theory of asset proximity in Chapter 2, the manuscript introduces new evidence on the causal relationship between natural resources and civil conflict and on the role of civilians in conflict. Despite decades of research on the political and economic effects of natural resources, including whether oil and diamonds cause civil war, there is not a consensus even on whether these causal relationships hold. In Chapter 3, new evidence on this question, relying on the quasi-random discovery of new oil fields, provides an answer on the latter question: yes, oil causes civil conflict, but only under certain circumstances — and only conflicts over local policy. More broadly, the research design in Chapter 3 offers a new natural experiment that can be used to assess the political and economic effects of oil and other natural resources for which there is a physical exploration process.

The evidence in Chapter 4 contributes the first individual-level evidence on who and how many civilians directly collaborate with armed groups in conflict. A wide body of literature explores the theoretical importance of the information and material assistance provided by civilians to combatants in war, but there is scant systematic evidence on the types of civilians who choose to take these risky actions and how often such actions occur. Information sharing is viewed by scholars, military leaders, and policymakers as a central requirement of effective counterinsurgency, and the evidence in Chapter 4 confirms its frequency and explores where
and when it is likely to occur.

7. Road Map

The manuscript begins with a presentation of a theory of asset proximity. In addition to a
discussion of who is asset-proximate and which set of local actors gain bargaining power with
the state from their ability to interrupt, I discuss the tactics of interruption, the targets of these
actions, and the state’s responses to the interruption. I end with theoretical predictions for the
political and social effects of the ability to interrupt state revenues.

In Chapter 3, I test the predictions of the theory of asset proximity as a source of bargain-
ing power, using a natural experiment to study the effects of natural resource wealth. I find, in
line with the predictions of the theory, that oil only causes civil war when it is found near peo-
ple, and it only causes wars with local aims and not center-seeking wars. When oil is found in
the ocean or in uninhabited places on land, it does not cause civil wars. The credibility of this
evidence is strengthened by a new research design introduced in the book. I show that among
places where oil firms explore for oil, which wells strike oil first is essentially random. I rely on
this randomness to estimate the total effect of oil discoveries, comparing states that discover oil
to states that do not among states with similar rates of oil exploration. I use novel data on the
timing and location of oil exploration and discoveries in relation to where people live to make
these comparisons. This contribution is a step forward from existing studies of the effects of
oil and other natural resources, which rely on politically-determined measures, such as the
amount of revenue from the resource. States may have low levels of resource revenue for many
reasons, some related to the risk of civil conflict, including low property rights protections for
investments in oil exploration and production.

In Chapter 4 and Chapter 5, I evaluate the mechanism proposed to connect the proximity
of people and assets to violent conflict. I do this in two ways: first, by examining the individual-level mechanism that links the physical proximity to the interruption of production; and second, by evaluating whether the state bargains with and makes concessions to people living near oil fields and the small groups that interrupt production.

Who is responsible for interruptions of resource extraction? Existing accounts of resource conflicts focus on the role of small armed groups. In this book, I show that ordinary people living in resource regions play crucial, supporting roles in interrupting oil extraction. Additionally, I detail how they benefit from their cooperation. Ordinary people living near the resource are important because they help armed groups avoid detection and arrest by the state. I evaluate this claim using individual-level evidence from an original 2,900-person survey in Nigeria. I show that people living near oil production, oil production interruptions, and the camps of armed groups that interrupted oil production frequently collaborated with the armed groups. Moreover, these people living near oil were far more likely to collaborate than people living further away. Using the randomized response technique for asking sensitive survey questions indirectly, I show that 40 percent of civilians living near oil production interruptions shared information with the armed groups who carried out the interruption. This is more than four times the rate of collaboration in areas without production interruptions. Civilians shared information about state spies, the activities of counterinsurgency forces, and the oil firms. Though small armed groups directly interrupt resource extraction, I show that they could not do so without the contribution of ordinary people living near the resources.

In internal conflicts over the distribution of resources, can the ability to interrupt state revenues force the state to make major policy changes? Chapter 5 evaluates at the elite level the theory that when organizations can interrupt state revenues collected from physically proximate assets, they will be able to compel the state to target them with favorable policy changes.
Evidence comes from a range of qualitative sources collected from months of fieldwork in Nigeria, including semi-structured interviews and primary source documents. The analysis fails to reject the prediction of the theory for the case of the Niger Delta from 1998 to 2000. The state offered and ultimately enacted changes to state economic development policy for the Niger Delta region in return for an end to the interruption of its revenue. The analysis highlights the boundary conditions of the argument.

I conclude with a discussion of the theoretical and policy implications of the ability of many groups living near assets to interrupt state revenues.
Appendix

1.A. Estimating the Magnitude of Oil Production Interruption in Nigeria

It is difficult to estimate the total impact of interruption tactics on Nigerian oil production. In this section, I detail a systematic method for estimating the total impact of interruption tactics on oil production levels across the Niger Delta on a month-by-month basis from 2001 to 2011. To construct these estimates, I present new data on the spare oil production capacity of Nigeria and of comparable states, and use the synthetic control method to construct a counterfactual production level for Nigeria if it had not experienced production interruptions. By comparing this to the actual production levels, I estimate the number of barrels of oil that were not produced as a result of the production interruptions, and the revenues the state lost as a result.

It is well known that Nigerian oil production peaked in mid-2005 after several decades of increases, and beginning in early 2006 its production levels began to slide. This decline is captured in the top panel of Figure 1.A.1, which shows in the black line Nigerian oil production (indexed to its level in 2001 so changes are comparable across countries). Production declined from a peak of 2.48 million barrels of oil per day in August 2005 to a low of 1.68 million barrels per day in August 2009. Experts attributed this decline in the media to violence in the Niger Delta, yet changes in production levels could have been caused by a number of factors, both domestic and international. In gray lines, the production of other OPEC member states is dis-
Oil production levels are affected by a number of factors. Changes might be caused by domestic interruptions like violence, oil theft, currency crises, political manipulations, or natural disasters (Rowen and Weyant, 1982; Höök, Hirsch and Aleklett, 2009). Yet they might also be caused by changes in the global oil market that induce countries to produce more or less (cf. Ramcharran, 2002). Production increases may also be due to the discovery of new oil fields or technological changes that make production newly possible from earlier finds. Production decreases may result from the exhaustion of oil reserves in an oil field, or from maintenance of

---

3The provenance of the data is production figures reported by the Nigerian petroleum regulator to OPEC.
facilities (Höök, Hirsch and Aleklett, 2009).

Estimates of the lost production due to oil theft and violent attacks must, therefore, adjust for both the international and domestic factors that could also cause changes in production levels. Simply creating a counterfactual comparison for Nigeria from the production levels of other states would not adjust for domestic changes in the oil sector (new discoveries, reserves exhaustion) in Nigeria. Creating a counterfactual using past production figures for Nigeria alone, however, would not adjust for changing oil prices and other facets of the oil market that drive the oil production decisions of governments and firms.

To adjust for changes in the number of oil wells that are able to produce oil in a given month — including new oil field discoveries and the exhaustion of reserves, to take two examples — I present new data for Nigeria on *spare production capacity*. Instead of measuring how much is produced, I measure how much is produced relative to how much could be produced from all currently-operating oil wells. Thus, when new wells become operational, production levels increases, but spare capacity remains the same. Similarly, if reserves in a well were exhausted, it would cease production but production capacity would also be reduced, leaving spare capacity unchanged. I scale the spare capacity to the total capacity, so figures near zero represent Nigeria producing all it can and figures near one represent Nigeria producing almost none of what it can. Spare production for Nigeria is displayed as the black line in the bottom panel of Figure 1.A.1, and it ranges from close to no spare capacity in early 2001 to nearly half of capacity left in the ground in August 2009.

The switch from focusing on production (Figure 1.A.1, top panel) to spare capacity (bottom panel) highlights the magnitude of the lost production in the period between 2006 to 2012. Though there is a visible decline in production in this period in the top panel, the scale of the lost production is obscured by the fact that several super-giant oil fields began production in
the deep ocean off the coast of Nigeria. The production of these fields partially offset the losses that I will suggest were caused by oil theft and violent attacks. Yet when we look at the spare production capacity figures in the bottom panel, which account for the new fields coming online, we see a dramatic increase in the spare capacity (lost production) starting in January 2006, peaking in August 2009, and lasting through the end of the data series in December 2011.

Yet the amount of spare capacity cannot be entirely attributed to the interruptions caused by oil theft and violent attacks. In Nigeria, as in other oil producing states, there is substantial variation in the proportion of spare capacity, caused in part by international factors such as the changing oil price. To estimate the amount of Nigeria’s rising spare capacity from 2006 to 2012 that is attributable to these international changes rather than the local interruptions, I collected the same spare capacity data for a set of states most comparable to Nigeria, members of the Organization of Petroleum Exporting Countries (OPEC). These data are displayed as the gray lines in the bottom panel of Figure 1.A.1. Member production levels, and thus spare capacity, are mandated according to fixed quotas set during OPEC meetings.\(^4\) The quotas are proportional to the production capacity and oil reserves of the member states, but the quotas themselves move in unison across member states. Thus, the production levels of OPEC member states subject to the same quotas are likely to be the most comparable to Nigeria’s production figures.

Spare capacity in Nigeria neatly tracks other OPEC members from 2001 to 2005.\(^5\) Beginning in early 2006, however, Nigeria spare capacity levels — lost production — begins to increase substantially. In mid-2006, nearly a fifth of Nigerian production capacity was unused; by mid-2009 that figure was closer to a half. This increase diverges from the spare capacity figures for

\(^4\)See Colgan (2013) for a discussion of how members increasingly ignore the quotas. However, the quotas still mean OPEC members’ production are more closely tied to each other than to non-member states.

\(^5\)The one case that does not track with Nigeria and the other members is Iraq during the second gulf war starting in 2003.
Figure 1A.2: Nigeria Experienced a Dramatic Interruption to Oil Production from 2006 to July 2009. The spare production for Nigeria (thick line) is compared to the synthetic control estimate (thin line), which represents a comparison case constructed from weighted spare production figures for other OPEC member states.

other OPEC members, which remain low and close to zero. There is an uptick in most member states beginning in early 2009, which suggests that international market forces encouraged OPEC producers to scale back on production temporarily. This uptick means that not all of the increase in spare capacity in Nigeria can be attributed to internal oil theft and violence issues; part of the increase is due to factors that also affected other oil producers.

It is clear that Nigeria has more spare capacity than would be expected from examining other similar countries in OPEC. To make a finer comparison, I construct a counterfactual for Nigerian spare capacity based on the spare capacity figures for the most comparable OPEC member states. By comparing Nigeria’s actual spare capacity to this counterfactual case, I estimate the amount of the increase in lost production from 2006 to 2012 is due to internal factors such as oil theft and violence. To do this, I rely on the synthetic control method (Abadie, Diamond and Hainmueller, 2015), which I use to construct a weighted average of the spare capacity figures from other OPEC members each month. I use the OPEC member states that have the most similar spare capacity figures before 2006 to construct the counterfactual for the Nigeria case.6

---

6I choose 2006 because this is when spare capacity begins substantially increasing in Nigeria. Choosing another year, such as 2003, results in substantively similar results. Estimates based on alternative start years are included in the supporting materials.
The estimated number of barrels lost to internal factors such as oil theft and violence is constructed by subtracting the counterfactual estimate of Nigeria’s spare capacity (thin line, top panel, Figure 1.A.2) from Nigeria’s actual spare capacity (thick line). The difference between actual production and the counterfactual synthetic control production (top panel, Figure 1.1) highlights the large magnitude of the interruption experienced starting in 2006 and peaking in 2010. The estimated number of barrels of oil lost to the interruption was upwards of 30 million between 2008 and 2009. The total volume of oil lost from January 2006 to December 2011 was 1.5 billion barrels.

How much state revenue was foregone in this period? I estimate the monthly loss using the number of barrels lost per month and the price of Bonny Light crude, the variety of valuable light sweet crude produced in Nigeria (bottom panel of Figure 1.1). At the peak of losses, before oil prices dropped in late 2008, Nigeria was losing up to 2.5 billion USD each month due to the high level of unused production capacity relative to similar OPEC countries. The total amount lost is estimated to be 98.7 billion USD (deflated to the year 2009). This represents the total revenues from oil production in this period, which were split between the Nigerian government and the constellation of foreign and domestic oil firms that managed oil production. In the average agreement between the firms and the state, 55% of revenues were retained by the Nigerian government side, to be shared between the federal, state, and local governments. Nigeria’s loss, then was approximately 54.3 billion USD.
CHAPTER 2

Asset Proximity

Physical assets in a state — its factories, gem deposits, cattle, farmland, crude oil reserves, ports, and forests — are a chief source of state revenues. A range of instruments are used to collect revenues from these assets. Property, capital gains, and natural resource levies directly tax physical assets. Taxes on revenues from production from the assets and on wages or income yield revenues indirectly. Social scientists identify the ability of asset owners to hide or withhold these assets from tax collectors as a central source of political bargaining power. In this chapter, I describe an analogous process that takes place when physical assets are proximate to people. Locals are often able to interrupt production or state revenue collection from those nearby assets through a variety of tactics from sabotage to rebellion. I argue that this capacity grants these local people power in central decisions over the distribution and redistribution of assets within the state, because the state aims to maximize its revenues and prevent these interruptions. The beneficiaries will include a small group of people who carry out the interruption, but also ordinary people living proximate to the assets who provide shelter and anonymity to the perpetrators. In some cases, ordinary people also participate in the interruptions through actions such as protests. I show how the capacity to interrupt revenues grants locals a place at the bargaining table with the state. If the two sides successfully strike a deal, locals will be offered concessions in proportion to their ability to interrupt. When bargaining fails, the groups carry out the threat to interrupt revenues, through protests, sabotage, or outright rebellion. As a result of this process, norms and institutions of local ownership may
develop to facilitate the bargaining process and avoid costly interruptions and fighting.

The bargaining power of local regular people expands the set of actors who gain bargaining power in the state because they “can successfully resist the ruler’s demands” (Levi, 1988; 12). For example, asset owners who are able to withhold revenue payments by hiding their assets or taking them out of the state hold a similar kind of bargaining power with respect to the state. In Levi’s account, the set of non-state actors “most likely to be able to wrest concessions from the ruler or protect what they have from his preying are: those who control resources, such as armies or wealth, on which the ruler depends for continued tenure in office,” and “those who can threaten withdrawal of their resources because of their access to alternative rulers” (Levi, 1981; 439) — the exit option (Hirschman, 1978). A narrow conception of this dynamic is exemplified by the Bates and Lien claim that “[r]evenue-seeking governments may well find it to their advantage to strike bargains with citizens whose assets they seek to tax” (1985; 53).

More generally, the revenue interruption activities highlighted in classic accounts are examples of asset owners hiding or obscuring the value of their capital assets from tax collectors. For movable goods, for example in medieval England the “cows, oxen, grain, household goods, and other possessions that could be transferred from place to place,” (Bates and Lien, 1985; 55), the goods could be hidden and, with tax collectors unaware of their existence or scale, tax payments avoided. As a result, cooperation from the asset bearer of movable goods was required for the tax to be collected efficiently. Boix (2003), in a similar vein, highlights the role of the finance economy in accelerating the importance of mobile capital, notably during the South African transition to democracy in which a large part of the economy was finance-based and elites were willing to take their assets far away from the tax collector — out of the country (see also Wood, 2003).
In what follows, I build a theory of the importance of asset proximity — what it is, how it works, who can interrupt revenues by virtue of their location, and where it occurs. I then examine the effects of asset proximity on several important social outcomes.

1. Asset Proximity

The argument of the book is that the proximity of people to assets with revenues that can be interrupted in the state grants bargaining power in the central decisions of the state over how to distribute wealth to those proximate people by virtue of their ability to interrupt state revenue extraction from those assets. This set of local people who can interrupt production can do so by virtue of their location. In what follows, I will develop a theory of the bargaining power of people living near assets. I examine the targets of interruptions including assets and the intermediate and finished goods produced by them; the tactics of interruption, including protests, sabotage, and strikes; the actors who interrupt revenues and the actors that enable them to, the micro-foundations of the argument; and the state’s response to interruptions. Finally, I consider the implications of the theory for how to define who is asset-proximate.

1.1 The targets of revenue interruption

Credible threats to state revenues will threaten either production or taxation of assets, meaning a valuable input or output of production that can in principle be taxed. Taxes on assets make up nearly the full set of revenues of the state, so the set of important revenues to the state that can follow the logic of bargaining power gained by revenue collection interruption.¹ The set of taxable assets² include both inputs to production — land (including natural resources), labor,

¹This set excludes licenses, fees for services, and other assorted revenue sources such as Pigovian taxes on tobacco and gambling. Collection of licenses and fees for services can be interrupted, certainly, but the logic would be different because the government provides a direct benefit in return for payment. There are benefits to tax compliance more generally, but few direct and immediate benefits.

²Here I will loosely use the words tax and taxable to mean ways the state collects revenue broadly speaking, including taxes, levies, and appropriation; and the set of things the state can collect revenue from.
and capital — and outputs of production. The assets can be in any stage of production or sale, including transportation to market and during sale to businesses or consumers. In terms of the methods of revenue extraction by the state, this includes land and natural resource taxes, income taxes (labor), and property and capital gains taxes (capital) on inputs; trade taxes, when intermediate or finished goods are transported; and sales taxes, levied on businesses or consumers when those goods are sold. In this study, I will focus theoretically and empirically on interruptions of land and capital assets and exclude labor from consideration. However, the interruption of labor in the form of strikes is perhaps the most direct illustration of the logic of how groups (workers) get bargaining power by interrupting state revenue collection (taxes on produced goods) and of the importance of asset proximity as conceptualized here.3

Treatments of the impact of non-state actors interrupting state revenue production contemplate direct impediments to revenue collection such as taking assets of out the state and hiding assets from tax collectors. I labeled these revenue collection interruptions. Here, I propose two additional targets of revenue interruptions that are equally consequential for state revenue flows: obstructing or halting the production, sale, or transport of assets or the goods produced from them; and the theft or destruction by a third party of assets or goods produced from them.4 In each case, though state revenue collection activities are not affected directly, the result is the same: the state collects less revenue from asset bearers. People living proximate to assets may be able to interrupt the production, sale, or transport of local assets, and they may also be able to steal or destroy assets.

It is useful to consider three ways in which local, ordinary citizens may interrupt revenue flow.  

3By definition, the interruptions are local, by the workers themselves. In a limited set of circumstances workers may be outsiders, but in fact this is often driven by concerns of precisely the nature under study here: worries of worker interruptions of production. A frequent example of this phenomenon can be found in the import of foreign labor for oil and natural gas facilities.

4In some cases, these two types of activities — production obstruction and asset theft — may overlap, in that destruction or theft may be the strategies used to interrupt production.
flows to the state. They may interrupt the flow of production (by obstruction or the disabling or theft of assets); destroy assets such as factory or farm equipment, without destroying the inputs to production; destroy assets and the inputs to production; or interrupt state revenue collection activities directly. Each holds different implications for the magnitude and duration of the state revenue interruption.

From the perspective of the perpetrators of revenue interruption, perhaps the most important facet of the targets is the value of the interruption, which is closely related to the amount that can be extracted from the state.\(^5\) This is because it is incentive-compatible for the state to offer perpetrators a share of revenues up to the share that would be interrupted.

In considering the targets of a revenue interruption, perp face two particularly important strategic considerations. First, the destruction of assets is most damaging to the state’s long-term revenue stream, but when assets are irreparably destroyed the bargaining power of the interruptors is also erased. Interrupting assets will be more damaging in the long term to state revenues, particularly if the inputs are also destroyed. Interrupting the flow of production or state revenue collection will be the least damaging, in the sense that once it is halted state revenues restart. However, the destruction of assets, particularly when inputs are destroyed, also destroys the bargaining power of the perpetrators of interruptions. They can threaten these kinds of interruptions, but if they carry them out their bargaining power will be reduced or eliminated.

Second, production interruptions are inherently less efficient from the perspective of the interruptor than interruptions of state revenue collection. Every unit of tax revenues the state is prevented from keeping adversely affects the state’s bottom line, but a production interruption is only as effective as the tax rate on production, call it \(\tau\). For each unit of production,

\(^5\)As I will discuss later, the potential windfalls when bargaining with the state include fiscal transfers, but also policy and institutional concessions. See Section 3.
only τ state revenues are interrupted, which translates into a weakened bargaining position vis-a-vis the state. This makes natural resources such as oil and gas natural targets, given the typically high rate of state taxation of these assets. Despite the indirect nature of production interruption and this inefficiency, local groups may be particularly able to interrupt production as opposed to tax collection. When production, as well as transportation and sale of intermediate or finished goods, takes place near people, they may be able to interrupt some portion of the activity depending on the asset. However, revenue collection from that production may not take place locally, but rather at the firm’s headquarters in a nearby city. Given that locals cannot often intercept tax payments, they will disrupt the tax base more often despite the inherent inefficiencies in doing so.

1.2 The tactics of revenue interruption

In this section, I describe the ways in which local people interrupt revenues. There are three classes of interruption tactics, grouped by the resources required to mount them: weapons of the weak, such as sabotage; forms of contentious politics, including protests and strikes; and armed rebellion. Each tactic is an action that would result directly or indirectly in the interruption of state revenues, whether or not that is the intention.

First, there are the “weapons of the weak” (Scott, 1987), in this context including arson, sabotage, and theft. Sabotage of economic infrastructure is common across many groups. In one prominent example, Bougainvillean separatists in Papua New Guinea relied on the sabotage of copper mines in the region to demand local autonomy and a share of state revenues from copper. In 1988, the separatists destroyed facilities at the Panguna copper mine — the largest revenue source of the state outside foreign aid — and the mine was shut down for months

---

6The broader set of tactics of the weak studied by Scott (1987) may also take place, such as “foot dragging, dissimulation, desertion, false compliance, pilfering, feigned ignorance, slander, arson, sabotage, and so on” (Scott, 1987; xv) but are set outside the scope of this work to focus on the tactics that more directly cause revenue interruptions.
under the threat of further sabotage (Filer, 1990). Oil and natural gas pipelines have also often served as ripe targets for revenue interruption perpetrators. Indeed, pipeline sabotage has shut down billions of dollars of oil flow in cases from Iraq, Libya, and Yemen to Colombia, Mexico, and Nigeria in the last thirty years. Sabotage of electricity lines is a related tactic in wide use: one analysis identified 4,930 attacks on electricity infrastructure from 1980 to 2011, including hundreds of incidents in Angola, Chile, Colombia, India, Iraq, Pakistan, Peru, the Philippines, and Iraq (Giroux, 2012). One well-known example is Umkhonto we sizwe, the armed wing of the African National Congress in South Africa. Sabotage was its chief tactic during the 1960s and 1970s, including many attacks on the country’s electricity infrastructure. Indeed, the indictment in the Rivonia trial that put Nelson Mandela and 10 other ANC leaders behind bars was for “sabotage, in contravention of section 21 (1) of Act No. 76 of 1962.” The group was charged with acts that “would have injured, damaged, destroyed, rendered useless or unserviceable, put out of action, obstructed, tampered with or endangered” both “the supply and distribution of light, power or fuel” and “postal, telephone or telegraph services or installations.”

Yet sabotage in these examples did not allow the perpetrators to divert part of the revenues to themselves. Another common form of weapons-of-the-weak interruptions that enables interruption and diversion is the theft of crude oil from pipelines, export points, and ships. Though oil theft is most commonly associated with Nigeria (cf. Onuoha, 2008), experts believe industrial-scale oil theft has taken place in cases ranging from the North Caucasus region in Russia, especially in the semi-autonomous Republic of Dagestan; Saudi Arabia; Angola; Sudan; South Sudan; Colombia; Indonesia; Iraq; and Mexico (Katsouris and Sayne, 2013). In Dagestan, one incident illustrates the scale of the theft: a large ship with 35,000 barrels of highly-valued sweet crude oil was seized by state authorities, who said it was stolen from the Russian Y. Kors-
chagina oil field. Stolen crude in Dagestan is often destined for the developed illegal refining industry that produces fuel products such as petrol for local sale. In Nigeria, oil theft has been a constant for four decades, and was an important source of financing and leverage for armed groups from 2003 to 2004 and 2006 to 2009.

The second important set of tactics are the several forms of “contentious collective action” (Tarrow, 1998), most notably protests and strikes, that result in production or revenue collection interruptions. These are protests near to the asset or labor actions that interrupt production, transportation, or sale of goods produced from the assets. Some types of riots are also relevant.

Protests that obstruct production of mining and oil and gas production, for example, are common across a variety of contexts in South America, North and Sub-Saharan Africa, and South Asia. Indigenous Guaraní groups in Bolivia mounted protests in 1997 that halted gas exploration by the Spanish energy firm Repsol on their lands. Related groups blockaded and occupied various gas fields in the region in the 2000’s demanding a two percent share of gas rents for development projects in the region (Sawyer and Gomez, 2012; 60). In Nigeria a decade before, the activist Ken Saro-Wiwa organized over 300,000 protestors — reportedly nearly two-thirds of his Ogoni ethnic group at the time — to protest the environmental and social consequences of oil production in Ogoniland, for which the group received few benefits in return (Yates, 2012; 213). The protests ended with Saro-Wiwa’s execution at the direction of military dictator Sani Abacha, but drove Shell to suspend its operations on Ogoni lands. This represented a substantial portion of Shell’s production in Nigeria. More recently, protestors in Southwestern Libya blockaded the giant Al-Sharara oil field in protests that lasted for over two years.

9Note that contentious political actions nearby to the asset that do not interrupt production or revenue collection are excluded from the definition.
months and shut down 350,000 barrels of production. The protestors demanded greater local policy autonomy and a share of the revenues from the field.

Finally, there is armed rebellion, or the attempt to control the territory surrounding the asset. These rebellions will have local aims; their perpetrators will not seek control of the state apparatus. The demands of rebels may be for secession, local autonomy, or they may have no territorial demands. Control of the territory of production is the extreme example of revenue collection interruption — state revenue collectors are prohibited from working in areas under rebel control. Examples of these types of civil conflicts include the South Sudan war of independence from 1983 to 2005, in which a central locus of control was the oil fields in the otherwise-deserted center of the country; the Biafran War in Nigeria for independence of the proclaimed Republic of Biafra, which would have encompassed all of Nigeria’s oil fields; the conflict in Angola’s oil-rich Cabinda region, a narrow strip of land between the Republic of Congo and the Democratic Republic of Congo in which groups have been fighting off-and-on for independence; and the conflict over Katanga Province in the Democratic Republic of Congo, home to much of the country’s copper mines, which declared independence from 1960 to 1963.

1.3 The perpetrators of revenue interruption

There are two sets of actors that can directly interrupt revenues: small bands of people with either relevant technical skills or the capacity to produce violence who execute weapons-of-the-weak interruptions or mount rebellions (call these people perpetrators); and the ordinary people who participate in collective interruption tactics such as protests and strikes. I will take the leaders of each type of actor to be subsets of the group.\footnote{Reuters. 2014. “Protesters shut Libya’s El Sharara oilfield in setback for government.” Reuters, 22 February.}

\footnote{When bargains take place, this may mean that these organizers hold privileged bargaining positions compared to the rank-and-file perpetrators or civilian participants.}
types of technical skills that may be relevant are those that enable production, transportation, or sale of goods produced from the asset to be interrupted. This may include knowledge of the machinery or processes of production or the routes and modes of transportation of produced goods.\footnote{There may be some overlap between current workers at the site of the asset, who can either participate in weapons-of-the-weak interruptions such as sabotage or theft or in a collective interruption in the form of a strike.}

Groups without technical skills but with the capacity to produce violence may also be able to perpetrate revenue interruptions. Without the ability to interrupt production based on knowledge of machinery or processes of production, these groups destroy or steal the asset and goods produced from it through weapons-of-the-weak actions or they may mount rebellions to seize control of the territory surrounding the asset. Each of these actions requires the ability to produce violence against people or assets.

The final relevant group is the ordinary people who participate in contentious collective action interruptions. This includes the participants in protests directed at asset owners, and it includes workers at the site of production, transportation, or sale who can strike and effect a slowdown or halt to production. Protesters need not have any particular set of characteristics, though of course workers must already be employed at these locations.

1.4 The state’s response to revenue interruption

One important goal of the state is to prevent and halt interruptions to its revenue streams (Levi, 1988). To accomplish this, its security forces aim to identify and detain the perpetrators of revenue interruption actions and the ordinary people who collaborate with them. It is not a simple task. To avoid detection, perpetrators rely on what scholars of insurgency call the identification problem: the state cannot easily identify who is a perpetrator and who is not (Kalyvas, 2006; 89-91).

The perpetrators of revenue interruptions hold fewer coercive resources than the state,
which implies that the perpetrators must avoid direct confrontations with the state. Yet to interrupt state revenues and to survive, perpetrators must avoid detection and detention by agents of the state. As a result, like fighters in irregular civil wars, the perpetrators of revenue interruptions must rely on the anonymity provided by living among ordinary people, hiding in their homes, and mimicking their visual appearance (see Mao, 1937; Trinquier, 2006; Galula, 2006; Kalyvas, 2006). If the state cannot differentiate civilian from perpetrator, it cannot use selective enforcement tactics such as detention and violence to deter the perpetrators from interrupting revenues. Instead, the state must instead rely on indiscriminate enforcement targeted at the civilian population it believes the perpetrators are hiding among. This reduces the likelihood that the perpetrators will be detained or harmed by the state as a result of their actions.

The identification problem faced by the state will affect who interrupts revenues. The perpetrators will be more likely to be natives of an area proximate to the asset. This both makes blending in with (local) people straightforward, and makes obtaining cooperation from (local) people easier either through the perpetrators local social networks or through calls to shared identity groups. This is not to say that perpetrators must always be natives or residents of asset-proximate areas, because blending in with locals will be possible for outsiders who appear to be local, who share identity groups with locals, or who are members of the social network of locals.

In either case, whether perpetrators are native or not, local people will often know the identities of perpetrators. This may be because information about the revenue interruption and its perpetrators travels through local social networks or because people living near the assets will be most likely to directly observe the perpetrators in the act of interruption.

In light of the identification problem, the state must develop alternative ways of finding
the perpetrators in order to detain them to prevent or halt the interruption to state revenues. Though the state itself cannot identify the perpetrators directly, it can take advantage of the fact that local people often do know who the perpetrators are. In particular, the state can convince, compensate, or coerce people who either know who the perpetrators are or can find out through their social networks or through direct observation to denounce perpetrator identities to the state. The perpetrators respond to the state strategy of obtaining the cooperation of civilian spies by recruiting their own set of local people for counter-intelligence roles, to help the perpetrators identify the state’s spies (Kalyvas, 2006).

The strategies of the state and revenue interruption perpetrators dictated by the identification problem implies a crucial support role in revenue interruptions played by ordinary people. They will either be spies for the state, counter-intelligence spies for the perpetrators, or both. Each side will attempt to obtain information about the other from the same set of asset-proximate spies. The importance of ordinary people in these roles cannot be understated: these people will often have the ability to give up the identities and locations of all of the perpetrators of a revenue interruption to the state, and the interruption would be halted. By the same token, ordinary people will often hold the identities of state spies among their ranks, and the ability to share that information with the perpetrators — making it impossible for the state to identify and detain the perpetrators.

The importance of the identification problem for organizations that wish to interrupt state revenues suggests a set of scope conditions for where interruptions of state revenues of the nature described here will take place. They will be less likely to take place where the reach of the state is deep — where its security forces are capable of identifying perpetrators without the assistance of its citizens, for example; where trust in state institutions, and thus the rate of citizen informing is higher; and where satisfaction with state service provision is high, similarly yield-
ing a willingness to inform on interruption perpetrators. This suggests revenue interruptions will be less likely in wealthy countries with high levels of redistribution, at least in relatively wealthy areas. It may also imply that interruptions are less likely in effective authoritarian states where the reach of intelligence agencies is deep.

1.5 Implications for who perpetrates revenue interruptions

The identification problem shapes the set of people who can perpetrate revenue interruptions, due to the need to blend in with the local population. The set of potential perpetrators will be influenced by the overlap between their observable characteristics and the characteristics of the asset-proximate people. These may include religious, national, regional, or ethnic identities, or shared observable characteristics in the absence of shared identity categories. As a result, the perpetrators are, if not asset-proximate themselves, to be from the same region or from another part of the ethnic group homeland of asset-proximate people.

However, the set of people who can denounce on the perpetrators of revenue interruptions will be restricted to a much smaller radius around the assets. They must either be within physical proximity of the assets or embedded as a node in a social network with other nodes that are in physical proximity to assets. What is meant by physical proximity may vary by the asset type and the tactics and targets of revenue interruptions, but could mean the neighborhood in an urban area; the town or region in rural areas; within some distance on a shared body of water or roadway; or in some restrictive cases within the line of sight of the asset. The requirement of membership in a social network with asset-proximate nodes implies that those who can denounce, and whose consent interruption perpetrators must seek, will be likely to share an identity group with asset-proximate people or be an indigene of the asset-proximate reason but have moved away for school or work. Physical characteristics of the area surrounding the asset will affect the importance of these social network connections, or the size of the group of
nodes that are asset-proximate and thus the size of the group one node away from them. Such factors may include mountains and other impediments to wireless communications; and rivers, deserts, and rough terrain that impedes physical interactions between asset-proximate people and outsiders. People who can denounce but are only connected by social networks may live far from the asset-proximate area.

Identifying the geographic extent of asset proximity is not as simple as drawing a circle around assets and classifying everyone within the circle asset-proximate. Revenue interruptions were defined as disruptions of revenues derived from assets or collected by the state at any stage of production, transportation or sale. This means that asset proximity may be in reference to production plants, or the edges of a transportation network, storage sites, or markets where intermediate and finished products are sold.

**Implication 1** (Ordinary People Living Proximate to Assets Hold Valuable Information and May Play Important Role in Interruptions). These local people, restricted in a close radius around where interruption perpetrators live and operate, will be in a position to share information with the state on the identities of perpetrators or with the perpetrators on the identities of civilian spies working for the state.

2. **The Effects of Revenue Interruptions**

In this section, I propose a theory of how the ability of people living proximate to assets to interrupt revenues affects their bargaining position with the state, the frequency of revenue interruptions and violence, and the types of concessions the state will offer to avoid interruptions.

**Bargaining.** The first outcome of the proximity of people to assets is that the state will recognize these people as important negotiating partners by virtue of their location and ability to interrupt revenues. The state and the groups will negotiate a contract to avoid that revenue interruption. For asset-proximate people, it is not when assets are local that they are given a
seat at the table with the state, it is when they are able to interrupt those local revenues that they will hold bargaining power.

The outcome of this process may be either a bargain to avoid revenue interruption in return for fiscal or policy concessions, or a conflict between interruption perpetrators and the state in which revenues are interrupted and state security forces attempt to end the interruption. Bargains with the state may grant asset-proximate people a new share of wealth in the state, policy changes favorable to the perpetrators or people living proximate to the assets, or other concessions in the form of a role for either the perpetrators or local people in the broader decision-making structures of the state. Representative institutions such as parliaments and elections would grant the perpetrators a role in central decision-making, and federalism or devolution would grant autonomy in local decision-making. In what follows, I describe how the proximity of people to assets can lead to revenue interruption (or not), and to different types of bargains when interruptions are prevented.

Implication 2 (Bargaining Outcomes). *When assets are proximate to people, local people and their leaders will receive a share of the revenues or policy changes in proportion to the share they can credibly claim to interrupt. The concessions that non-combatants receive, as opposed to the interruption perpetrators, will be in proportion to the ability of the state to identify interruption perpetrators from ordinary people as well as the need for participants in the interruption who must also be compensated.*

Revenue interruption. A central puzzle in political science is that, empirically, wars occur, yet “rational states should have incentives to locate negotiated settlements that all would prefer to the gamble of war” (Fearon, 1995; 380). If the capabilities and the resolve of each side is know, why can a deal accounting for the probabilities of victory not always be reached? In the present context, when people living proximate to assets hold the ability to interrupt revenues, will they have incentives to interrupt revenues, or will they always reach a bargain without following through on the threat of interruption? The goal of the analysis that follows is not to
present a singular explanation for the observed reality that in some cases bargains are reached and in some cases revenue is interrupted, but rather to identify the set of logically consistent explanations. The mechanisms identified may operate together or separately in a given case.

In what has become the dominant theoretical statement of how to explain the empirical paradox of war, Fearon (1995) argues that the two primary mechanisms that prevent ex-ante agreements between the parties to a conflict before violence occurs are, first, the presence of private information about “relative capabilities or resolve” (pg. 380) coupled with incentives to misrepresent that information to the other side; and, second, problems of commitment to the terms of the ex-ante agreement. In the context of civil wars between the state and some set of non-state domestic actors, as in the present context, the problems of credible commitment become even more stark in the absence of international factors including reputation that constrain state behavior in inter-state wars (Walter, 1997).

Revenue interruptions are, I have argued, a strategy analogous to irregular warfare. In the case of the third tactic identified in Section 2, territorial control, they are one and the same. The logic that leads to bargains between potential combatants, and infrequently to wars when bargaining fails, also extends to revenue interruption. There is often a set of mutually beneficial agreements the state and revenue interruption perpetrators could strike to prevent the interruptions and the coercive response of the state. The state will be willing to transfer a share of the interruptible revenues just less than the amount the perpetrators could interrupt plus the costs of its coercive response. Similarly, the perpetrators will be willing to accept a share just above the costs of the interruption action. In each case, they are better off than following through on the threat of interruption or coercion. When the set of bargains each side is willing

---

13 Issue indivisibilities, such as over valuable territory or “sacred spaces,” are also considered by Fearon, but I omit them given that the division of revenues derived from assets proximate to people is an inherently divisible object of conflict. Moreover, the emphasis among scholarship that followed is placed on these first two mechanisms due to the infrequency of indivisibility conflicts outside a small number of prominent examples such as the Israeli-Palestinian conflagrations.
to accept overlaps,\textsuperscript{14} the interruption and the state response could be avoided.

Uncertainty about the capabilities of the interruption perpetrators and of state security forces may be one reason interruptions take place instead of bargains. The first condition Fearon identifies under which bargaining will fail is when the two sides, interruption perpetrators and the state, hold private information about their capabilities or resolve and also have incentives to misrepresent this information. This situation is entirely plausible in the case of revenue interruption. Due to the identification problem, the state knows neither the size of the interruption force, its skill set, or its “resolve” (Morrow, 1989). The state may be able to know that the group has the capability to interrupt a certain type of factory, but it may not also know how many rank-and-file members the group holds and thus how many factories can be interrupted. Similarly, it is not hard to believe the state holds private information about its ability to disrupt the plans of the interruption perpetrators, such as the extent of its spy network.

The presence of private information alone is insufficient; the combatants must have incentives to misrepresent their capabilities or resolve. In the case of revenue interruption, the incentives to misrepresent on the side of the interruption perpetrators are clear: the offer of the state to avoid revenue interruption is determined in large part by the state’s belief about the share of state revenues the perpetrators can interrupt. Given the state’s uncertainty over their capabilities, at the bargaining table the perpetrators will claim the largest plausible share they can.

The second cause of bargaining failure that causes war is that there is no third-party mechanism to enforce bargains struck to avoid war must be self-enforcing, which in this case is plausible in the case of both the state and the interruption organizer. The glue of the deal between the state and the perpetrators of the revenue interruption is the concessions, fiscal or

\textsuperscript{14}That is, the range of acceptable offers is the set in which the share offered by the state is greater than the perpetrators costs but less than the amount that could be interrupted plus the costs of the state’s response.
The effects of revenue interruptions institutional, offered by the state. The inability of state leaders to commit themselves and future leaders to maintain the concessions will be a central cause of bargaining breakdowns and revenue interruptions. The incredibility of the promises of interruption perpetrators to refrain from or halt their activities will also be a central problem. Group splintering or the ability of multiple groups to interrupt revenues may prevent broadly credible agreements, and lead to revenue interruptions.

A primary reason for the lack of credibility of states upholding agreements with the perpetrators of local revenue interruptions is the existence of majoritarian institutions. The state may renege on its agreement with interruption perpetrators for other reasons, including importantly when the perpetrators are no longer able to mount an interruption. Agreements to share state revenues or offer policy and institutional concessions to the perpetrators of local revenue interruptions are by their nature policies benefiting a minority. Democracies will have greater difficulty committing to bargains than dictatorships, states with proportional representation will face greater difficulties than those with first-past-the-post systems, and states without federalism will face credibly problems more than those with it. When the boundaries that determine how revenues are shared in fiscal federations already overlap with the populations living proximate to assets, commitments will be particularly credible.

Agreements may also break down when the non-state signatories are unable to prevent other actors from acting on the threat of revenue interruption. The threat of the non-state side reneging may come from splinters of the signatory group or entirely separate groups that also hold the capacity to interrupt revenues. Christia (2012) argues in a study of alliance formation in civil wars that, even when allied groups share ascriptive, ideological, or economic characteristics, they have difficulty jointly committing to pacts to end conflicts, because of the risk of

---

15 When the majority of the population lives proximate to assets, such as in a small state like Kuwait whose land is covered with oil fields, there will be pockets of groups that are living close to the most valuable assets that will be able to interrupt production or revenue collection and reap private benefits.
opportunistic splitting. To the extent that multiple sub-groups hold the ability to interrupt local revenues, or if groups with such ability are left out of the agreement, this risk will prevent successful agreements with the state and lead to instances of revenue interruption.

**Implication 3 (Revenue Interruptions).** *Perpetrators will follow through on the threat to interrupt revenues with positive probability. This may be due to imperfect information about the other side’s capabilities or to the inability of the state or the interruption perpetrators to commit to a bargain to avoid interruption.*

**Violence.** The effects of the capacity of local groups to interrupt revenues will induce differential strategies uses of violence in the state and the perpetrators of revenue interruptions.

*State violence* The state will respond with violence to revenue interruptions. State security forces will use violence to disincentivize participation in the interruptions and cooperation with the perpetrators, and incentivize denouncing perpetrators to the state. The state will always prefer selective violence, rewarding and punishing individual participants or organizers and communities for cooperation with the state and collaboration with the interruption organizers. The organizers and participants of revenue interruption actions will be targeted particularly. When the state is unable to use selective violence (for a discussion of the increasing inability of counterinsurgents to use selective violence due to the mechanization of armies, see Lyall and Wilson, 2009), it will be forced to reward and punish groups of individuals or communities instead of individuals. When violence is used indiscriminately, the communities that will be targeted are those proximate to the assets where interruptions are threatened (whose cooperation in counterinsurgency they aim to obtain through coercion) as well as the communities of the organizers if those are identifiable and different.16

The state faces a particular problem in the case of ending revenue interruptions, however:

---

16As noted in Section 2, the ability to identify who is an organizer and who is not is what advantages the organizers over the state’s counterinsurgency forces, and it will often be impossible to find the communities of the organizers. As a result, the communities most likely to be targeted are those proximate to the assets themselves.
when it uses indiscriminate violence, and even likely when it uses selective violence in some cases, the state risks additional interruptions of revenues caused by the violence itself. Whether the state will still use indiscriminate violence near assets will depend on, among other factors, how the violence would interrupt revenues and the type of assets — would the violence destroy the assets, and whether replacing the assets would be worthwhile. If the violence only interrupts the flow of revenues and does not harm the assets, violence may be a worthwhile strategy to stop the interruption by third-party actors.

*Interruption perpetrators* By contrast, the perpetrators of revenue interruptions will only resort to violence when their tactic of interruption is local control of the territory surrounding the asset. Perpetrators will initiate violence infrequently if ever when they use other tactics such as sabotage or protests, and only to induce cooperation with their activities. This is because people living proximate to assets hold a much more valuable tool than violence to bargain with the state, the ability to interrupt revenues. To the extent that violence is costly, it will be an appealing strategy only if it also serves to interrupt revenue, or if the perpetrating group in question does not hold the ability to interrupt revenues directly without violence. That revenue interruption perpetrators prefer to avoid violence, except in the service of more effective revenue interruption, does not mean that there will not be violence from the non-state side of the conflict. The extent to which the group relies on motivations such as ethnic or religious ties will cause the movement to be well-disciplined and avoid violence, but if there are no such mobilization frames and the group relies on recruitment based on the promise of future gains from the state concessions there may be violence by fighters. Such opportunistic armed groups are often not able to maintain discipline and prevent harmful predation on local communities from whom support is needed for successful revenue interruption when short-term compensation is not paid to fighters (Humphreys and Weinstein, 2006; Weinstein, 2007). Of course, when
perpetrators choose rebellion as their tactic of interruption, violence against the state will be a crucial element of the interruption.

**Implication 4** (Non-State-Directed Violence). *When assets are proximate to people, there will be low-level violence with positive probability when the tactics of interruption do not involve rebellion. The violence will be directed at the state and the assets.*

**Implication 5** (Rebellion). *When assets are proximate to people, there will be civil conflict with positive probability.*

**Implication 6** (State-Directed Violence). *When assets are proximate to people, there will be more state-directed violence than rebel-directed violence, except in the case of civil conflict.*

**Norms and Institutions of Local Property Rights.** There are two kinds of norms and institutions designed to avoid conflict between the state, asset bearers, and people living proximate to assets. First, there are those that share revenue with local people, which ensures they receive the minimal share the groups could demand backed by the threat to interrupt revenues from the assets. Second, there are the norms and institutions defining who is local and who is not, which protects the original parties to the agreement, formal or informal. These will be related to the attributes required for membership in local identity groups, if there are any (Chandra, 2006).

The property rights of local people living near assets are often enforced by the formal rules of the state, including statues and constitutional provisions ensuring a share of revenues from assets is retained locally. Revenue can be targeted to the people living proximate to assets through three possible institutional arrangements: fiscal autonomy for the asset-proximate people, either based on existing sub-state unit boundaries or through the creation of new ones (on the creation of new sub-state units, see Grossman and Lewis, 2014); an increased share of revenues allocated to the asset-proximate people, through new or existing sub-state units; or through public spending programs by the state in asset-proximate areas.
Substituting or complementing the formal institutions codifying the revenue sharing from assets with people living in their proximity, such as a statutory or constitutional revenue shares for certain industries, are what North (1990) calls “moral and ethical behavioral norms designed to constrain the behavior of individuals” (201-202). There are many prominent empirical examples of such norms for people living proximate to assets, such as corporate social responsibility agreements between producing firms such as mining concerns and local populations, in which producers pay for social development programs in return for consent to operate. In many or most cases in Latin America and Africa, these agreements are neither mandated nor enforced by the state, but rather by the norms of the communities in which the firms operate. These state is involved in the construction and enforcement of local property rights norms, as well. In Nigeria, the state is complicit in allowing local groups to steal crude oil from the pipelines of licensed oil extraction firms, and Holland (2015) highlights instances in several parts of South America in which officials of the state acquiesce to land invasions of elite-owned farms by the local poor as a related form of redistribution.

Norms and institutions excluding outsiders the benefits of revenue sharing will also often emerge. The challenge of norms of local revenue sharing, and particular formal rules that develop, is that when location is used to define who is a beneficiary, anyone who migrates into the defined region can also receive benefits.\(^\text{17}\) Locals want to prevent migration both to prevent dilution of the benefits, but more importantly to dilute their bargaining power with the state by adding more people with the capacity to interrupt revenues. These norms or institutions could take the form of excluding outsiders from in-migration, restricting the use of local public services to the original residents of the area, and social exclusion. These phenomena are common in parts of Asia, Latin America, and Africa (on examples with respect to land tenure, see

\(^{17}\text{Meaning sharing in the transfers from the state, such as local government services provided with funds from the transfer.}
Boone, 2007). They are particularly common in countries once governed by British colonial institutions, in which a distinction was constructed between “indigenes” and “settlers” to restrict migration (Evans, 2003).

**Implication 7** (Fiscal Institutions). When assets are proximate to people, states will be more likely to enact institutions of fiscal federalism to share revenues with local governments proximate to assets. Inter-governmental fiscal transfers from the state to asset-proximate local governments should also be higher.

3. **Concluding Remarks**

When people live near valuable physical assets in the state, their location will often afford them the ability to interrupt state revenue collection from the assets. This ability will often enable these local people to force the state to make policy concessions in return for an end to the interruption. The concessions will be proportional to the state revenues the group can claim to interrupt.

This theoretical account introduces a predictable, strategic logic to a range of behaviors of political groups that are excluded by existing accounts of political action as random acts or anarchic byproducts. Far from disorganized behaviors unsanctioned by the leaders of such groups, the theory proposed here suggests a strategic logic of tactics such as electrical tower destruction and sabotage at mines. These actions aim to interrupt state revenues for the purpose of bringing the state to the bargaining power, and they may be especially relevant for groups with the capability to directly confront state military forces or challenge the ruling party at the polls. In other cases, the interruption of state revenues — for example, mineral resources fixed in one place by geology — may be a potent sources of political power even given strong political capabilities of other kinds.

In addition, this account describes a new actor with significant political power that is left out of existing accounts of distributional politics: people living near major assets in the state,
who carry out the actions described above. These people, including both leaders of the organizations that perpetrate revenue interruptions and the ordinary people who help them avoid detection and arrest by the state, will benefit when the state is forced to the bargaining table to the interruption to its revenues.
CHAPTER 3

Why Oil Causes Civil War: Cross-National Evidence on the Role of the Proximity of People to Oil Production

Oil wealth often endows state coffers with enormous windfalls, because of the deep role for the state commonly adopted in the oil sector.¹ States use oil revenues to substitute for less-desirable revenues from taxation, and as a result the capacity of the bureaucracies for collecting taxes and responding to taxpayer public service demands frequently shrinks.² Yet oil wealth also strengthens the resolve of state leaders to retain power, so the capacity of state security bureaucracies is likely to expand, not shrink.³ At the same time, oil motivates non-state groups to obtain power, for the same reasons state leaders are motivated to retain power.⁴ However, while oil wealth enables the state to finance its security forces, non-state groups cannot use oil to fund recruits or arms, because of the scale of infrastructure required to extract and transport it for sale. Thus oil wealth lends fiscal advantage to the state, and deters non-state actors from taking up arms.

Yet a range of prominent cases including the Biafran War in Nigeria and the Acehnese conflict in Indonesia have convinced decades of scholars and practitioners that oil wealth often

¹States in nearly all cases either manage oil production directly or hire private firms to manage production while retaining a large portion of revenues for the state (Jones-Luong and Weintalh, 2010).
²This logic is introduced by a broad body of scholarship on the rentier state (Mahdavy, 1970; el Beblawi and Luciani, 1987), and is further developed theoretically and empirically more recently in political science (Karl, 1997; Lam and Wanchekon, 1999; Smith, 2004; Haber and Menaldo, 2011; Ross, 2012).
³This logic applies both to security forces of the state and to other state functions that help leaders retain power, such as power-sharing institutions or patronage bureaucracies that allow leaders to share the benefits of power.
⁴This could either take the form of seizing control of the state, with which comes control of the oil revenues in addition to others; or seizing control of the territory of the oil revenues (Fearon, 2005; Ross, 2012).
leads to civil conflict. I propose a theory in this chapter to predict the (limited) circumstances under which oil leads to conflict, yielding these prominent cases of secessionist wars in oil-rich states. Following the logic proposed in Chapter 2, I argue here that when people live proximate to oil extraction and production assets, they are often able to interrupt production and state revenue collection. The state is forced to bargain to prevent revenue interruptions, because oil is such a large source of revenue. Local revenue interruption may be affected through weapons of the weak such as sabotage, contentious collective action such as protests, or rebellion. When oil-proximate groups are capable of mounting a rebellion — and when bargaining breaks down with the state — civil conflict will result. Outside of the oil region and absent these circumstances, the state fiscal advantage in oil-rich states will make civil conflict less likely than in states without oil.

In this chapter, I test this theory of the proximity of people to oil extraction and production. The task of estimating the effects of natural resource wealth on social outcomes is notoriously difficult. In particular, scholars struggle to disentangle the effects of oil wealth from the political choices that affect where oil firms explore for oil, how much is drilled, and who benefits. To address these issues, I propose and implement a new research design to identify the total effect of oil wealth and I present direct evidence that suggest the estimates represent causal effects of oil wealth. To do this, I exploit new data on the timing and location of oil exploration and discoveries around the world from 1946 to 2003, and the fact that within a set of exploratory wells drilled by oil companies the likelihood of a given well striking oil in a given year is as-if random. I estimate the effect of oil discoveries conditional on the level of oil exploration, avoiding the confounds of political factors that determine where oil firms decide to explore and where states prevent exploration.

See for example the discussions in Humphreys (2005); Haber and Menaldo (2011); Andersen and Ross (2014).
Using this research design I show that, contrary to canonical findings, oil causes secessionist civil wars, but not center-seeking wars. I find that secessionist civil wars are caused by oil when oil is found proximate to livable areas, and people. Oil offshore, and thus in many cases out of reach of rebels, does not cause civil wars. This evidence is consistent with the theory that when people live proximate to assets they are often able to interrupt production and force the state to bargain. Civil war often results when bargains break down.

1. An Application of the Theory of Asset Proximity

This section builds on the theory developed in Chapter 2 to hone in on an application of the theory of asset proximity for a particular asset, crude oil, and a particular outcome, violent conflict. In what follows, I first review and build on the existing paradigm for evaluating the effect of oil on the risk of civil conflict onset. In particular, I examine how oil shapes the motives for rebels and the state to arms themselves and fight, and how oil affects the opportunities to fight by considering how each actor funds its fighting capabilities. I show that in this existing paradigm, oil stacks the deck in favor of the state. Though oil increases the motivation of both sides to obtain or retain control of the state and the oil region, it disproportionately favors the state in expanding its budget while leaving the ability of rebels to raise funds unchanged. This suggests that oil should strengthen the hand of the state against rebel challenges, and should decrease the likelihood of civil conflict. However, I show in the second section that it is the proximity of oil and people that yields the well-known relationship between oil and violence. Groups in the oil region are able to interrupt oil production, and will arm themselves under certain circumstances to challenge the state for local territorial control to obtain bargaining power in the state — even if they do not expect to win the fight. The state, with a central source of revenues partially interrupted, will bargain with these local groups. When bargain-
ing fails, civil conflict results. In the final section, I review competing theories explaining the relationship between oil and conflict, and develop empirical implications that will be tested in this chapter to contrast them to the proposed theory.

1.1 Motive and Opportunity for Civil Conflict in Oil-Rich States

Mounting an armed challenge to the state’s authority requires, like a crime, both motive and opportunity (Collier and Hoeffler, 2004; Boix, 2008). Motivations reflect the benefits from a successful challenge of state authority, such as the territory gained from a secessionist campaign or the rents to holding office after a successful takeover of the state apparatus. Opportunities reflect both the costs of challenging the state and the probability of success, both of which are affected by the finances and capabilities of each side. Together, the motive and opportunity represent the expected value of challenging the state to rebels, which affects its decision over whether to fight or threaten to fight.

In what follows, I describe how oil affects the motivations of rebels, but also the state. I then describe how oil affects the finances and military capabilities of potential rebels and the state. Existing conceptions of the motivations driving civil war focus only on rebels, but the state is a strategic actor in the same environment. The state’s motivation to prevent and fight civil wars not only affect whether the state enters a conflict, but it also shapes rebel decisions. I will argue that the importance of the motivation to hold state power is not restricted to rebels, as earlier accounts have it, but is as relevant for state officials who wish to stay in power. I then argue that oil does not affect the financial capacities of rebels before conflict starts, but dramatically increases the state’s ability to spend on its military. Oil lends a strong financial advantage to the state. Together, these factors suggest that oil should decrease the number of armed challenges by rebels.
Motivations to Fight  The motivations of rebels to fight in states rich in natural resources are the subject of a voluminous literature by scholars and practitioners, of their “greed” or their “grievances.” Yet civil war is, by its very definition, a two-sided conflict between a set of rebels and the state, and the motivations of the state and its leaders are often left out of the discussion. The motivation of rebels to take control of the state or the oil territory — in order to wrest control of oil revenue spending — is matched by the motivation of the state and its leaders to retain control for the same reasons.

Potential rebels  Scholars have long noted that the discovery of oil increases the motivation of rebels to challenge the state for control either of the state apparatus or of the oil territory. Oil motivates groups to take up arms against the state through two primary mechanisms identified in existing scholarship. First, they may harbor grievances about inequalities in either the distribution of benefits from oil (the group does not receive enough of the oil revenues or oil sector jobs relative to other groups), or the victimization from the negative externalities of oil production (the group is not sufficiently compensated relative to the magnitude of environmental effects of oil production it bears). Taking control of the state or the oil territory would enable the groups to eliminate those inequalities. Second, the prospect of either taking control of the state or the territory where oil is produced motivates rebels through the benefits of spending the (net) revenues from oil production. The idea that political and economic grievances motivate the formation of armed groups and their challenges to state authority has a long history (cf. Gurr, 1970). In recent scholarship, the grievances over economic inequalities in oil-rich states still retain pride of place for many scholars (Le Billon, 2001; Ross, 2012), and some suggest that when coupled with inequalities in political power the left-out group will often take up arms (Cederman, Weidmann and Gleditsch, 2011; Condra, 2013). Several scholars suggest instead that oil increases the payoffs to successfully fighting the state. If rebels win,
they may either hold control of the state apparatus and with it control of the oil revenues, or they may hold control of the oil territory and the ability to sell oil and retain all of the profits (Fearon, 2005). Some combination of political and economic grievances and the increased payoffs to taking control of the state or the oil territory increases the motivation to form an armed group to challenge the state’s authority.

The state  Yet missed in these accounts is that the motivations of state leaders to retain power are increased at the same time and perhaps at the same rate.6 State leaders are motivated, in general, to stay in office, so that they can continue to reap the rents of office. Oil increases those rents, so just as rebels are motivated to fight by the prospect of spending oil revenues, state leaders are motivated to retain that ability. Existing accounts focusing on the possibility for rebels of winning the “state prize” (e.g. Fearon, 2005) ignore the strategic reality that there are two sides to a civil war, and that the motivations of the state and its leaders not only affect whether the state fights back against a challenger but its efforts to deter rebel entry in the first place. The state, with the increased motivation from oil to retain office, will take defensive measures it would not have without oil to strengthen its hold on power. This may make it either more likely to prevail in the event of civil conflict, but it may also tip the balance and make forming a rebel group an unprofitable choice on average.

Finances and Fighting Capabilities  Both the state and violent entrepreneurs considering forming an armed group are relatively equally motivated to retain or obtain state power or control over the state’s oil-rich territory. The factors, then, that will determine whether armed groups form in oil-rich states and the nature of the state’s response are likely to be found in the effects of oil on the financial capacity of the two sides. The capabilities to fight will be strongly shaped by fiscal capacity to invest in arms and personnel, and this in turn will affect

---

6 A formalized version of a related logic is proposed in Paine (Forthcoming).
the probabilities of victory and thus the expected value of forming an armed group.

In this section, I will argue that oil dramatically expands the state war chest to finance fighting capabilities, but it does not affect potential rebels’ ability to raise funds to pay recruits and arm them. Oil may make fighting easier once it begins — oil theft is possible once territorial control is exerted — but will not aid in the formation of new armed groups. As a result, oil strongly favors the state in terms of funding fighting capacity.

_Potential rebels_ Though oil and other “nonlootable” resources in some cases provide financing opportunities once rebel groups are able to exert control over large swaths of territory, they do not provide startup finance for armed groups (Snyder and Bhavnani, 2005; Fearon, 2005). This is because there are high economic costs to profitably extracting oil and transporting it for sale to domestic or international markets. The primary mechanism by which rebel groups attempt to profit from oil given these costs and the large territories they must control is through what Ross (2012) calls “booty futures,” or the future rights to exploit oil resources conditional on a rebel win. However, in few if any cases have rebels been able to do this before a war began as a means to finance their startup costs. Together, this means that oil is unlikely to lend a financial advantage to rebels in the process of arming themselves and considering the expected value of challenging state authority.

The high barriers to entry in the oil and gas sector make oil an unlikely source of direct financing for the organizers of armed groups. Snyder and Bhavnani (2005) highlights the infrastructure used to extract and sell “nonlootable resources,” including oil and gas but also copper and deep-shaft Kimberlite diamonds for which “large amounts of capital and technology are required to exploit . . . profitable” (pg. 548). Only states or states in partnership with large, foreign firms can effectively exploit these natural resources (for an argument and data on the ownership and control of oil and gas resources, see Jones-Luong and Weinthal, 2010). In
contrast, “lootable” resources such as alluvial diamonds can be exploited by small groups such as the formateurs of armed groups seeking startup finance.

The finance tool potentially open to armed groups seeking funds to recruit and arm new members is selling the future rights to exploit oil to foreign firms or states (Ross, 2012). To finance the estimated $14 million costs of an attempted coup against the government of Equatorial Guinea in 2004, for example, the organizers sold the rights to future exploitation of the country’s offshore oil reserves to a group of British and South African investors. Yet, as noted by Fearon (2005), this mechanism is only tied to start of a civil war in a single case, in the Republic of Congo (Congo-Brazzaville), and the armed group that was funded by the Italian oil firm Elf was already a formidable force when it received the additional funding (Ross, 2012). The sale of booty futures, at the very least, is not the mechanism driving the formation of rebel groups in oil-rich states. Together, this evidence suggests that oil does not change the opportunity for the formation of armed groups to fight the state.

The state  By contrast, oil dramatically improves the state’s ability to prevent armed groups from forming and to, in the event, fight them. Oil dramatically increases the state’s budget, because it disproportionately benefits the state either through direct management of extraction or high taxes. The state can use these additional funds to spend more on its military personnel and equipment, but also on payments to rivals to persuade them not to arm themselves.

Oil may deteriorate the state’s bureaucracy and its average level of territorial control because its need to tax is obviated, but when oil is discovered its ability to spend to prevent challenges dramatically increases. A broad literature on the effects of oil on state capacity and political institutions suggests that access to oil wealth obviates the need to tax and so weakens

7Whether spending in fact increases is a separate question of equilibrium behavior. Wantchekon (2000) and Dunning (2010) suggest reasons why the ability to spend increases, but spending does not, resting on the observation that increases military capacity in the present also increases the ability of future leaders to prevent the present leaders from attempting to reclaim state power if they should be deposed.
the imperative to build a strong bureaucracy and to control territory militarily to collect taxes effectively (Mahdavy, 1970; el Beblawi and Luciani, 1987; Karl, 1997; Wantchekon, 2000; Ross, 2012). Yet the state’s motivation to retain state control is in fact increased by oil, as argued earlier. As a result, part of the windfall from oil to the state budget will be spent on military hiring, training, or equipment, or part on payments to rivals to prevent armed group formation. Unlike for rebels, who may have to wait until armed conflict begins to benefit from oil, the state’s ability to spend will not be delayed until production begins, because the state’s ability to borrow is likely immediately increased by the discovery of exploitable fields.8

Predicting Civil Conflict Outcomes from Motive and Opportunity The effects of oil on the motives and opportunities to challenge and repel challenges to state authority of the state and armed groups, respectively, favor the state. The motivation for both the state and armed groups to fight to retain or obtain control of spending is increased substantially, but the opportunities to finance military capabilities that will determine whether armed groups form and who wins favor the state. Rebel groups, before conflict begins, do not benefit from the presence of oil, yet the state’s budget is dramatically expanded. The state can use the funds to deter armed group formation through investments in state military capacity, and even when armed groups do form the state may be able to use its expanded budget to forestall civil conflict through side payments.

1.2 Order, Oil Production, and the Proximity of People in the State

Yet the fact that oil-rich states are more violent than those without oil is taken as fact by political scientists (e.g. Fearon and Laitin, 2003; Ross, 2012), economists (e.g. Collier and Hoeffler, 2003; 2004).

8In this and subsequent chapters, the “discovery of oil” connotes the discovery of new fields of oil or natural gas that can be profitably commercially exploited with contemporary technology. This is the sense in which oil firms and oil-rich states use discovery. There are oil and gas fields that are known to exist but that cannot be exploited with existing technology, and these are not considered theoretically or empirically here.
an application of the theory of asset proximity

2004), geographers (e.g. Le Billon, 2001; Watts, 2004), policymakers from states with new oil wealth\(^9\) and from oil-rich basket cases,\(^{10}\) as well as aid practitioners (e.g. Moss, 2011). When exactly does oil cause civil conflict, then? In this chapter, I argue that when oil is found near people they will often be able to interrupt oil production — even if they cannot benefit immediately — and the state will be forced to the bargaining table to avoid these interruptions. When bargaining breaks down, for reasons of incomplete information over fighting capabilities or due to the inability of the state to commit itself to sharing power or oil revenues in the future, civil conflict will result in cases where groups are able to arm themselves and mount an insurgency.

As I argue in Chapter 2, people living proximate to assets can, sometimes, interrupt revenue extraction by the state either directly or by interrupting production. In the case of oil production, people living near oil drilling sites, pipelines, transfer stations, refineries, storage facilities, and ports may be able to interrupt extraction, transportation, or state revenue collection activities. They can do so because they can take direct action, through protests, strikes, sabotage, or theft at these facilities. This means that for these local people, the costs of rebellion go down relative to the harm to state revenues. People living proximate to oil facilities are privileged in several ways relative to outside actors, particularly because the state cannot easily distinguish the (local) perpetrators of oil production interruptions from local people. Selective punishment is thus costly or impossible. As a result, I argue, these oil-proximate people will hold bargaining power in the distributional decision-making of the state. The state will have to accept these groups at the bargaining table.

\(^{9}\)On discovering its first major oil field in 2007, Ghanaian President John Dramani Mahama said (while Vice President) that Ghana aims to avoid the fate of Nigeria: “when they found oil, it turned out to be a curse for them,” (Alike, Ejofo. 2010. “Oil curse: Government to Ensure Revenue Benefits the Masses,” This Day 25 March).

\(^{10}\)Asked whether Nigeria suffers from an oil curse, its former president Olusegun Obasanjo said, “when we realized we were an oil-producing country...every Nigerian started to live on oil. We were not leaving anything for a rainy day,” (Guo, Jerry. 2010. “Nigeria’s Big Man,” Daily Beast 17 February).
Production and revenue collection activities surrounding the oil sector can be interrupted with a variety of tactics, outlined in Chapter 2, including sabotage, protests, strikes, and rebellion in the production region. In this chapter, I examine whether oil leads to civil conflict, so it is important to understand when oil-proximate groups will choose rebellion over other tactics.\textsuperscript{11} I identified three structural factors that shape the choice of tactics by revenue interruption organizers: the type of asset, the capabilities of the group that interrupts revenues, and the geography of oil production and people. I will highlight the last here, holding the type of asset constant and bracketing the capabilities of the group to focus on the central geographic hypotheses. Civil conflict will emerge in areas with oil and people when local people are capable of organizing an armed group, meaning for example that there are sufficient numbers of fighting-aged men. More importantly, the geography of the oil production area in relation to populated areas will determine whether rebellion is possible. Areas with rough terrain suitable to hide insurgents and avoid detection from the state (Fearon and Laitin, 2003; Kalyvas, 2006) will increase the likelihood of organizers choosing rebellion to interrupt revenues, in particular.

Local groups proximate to oil production are able to organize oil production interruptions in large because the state cannot identify the (local) perpetrators of the interruptions from local noncombatants. For this irregular war-like strategy to be effective, organizers of revenue interruptions and rebellions in oil regions must gain the cooperation of local people to ensure civilians do not denounce the identities of the perpetrators to the state. In addition, the organizers must recruit local people to be members of the armed groups they form to mount insurgent campaigns so that insurgent recruits are indistinguishable from locals.

The logic of motive and opportunity proposed in the last section suggests that oil stacks the deck in favor of the state. Oil increasing the motivations of rebels \textit{and} the state to obtain

\textsuperscript{11}In subsequent chapters, I will examine the other forms of revenue interruption that local groups in oil regions may use, including contentious collective actions and weapons of the weak tactics such as sabotage.
or retain control of the state apparatus and the oil region, because of the value of control over oil revenues. Yet while oil dramatically increases the budget constraint of the state to prevent and repel armed challenges, it does not change the opportunity structure for rebels. Rebels are seldom able to use oil to finance rebellion. When people live proximate to oil production, however, the state’s calculations change. Because local groups are able to interrupt oil production — and interrupt it entirely in the case where rebels successfully take control of oil production as in the case of Iraq during the Second Gulf War, the Libyan Revolution in 2011, and during the Biafran War in Nigeria in 1967 — the state loses out even if the local groups are not able to gain control of the state apparatus or full local territorial control. As a result, these local groups can hold substantial bargaining power even with a low probability of successfully attaining their ostensible goals in the conflict. This logic will impel the state to bargain with these armed groups, and when the two sides cannot agree on a power or revenue-sharing solution to avoid conflict the groups may carry out their threat of rebellion.

Together, the discussion of the effects of oil on the motives and opportunity to fight in civil conflicts and the implications for the geography of oil production and people yields two main empirical implications that will be tested in the remainder of this chapter. They are:

**Implication 8 (Location of Oil).** *When oil is discovered onshore in populated areas, the asset proximity mechanism proposed in Section 2 of Chapter 2 can be activated, increasing the probability of civil conflict onset. This will not be true of offshore oil. Given the motive and opportunity logic favoring the state, offshore oil may in fact decrease the probability of civil conflict onset.*

**Implication 9 (Type of Conflict).** *Oil is more likely to cause secessionist civil wars than center-seeking wars, because the bargaining power is obtained from interrupting local revenues not from fighting elsewhere.*

### 1.3 Alternative Explanations

There are four main arguments that link oil wealth to the risk of civil conflict onset in the voluminous literature on the subject. In this section, I briefly summarize each argument and
develop empirical implications that can be contrasted with the implications from the theory proposed in this book. I will exclude the rebel finance mechanism discussed in the last section, which based on case evidence does not seem to operate.

State capacity. The most enduring explanation for why oil affects civil conflict outcomes derives its logic from a long literature that was initiated by scholars of the Middle East and in particular the Gulf States on how oil diminishes state capacity (Mahdavy, 1970; el Beblawi and Luciani, 1987; Karl, 1997). Oil, these scholars have it, removes the need for states to tax their citizens to raise revenues and as a result the imperative to develop a strong state bureaucracy to oversee taxation and the public spending that responds to demands from citizens in return for their compliance with tax obligations. In scholarship translating these developments into predictions of where civil wars will occur (Fearon and Laitin, 2003), oil-weakened states are more prone to challenges from armed groups, because there is assumed to be a correlation between the size of the state bureaucracy and its military bureaucracy. As I have argued in this chapter, this correlation is unlikely to hold. States and their leaders are strongly motivated by the presence of oil to retain power, and will invest in their militaries even if not in the rest of the state bureaucracy. An additional proposal in this vein is that states that lack the taxation imperative may not exert military control across their territory, since they do not need to extract tax revenues through the threat of force (Fearon, 2005). Though it is possible that on average oil states become less likely to exert territorial control across the state, the opposite is likely to be true in the oil region itself. The oil region enables the state to sustain itself and for the same reason states exert territorial control across productive areas when taxation is the mode of revenue collection, they will maintain high levels of territorial control in oil regions—if not increase the level of force, given that oil in many cases becomes a major source of revenue.
Greed. A second common explanation is that civil wars start in oil-rich states because oil dramatically increases the expected value of taking control of the state apparatus or the oil territory, because it increases the value of state power (Collier and Hoeffler, 2004; Fearon, 2005). In this view, opportunistic rebels will take up arms and challenge state power when and where it is possible, regardless of the location of the oil. They may challenge control of the state apparatus or for local territorial control, whichever is more profitable.

Grievances. Where there are political grievances, i.e. a group is out of power, oil may exacerbate them by putting oil revenues into the hands of the politically powerful. Oil may cause economic grievances directly, by increasing the incomes of groups living proximate to oil due to economic spillovers and employment in the oil sector. In these cases, oil may lead to new civil wars due to these new or exacerbated grievances (Le Billon, 2001; Ross, 2012; Condra, 2013).

Implication 10 (State capacity, greed, or grievance). If any of the three alternative mechanisms is correct, oil discovery should increase the probability of center-seeking and secessionist civil wars uniformly across the state and independent of where oil is discovered.

2. Research design

To evaluate these empirical predictions, I estimate the effect of oil wealth on the probability of secessionist and center-seeking civil war onset, drawing on new data on the timing and location of oil exploration and discoveries around the world from 1946 to 2003. Using this data, I exploit the random timing of discoveries once exploration begins to isolate the causal effect of oil discoveries. In contrast to earlier studies, I estimate the “total effect” of oil wealth, comparing states with oil wealth to those without it and states before and after oil wealth is discovered. Bargaining over the distribution of oil profits within the state often begins the moment prospectors strike oil, so political conflict often begins well before the first barrel is
offered for sale. The total effect estimates the impact from the moment of discovery through the years of production and sale. I use the oil discovery location data to test for the differential impacts of oil wealth found on land and offshore, within reach of rebels and beyond the range of their boats.

In what follows, I first describe the total effect approach. I then elaborate on how oil discoveries are made and then extracted for sale, and the implications for making causal inferences about the effects of oil wealth. I develop the causal identification strategy based on this discussion, exploiting the random timing of discoveries after exploration begins, and then contrast this research design with existing approaches.

2.1 The total effect of oil wealth

What is the effect of oil wealth on the probability of civil war outbreak? To answer this question, I compare across states with and without new oil wealth to estimate the total effect of oil wealth. I estimate the difference in the probability of civil war onset starting in the year new oil is discovered, and for the subsequent 20 years; political conflict over oil begins immediately, so I allow for the impact on civil war to be immediate as well. The theory presented in this chapter, and the general comparison imagined in most social science scholarship on the subject of oil, suggests that there is a difference in the probability of conflict between a state with new oil wealth and a state without that new wealth. In the terms of the theory proposed in this chapter, each major oil discovery is a new asset in the state. The goal of the empirical strategy is to estimate the impact of that new oil asset, a major source of wealth with certain characteristics, on the probability of experiencing an outbreak of civil war.

This design follows the spirit of an earlier generation of studies that estimated the effect of an “oil dummy.” Fearon and Laitin (2003) is a paradigmatic example, in which the authors

---

12The longest period reasonably allowed by a time series of 61 years, from 1946 to 2007.
compare states “whose oil revenues derive primarily from oil exports” to others, because “oil producers tend to have weaker state apparatuses...” (pg. 81) using a dummy variable. A number of studies of the effect of oil wealth on regime type take a similar strategy (Barro, 1999; Przeworski et al., 2000). In contrast, more recent studies both of regime type and civil war onset focus on estimating the marginal effect of state revenues from oil, as a share of national income or on a per capita basis (cf. Collier and Hoeffler 1999; Ross 2001). There are several problems with this strategy. First, it is not clear of what theoretical prediction can be made for the difference in civil war probability between a state with 50 dollars of state oil revenues per person and a state at 75 dollars per person. In addition, the distribution of oil revenues is bimodal: there is a large group of states, non-oil states, with zero oil revenues; and a second group, with a substantial amount. Few of these studies adjust for this issue, and lump oil and non-oil states together in their measurements. Indeed, much of the estimate of the marginal effect is confounded by this difference; that is, these studies are picking up largely the difference between oil states and non-oil states, not marginal differences in oil. The total oil effect research design abstracts away from these marginal differences in the amount of oil revenues and focuses instead on major differences in oil wealth, as measured by the discovery of new oil fields.

To compare states with and without new oil discoveries, I identify state-year observations with a new oil field discovery, and then find similar states within a small time window from the discovery year to serve as comparisons. I compare only states with the same number of discovered oil fields in a given year to ensure that the first discovery in a state is not compared to the 40th discovery in another. The impact of oil wealth is likely to be different when a state becomes an oil state than when it gets an additional one. Finally, I ensure that the comparison states are similar in terms of factors that predict civil war, such as suitability for insurgency,
political instability, and the history of civil wars. The two comparison states are by design, then, similar in terms of the probability of a new civil war onset but for the fact that in one there was a new discovery of an oil field and in other there was no new discovery.

2.2 Oil exploration, discovery, and production

To understand how to find closely comparable states with and without oil discoveries, that have the same potential responses in civil war risk to the discovery of oil, it is useful to consider the process by which oil is discovered, and how new oil fields are turned into profit centers through transportation and then refining of crude oil into commercial petroleum products like motor oil and gasoline. In this section, I discuss each step, and highlight how politics confounds many key steps — including where oil firms prospect for oil, the decisions over how much oil is extracted each year, and how much oil is sold domestically and how much is exported. Each will raise challenges for existing research designs, and this discussion will motivate the introduction of the causal identification strategy used in this chapter: that the probability of discovering oil in a given exploration well is as-if random. The places where firms explore are selected strategically, but the firms are assumed to believe that once they drill a well that the probability of a discovery is equal across each well. States with new oil discoveries are compared to states without new discoveries but with the same amount of exploration activity, and thus the same probability of discovery.

*Exploration.* Before an oil field produces revenues, several processes must take place. First, oil exploration firms (often distinct from well-known production firms like Chevron, Exxon, and Shell) identify potential oil reservoirs based on the stratigraphic characteristics under the ground — there are some parts of the world covered by granite shields, for example, where petroleum cannot permeate the dense rock, and some parts covered by basins where organic
material falls, decays, and forms petroleum. Second, the exploration firms purchase concessions, contracts offering the right to search for oil that set the terms for production in case oil is discovered. Concessions are either purchased from the state, or leased from other firms. It is well known that oil firms do not randomly select the areas within states, or even the set of states, where they buy concessions. Figure 3.1 shows the history of oil exploration from 1946 to 2003 (gray, no exploration; light red, some exploration; dark red, a great deal of exploration).

Within its concessions, the exploration firms then drill test wells, called “wildcats,” in the parts of the concession the firm believes most likely to yield a discovery. They will in some cases only need to drill one well, and in others need to drill hundreds in a particularly promising region.

Once an exploration firm finds oil, everyone knows there is oil under the ground, and it is relatively easy for the state to expropriate the firm’s rights to production profits and take them for itself. As a result, it has been shown that firms choose to explore in places with more secure property rights. Bohn and Deacon (2000), for example, argues that the risk of expropriation of oil exploration and production investments by oil firms will cause exploration and

Figure 3.1: The timing and location of oil and natural gas exploration well drilling and field discoveries from 1946 to 2003. Early discoveries are in light blue and later discoveries are in dark blue. The new dataset of “giant” fields records significant fields instead of all fields, and data on location, discovery date, and volume of discovered reserves is complete.
production firms to respond with less investment. Cust and Harding (2013) find, similarly, that the type of political institutions in a state affects the frequency of exploratory drilling.

**Discovery.** Once the test wells are in operation, some proportion of the wildcat wells strike oil, indicating a new oil field under the ground. Figure 3.1 shows major oil and natural gas discoveries around the world from 1946 (light blue) to 2003 (dark blue). The exploration firms then survey the area using seismographic devices and flights to learn the extent of the reservoir of oil they have found underground.

Theory and evidence suggests that among the set of exploration wells, which one strikes oil is random. Drilling exploration wells is expensive, and in new territory where oil has not been discovered firms place wells in each of the locations they believe oil to be. Cust and Harding (2013) show using a regression-discontinuity design that across borders of states with differing political institutions that though there are dramatic differences in the rates of oil exploration activity, there are not differences in the rates of discovering oil across borders within those exploration areas.

**Production.** Finally, the exploration firms make a production profit sharing agreement with the state or sell the rights to do so to another firm. This process often begins immediately after a discovery. Some small exploration firms are organized to prospect for oil and sell the rights to wildcats that strike oil, and other larger firms such as Shell both explore and produce oil. The producing firm will then, depending on the ownership rights of the state set by law, come to an agreement with the state over how to share the profits from the sale of oil. If the state asserts ownership of the resource, but foreign firms control extraction, this will take the form of a revenue net of costs split between the state and the firms, for example. The state’s take varies widely across countries. Moreover, as Jones-Luong and Weinthal (2010) note, the resource may be entirely privately owned, in which case revenues will accrue entirely to foreign firms or to
a mix of foreign and domestic firms and citizens of the state. If the state claims ownership and controls production, all revenues will, initially, accrue to the state. That these choices will be determined by politicians is hardly surprising, given the magnitude of money at stake. This variation, however, has not been studied by political scientists, which is surprising given the fact that the most cited case contravening the "resource curse" paradigm is Botswana, which many believe is a success precisely because of the nature of the agreement between foreign firms and the state (Acemoglu, Johnson and Robinson, 2002).

Once production begins, which typically involves new wells drilled with higher extraction capacity than the exploration wells, the production level is set which determines, along with the largely exogenously-set international oil price, how much revenues the state and the producer firm gets. Politics often intervenes even in how much oil comes out of the ground. Dunning (2010) highlighted substantial deviations of oil pumping rates from the maximum possible. A recent stark example of such under-production is the proposal by Ecuador’s president to leave all its discovered petroleum in the ground in return for market-rate payments from the UN Development Programme.13 Indeed, and importantly for the argument here, the extraction rate may be determined by politics. Dunning argues that leaders view resource rents as a good only if they expect to stay in power to continue to collect them. If a leader expects to be out of power soon, she may try to “lock in lower rents” (2010; 381) to minimize the incumbency advantage of future opponents. Strong regimes maximize rents, but weak regimes may not.14

---

13 The Ecuadorian government is extracting none of the oil from a major discovery in its Yasuni National Park.
14 See also Robinson, Torvik and Verdier (2006), which discusses the incentives of leaders to over- or under-extract oil.
2.3 Identifying the causal effect of oil discoveries

This discussion suggests that many parts of the process that lead from exploration for new oil wealth to the production of commercial petroleum products are confounded by political factors, including the risk of civil conflict. The research design for this study is to focus for substantive reasons on the effect of new oil field discoveries on the probability of civil war onset, to estimate the total effect of oil wealth. The innovation I will introduce here to identify this quantity is to only compare states with the same levels of exploration activity. In two states with the same history of oil exploration (the same number of wildcat wells drilled), the probability of discovering oil will be similar, and the confounding from the factors determining where oil firms explore for oil are adjusted out of the analysis. In addition, the total effect estimates include both states where the extraction rate is high and states that do not extract oil because of political considerations. As a result, the estimates are not confounded by these downstream decisions, after the state comes into new oil wealth.

To identify the causal effect of oil wealth using this design, we must make two consequential assumptions. Since the identification assumptions are infrequently discussed in the literature on oil wealth, in what follows I will introduce the assumptions required for the analyses that follow in this chapter, and then the assumptions required for typical research designs in this literature.

The first is that the data used in oil analyses is not manipulated. This seems trivial, and indeed nearly all data analysis in the social sciences invokes the same assumption. A number of oil data sources, however, cast doubt on the validity of this assumption for existing analyses. I discuss in Appendix A why the assumption does not hold for an alternative data source on oil reserves held by states; that data is clearly and substantially incorrectly reported by states that collect it individually. Data on the timing and location of oil discoveries, however, is more
easily observable, and in the case of the data presented in this chapter it is collected by a non-commercial source and can be easily compared with several other alternatives.

The second assumption is that, given that oil exploration activity has taken place in a given year in a state, the probability of discovering oil — striking oil in a wildcat well — is as-if random. That is, the timing and location of discoveries, given that there is exploration activity, are independent of potential responses of the probability of civil war onset to an oil discovery. The choice of exploration sites is likely to be determined by not only the probability of discovery, but also the risk of expropriation by the state or non-state armed groups. However, once exploration activity does begin, the probability of oil discovery is likely to be as-if random. The oil firms place bets on the exploration wells they believe they can later profit from, but they do not know which of those wells will strike oil. Though this assumption is not directly testable, I present evidence along with each analysis of the plausibility of the assumption using a falsification or placebo test (see Section 4.3).

2.4 Existing approaches to studying oil wealth

Scholarship on the impact of resource wealth on political outcomes focuses on the marginal effect of an additional dollar of resource wealth, as opposed to the coarsened comparison between states with and without oil new oil wealth introduced in this chapter. The marginal effect of oil revenues is certainly of some interest; some scholars argue that oil price booms exacerbate the pernicious effects of oil on political and social outcomes (for one example, see Karl, 1997). This marginal comparison, however, does not capture the full set of impacts of oil wealth on the probability of civil war onset as the total effect approach advocated here does.

In most existing studies, the measure of oil wealth is based on the magnitude of gross resource revenues (e.g. Collier and Hoeflner, 2004; Fearon and Laitin, 2003; Ross, 2012). The revenues are calculated, usually, from government production figures multiplied by coarse
estimates of the specific density of oil in the region and then multiplied by world oil prices. The figures are the product not only of the oil endowments, but of several layers of political decisions. These decisions mean that these figures are likely to be endogenous to political outcomes including civil wars. Rents to the government are determined by,

\[ rents_t = (reserves_{t-1} \times extraction\ rate_t \times price_t - costs_t) \times revenue\ share_t \] (3.1)

To identify the causal effect of oil wealth using the revenue data as in existing studies, the two assumptions I proposed must hold, but in addition each factor in Equation 3.1 must not be confounded by factors predicting civil war onset. We must assume that the amount of reserves in the ground today, the extraction rate, the price of oil, the costs of extraction, and the agreed rate of revenue sharing with the extraction firm are conditionally independent of the potential impacts of oil wealth on the probability of a new civil war outbreak. The inclusion in the rents measure of the amount of oil reserves implies that the timing and location of exploration activity, the size of the discovery, and the extraction rates in previous years — which together determine how much is left in the ground today — must also be decided as-if randomly. In the preceding section, I discussed the substantial deviations from this assumption just in terms of the political manipulation of the extraction rates. The costs and the share of oil revenue kept by the state are also unlikely to satisfy a no confounding assumption.

The proposal to focus on oil discoveries is not the only one aimed at relaxing some of these assumptions. Humphreys (2005) proposes, for example, to use the amount of oil reserves held in a state to predict civil war outcomes. The data are based on state-reported estimates of the amount of oil remaining in the ground that can be extracted in the future on an economically viable basis. Conceptually this figure is appealing; it is how much state leaders have in the
ground to exploit. That design, however, suffers from two crucial problems. First, the data is reported by states, and it is often manipulated for strategic purposes. Figure 3.A.1 in the Appendix presents the oil reserves data for OPEC member states, and highlights dramatic increases in reported oil reserves figures in the early 1980s, which coincide not with oil discoveries but with a change in OPEC rules that incentivized larger reported reserves figures. This means a research design based on the reserves data would violate the no data manipulation assumption. Second, the reserves data include production figures directly in the measure. Reserves data are generated for state $i$ in year $t$ by a process such as,

$$\text{reserves}_{it} = \sum_{t' = 0}^{t} \text{discovery}_{it'} - \sum_{t' = 0}^{t} \text{production}_{it'} \quad (3.2)$$

This implies that the confounding issues related to the production data that are discussed above also ensure that the reserves data violate the no confounding assumption.

3. **Data**

A primary contribution of this chapter is to introduce a new dataset on the timing and location of oil exploration and discovery around the world from 1946 to 2003. The data allow me to estimate the effect of discovering new oil fields given a history of exploration, in order to assess the total effect of oil wealth on the probability of civil war onset. In this section, I discuss the oil data; the construction of a list of civil wars according to the goals of the movement to test the differential impacts of oil on secessionist and center-seeking insurrections; and the data used to compare the effects of discovery according to where oil fields are discovered — in

---

15The problem cannot be solved by simply as adding back in the known production figures. For some countries, oil reserves are not updated every year, and the country simply reports back the same figure as the year before. It is unclear whether (or when) the updated numbers reflect discoveries or discoveries less production. At the very least, one rule for all countries would not suffice to use the two data series to construct a total discovered oil reserves variable.
habitable areas, in the homelands of ethnic groups, and on land, near and far from shore.

3.1 Oil discoveries

The data and its source. Data on the timing and the precise latitude and longitude of each “giant” oil or natural gas field discovery from 1868 to 2003 is used to code discoveries of new oil wealth in each state from 1946 to 2003. This time period of the study corresponds to the majority of oil discovered. Nearly all of the offshore discoveries take place in this period of the latter half of the 20th century, due to the late invention of the techniques that allowed exploration in the ocean in the 1970s and in deep-sea locations in the late 1990s.

Constructing state-year data. How can we construct the history of oil discoveries for each state from 1946 to 2003, when the set of states in each year may be different and the territory controlled by those states may change? How can we assign discoveries in the ocean to a state?

First, I use and improve upon the map dataset of the borders of states from 1946 to 2012 presented in Weidmann, Kuse and Gleditsch (2010). The maps indicate the changing borders of each state, based on an enumeration of states in the international system in this period from the Correlates of War Project. The colonies and external territories of states are excluded from the analysis, since the object of study is civil wars and not colonial wars of various types.

A key advantage of this new oil data (depicted in the blue dots in Figure 3.1) is that the timing and magnitude of each oil discovery is precisely located in space. Each discovery can be identified as on land or offshore. Oil discoveries are thus counted as new oil wealth if they are discovered in a state, or are assigned according to the closest state or non-state territory if found in the ocean. If an oil field is assigned to a non-state territory, it is not included in the analyses. When a new state is formed, for example after decolonization, these fields are
included in the history of oil discovered in that state but not as new discoveries.

3.2 *Oil exploration*

The key identification strategy of the chapter is to only compare states with new oil field discoveries to states with similar levels of oil exploration, to ensure that each was equally likely to experience an oil discovery. Data from the Association of American Petroleum Geologists on the number of wildcat wells drilled per year is used to code whether oil exploration activity was undertaken in years before a discovery. The specific measures include the number of wildcat wells drilled to date and whether oil exploration took place or not (see Figure 3.1, in which darker shades of red correspond to more wildcats wells drilled as of 2003).

3.3 *Civil war*

To estimate the effect of oil on the risk of civil war outbreak, I construct a time-series dataset of the timing of the start of new civil wars of two types based on the aim of the groups, either taking control of the state apparatus or seceding with a subset of the state’s territory. There are 137 such civil wars from 1946 to 2007, of which 91 (66%) are center-seeking and 46 (34%) are secessionist wars. These data are then connected to the oil discoveries data described above.

Civil war, high intensity armed conflicts between the state and a set of non-state armed groups, is notoriously difficult to define in practice across regions and time. In this study, the timing of the start of a civil war is defined based on the list of wars in the joint Uppsala Conflict Data Program (UCDP) / Peace Research Institute of Oslo Armed Conflict Dataset version 4 (Themnér and Wallensteen, 2013). Results based on the civil war list collected by the Correlates of War project are substantively identical.

The UCDP data identifies 177 internal conflicts between the state and a non-state actor or set of non-state actors. These conflicts are defined for a conflict over a given territory or for armed conflicts included in the dataset are defined as “a contested incompatibility that concerns government
control of the state without respect to time, and the conflict may recur. Following Sambanis (2004), I treat “spells” of each conflicts as separate conflicts, in which there are not more than three years separating conflict-years within a given conflict. There are 498 spells of civil conflicts. In this paper, I focus only on cases of civil wars, meaning conflicts of high intensity. The UCDP data define a conflict as one with at least 25 battles deaths in a given year, and civil wars are those conflicts with 1,000 or more in a given year. Among spells of civil conflict, 137 (28%) contain at least one period of civil war (a conflict can be treated as a low-intensity affair in some years and a war in others).

3.4 Populations, territory, and oil discoveries

The key prediction of the theory of asset proximity proposed in this chapter is that oil causes civil war only when found in or near populated areas. When it is found in unpopulated areas on land or offshore, it does not. To test this prediction, I combined data on population density, ocean boundaries, and land cover data with data on the location of oil discoveries. In addition to coding whether each discovery was on land or offshore, I describe here how I identify whether discoveries are made in populated versus non-populated areas and in “habitable” or livable territories, as opposed to places like deserts.

First, I directly measure whether an oil field was discovered in a populated area, such that people live proximate to oil production. I rely on the geographic data from the Gridded Population of the World produced by Center for International Earth Science Information Network (Pozzi, Small and Yetman, 2003), which is in wide use in political science and economics. The population density for small grid squares is estimated using night-time satellite lights, and 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 in a year” (codebook).  

If two different non-state actors challenge the state for the same territory or for control over the state, they are treated as separate conflicts.

Sambanis defines these spells as separated by at least three years of battle death counts below 500, whereas the count is 25 — the only threshold below 1,000 defined in the UCDP data.
oil fields are attributed to these grid squares to estimate the population density of the area surrounding oil discoveries. Each discovery is classified as either high population density or low population density, using the median population density as the cut-off.

Yet several scholars have noted that the “night lights” data are related both to population density but also to other social phenomena including wealth and the quality of publicly provided electricity service (Posner, Carlson and Min, 2010; Min and Golden, 2014). To address this shortcoming, I also use a secondary measure of the proximity of people to oil production, which measures whether each discovery is in a habitable area or not. I first identify barren land that is not habitable. To do this, I use satellite “land cover” data collected by the European Commission\(^\text{19}\) to locate these areas. The data were collected from 1998 to 2000 and are meant to represent land conditions in the year 2000 (Fritz et al., 2003). Each place on the earth is classified as a body of water, covered by vegetation, urban or built-up, or barren.\(^\text{20}\) A substantial proportion of oil discoveries, 19\%, are made in these inhospitable barren areas. Figure 3.1 overlays oil discoveries (blue) with areas of barren land cover (red).

3.5 Controls

To ensure comparison states with and without discoveries have similar potential responses to oil discoveries, I include the factors originally described by Fearon and Laitin (2003) as key predictors of the onset of civil war. I extended the covariates from the original dataset, backward and forward in time, ultimately constructing data from 1946 to 2003.\(^\text{21}\) I diverged in several instances from the original coding, in an attempt to exactly construct the measures conceptu-

---

\(^{19}\)The data were collected by the VEGETATION program on the French satellite SPOT 4. I use a reclassification of the data created by the Land Resource Management Unit of the European Commission Joint Research Centre, available at http://bioval.jrc.ec.europa.eu/products/glc2000/glc2000.php. It is itself based on the FAO’s Land Cover Classification System.

\(^{20}\)The specific classifications are tree cover (several types); shrub cover; herbaceous cover, such as pasture or sparse trees; bogs; cultivated areas, such as orchards or vineyards; cropland; barren areas; water bodies; snow and ice; and artificial areas.

\(^{21}\)This is the overlap of coverage of the oil discoveries data and the maps of state borders.
alized by Fearon and Laitin (2003). In particular, I construct a per capita income data series using data from the World Development Indicators from 1960 to 2003 and Maddison’s historical dataset from 1946 to 1959.\textsuperscript{22} Covariates that are time-invariant are included for the full time series (the measure of the extent of mountainous territory and whether a state is “non-contiguous”), and those that are nearly time-invariant are averaged over time and similarly combined (ethnic and religious fractionalization, which change for only two states). Data from Polity IV are used to measure the regime type and to reconstruct the Fearon and Laitin (2003) measure of political instability. See Table 3.E.1 in Appendix 3.E for summary statistics of these covariates.

4. Methods

How can we estimate the effect of discovering oil on the future probability of civil war outbreak? We can first define the ultimate quantity of interest as the difference in the probability of having experienced a civil war in an interval of 20 years between two similar states, one in

---

\textsuperscript{22}Fearon and Laitin (2003) construct GDP data by using data from the Penn World Tables 5.6 from 1950 to 1992 and filling in missing data using out-of-sample prediction from a regression of energy consumption data from 1946 to 1999 on the Penn World Tables data. The data constructed here are entirely derived from national accounts data, and missing data are treated as a separate value in the analyses that follow.
which a new oil field was discovered at the start of the interval and one in which a field was not discovered then. In both states, oil exploration activity had taken place before hand. In this section, I will first describe two challenges to estimating this quantity, then describe how I implement this comparison between states with and without new discoveries, and finally how I will assess whether the causal identification strategy proposed above was successful.

4.1 Matching

The identification strategy proposed in this paper involves comparing similar states with a new discovery to states with no discoveries (yet) among the set of states where oil firms have explored for oil. In particular, the comparison states must have similar histories of discoveries before the comparison year. To accomplish this, I use a combination of (coarsened) exact matching on measures of exploration and discovery history and full matching (Rosenbaum, 1991) on a larger set of covariates, following Hansen (2004).\textsuperscript{23} The first exact matching step ensures at least coarse agreement with Assumption 2. The second full matching step ensures approximate comparability on other factors, including richer measures of the discovery and exploration history and factors that predict civil war outbreaks.

First, we adjust for the confounding by oil exploration firms of the locations where they search for oil, which may be related both to where oil is discovered and to the risk of civil war. Firms act to minimize the risk of expropriation of their finds by the state or non-state armed groups, and in doing so may choose places to explore that make oil discoveries more likely in places with less risk of civil war. Using data on the timing and frequency that firms drill exploration wells for oil and natural gas, I constrain matched state-year observations in which oil is discovered (treatment) or not discovered (control) to have had at least one exploration well drilled in the past. These data are described in Section 3.2. In the subsequent full matching,

\textsuperscript{23}The full matching is carried out using the \texttt{R} package \texttt{optmatch} (Hansen and Fredrickson, 2005) within each subclass defined by the (coarsened) exact matching.
I match on the number of exploration wells drilled in the past to make discovery and non-discovery cases comparable — only matching country-years with similar levels of exploration activity, and thus similar oil discovery probabilities.

A second challenge to identification is how we can make causal inferences about the effects of oil discoveries, which can happen more than once in a state — and in which the history of past discoveries may continue to affect the outcome. Oil discoveries may exert a cumulative effect on the probability of civil war starts, for example, or the causal factor may be whether there has been a discovery in the preceding decade. As Blackwell (2012) highlights, traditional approaches to causal inference, including fixed effects and typical approaches to matching, focus only on the “single-shot” causal effect of (for example) an oil discovery this year on the probability of new civil war starting next year. These single-shot approaches ignore the effects of the history of past discoveries, and so such estimates may be confounded by these history effects.

To adjust for the confounding of the history of oil discoveries in a state, I use (coarsened) exact matching on an indicator for past discovery status (1 for at least one past discovery, 0 otherwise) and full matching on more detailed measures of the number of past discoveries found on land and, separately, the number discovered offshore. These data are described in Section 3.1. Exact matching on the full history of discoveries (whether a discovery was made in each year) would more closely meet the restrictions of Assumption 2, but since nearly every state has a different discovery history, this procedure is infeasible.

To ensure that matched discovery and non-discovery units are comparable on factors that predict the civil war onset, I construct a propensity score model including the covariates described above and the set of controls described in Section 3.5. In addition, to ensure that time-varying factors like oil prices and the costs of oil extraction do not confound the comparisons,
I constrain matches to be within two years of each other. Finally I match on continent indicators. “Full matching” based on the estimated propensity scores is used to find matches.

Full matching takes advantage of all potential comparison units, rather than finding a fixed number of control units for each treated unit (such as the common one-to-one matching). Each state-year without discoveries is matched to a state-year with a discovery (so that there are groups with a single discovery unit either one or many non-discovery units), such that overall imbalance is minimized between control covariates described above. The first step of exact matching further ensures that on the central measures defined to satisfy the identification assumptions there is zero imbalance. To calculate quantities of interest, the time from discovery until a new civil war starts, non-discovery control units are weighted down such that the weighted dataset includes the same number of treated and control units, as described in Hansen (2004).

4.2 Civil War as an Outcome

Studies in political science on civil war, a binary outcome (1 = new war; 0 otherwise), often focus on the effect of a key predictor on the probability of a new civil war outbreak in subsequent years. Each must grapple with how to account for the fact that if the predictor changes in the last year of the sample, for example oil is discovered, we cannot estimate the effect on civil war outbreak in future years — we cannot measure the outcome in those future years. This censoring problem can be accounted for using standard methods of survival analysis (Box-Steffensmeier and Jones, 1997), which treat these observations at the end of the sample as if civil war has not happened yet instead of not having happened at all. How can we apply this method to the matching-based causal identification strategy applied here without adding additional assumptions?

24Matches are still restricted to be from different states, even if they are from different years.
I rely on non-parametric Kaplan-Meier estimation of the survival curve fit to the discovery observations and the no-discovery observations, and calculate the difference in the survival curves to estimate the key quantity of interest for the analyses that follow. This does not add parametric assumptions, and estimation of the uncertainty of the difference relies on independence between the treated and control groups — already assumed by the identification assumptions.

4.3 Validating the research design

To enhance the credibility of the identification strategy, I construct a falsification or “placebo” test. The goal is to use the same set of comparison units, with and without a discovery in a certain time period, and to compare responses based on an outcome that should not be affected by the treatment.\textsuperscript{25} Here, I focus on the pre-treatment outcomes: the time until a civil war before for each matched unit. This is akin to a difference-in-difference design, to alleviate the concern that treatment effects after discovery are driven by pretreatment differences in outcome.

5. Results

In this section, I first present a descriptive analysis of the rates of civil war onset comparing states with and without oil and according to the location of oil discoveries. After presenting these descriptive patterns, I turn to applying the causal identification strategy proposed in Section 2 to test each of the four hypotheses of this chapter in three subsequent sections. I also present evidence about the credibility of the causal claims using placebo tests that compare the rates of civil war before oil is discovered, and by assessing how similar the comparison

\textsuperscript{25}Rosenbaum 2002 defines a placebo outcome, which is used to calculate differences between treated and control units, “a post-treatment outcome for which the effect is known, either by design or substantive theory.” In this case I use a pre-treatment outcome, because it is substantively crucial that there are no pre-treatment differences in outcome.
states with and without discoveries are in terms of social and economic factors that predict civil war onset. I conclude the section by assessing the alternative theories that have been used to explain oil’s effect on civil war in light of these findings.

5.1 Descriptive Comparisons of States With and Without Oil

I first present descriptive results comparing the rates of civil wars starting in states with and without oil, and with oil discovered in different geographical patterns. Each of the descriptive results is based on the proportion of state-year observations that experience a civil war onset using the war data described in Section 3.3, and according to whether and where oil is discovered in the state. The data on oil discoveries and their location is from the new data presented in this chapter and described in Section 3.1. There are three primary descriptive findings, each of which is depicted graphically in Figure 3.1.

First, states with oil are slightly more likely to experience new civil wars than states without oil, and the difference is not different statistically. The annual probability of a new civil war starting in a state with (discovered) oil is 1.74% (95% confidence interval from 1.47 to 2.01),
while in a state without (discovered) oil it is lower, 1.05% (CI 0.93 to 1.17).

States with onshore oil are more likely to experience new civil wars than states with offshore oil — and it appears that even if the state has some offshore oil is it less likely to experience civil war than if the state has only onshore oil. The probability of a new civil war starting in a state with offshore oil only is 1.35% (CI 0.8 to 1.9), compared to the probability for states with onshore oil of 2.27% (CI 1.83 to 2.72).

Finally, states with onshore oil are more likely to experience civil war onsets than states without oil, but the same cannot be said of the comparison between states with offshore or both onshore and offshore oil and states with no oil. The difference between states with onshore oil and states without oil is large (1.22%) and statistically different from zero (CI 0.33 to 2.12). The comparison between states with offshore oil, by contrast, and states without oil is small (0.3%) and statistically indistinguishable from zero (CI –0.8 to 1.4).

In the following two sections, I move from descriptive analysis to testing the two main empirical implications of the theory presented in Section 1, based on the causal identification strategy proposed in this chapter. To evaluate each prediction, I take the set of cases in which oil is discovered and identify suitable comparison cases for each of those discovery state-year observations among the set of other states in which there were not discoveries. I then examine the probability of experiencing a new civil war onset in the subsequent 20 years among the discovery cases and the non-discovery cases. I present the difference between the two as the central quantity of interest.

5.2 The Type of Conflict Caused by Oil

To evaluate the first empirical prediction, that oil is more likely to cause secessionist wars that center-seeking civil wars, I estimate the effect of discovering oil on the probability of experiencing each type of civil war in the 20 years following discovery. The empirical strategy is
Figure 3.2: Oil Substantially Increases the Risk of a Secessionist War Outbreak. The difference in the cumulative probability of experiencing a secession-seeking civil war with 95% confidence intervals is presented for each of the 20 years after discovery, comparing states in which oil a new oil field was discovered to another state with the same history of oil exploration and discoveries. The placebo test (shown to the left of the “oil discovery” line) compares the same states before that year of discovery to confirm that there are not pre-discovery differences in the probability of civil war confounding the effect of the new discovery.

the same as in the last section for evaluating the overall effect of oil, but with different outcomes defined by the aims of rebel groups. Balance plots for each analysis are presented in Appendix 3.D.

Oil causes secessionist civil wars, and the probability of experiencing a secessionist war is dramatically higher in oil states that similar states without oil. Indeed, the risk of a new secessionist war climbs beginning just a year after discovery and continues to rise through 20 years after discovery. After 20 years, a state with an oil discovery is nearly 6.77 percentage points (confidence interval 0.99 to 12.58) more likely to experience a secessionist war that a similar comparison state that did not discover oil. This is a dramatic effect, considering that the mean annual probability of civil war onset from 1946 to 2003 is 1.22%. The placebo test shows that there are no differences in the rates of secessionist civil wars between the two sets of comparison states before discovery, suggesting that this difference can be attributed to the discovery of oil. This finding, and the quick timing of the increase in the risk of experiencing a seces-
**Figure 3.3: Oil Does Not Cause Center-Seeking Civil Wars, and Perhaps Even Prevents Them.** The difference in the cumulative probability of experiencing a center-seeking civil war with 95% confidence intervals is presented for each of the 20 years after discovery, comparing states in which oil a new oil field was discovered to another state with the same history of oil exploration and discoveries. The placebo test (shown to the left of the “oil discovery” line) compares the same states before that year of discovery to confirm that there are not pre-discovery differences in the probability of civil war confounding the effect of the new discovery.

By contrast, oil does not increase the probability of a center-seeking civil war, and, if anything, decreases it, as depicted in Figure 3.3. After 20 years following the discovery of oil, the difference between the probability of having experienced a new center-seeking civil war in a discovery state and a similar non-discovery state is precisely zero (0.12%, CI –3.81 to 4.06). Yet the estimated difference is negative — oil states less likely to have experienced a cent-seeking war than non-oil states — in 18 of the 20 years following discovery. The placebo test suggests that, before discovery, states with discoveries were slightly less likely to experience center-seeking civil wars than other states. Most conservatively we can say that oil neither causes nor prevents center-seeking wars.

Taken together, the evidence about how oil affects the likelihood of civil war — it causes
secessionist wars, and does not cause and may (weakly) prevent center-seeking wars — is consistent with the empirical implications of the theory presented earlier. I suggested that oil is more likely to cause secessionist wars than center-seeking wars, because the bargaining power of local groups living near oil extraction and production advantages them locally and not necessarily elsewhere as a center-seeking campaign against the state might require.

5.3 The Location of Oil and the Effect of Oil on Civil War

To evaluate the second empirical prediction, that when oil is discovered onshore in populated areas it will increase the probability of civil war onset, I first compare the effects of oil discoveries according to where they were discovered, on land or offshore. This provides a rough classification between oil that can be interrupted by civilians (on land) and oil that is out of reach on offshore platforms. To more finely examine discoveries that represent production interruption opportunities, I divide onshore finds into those in habitable areas where people can live close to oil production. Again, the empirical strategy mirrors that of the last two sections, except that subsets of oil discoveries are examined.

Onshore and Offshore Oil Discoveries. The dramatic effect of oil discoveries on the probability of new secessionist civil wars masks an even greater one: the effect of discoveries on land, and thus in range of people capable of interrupting production, is 11.88 percentage points (CI 3.75 to 20.05). There is also a sizable effect on the likelihood of secessionist wars when oil is discovered offshore, but it is substantially smaller (60 percent the size) than the effect of oil on land and the effect of oil discovered offshore is not statistically different from a null effect. Figure 3.4 illustrates these comparisons.

There is not such a dramatic difference between the effects of oil depending on its location on the probability of center-seeking civil wars, though oil discovered offshore is precisely esti-
Figure 3.4: Secessionist Civil Wars are Substantially More Likely When Oil is Discovered Onshore (red), and No Statistical Difference When Oil is Discovered Offshore. The difference in the cumulative probability of experiencing a secession-seeking civil war with 95% confidence intervals is presented for each of the 20 years after discovery, comparing states in which oil a new oil field was discovered to another state with the same history of oil exploration and discoveries. The placebo test (shown to the left of the “oil discovery” line) compares the same states before that year of discovery to confirm that there are not pre-discovery differences in the probability of civil war confounding the effect of the new discovery.

mated to prevent such civil wars between the year of discovery and just before fifteen years after. Figure 3.C.1 in Appendix 3.C depicts these comparisons. Oil discovered on land, and thus potentially within the grasp of people that can interrupt production, does not cause center-seeking wars. If anything, onshore discoveries prevent center-seeking civil wars, but that effect is not statistically significant (−0.27%, CI −5.99 to 5.47). Oil discovered off shore, on average out of rebel grasp, prevents center-seeking civil wars at a similar rate as oil discovered on land, −0.28% (CI −4.85 to 4.31).

Oil within the Reach of Rebels. In this section, I show that not just any oil found on land causes secessionist wars, but rather it is only when oil is found in habitable areas where people
Figure 3.5: Effect of Onshore Oil Discoveries on Secessionist Wars is Driven by Finds in Populated Areas. Onshore discoveries are divided into those found in unpopulated areas (blue; defined as areas with below-median population density) and populated areas (red). See Section 3.4 for a description of the coding. The difference in the cumulative probability of experiencing a secession-seeking civil war with 95% confidence intervals is presented for each of the 20 years after discovery, comparing states in which oil a new oil field was discovered to another state with the same history of oil exploration and discoveries. The placebo test (shown to the left of the “oil discovery” line) compares the same states before that year of discovery to confirm that there are not pre-discovery differences in the probability of civil war confounding the effect of the new discovery.

live near oil production that it causes these wars. I first compare the effect of oil discoveries in populated areas to those in unpopulated areas. After 20 years, the difference between a state that discovered oil in a populated area and a state that did not discover oil is 17 percentage points (CI 4.4 to 29.66), a statistically significant difference that is substantially larger than the mean effect for onshore discoveries (11.88%). By contrast, the same comparison for states that discovered oil in an unpopulated area and similar states that did not is small (6.47%, CI –1.81 to 14.8), an effect not distinguishable from zero. Moreover, during the first 5 years following a discovery in an unpopulated area, the effect on the likelihood of a secessionist war is negative (–3.43%, CI –3.91 to –2.94). These results are depicted in Figure 3.5.
Figure 3.6: Effect of Onshore Oil Discoveries on Secessionist Wars is Driven by Finds in Habitable Areas. Onshore discoveries are divided into those found in uninhabitable areas (blue; defined as barren land cover areas such as deserts) and habitable areas (red). See Section 3.4 for a description of the coding. The difference in the cumulative probability of experiencing a secession-seeking civil war with 95% confidence intervals is presented for each of the 20 years after discovery, comparing states in which oil a new oil field was discovered to another state with the same history of oil exploration and discoveries. The placebo test (shown to the left of the “oil discovery” line) compares the same states before that year of discovery to confirm that there are not pre-discovery differences in the probability of civil war confounding the effect of the new discovery.

Comparing territory on land that is “habitable” by people — excluding areas such as deserts and tundra as described in Section 3.4 — with uninhabitable land, the effect of oil discoveries on secessionist wars is entirely driven by the effect of oil discovered in habitable land. After 20 years, the difference between a state that discovered oil in a habitable territory and a state that did not is 14.23 percentage points (CI 3.69 to 24.82), a statistically significant difference. By contrast, the same comparison for states that discovered oil in uninhabitable territory and similar states that did not is nearly zero (0.59%, CI −12.14 to 13.39). The difference between the two effects after 20 years is statistically significant and substantial.\footnote{Note that the placebo test indicates that for discoveries in habitable land there were no pre-discovery differ-}
effect on secessionist war onset of oil discovered in uninhabitable areas is estimated to be close
to zero or statistically significantly *negative* for the full 20 years following discovery. These
results are depicted in Figure 3.6.

5.4 *Discussion*

I argued in this chapter that oil wealth, in general, stacks the deck in favor of the state in gen-
erating civil war. The state gains a dramatic budget windfall to prevent challenges to the state,
while rebels are not financially helped. Though oil doubtless motivates potential rebels to con-
sider challenging the state with the prize of oil revenues, it increases the motivation of the state
to retain power for the same reasons. I predicted that there oil would not increase and may
decrease the probability of center-seeking civil wars between states with and without new oil
wealth as a result. Existing theoretical and empirical work suggest the opposite should be true,
that oil causes state weakness and makes all types of challenges more likely I show that, in fact,
there is not a positive effect on center-seeking civil wars, and in fact that the discovery of oil on
land may lead to a *decreased* likelihood of center-seeking civil wars.

I predict, by contrast, that oil will make secessionist civil war more likely, because rebels in
the oil region can interrupt oil production and with it the state’s military funding. The state
will be forced to bargain and share oil revenues or fight back in the oil region to hold onto
their oil wealth. More importantly, I predict that this effect will be driven by discoveries that
are potentially in reach of rebel groups — discoveries mostly on land, in habitable areas where
people with the capacity to obstruct production live. I showed here each of the predictions is
matched by the data: oil is found to be a major cause of secessionist wars — a 10 percentage
values in the rate of secessionist wars, but that there was a very small difference for discoveries in uninhabitable
areas. States with uninhabitable discoveries were slightly *less* likely to experience secessionist wars before discovery
than similar states without discoveries. This indicates we should not interpret the small negative effects of discover-
ies in uninhabitable areas in the first 15 years following discovery as causal effects and should rather interpret them
as zero effects.
point difference in the proportion of civil wars between matched comparison states with and without oil discoveries. This effect is largely caused by discoveries on land and particularly those in areas where people can live proximate to oil extraction and production.

6. Alternative Explanations

In this chapter, I argued that oil causes civil war when people live near oil production and are able to interrupt extraction or production and thus threaten an important revenue source of the state. The evidence presented so far in this section is consistent with two central empirical implications of that theory, but there are also several widely cited alternative theories to explain the relationship between oil and civil war as outlined in Section 1.3. In this section, I evaluate the empirical implications of each major alternative for the particular claims about why oil, in particular, leads to civil conflict.

State capacity. The state capacity mechanism scholars have relied on to explain the correlation between oil and civil war suggests that oil revenues can substitute for tax revenues. As a result, this argument suggests, state bureaucracy — no longer needing to collect taxes, one of its primary functions — dwindles to the point where the state is too weak to fend off challenges to its authority from non-state armed groups (Fearon and Laitin, 2003). This implies that oil will diminish the ability of the state to prevent both center-seeking and secessionist campaigns by armed groups, and that oil revenues derived from discoveries on land and offshore should equally cause state weakness and increase the likelihood of civil war. Neither seems to be true. Though oil causes secessionist civil wars, it neither causes nor prevents center-seeking wars (Section 5.2). In addition, I show that oil found on land is a stronger causal factor for secessionist wars than oil offshore (Section 5.3), and that oil found in uninhabitable areas such as deserts does not cause civil wars. Moreover, the basic finding that oil does not, on average,
cause civil wars (Appendix 3.B) contradicts the basic logic of the state capacity mechanism.

**Greed.** The greed mechanism provides a second alternative to explain why oil might cause civil war. In an expected value calculation between going to war and not going to war to take control of the state apparatus or a given region, oil increases the value of going to war because success yields a much greater prize in the form of the oil revenues themselves (Collier and Hoeffler, 2004; Fearon, 2005). The implication of this logic is that when oil is discovered, the likelihood of civil war in a state should substantially increase — either in the form of center-seeking campaigns for control of the state apparatus or secessionist campaigns in the oil region. Moreover, the threat of secessionist campaigns should be unrelated to where oil is discovered, because rebels should be more motivated to take control of oil wherever it lies. The findings presented thus far contradict this logic in two ways. First, oil does not cause center-seeking civil wars, and second, secessionist campaigns appear to be caused by oil more when discovered on land then off shore and only when it is discovered in habitable places near people. The lack of evidence for an effect of oil discovery on center-seeking wars, regardless of where oil is discovered, most directly contradicts this logic and suggests another mechanism is likely to drive the effect that is observed of oil on the risk of secessionist wars.

**Grievances.** The final alternative mechanism driving oil’s effect on civil war is that it may create or exacerbate political or economic grievances that are thought to lead to civil war. In some conceptions, these grievances may lead to center-seeking civil wars to change the regime, and in others it is primarily secessionist wars in the oil region itself fought by the poor who are left out of the riches brought by oil (Le Billon, 2001; Ross, 2012; Condra, 2013). The findings here do entirely reject this view, though they raise questions about the specificities of its causal logic and bound the set of plausible grievance-related explanations. The finding that oil does not lead to center-seeking civil wars presents a particular problem for the argument,
because these wars to overthrow the regime are theorized as one response to grievances from oil-derived political or economic inequalities. Why the form of fighting to address these oil grievances would only take the form of secessionist wars is not clear. In a sense, the theory presented here suggests that grievances may be a part of the story, particularly as a helpful tool for mobilizing participants in a campaign of revenue interruption. They are not, however, exactly causal factors — it is when groups are able to take action based on these grievances and credibly threaten to interrupt oil production that the state will take notice and, if bargaining breaks down, fight.

7. Conclusion

Does oil cause civil war? Only sometimes, the evidence presented here suggests, and it incites only certain types of conflicts. In this chapter, I identify the limited circumstances when oil does cause civil war: when people live proximate to oil production. This is consistent with the theoretical argument proposed in Chapter 2, that people living proximate to the major assets of the state will often hold the ability to interrupt state revenues collected from local assets and to force the state to the bargaining table to end the interruption. In this chapter, I examine the macro-implications of the theory: bargaining will sometimes fail between asset-proximate groups and the state and when it does, large-scale violence will often erupt.

In the following two chapters, I examine these two processes of state revenue interruption by asset-proximate people and their bargains with the state for the case of the Niger Delta in Nigeria from 2006 to 2009. In doing so, I test the micro-level implications of the theory. In chapter 4, I show that small armed groups including the Movement for the Emancipation of the Niger Delta mounted a campaign of attacks on oil infrastructure, kidnapping of oil workers, and oil theft. In addition, I show based on a survey of 2,800 civilians across the oil
region that civilians living proximate to oil facilities and the camps of the armed groups played a central information-sharing role in the oil interruption. In chapter 5, I tie the interruption to dramatic state concessions offered to the small armed groups that perpetrated the interruption — but also to civilians in the region in the form of economic development assistance.

In addition to testing the implications of the theory proposed in the book, this chapter introduces a new natural experiment for studying the effects of natural resource wealth. Instead of measuring state oil revenues or reserves, quantities shaped by the very political phenomenon scholars aim to predict, I measure the total effect of oil in the state. States with oil are compared to states without it, and states are compared before and after they discover oil. To identify the causal effect, I rely on the fact that among states who are exploring for oil, who discovers oil first is as-if random — between two similar exploration wells, whether oil is found or not is as-if random. Based on this insight, I examine the effects of oil discovery among states who are exploring for oil. This design could be leveraged to examine the effects of oil on other outcomes such as regime change and economic growth, as well as for the study of the impact of other natural resources that involve prospecting such as diamonds and gold.
Appendix

3.A. Oil reserves data

The research design presented in this chapter is related to the proposal in Humphreys (2005), in which data on proven oil reserves is used to predict civil war outcomes. There are two problems with this data, highlighted here: first, the data are based on state-reported figures that are subject to manipulation. Figure 3.A.1 presents the standard data on oil reserves country-by-country (OPEC members are shown as gray solid lines, non-members as gray dashed lines), with the mean reserves figure for OPEC member countries as a black solid line and the mean among non-OPEC members as a black dotted line. The large jump in 1988 represents in the means and in several OPEC producers (the largest shown is Saudi Arabia which jumps by over 50%) represents a change in OPEC rules which incentivized reporting higher reserves, not an actual increase in reserves. Second, oil reserves data include the politically determined oil production figures that motivated the need for an alternative research design. Table 3.A.1 shows the detailed accounting for the US oil reserves figures, and the several components that cause changes in the total reported reserves figure, which is what enters the cross-national data we have access to. Several components, including production and sales, acquisitions, and territorial extensions, are not conditionally random. The US is the only country for which we have such detailed accounting, so we cannot simply take out these components.
Figure 3.A.1: Huge jumps in oil reserves data in Saudi Arabia, Iraq, Libya, Iran, and Kuwait in the late 1980s do not represent discoveries of new resources or changes in technology. They represent a change in the OPEC rules for fixing production quantities as a percentage of current estimated oil reserves in 1988. These oil reserves data, which are currently used by political scientists, are based on self-reported figures and include substantial manipulation by politicians such as this OPEC change. The large changes are, in log terms, very similar across the OPEC members with changes in the late 1980s.

Table 3.A.1: Oil reserves accounting for the United States demonstrates the complex components of oil reserves, several of which contain exactly the sort of political manipulation the data aim to remove. Sales, acquisitions, extensions (territorial), and estimated production are all potentially politically manipulated. Source: US Energy Information Administration.

3.B. The Effect of Oil on Civil War

In this paper, I have emphasized as some others have before that we should be most interested in the conditional effect of oil. Yet many scholars are understandable concerned with the average effect of oil on civil war. To evaluate the overall effect of discovering oil on the probability
Figure 3.B.1: States with Oil Discoveries Are No More Likely to Experience New Civil Wars in the 20 Years Following Discovery than States without Oil Discoveries. The difference in the cumulative probability of experiencing a civil war with 95% confidence intervals is presented for each of the 20 years after discovery, comparing states in which a new oil field was discovered to another state with the same history of oil exploration and discoveries. The placebo test (shown to the left of the “Oil Discovery” line) compares the same states before that year of discovery to confirm that there are not pre-discovery differences in the probability of civil war confounding the effect of the new discovery.

of experiencing a civil war, I estimate the difference in the probability of a new civil starting in an interval of 20 years between a state that discovers oil at the beginning of the interval and a similar state that does not. This quantity is displayed as the black line in Figure 3.B.1 to the right of the gray, vertical “Oil Discovery” line, which represents the year of discovery (normalized to zero) for the state with an oil discovery and the comparison starting year for the state without an oil discovery. The red shaded area is the 95% confidence interval of this quantity.\footnote{This interval is calculated as the confidence interval of the difference between the two survival curves, with and without a discovery.}

To the left of the “Oil Discovery” line is the placebo test, comparing the rates of civil war onset before the comparison starting year, which I will use to assess whether we can causally attribute the difference in the probability of civil war onset to the discovery of oil.

Oil does not, on average, cause civil wars in the 20 years after oil is discovered, when the average is taken across all oil discoveries and types of civil war. This is consistent with the first theoretical prediction, that overall, oil does increase and may decrease the probability of
civil war. After 20 years, states with oil discoveries in year zero are no more likely to have experienced a new civil war than comparison states that did not discover oil in year zero. The estimated difference is positive (1.29%) and not statistically significant. This is substantially smaller than the estimated difference in the descriptive analysis, and reflects the adjustment for differences in pre-discovery characteristics of states and the exploration activity and discoveries that preceded the discovery in the state. Indeed, in the placebo test presented to the left of the “Oil Discovery” line, in which I compare the rates of civil war onset between the two sets of comparison states before oil is discovered, I find that there is not a statistically significant difference. This suggests that the difference in civil war probability after discovery may represent causal differences attributable to the discovery of oil itself.

To directly assess the quality of the comparison between states that discover oil and similar states in the same time period that did not discover oil, I present in Figure 3.B.2 the balance between the two sets of comparison states before (white circles) and after (black circles) I match the states on the set of covariates displayed. The matching finds exact comparisons on whether there was a previous oil discovery, and whether there was oil exploration activity following the key identification strategy of comparing states with and without oil discoveries among those that have already explored for oil. In addition, each set of matched comparison states must be within 2 years of each other in time. As Figure 3.B.2 shows, balance is also substantially improved among the control covariates in the matched data used for analyses compared to the raw data. In addition note in the raw data states with and without oil discoveries were dramatically unbalanced in the key identification variables, whether there was previous oil exploration or oil discoveries in the state. States with oil discoveries were dramatically more likely to have had a previous discovery and to have had exploration activity.
Figure 3.B.2: Balance in the Matched (Black Circles) and Unmatched (White Circles) Data. The standardized mean difference between state-years with an oil discovery and state-years without an oil discovery is displayed for the raw data of all state-years from 1946 to 2003, and then in the matched data following full matching and exact matching on key covariates related to the identification strategy. State-years were matched exactly on whether there was previous exploration activity in the state (“Any wildcat well drilled”) and whether oil had been discovered previously (“Previous oil discovery ind.”), and each set of matched state-years was restricted to be within 2 years of each other. Missing data was handled using indicator variables, each labeled as the variable name “is NA.”
3.C. Additional Results

Figure 3.C.1: There is No Effect of Onshore Oil on Center-Seeking Wars (red), Even Perhaps a Negative Effect for Offshore Discoveries (blue). The difference in the cumulative probability of experiencing a center-seeking civil war with 95% confidence intervals is presented for each of the 20 years after discovery by discovery type, comparing states in which oil a new oil field was discovered to another state with the same history of oil exploration and discoveries of that type.
3.D. Additional Balance Plots

Figure 3.D.1: Balance in the Matched (Black Circles) and Unmatched (White Circles) Data. The standardized mean difference between state-years with an oil discovery and state-years without an oil discovery is displayed for the raw data of all state-years from 1946 to 2003, and then in the matched data following full matching and exact matching on key covariates related to the identification strategy. State-years were matched exactly on whether there was previous exploration activity in the state (“Any wildcat well drilled”) and whether oil had been discovered previously (“Previous oil discovery ind.”), and each set of matched state-years was restricted to be within 2 years of each other. Missing data was handled using indicator variables, each labeled as the variable name “is NA.”
3.E. *Summary statistics for control variables in matching analyses*

(a) Discovery years ($N = 422$)

<table>
<thead>
<tr>
<th>Variable</th>
<th>mean</th>
<th>median</th>
<th>min</th>
<th>max</th>
<th>NA count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Onset</td>
<td>0.02</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Onset, secessionist</td>
<td>0.01</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Onset, center-seeking</td>
<td>0.005</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Income per capita (000’s)</td>
<td>6</td>
<td>1</td>
<td>0.0006</td>
<td>60</td>
<td>82</td>
</tr>
<tr>
<td>Population (000,000’s)</td>
<td>933</td>
<td>196</td>
<td>0.01</td>
<td>12804</td>
<td>11</td>
</tr>
<tr>
<td>Mountainous terrain (ln)</td>
<td>2</td>
<td>3</td>
<td>0</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>Contiguous states</td>
<td>0.4</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>New state</td>
<td>0.01</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Instability</td>
<td>0.09</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>46</td>
</tr>
<tr>
<td>Polity IV score</td>
<td>−0.5</td>
<td>−4</td>
<td>−10</td>
<td>10</td>
<td>51</td>
</tr>
<tr>
<td>Ethnic fractionalization</td>
<td>0.4</td>
<td>0.4</td>
<td>0.005</td>
<td>0.9</td>
<td>6</td>
</tr>
<tr>
<td>Religious fractionalization</td>
<td>0.4</td>
<td>0.4</td>
<td>0.02</td>
<td>0.8</td>
<td>6</td>
</tr>
<tr>
<td>Past wildcat wells drilled</td>
<td>9316</td>
<td>194</td>
<td>0</td>
<td>299727</td>
<td>4</td>
</tr>
</tbody>
</table>

(b) Non-discovery years, before a discovery has occurred in the state ($N = 7203$)

<table>
<thead>
<tr>
<th>Variable</th>
<th>mean</th>
<th>median</th>
<th>min</th>
<th>max</th>
<th>NA count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Onset</td>
<td>0.01</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>208</td>
</tr>
<tr>
<td>Onset, secessionist</td>
<td>0.003</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>208</td>
</tr>
<tr>
<td>Onset, center-seeking</td>
<td>0.008</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>208</td>
</tr>
<tr>
<td>Income per capita (000’s)</td>
<td>5</td>
<td>0.9</td>
<td>0.0004</td>
<td>108</td>
<td>1379</td>
</tr>
<tr>
<td>Population (000,000’s)</td>
<td>132</td>
<td>35</td>
<td>0.001</td>
<td>13377</td>
<td>531</td>
</tr>
<tr>
<td>Mountainous terrain (ln)</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>5</td>
<td>1276</td>
</tr>
<tr>
<td>Contiguous states</td>
<td>0.1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1276</td>
</tr>
<tr>
<td>New state</td>
<td>0.02</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>208</td>
</tr>
<tr>
<td>Instability</td>
<td>0.1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1095</td>
</tr>
<tr>
<td>Polity IV score</td>
<td>0.6</td>
<td>0</td>
<td>−10</td>
<td>10</td>
<td>1173</td>
</tr>
<tr>
<td>Ethnic fractionalization</td>
<td>0.4</td>
<td>0.4</td>
<td>0.001</td>
<td>0.9</td>
<td>1276</td>
</tr>
<tr>
<td>Religious fractionalization</td>
<td>0.4</td>
<td>0.4</td>
<td>0</td>
<td>0.8</td>
<td>1276</td>
</tr>
<tr>
<td>Past wildcat wells drilled</td>
<td>368</td>
<td>0</td>
<td>0</td>
<td>302765</td>
<td>208</td>
</tr>
</tbody>
</table>

Table 3.E.1: *Summary Statistics for Control Variables Used in Matching Analyses.* In Panel A summary statistics are presented for the state-year observations with oil discoveries, and Panel B for the state-years observations that have not yet discovered oil which are used as comparison cases for discovery years in the matching analyses.
CHAPTER 4

Do Local Civilians Collaborate with Armed Groups to Interrupt Oil Production? Evidence from Nigeria

The notion that oil-rich states are more violent than oil-poor states holds currency among social scientists, policymakers, and concerned leaders of states with new oil wealth (Collier and Hoeffler, 1998; Moss, 2011; Ross, 2012). Prominent cases of large-scale violence including the Acehnese conflict in Indonesia and the Biafran War in Nigeria cement this image. Yet this claim rests on comparisons between states with oil wealth on the one hand, and many states on the other hand where oil exploration never took place — often for political reasons. I show in Chapter 3 that when only states that have explored for oil are compared, there is not a general causal effect of oil on the likelihood of civil conflict. Instead, oil only causes conflicts over local issues and not conflicts for control of the state. These local conflicts include demands for regional autonomy, fiscal devolution, and secession. Moreover, conflict only occurs when oil is found near populated areas. I argue that these local oil conflicts are driven by the ability of local actors to interrupt oil production, an important source of state revenues.

Who are these local actors who interrupt production? In Chapter 2, I argue that small bands with technical skills, the capacity to produce violence, or both directly perpetrate the interruptions. In this chapter, I propose and empirically evaluate the possibility that civilians

---

The survey research described in this chapter was approved by the Princeton University Institutional Review Board under Protocol #5358.
living proximate to the assets being interrupted also play a crucial, indirect role. By the nature of the tactics of interruption — including sabotage, theft, and irregular warfare for local territorial control — the perpetrators must often hide among local civilians to avoid detection by the state. This grants civilians their role in the revenue interruption: while the state has difficulty discerning who is a perpetrator and who is not, civilians often know the identities of the perpetrators from direct observation and through their local social networks. When the state security forces recruit spies among the local population to identify the perpetrators, civilians will often know who these spies are, for the same reasons. As a result, obtaining information from civilians — on the identities of state spies and the activities of state security forces, in particular — becomes a survival necessity for the perpetrators. The civilians who are most valuable, as a result, are those living in close proximity to where the perpetrators live and operate — the places where they are at greatest risk of being turned in by spies for the state.

The theory proposed in this chapter suggests an autonomous role for ordinary people in resource conflicts. Two competing possibilities are highlighted in existing scholarship on the role of civilians in conflict. First, civilians may be coerced into collaborating with the perpetrators. This may take the form of violence or the threat of violence directed at civilians or the policing of in-group cooperation by the armed groups through ethnic social networks. A second possibility is that it is not ordinary people who cooperate but rather local elites. These leaders may also use coercion to extract information from their citizens. In each case, civilians do not independently cooperate with armed groups.

In this chapter, I test these competing theories in the context of the contemporary Niger Delta region in Nigeria, home of the country’s oil and gas industry. Recurrent conflict in the Niger Delta has earned the region a place as a paradigmatic basket case of resource conflict. I focus on a recent, intense period of conflict between 2007 and 2008, during which a constel-
lation of loosely-affiliated armed groups under the umbrella name Movement for the Emancipation of the Niger Delta (MEND) operated across much of the region. These organizations waged a campaign of oil production interruption through sabotage, oil theft, and violence directed at oil industry infrastructure and staff. It was a conflict with remarkably few civilian casualties and attacks on state security forces. The conflict concluded with an amnesty agreement with the state that included state promises of massive development spending for the Niger Delta and salaries for demobilized combatants.

I examine in this context whether civilians who live proximate to where armed groups that perpetrated revenue interruptions in the Niger Delta live and operate hold valuable knowledge and share it with the armed groups. To assess the level of information sharing, I conducted a survey of civilians living in communities near where armed groups lived and operated from 2007 to 2008. Understanding the role of civilians in conflict is notoriously difficult. Due to safety concerns for civilian survey respondents as well as enumerators there is little systematic, direct evidence on what civilians know, think, and do. To address concerns over safety and social desirability that afflict survey research in conflict-affected areas and on sensitive subjects, I rely on an indirect questioning method that protects the anonymity of respondent answers: the randomized response technique. I exploit new techniques to recoup the loss of statistical efficiency induced by this indirect survey question design (Blair, Imai and Zhou, 2015).

There are three principal findings from the analysis. First, civilians hold substantial valuable information about state security forces, oil production, and local navigation. Second, a large proportion of civilians report that they informed to armed groups, suggesting the groups systematically solicited the information given its high value. Third, most informers hail from communities near where the armed groups lived and operated, close to the oil assets. In addition, I show that civilian information sharing is not being driven by coercion or in-group
punishment of coethnics, plausible alternative mechanisms, and instead are voluntarily doing so. Moreover, local elites do share information with the armed groups, but most of the informing is done by ordinary people.

1. Civilian Collaboration in Conflicts over State Revenue Sources

In this section, I propose a theory to explain why civilians living proximate to assets that yield substantial state revenues play a role in the interruption of those state revenues. I argue in Chapter 2 that small groups with technical or violent capacities interrupt production or revenue collection from the assets, but that civilians play a central supporting role by providing information to the perpetrators about production, revenue collection, or the state’s efforts to prevent revenue interruptions.

People living proximate to assets in the state often hold the ability to disrupt production or revenue collection from the assets. They can interrupt revenue generation from production based on the assets, or prevent the state from collecting revenues from these processes. Local people can do so through direct actions at the site of production, transportation or sale. The tactics they use may include weapons-of-the-weak interruptions such as sabotage or theft; contentious collective action, including riots, protests, and strikes; or rebellion, by challenging the state’s territorial authority surrounding the assets. In this chapter, I focus on evidence on weapons-of-the-weak interruption tactics and rebellion.

In each case, revenue interruptions are carried out by a small group of organizers; perpetrators, who execute the sabotage, theft, or rebellion; and, I argue in this chapter, civilians living near the assets. Why are civilians important? Because the state faces an “identification problem” in discerning who is a perpetrator of actions that interrupt revenues and who is innocent (Mao, 1937; Wood, 2003; Kalyvas, 2006; U.S. Department of the Army and Department
of Defense, 2007). This is generated by two forces: first, the “chameleon act” of the perpetrator (Kalyvas, 2006), in which the perpetrator attempts to mimic the identity group and behavioral characteristics of civilians; second, the refusal of local people to identify the perpetrators to the state. The state responds by hiring civilian identification spies to help identify perpetrators, and this will in turn grant civilians substantial value to insurgents who want to identify these civilian spies for the state. That civilians can identify interruption perpetrators and state spies makes them valuable to each side.

In addition to sharing information about the identities of perpetrators and state spies, civilians can play three other roles. They can hide perpetrators both physically in their homes and by not informing on them to the state. They may serve as a state spy, and they may directly aid perpetrators, in the form of food, cash, or weapons.

Which civilians can share information, hide perpetrators, serve as state spies, and directly aid perpetrators? In each case, civilians living near where perpetuators live and near the revenue interruption cites will be most able to collaborate. These proximate civilians will be most likely to know who the perpetuators are, since they live in their community or in the community where the interruption takes place. The state will hire civilian spies in these same locations, so asset proximate civilians will also be most likely to know the identities of the spies.

**Empirical implications of the theory:**

- Civilians living in asset-rich region . . .
  - Hold valuable information about the activities and identities of the perpetrators and of state security forces and civilian spies;
  - Are in contact with perpetrators with enough frequency to share information;
  - Share their information with perpetrators.
- Civilians living proximate to where perpetrators of revenue interruptions live and carry out interruptions (that is, at the site of the asset) are most likely to hold valuable information and share it with perpetrators.
1.1 Alternative Explanations

The first potential alternative mechanism is that information transmission might take place between local elites and the armed groups, rather than directly between ordinary people and the groups. Instead, local elites in their role as information aggregators might collect actionable intelligence from ordinary people in their community and selectively share it with the armed groups. Though ordinary people would still play an important information collection role, local elites would control which information was transmitted and the source might or might not be credited to the armed groups.

The second important alternative mechanism that would yield the observed levels of collaboration and yet not lead us to believe that there was an independent role for civilians living in proximity of assets is coercion. Inferring from the fact that civilians share actionable intelligence with the perpetrators of revenue interruptions that civilians play an important, causal role in the interruptions is problematic if they are coerced into doing so. If the armed groups that interrupt oil production in the Niger Delta, for example, used violence or the credible threat of violence to induce cooperation, then civilian information sharing would play a different role than if information was offered voluntarily. In particular, the implications for the strategies of the state to prevent information sharing, and the policy implications for ending asset-related conflicts would differ substantially. Attempts to end civilian information sharing would need to address the first-order problem of ending coercion.

An additional reason why civilians might cooperate unwillingly with armed groups is if they share coethnic ties that enable the groups to punish noncooperation (Fearon and Laitin, 1996; Habyarimana et al., 2009). In this alternative explanation, we would expect civilians who are coethnics of the armed groups to share information frequently and non-coethnics, who are not subject to these in-group punishments, would not share frequently. To test this explanation,
I examine sharing rates among the Ijaw, the group whose members dominate the leadership and rank-and-file of most major armed groups during this period, and among other minority ethnic groups. We expect informing to be driven by Ijaw civilians and that informing rates among other groups to be small.

2. How Armed Groups Perpetrate Oil Production Interruptions in Nigeria

To examine how civilians may play a role in the interruption of important sources of state revenues, it is first important to briefly understand how revenues are interrupted. In this section, I describe the three main tactics of interruption used by armed groups in the Niger Delta: vandalism and sabotage of oil facilities, the kidnapping of oil workers, and oil theft.

*DeSTRUCTION.* Armed groups in the Niger Delta primarily relied on the tactics of destruction and sabotage to interrupt oil production during the period from 2006 to 2009. There were often weekly attacks on oil pipelines, flow stations, and other facilities that resulted in oil spills and production shutdowns that dramatically reduced the output of Nigeria’s oil industry during this period.

An attack in the summer of 2008 on the crucial Nembe crude oil pipeline illustrates the connection between militant-directed violence against oil facilities and large-scale oil production interruptions. This attack is typical of the groups’ activities from 2006 to 2009, in which high explosives in addition to a force of armed men to gain entry and subdue security workers were used to damage pipelines, flow stations, and other onshore oil facilities. The pipeline was attacked by armed men on 28 July 2008. The day after the attack, Jomo Gbomo, the pseudonymous spokesman for the umbrella armed group named the Movement for the Emancipation of the Niger Delta, claimed credit. Gbomo’s statement for the group read: “In keeping with our pledge to resume pipeline attacks within the next 30 days, detonation engineers backed
by heavily armed fighters from MEND today, Monday, July 28, 2008 at about 0115 hours sabotaged two major pipelines in Rivers state of Nigeria.”\(^1\) The attack damaged pipelines in Kula town in Rivers State, where the Nembe trunk line passes, and also a pipeline outside of Port Harcourt in Rumuekpe.

In response, Shell shut in, meaning it turned off oil flow through its pipelines in the area to avoid spills, 130,000 barrels per day that travel through the Nembe pipeline.\(^2\) Of the attack, Shell Port Harcourt spokesman Precious Okolobo said, “Yes, I can confirm that our Nembe Pump Line was damaged this morning by yet-to-be identified persons... We are already working hard there to ascertain the extent of damage. For now, we have shut the line down from production so that the damage does not impact on the environment.”\(^3\)

*Kidnapping and oil facility occupation.* The second tactic of the armed groups that resulted in production interruptions was kidnappings of oil workers and the occupation of oil facilities, often at the same time. The most common type of incident in this set was kidnappings of oil workers, contractors, and security service officers assigned to protect oil facilities. Obi and Rustad (2011) enumerates the kidnappings just in Bayelsa State in 2007 and shows that there were hundreds of them. Of course, these incidents, even before they were resolved, did not prevent the oil firms from sending in replacement employees. Yet kidnappings did have both direct, short-term impacts on oil production in the area and longer-term impacts on production by firms that more cautiously deployed their employees or even in some cases shut down production in certain areas due to the risk of further kidnappings.

There were also a number of invasion attacks, which often involved both taking control of an oil facility and for a time holding its employees hostage. In an attack on the Chevron

---


\(^2\)“Shell declares force majeure after Nembe attack” *Oil & Gas Journal* 11 August 2008. pg. 10.

Abiteye flow station outside of Warri in Delta State, for example, 20 members of an armed group reportedly "invaded" the flow station and shut down production. This shut-in 42,000 barrels of oil per day. In a similar incident at the same time, a second flow station was attacked in a similar fashion, and armed group members held flow station workers as well as military officers hostage inside the facility seconded to protect the station.4

*Theft.* In addition to violent attacks on oil infrastructure and kidnapping of oil workers, armed groups in the Niger Delta were directly involved with the oil theft industry starting at least in 2001. Oil theft is the third tactic of the armed groups that results in oil production interruptions. Armed group oil theft was carried out in this period at several points in the oil production process, ranging from the well head where crude oil comes out of the ground to the ships that carry it overseas for sale. This included small-scale theft for local refining into petroleum products, particularly petrol for vehicles and heating oil; large-scale theft of crude from tapped pipelines, destined for sale overseas; theft at the point of loading onto ships, in which cargo documentation is forged; and theft from ships under way in the Gulf of Guinea off of Nigeria’s coast. During the interruption period, militants were deeply involved at several stages, either providing security for oil thieves or directly participating in the theft (for further discussion, see Davis, 2009).

3. *Research Design*

I argue in this paper that civilians often play a central, supporting role in revenue interruptions when they possess information that is valued by perpetrators of the interruptions and the state forces that aim to prevent interruptions. To evaluate this claim, I measure the value armed groups place on the information held by civilians, by estimating the frequency with which

civilians share information with the perpetrators. I interviewed civilians living near where the armed groups live and operate — where the information is theorized to be most valuable, and thus most likely to be solicited and shared — as well as locations further afield where I predict informing will be less frequent. To understand what civilians shared and how they shared it, I examine the set of information held by civilians, the social overlap between civilians and the armed groups, and the frequency of interactions between the two in addition to whether they share information.

To measure rates of informing by civilians to the perpetrators, I rely on evidence from the survey experimental measurement technique known as randomized response (Warner, 1965). With this indirect questioning method, I can protect the anonymity of individual responses — enumerators, onlookers, and researchers cannot identify who informs from the respondents answers. I use randomized response regression (Blair, Imai and Zhou, 2015) to examine the aggregate patterns of where civilians live in relation to the sites of revenue interruptions and where live to test the implications of the theory.

Using these methods is necessary because informing behaviors are carried out in secret, so to identify who informs or where rates of informing are high either the informer or the recipient must share that information with the researcher. This is fraught for either side. Tips collected from informers by the state are highly classified, and they are equally closely held when collected by armed groups. This is because this is some of the most valuable intelligence held by a combatant, but also because divulging it risks severing access to the informer. Moreover, it is dangerous to admit to being an informer, especially during conflict but even after it ends. Directly asking survey items about individual informing decisions is likely to result in respondents either refusing to participate (leading to item non-response) or lying (misreporting bias).
As a result of these difficulties in obtaining tips data from combatants or civilian informers, existing scholarship relies with few exceptions on proxy measures (e.g. Lyall, Imai and Shiraito, 2015) or infers a rate of information sharing based on the relative success of combatants on the battlefield (e.g. Kalyvas, 2006; Berman, Shapiro and Felter, 2011; Shapiro and Weidmann, 2015). In this study, the first direct evidence is presented on rates of informing, the kinds of civilians who inform, and where they live.

3.1 Measuring the frequency of information sharing

The central outcome of the study is whether or not civilians meaningfully collaborated with the armed groups that interrupted oil production in the Niger Delta between 2006 and 2009. This is operationalized as whether civilians shared valuable information with the armed groups in this period, and it is measured using a survey question. Before elaborating the difficulties of eliciting responses to a direct question on this sensitive issue and proposing a survey design to address the issue, I describe the basic question on information sharing. I will describe the type of information sharing that is measured, the time period of the measurement, and the way I identify the armed groups to respondents. First, the question text read as follows:

During the height of the conflict in 2007 and 2008, people who live in communities like yours sometimes gave information to militants about the groups’ enemies, the movements of the JTF, and activity at oil company facilities and oil theft operations. Now let me ask you, did you provide information like this to the militants?

What information is shared. The theory predicts that civilians play a role in interrupting state revenues by sharing information about local valuable assets and the state’s efforts to prevent

---

5The question enumerated in Pidgin English read: For dat time of kata kata for 2007 and 2008, people wey dey stay for community e be like say una own dey tell de militants about dem enemies, de movements of de JTF, and wetin dey happen for de oil property or de bunkiri point. Now make I ask you, you don tell de militants tings like dis?
interruptions, including by identifying and outing civilian spies working for the state to the armed groups. In each case, the information transmitted from civilians to armed groups members that constitutes actionable intelligence. Civilians, as I show in Section 5.1, interact with members of armed groups in many ways casual and sustained, and may offer information to them on a variety of subjects that may or may not represent actionable intelligence — or even intelligence at all.

To operationalize the concept of actionable intelligence into a survey item, I focus on three specific examples of information sharing. In the first example, respondents are asked if they provided information on the “enemies” of the armed groups. The aim is to identify cases in which civilians share information about the identities of civilians who serve as spies for the state, though it may also include other local actors. In these other cases, sharing information on the groups’ enemies still constitutes actionable intelligence. The second example asks respondents to report on the “movements of the JTF,” the counterinsurgency task force. The word “movements” in Pidgin is a general one, referring broadly to the actions of the JTF. In the final example, respondents are asked about activity at oil facilities and oil theft operations, which would be directly relevant for interrupting oil production. Oil theft operations were included because, though the same local armed groups were often involved in the oil theft industry, given the imperfect overlap between armed groups and oil theft groups, providing information about local oil theft did not necessarily refer to the actions of the armed group the information was reported to.

These actions are not exhaustive, but they prime the respondent to think about information sharing that falls into the three key categories of information that the armed groups would find most useful — on civilian state spies, counterinsurgency forces, and the asset itself.
**When information was shared.** The question asks the respondent to identify information sharing during the period between 2007 and 2008 during, in Pidgin English, “dat time of kata kata,” which literally translates to that time of the big trouble and in context refers to the height of the conflict. In focus groups and pre-test interviews, residents could immediately identify this time period as the last time, in the words of pre-test interview subjects, “the creeks were hot.” Though there had been organized violence since 2009, the height of the conflict, when the armed groups were most active and ordinary people were most affected is remembered as the time in 2007 and 2008. In other questions in the survey about interactions with the armed groups that will be analyzed in this chapter, this period is also used as the reference time.

**Naming the armed groups.** The large number, and changing identities, of armed groups and their leaders described in Section 2 presents a problem for eliciting information about interactions between civilians and the groups across a large and diverse region. In different areas, civilians interacted with different groups — and often more than one group — even within the short time window between 2007 and 2008. Referring to the local group civilians interacted with by name is not an option. There are several general terms used in the region to refer to the groups and their members. One is “freedom fighters,” which is a contested term used most often by activists and sympathizers of the ideological cause espoused by some groups. In some areas, however, this term was not recognizable to civilians during pilot interviews. A second possibility was to refer by name to the Movement for the Emancipation of the Niger Delta, the armed group founded in 2003 that joined several large groups in an on-again-off-again alliance. However, it was clear in pilot testing that civilians in rural communities did not know this name even when they were intimately familiar with the armed groups.\(^6\) There are other colloquial terms for the militants, such as “those boys,” or but these could also have referred to

\(^6\)The term was, instead, more of a propaganda tool with the media and the government.
criminals or unemployed youths in other capacities. For further discussion of the names and references to the armed groups, see Watts (2007), Ukiwo (2007), and Asuni (2009).

The term that was used in the survey, “militants,” is used by some locals, the government, and foreign actors. Though militants is a loaded term (connoting criminality for some), focus groups and pre-test interviews I conducted as well as in two pilot tests in the region revealed that militants was a term that could be widely recognized across the four states in the study and by people living in communities affected by the armed groups as well as communities that were far from their operations.

**Asking the question indirectly.** Asking civilians directly whether they shared information with armed groups in the Niger Delta, even five years after the fact, is highly sensitive. To solicit self-reports of this clandestine behavior, I combine the survey item described above with an indirect questioning design known as the randomized response technique that ensures that no individual response to the sensitive question can be identified from observed responses (Warner, 1965; Gingerich, 2010; Blair, Imai and Zhou, 2015). The survey design combines the individual’s truthful response to the sensitive question introduced earlier in this section with random noise in order to obscure the response to the sensitive question. The respondent is asked a “yes” or “no” question about whether they shared information, but their response of “yes” or “no” could either indicate a truthful response or it could be due to the design. The design is then used to back out the proportion who would have answered “yes” to the information sharing question itself.

In the forced response design used in this study, a randomizing device such as a coin or dice determines the responses for some respondents. Here, dice used for the board game Ludo

---

7Indeed, during pilot tests it was clear that asking an analogous question about sharing information with the state counterinsurgency force the JTF was too sensitive — respondents audibly lowered their voices, and many refused to answer. In the final survey, enumerators confirmed the broad reach today of the counterinsurgency force. 31% of communities were the site of a army or counterinsurgency joint task force post.
(a variant of Parcheesi), popular in the Niger Delta, serve as the randomizing device. When the respondent rolls a one, she always responds “no” to the sensitive question; when she rolls a six, she always responds “yes.” When she rolls two, three, four, or five, she truthfully answers whether she shared information with armed groups. This protects her privacy by obscuring truthful “yes” responses with the sixth of respondents who say “yes” because they rolled a six on the dice.

The instructions explaining randomized response to the respondent and the question read:

For this question, I want you to answer yes or no. But I want you to consider the number of your dice throw. If 1 shows on the dice, tell me no. If 6 shows, tell me yes. But if another number, like 2 or 3 or 4 or 5 shows, tell me your own opinion about the question that I will ask you after you throw the dice.

[ TURN AWAY FROM THE RESPONDENT ] Now throw you the dice so that I cannot see what comes out. Please do not forget the number that comes out. [ WAIT TO TURN AROUND UNTIL RESPONDENT SAYS YES TO: ] Have you thrown the dice? Have you picked it up?

During the height of the conflict in 2007 and 2008, people who live in communities like yours sometimes gave information to militants about the groups’ enemies, the movements of the JTF, and activity at oil company facilities and oil theft operations.

Now let me ask you, did you provide information like this to the militants? Remember, take note of the number from the dice when you answer.

Yes .............................. 1
No ................................. 2
Refused [ DO NOT READ ] .......... 99

To estimate the proportion of respondents who inform to the armed groups, we use what is known about the design, which is that a sixth of the time respondents are forced to say “yes” and a sixth of the time respondents are forced to say “no.” The observed proportion of respondents who say “yes” will be equal to the true proportion of informers plus one sixth, so we can subtract and estimate the proportion of informers directly from the observed responses.

Using this technique, no individual’s response to the sensitive item about informing can
be identified based on their responses, unlike in some other techniques such as the list experiment where respondent’s sensitive attitudes or behaviors can be inferred from their responses under certain circumstances. Yet despite the fact that individual-level responses are protected, aggregated figures can still be estimated from the randomized response technique, including the rate of informing as described above. In addition, the relationships between information sharing and characteristics of respondents can be estimated using new statistical techniques introduced in Blair, Imai and Zhou (2015) and described in Section 4.

3.2 Measuring the proximity of civilians to assets and revenue interruption perpetrators

The central empirical implication evaluated in this chapter is that civilians living proximate to oil assets and the armed groups that interrupt oil production will often collaborate with the armed groups. In the last section, I described the empirical strategy for measuring collaboration, which focuses on civilians sharing actionable intelligence with members of the armed groups. For the independent variable, civilian proximity to assets and armed groups, I use a combination of several survey measures of spatial proximity.

First, I measure the proximity of civilians to the valuable asset in the Niger Delta, oil and gas, through a battery of questions about the existence of oil and gas facilities and their operational status in the communities of respondents. A large majority of survey respondents lived in close proximity to some kind of oil facility — whether producing oil wells, pipelines, or flow stations. 63% of respondents reported that such facilities were located within their community, defined restrictively. A similar proportion of respondents, 56%, reported living in communities in which active oil extraction was taking place at the time of the interview.

---

8In the list experiment, individual-level sensitive item responses are exactly identified for respondents assigned to the treatment condition who respond with a count of zero “yes” responses or the maximum number of “yes” responses (see Blair and Imai, 2012).

9In pre-test interviews, the use of the word “community,” as in these questions, signified a single settlement or a cluster of a small number of settlements in a relatively small geographical area usually within walking distance or a short drive of each other. When probed about the existence of oil facilities, respondents typically knew exactly where they were and whether they were located in their own community or nearby in another community.
However, that oil facilities and civilians coexist in the same community is not sufficient to suggest whether civilians are able to observe the activities of oil firms and state security services protecting them. Civilians did indeed regularly encounter these oil facilities: 46% reported that, just in the past month, they had passed the oil facilities in their community.

The role of civilians in revenue interruptions may be important not only in proximity of the asset itself, but also where the perpetrators of production interruptions live and operate — that is, where they are vulnerable to detection by the state. It is in these places that civilians may observe the movements and identities of the perpetrators, particularly as in the case of the Niger Delta when the armed groups in question live in secretive camps deep in rural areas. The importance to the armed groups of identifying civilian spies working for the state, who might divulge their identities, is greatest in these areas.

Measuring meaningful spatial proximity in the Niger Delta is difficult, because many of the communities near where armed groups operate are found in dense mangrove swamps and are only accessible by boats. Thus, straight-line distances will have little correlation with the time it takes to get from one place to another. Instead, I rely on respondents’ self-reported travel
Figure 4.2: Many Civilians Live in Close Proximity to Armed Groups in the Niger Delta. The histogram displays the travel time in minutes estimated by respondents between their residence and the nearest armed group camp. The median travel time was 40 minutes. The question in Pidgin read: “Na how many minutes wey e go take you to reach de camp?”

times between their communities and the camps of armed groups. In this way, respondents could incorporate into their calculation the mode of transportation (on foot, on a motorbike, or in a shared taxi most likely) they would usually use to get to the camp.

Civilians often live in tight proximity of the armed groups that perpetrate revenue interruptions, many living in communities with camps inside their borders and among those outside the travel times range from just fifteen minutes to an hour. Figure 4.2 shows the distribution of travel times between communities and armed group camps. At such close range, civilians are likely to be able to identify many of the residents of the camps, and to know when they leave, when they return, and what they take with them.

In addition to where the armed groups live, proximity to where armed groups operate is important as well. I use several measures of proximity to oil facilities above, but that may indicate proximity to locations where it was difficult for the armed groups to operate (for example, on land far from the creeks used for quick escapes). To measure where the armed groups *do* operate, I include a survey question about whether attacks by armed groups against oil facilities took place from 2007 to 2008 in the respondent’s community.¹⁰ 21% of respondents

¹⁰The question text in Pidgin read, “For dat time, de militants dem dey attack oil pipelines, oil wells, or oil workers for dis community?”
reported that such an attack had taken place (see Figure 4.1). What kinds of incidents were reported? The most frequent were oil attacks on pipelines and other facilities like transfer stations, kidnappings of oil workers, oil theft, and attacks on JTF counterinsurgency officers.\textsuperscript{11} In particular, respondents reported that armed groups “destroyed pipelines,”\textsuperscript{12} “kidnapped oil workers for ransom,”\textsuperscript{13} “attacked oil company workers to collect money from them”\textsuperscript{14} sometimes referring to “homage” payments,\textsuperscript{15} and stole oil, for example by “bursting a pipeline to collect oil and pump it into their own tanker”\textsuperscript{16} A few also reported victimization of local civilians at the hands of the group. The most common complaint was rape,\textsuperscript{17} but a small number also reported kidnapping and extortion of local leaders.\textsuperscript{18}

In sum, the proximity of civilians to valuable assets and the activities of the perpetrators of revenue interruptions from those assets, the central independent variable, is conceptualized and measured here in two ways. First, the time it takes civilians to travel from their community to the camps of armed groups; second, the incidence of oil facility attacks by armed groups; and, finally, the existence of oil and gas facilities — the assets — inside the communities of civilians. These measures were selected with the irregular terrain of the Niger Delta region in mind, in which straight-line distance, often used as a measure of proximity in other studies, is unrelated to the ways in which civilians come into contact with the oil and gas industry and the armed groups that aim to disrupt it.

\textsuperscript{11}This material draws on open-ended responses to the question, in Pidgin, “Now, no call person name, just tell me wetin happen dat time.” The responses were recorded in Pidgin, are are identified using a randomly generated identification number.

\textsuperscript{12}Respondent 825 said, in Pidgin, “Dem cause plenty kata kata for dis community, dem destroy oil pipeline.”

\textsuperscript{13}Respondent 651 said, in Pidgin, “They kidnap oil workers for ransom.”

\textsuperscript{14}Respondent 1463 said, in Pidgin, “They attack oil company workers to collect money from them.”; Respondent 632 said, in Pidgin, “Dat time we dey hear dem put road blocks for chevron gate dey collect anything wey dey dislike”; Respondent 1293 said, in Pidgin, “That the oil company should settle them first before they start work”; Respondent 964 said, in Pidgin, “The militant were asking the oil company to be paying them every months.”

\textsuperscript{15}Respondent 517 said, in Pidgin, “They stopped the oil company from working, that they should pay them homage before doing it.”

\textsuperscript{16}Respondent 1809 said, in Pidgin, “They burst pipeline to collect oil and pumped it into their own tanker.”

\textsuperscript{17}Respondent 856 said, in Pidgin, “They were raping our girls too.”

\textsuperscript{18}Respondent 2477 said, in Pidgin, “Dem dey attack community leader”; Respondent 599 said, in Pidgin, “They kidnapped oil workers and prominent people in the community.”
3.3 Measuring the social connections of civilians and armed groups members

In order to pass information to armed groups, civilians either had to come into casual contact with members of the groups, or have direct or indirect social ties to them. In addition to measuring the casual interactions between civilians and armed group members (see results in Section 5.2), I asked respondents if they had direct connections to armed group members or indirect connections through friends or members of their families. Though less sensitive than asking about clandestine information sharing behaviors, directly asking whether civilians know armed groups members could put them or the (demobilized) group member in danger of retaliation. Indeed, civilians in pre-test interviews were reticent to say directly whether they had direct social ties to the armed groups. To address this issue, I rely again on the randomized response indirect survey question design introduced in Section 3.1. In total, there were three randomized response questions in the survey (two of them reproduced below). The dice was thrown by the respondent three (independent) times, one for each question.

The first question assesses whether the respondent was in personal contact with a member of an armed group during the height of the conflict. Given that the object of the measure is to learn whether or not the respondent was in a position to directly pass information to the armed groups, the question broadens the possible relationships from friends and family to include a person they talked to regularly. The question read:

Now, during the height of the conflict in 2007 and 2008, did you know any militants, whether they were a family member, a friend, or they are someone you talked to on a regular basis. Please, remember, take note of the number from the dice when you answer.\footnote{The question text in Pidgin read,}

\textit{Now make I ask dis question. For dat time of katakata for 2007 and 2008, you sabi any militants, wey be your family member, or wey you be dem friend, or wey you dey talk wit de militants plenty times -- abeg, remember, take note of de number wey show for your}
Even if civilians do not know members of the armed group directly, information may still be passed through indirect, second-degree connections, that is, friends-of-friends. A second randomized response question was asked of each respondent, asking about these indirect connections to the armed groups. Again, contact with the armed groups could be regular (friend or family) or irregular (they spoke often). This question read:

Now, during the height of the conflict in 2007 and 2008, did any person you know, like your family member or your friend, know any militants or talk to them on a regular basis. Please, before you answer, if you rolled a 1 on the dice, tell me no. If you rolled a 6, tell me yes. But if you roll any other number, like 2 or 3 or 4 or 5, tell me what you believe, like yes or no.\textsuperscript{20}

Civilians may hold direct and indirect \textit{social} connections to the armed groups in the Niger Delta region, but they also encounter members of the groups in more quotidian interactions when armed groups come into communities to buy food, attend wedding, and extort local leaders. In the empirical results, I examine the frequency of both the overlapping social networks of civilians and the armed groups as well as these casual interactions. In each case, civilians may be able to share information with members of the armed groups, the key concept of answer.

\textsuperscript{20}The question text in Pidgin read,

\textbf{Now, for dat time of katakata for 2007 and 2008, e get any person wey you sabi, like your family member, or your friend, wey sabi any militants or wey dey talk wit de militants plenty times -- abeg, before you answer, if 1 show for de dice, tell me no. If 6 show, tell me yes. But if any other number, like 2 or 3 or 4 or 5 show, tell me wetin u feel for your mind about dis question like yes abi no.}
interest.

3.4 Survey sampling

The theory predicts that civilians living near where the perpetrators of revenue interruptions live and interrupt hold information valuable to the perpetrators and the state. To test this prediction, the survey was conducted in 204 communities randomly sampled from a sample frame of communities near and far from the sites of oil theft operations (which result in state revenue interruptions) and the armed group camps where armed groups that perpetrated the interruptions lived.\(^{21}\) Figure 4.3 shows sampled communities (black dots) in relation to armed group camps (green triangles) and oil theft sites (red dots).

The selected communities were remote, often in the dense mangrove swamps and creeks that characterize the region, lacked basic public services, but often had pockets of wealth. They were remote: most respondents lived in communities that were two to five hours travel (42%) or one to two hours (33%) from the nearest big city (usually referring to Port Harcourt, Warri, and Yenagoa). Some lived even further, more than five hours away (6%). Not only were the communities far from urban areas, they were often inaccessible by road: 53% reported that their community was reached primarily by boat (most frequently a speedboat, though 1% reported canoes as the primary mode), and 3% reported that visitors typically come by foot in a walk of at least 20 minutes.\(^{22}\) Not surprisingly given their isolation, the selected communities often lacked even basic public services. The typical respondent lived in a community not connected to the power grid (55%), without access to well water (39%). More than three quarters live in a household with a mobile phone (78%) but in a country with nearly ubiquitous mobile

\(^{21}\)The 10 closest communities to each oil theft sites and to each armed group camp were included in the sample frame, excluding communities in large urban areas such as Port Harcourt, Yenagoa, and Warri.

\(^{22}\)This is consistent with the experience of the intrepid team of enumerators, who reported that reaching the community required using a boat 51% of the time.
Figure 4.3: Armed Group Camps Active 2007–09 (green triangles) and Oil Facility Sabotage from 2011–12 (red circles) in the Niger Delta region. Armed group camps identified from a database collected in collaboration with activists in Port Harcourt of major camps active from 2007 until the amnesty agreement in 2009. Sabotage identified from the confidential oil spills database held by the National Oil Spill Detection and Response Agency based on legally mandated reports from oil companies on oil spills, including their date, location, and cause. Spills identified as caused by third party activities are depicted.

phone service only 65% live in a community with regular service.23

Yet, despite their remoteness and poor public services, there are pockets in many of these Niger Delta communities of staggering wealth. Surrounded by modest homes — 24% of communities had homes made primarily of mud or thatch, and 29% were made up of even more informal shelters — were the gleaming homes with electrified fences of the oil nouveau riche. 40% of respondents lived in communities with expensive cars like Hummers and Jeeps, and 34% reported that there were compounds with manned gate houses, another signal of wealth.

23In some communities, this means access to text messaging and phone calls would be entirely restricted, but in others traveling a short distance to connect was often possible.
Figure 4.4: Distribution of Demographic Characteristics for Ordinary People (top row) and Traditional Leaders (bottom row).

Even among the most remote communities only accessible by boat, 16% had compounds with gate houses.

**Sampling ordinary people.** Within each community, 12 civilians were interviewed who lived in the community during the height of the most recent wave of the Niger Delta conflict, from 2007 to 2008 (see Appendix 4.B for the screening question script). The respondents were randomly selected within the community using a standard multi-stage random sampling design for households and individuals. First, a random household skip pattern from the center of the village was used to select households. Second, a Kish grid was used to select a member of the household to be interviewed. Men aged 16 and 17, who are potential oil theft workers, were included in the sample, but only women 18 and above were included.

The typical survey respondent was 29, possibly married (52%), employed (68%), able

---

24 Every third household was selected.
25 The Kish grid was used to enumerate the eligible members of the household, and it enables the enumerator to select an individual to be interviewed based on a simple random sample of eligible household members.
26 A special minor consent form was enumerated to boys and their parents, but there were no other differences in the survey protocol for these respondents.
27 The youth of the sample is not an aberration. It is similar to the age distribution in Nigeria measured in the nationally-representative survey in the same year by Afrobarometer, which finds a median age of 30 (Afrobarom-
to read (75%), completed secondary school, and held a monthly household income of 35,000 Naira (532,000 USD). The typical respondent not only lives in the state they were born in, but in same the local government (county) and, for nearly half, the same town. By far the largest ethnic group respondents identified as was the Ijaw (36%), the dominant group in the Niger Delta, followed by six large groups that represent minorities in the region, including the Kalabari at 9%, the Ikwere at 8%, the Ogoni at 7%, and the Abuat, Ibani, and Ahoada at 4%. The remaining groups represented two or fewer percent of the sample. Figure 4.4 (top panel) displays demographic characteristics for the ordinary people sample.

Sampling local traditional leaders. An important alternative explanation to the theory proposed in this paper is that local elites aggregate information from local citizens and it is the elites who communicate with the armed groups, not ordinary people. In Section 6.1, I more fully describe the mechanism. In order to evaluate this alternative explanation, a second sample of civilians in the Niger Delta was drawn, of local traditional leaders — chiefs. These traditional authorities sit at the top of the hierarchical local society in most communities in the region, and if any local elites played the role suggested by this mechanism it would be these.

The structure of local traditional authority in the Niger Delta, home to a dozen major ethnic groups with homelands in the region dating back hundreds and in some cases thousands of years, varies widely. One common structure is organized as follows. Each group of families, 2013). The median age in this sample among those 18 and above, the cut-off for the Afrobarometer, was 30, identical to their estimate.

28 Measuring social identities is notoriously complex (for a review of the issues, see Abdelal et al., 2009). I focus on measuring ethnic structure (Chandra, 2006), and in particular on what in Nigeria is sometimes referred to as “tribe.” In this context, it refers to major ethnic groups such as the Yoruba and Igbo, as well as minority groups prevalent in the Niger Delta. The survey question read “na which tribe wey you be,” which roughly translates to “which tribe are you from.” In pilot testing, this formulation was better understood and more consistently answered than questions about the language of the group of origin (which, for example, is used by Afrobarometer), which in many cases is not the language spoken by the respondent.

29 All of the major groups including the Ijaw that are represented in the Niger Delta are minorities in Nigeria, except for the Igbo. The Igbo represent only 1% of respondents.

30 This description is based on semi-structured interviews conducted in four communities in Bayelsa State and Rivers State in January and February 2013.
lies living adjacent to each other, often members of an extended family, shares a “compound chief,” the first layer of traditional leadership. The compound chief, most often an older man, serves on a committee of traditional authorities in the community. Several families, in the communities I visited five to ten, lived in a compound. The median number of compound chiefs in communities in the sample was 5 and most communities had between 1 and 12 (though some reported many more, with 20 and 30 being common responses in larger communities).

Above the compound chief, there were a set of title holders who were in a sense the executive committee of the community. One of these title holders was the paramount ruler or paramount chief of the community. In the context of a community, which could be a single settlement or a grouping of small villages collectively known as a single community, this is the full set of traditional leaders. Above them, the broader ethnic group or clan would have a super-structure of leaders and a single, hereditary ruler who was the ultimate authority for members of the group across a wider geographic area. For a specific description of the traditional hierarchy in the regionally dominant Ijaw ethnic group that is broadly consistent, see Joab-Peterside (2007).

Yet within this structure, there is substantial variation in the hierarchy. The set of title holders and the leadership structure within this top level of leadership in the community varies formally and, in the case of a recent death or a longer-term dispute, informally. Moreover, in some cases of small settlements, there was no lower-level of compound chiefs. As a result, in order to measure the knowledge, social network, and behaviors of local traditional leaders, the survey teams interviewed the top two leaders in the hierarchy, regardless of its structure. Typically, this meant the paramount chief was interviewed as well another title holder, but in the case of small rural communities it was often a compound chief or village head that was interviewed as the top leader of the community. In all cases, the two traditional leaders included in the sample in each community were interviewed at the end of the day, so as to respectfully
include them but not tip them off to the contents of the survey. This would risk the leaders influencing or dictating responses to later respondents. The full protocol for identifying and interviewing the traditional leaders is detailed in Appendix 4.B.

The traditional leaders interviewed were overwhelmingly male (94%), older than the ordinary people sample (median age 57) with slightly higher levels of education (more had attended university for a few years or completed polytechnic degrees), and starkly higher incomes (median 65,000 Naira = 988000 USD). Figure 4.4 (bottom panel) displays demographic characteristics for the sample of local traditional leaders.

4. Statistical Analysis for the Randomized Response Technique

In this section, I provide an overview of the statistical methodology used to analyze the randomized response technique questions about whether respondents informed to the Niger Delta armed groups, and the double list experiment questions about whether respondents support the groups.

To estimate the proportion of respondents who shared information with armed groups in the Niger Delta, I analyze data from the forced response design of the randomized response technique (Warner, 1965; Gingerich, 2010) using a maximum likelihood estimator (van den Hout, van der Heijden and Gilchrist, 2007; Blair, Imai and Zhou, 2015).

The likelihood function derives from the design of the forced response questions. The probability of a respondent saying “yes” to the enumerator ($Y_i = 1$; “no” is $Y_i = 0$), depends on their roll of the dice. When the respondent rolls a 2, 3, 4, 5 (two-thirds of the time), the respondent answers whether they inform to armed groups (their response denoted $Z_i$ with “yes” = 1, “no” = 0). When they roll a six (a sixth of the time) they respond “yes” ($Y_i = 1$) regardless of their truthful response. Similarly, if they roll a one (a sixth of the time) they respond “no”
\( (Y_i = 0) \) regardless of their truthful response. Thus we can write the probability of observing a “yes”:

\[
\Pr(Y_i = 1 \mid X_i = x) = \frac{2}{3} \Pr(Z_i = 1 \mid X_i = x) + \frac{1}{6} \cdot 1 + \frac{1}{6} \cdot 0
\]  (4.1)

Simply rewriting this equation yields the quantity of interest, the probability of a “yes” response to the sensitive item,

\[
\Pr(Z_i = 1 \mid X_i = x) = \frac{3}{2} \cdot \left\{ \Pr(Y_i = 1 \mid X_i = x) - \frac{1}{6} \right\}
\]  (4.2)

Based on the model of the observed “yes” or “no” responses (Equation 4.1), I construct a likelihood function and use maximum likelihood estimation to estimate the probability of sharing information and the relationship between respondent and community characteristics and the likelihood of sharing information. I model the probability of informing to the armed groups as a binary logistic regression,

\[
\Pr(Z_i = 1 \mid X_i = x) \equiv \logit^{-1}(x\beta)
\]  (4.3)

The likelihood function and the expectation-maximization algorithm used for estimation are defined and described in detail in Appendix 4.C and the estimation is implemented using the \texttt{rr} package in \texttt{R} (Blair, Imai and Zhou, 2014).

5. Results

In what follows, I present tests of the theory proposed in this chapter using survey data on the social interactions, knowledge, and information sharing behaviors of civilians in the Niger
Delta oil region in Nigeria. First, I examine the information held by civilians that could be valuable to the armed groups interrupting oil production. Second, I measure the frequency of casual and sustained interactions between civilians and the armed groups. Finally, I test theory of asset proximity by examining who shares information with the armed groups.

5.1 Civilians hold substantial information valuable to armed groups

The first empirical implication of the theory presented here is that civilians, including ordinary people and their local traditional leaders, possess information valuable to armed groups who perpetrate revenue interruptions. Civilians could hold valuable information about oil production and the activities of oil firm employees; the activities of the counterinsurgency agency the JTF; and navigation in the creeks and forests near their homes, which enabled them to help shelter and facilitate operations of members of the armed groups. In this section, I examine whether civilians in fact held these three kinds of information.

The first important set of information civilians hold is the movements of the counterinsurgency JTF officers. Focusing on the height of the conflict between 2007 and 2008, fully two-thirds of respondents reported encountering a JTF officer inside their community at least once. More than a third reported encounters that at least several times a month, and more than ten percent reported daily encounters. More than encounters, nearly 15% of respondents reported personally knowing or regularly talking to a JTF officer. Figure 4.1 reports on encounters and knowledge of JTF officers. Typical interactions with the JTF were mundane, the modal sighting being JTF officers on patrol in light trucks on roads in the community and speed boats in the creeks nearby. They patrolled for cult members, gang members, “bad boys,” oil thieves

---

31 This material is derived from open-ended responses to the question, in Pidgin, “Abeg, tell me the way wey JTF people dem take dey work for your community or de community wey dey near here if dem dey work for your community at all?”

32 Respondent 2135 said, “Dem dey take care of de river to stop bad boys.”
and illegal local oil refineries, and “sea pirates.”\textsuperscript{33} Civilians observed the patrols most frequently “guarding the oil pipelines,”\textsuperscript{34} but they also ran checkpoints on roads and from jetties in nearby creeks to monitor local boat traffic.\textsuperscript{35} Respondents reported that in addition to infrequent battles with armed groups, a common task in communities was obtaining information about the locations of the armed groups.\textsuperscript{36} To obtain this information, respondents reported that they often hired local spies in the community, as predicted by the theory.\textsuperscript{37}

In addition, ordinary people had substantial local knowledge that could aid armed groups navigating over the creeks and mangrove forests of the region. Six in ten respondents report

\textsuperscript{33} Respondent 1863 said, “Wen de sea pirates den come de JTF no come do something so dem no dey work.”

\textsuperscript{34} Respondent 686.

\textsuperscript{35} Respondent 2850 said, “Dem always dey stay for jetty dey watch people way dey enter town or go out”; Respondent said, “dem dey come patrol and dem also de search people before you pass dem”

\textsuperscript{36} Respondent 1764 said, “They always seek for information in order to know the militant where about”; Respondent 1745 said, “Dey go round in search of militants, dey ask people some question to get useful information”; Respondent 1297 said, “JTF dey work with community chiefs and vigilante for first hand information.”; Respondent 1250 said, “They are always moving around trying to get information.”

\textsuperscript{37} Respondent 2267 said, “Dem dey use boat patrol for river and dem get spy for this village.”
the ability to navigate in the creeks, and nearly half had done so in the month before the survey (45%). Respondents typically traveled in that most recent trip in motor boats (“flying boats” in Pidgin), though nearly 40% traveled instead by canoe. In addition to the ability to navigate on the water, nearly three-quarters reported that they could navigate in the forest (73%).

5.2 Civilians regularly encounter armed groups and their social networks overlap

The close physical proximity of civilians to armed group camps led to frequent interactions and, not infrequently, close personal associations between civilians and members of the groups. In this section, I examine both casual interactions between civilians and members of the armed groups and the extent to which the social networks of civilians and armed groups overlap. In each case, the possibility for sharing information is increased when civilians physically encounter members of the groups or when they are able to get in touch with them via mobile phone call, SMS message, or in-person directly or through friends and family.

First, I examine the casual interactions between civilians and armed groups. Members of armed groups regularly visited 31% percent of respondents’ communities, according to respondents who reported seeing them firsthand. Though civilians encountered members of the armed groups less frequently than officers from the JTF, it was still a relatively frequent occurrence — 14% encountered the armed groups at least several times a month during this time period.

Typical interactions with armed groups in communities ran from the extractive to the charitable. 71% of respondents said that they had experienced at least one extractive interaction, such as kidnapping or extortion, but an identical proportion had at least one more positive

38Note that this is, by construction, an underestimate of the frequency with which armed groups entered communities. The question text read, in Pidgin, “For dat time, na how many times wey you see militants for dis community for your own corocoro eye, even if dem no stay for dis community?”
experience such as a party or ceremony paid for by the armed groups. Figure 4.2 characterizes the frequency of activities often described in open-ended pilot interviews. The modal interaction was when the armed groups bought small items such as food or phone credit inside the community (60% reported this took place). Yet interactions that were extractive or worse were frequent as well. 51% of respondents reported that armed groups had kidnapped people (in semi-structured interviews in several communities and in open-ended responses on armed group attacks, it was clear that nearly all of these kidnapping complaints were about oil workers, not locals); 48% reported that they extorted building projects (called “collecting matching ground” in Pidgin) and 30% said individuals had been the victims of extortion at the hands of the groups.

Though the armed groups did infrequently give back to the communities, these were nearly entirely in the form of private goods such as paying for ceremonies such as weddings or buri-
Figure 4.3: Many Civilians Held Personal Connections to Armed Group Members. Estimates of the proportion of respondents who personally know a militant (top panel) or who know someone like a family member or friend who knows a armed group members (bottom panel) are presented along with 95% confidence intervals. These estimates and the standard errors are calculated based on the maximum likelihood estimator for the randomized response experiment.

Thus far, I have described casual interactions with armed groups members. Yet many civilians also held more personal connections to the armed groups, both ordinary people and local traditional leaders. Civilians can share information and collaborate with armed groups in other ways through casual interactions in their community — at wedding or burial ceremonies, for example — but sustained collaboration requires a closer social connection. This could be in the form of a direct friendship or familiar relationship, or it could be an indirect connection through friends. Using the randomized response technique and the questions presented in Section 3.3, I present estimates of the social connections of ordinary people and traditional leaders that are direct or, through friends and family, indirect.

More than a quarter regular civilians (27%) have personally relationships with members of armed groups, meaning a friend or family member or someone they regularly talk to is a member. This is not evidence that civilians collaborated with these contacts, only that they
were in a position to share information straightforwardly. Many civilians were also indirectly connected to the armed groups through their social networks. 22% of regular civilians are estimated to be connected to a member of the armed groups through a family member or friend. It is striking that the estimate of indirect connections is smaller than that for direct connections, given that with perfect communication between civilians the number of indirect contacts should naturally be higher. This suggests, perhaps not surprisingly, that civilians do not let it be known in their communities that they know members of the armed groups. The estimated proportion of respondents who know armed groups members directly and indirectly is displayed in Figure 4.3.

5.3 Many civilians and local leaders shared information with revenue interruption perpetrators

Thus far, I showed that civilians hold information valuable to armed groups that perpetrate oil production interruptions in the Niger Delta, and by virtue of relatively frequent casual encounters and overlapping social networks (including) personal relationships they are in a position to directly collaborate with the groups. Do they?

On one important dimension, the answer is yes. Across the region, I estimate that 16% (s.e. = 1%) of civilians shared information with armed groups during the height of the oil production interruption in 2007 and 2008, with a confidence interval of (14%, 17%). Using the randomized response technique and the questions described in Section 3.1, I estimated the proportion of respondents who shared actionable intelligence with Niger Delta armed groups, including information about the groups’ enemies, the actions of the counterinsurgency forces, and activity at oil production facilities and oil theft sites.

How did informing work? During open-ended interviews with civilians in communities affected by the armed groups, two modes of information transmission were highlighted by civilians as particularly important. The first was sexual relationships between female civilians
and the nearly uniformly male armed groups. In the survey, 4% of women reported having a sexual relationship with a member of an armed group between 2007 and 2008. Interview subjects said that armed groups used these liaisons to obtain information about their enemies in the community and the activities of community leaders. The second important mode was parties hosted by militants. Indeed, among those who said the armed groups had visited their community during 2007 and 2008, 40% of civilians said that the groups had hosted parties. Interview subjects suggested that the goal of these parties was to intoxicate and appease community members before soliciting information from them about enemies of the groups, the counterinsurgency program, and other issues.

In this chapter, I focus on information sharing as the manner in which civilians collaborate with the armed groups who perpetrate revenue interruptions. This is one important way in which civilians can collaborate, but there are others including food, shelter, and weapons. Indeed, I find that some civilians in the Niger Delta collaborate in others. 7% reported that residents of their community gave goats, chickens, or food to the armed groups, 7% reported cash had been contributed, and 5% reported weapons were given to the groups. Given the sensitivity of collaboration, each question was asked in the third person — “did someone in your community give” — and sheltering armed group members was too sensitive, akin to sharing information, so it was excluded from the questioning.

5.4 Information sharing and civilian proximity to assets and revenue interruption perpetrators

In this section, I present the central test in this chapter of the theory proposed in Chapter 2. I argue that civilians who live in close proximity to valuable assets in the state and the groups that interrupt revenues from those assets will often play an important indirect role in the rev-

---

39 This proportion is statistically different from zero, with a standard deviation of 0.6%. Due to time constraints that prevented using the randomized response technique, the question was asked directly of respondents, so a certain amount of underreporting due to social desirability bias is likely present in this estimate.
Figure 4.4: Civilians Who Live Near Oil Facilities and, Particularly, Near Oil Facility Attacks, Are Most Likely to Share Information with Armed Groups. These estimates and the standard errors are calculated based on the maximum likelihood estimator for the randomized response experiment with no covariates.

I find that, indeed, civilians living proximate to oil facilities and the activities of the armed groups who interrupt oil production are much more likely to inform than those living further away. Proximity is measured in three ways, described in detail in Section 3.2, including proximity to armed group camps in terms of the travel time from a civilian’s community to the camp,
and the proximity to oil facilities.

First, civilians living proximate to oil facilities — when they are within walking distance — are much more likely to share information with armed groups (a rate of 24%) compared to civilians in communities without oil facilities (who informed at a rate of 10%). Civilians living in communities with oil facilities that were in their community but not within walking distance shared information at a rate of 16%). This evidence is summarized, with 95% confidence intervals, in Figure 4.4.

Second, civilians living in communities in which armed group camps are located are much more likely to share information with the groups than civilians living in communities without camps. These differences are summarized in Figure 4.5 (right panel). The rate of information sharing among civilians with camps inside the borders of their community was 38%, compared to a rate for civilians in communities with no camp nearby of 10%. Civilians living near armed group camps that were close but not inside the community also shared information at a high rate of 27%.

Third, there is a strong and inverse relationship between the rate of information sharing between civilians and armed groups and the travel time between a civilian’s community and the group’s camp. Figure 4.5 (left panel) shows the rate of informing (y-axis) as a function of the travel time in minutes between communities and the nearest armed group camp, as estimated by respondents. Civilians living very close to camps, within 15 minutes travel, shared information at very high rates, between 44% and 39%. The rate declines to zero as the travel time to the nearest camp approaches 5 hours.

5.5 Discussion

The theory of how small bands of people with technical skills, the capacity for violence, or both interrupt major sources of state revenues proposed in Chapter 2 implies an important,
Figure 4.5: Civilians living close to armed group camps are driving informing: nearly 50% informed to the armed groups. Civilians living further away informed at much lower rates. Randomized response regression is used with a single predictor, distance from respondent’s community to the nearest armed group camp.

independent role for civilians in the interruptions. In particular, first, these civilians would hold valuable information about the activities and identities of the perpetrators — these small skilled groups — as well as the state security forces and the civilian spies the security forces hire to identify the perpetrators. In this section, I showed that civilians frequently encountered the state counterinsurgency group that attempted to intervene to end oil production interruptions, and often knew officers personally. Moreover, civilians held valuable information about navigation in the mangrove creeks of the region that could help the perpetrators escape detection by the state.

This information could only grant civilians a role in the revenue interruptions if they could share it with civilians. Here, I showed that civilians did interact with members of the armed groups that perpetrated revenue interruptions in the Niger Delta in both casual ways and through direct and indirect social connections. I showed that a third of civilians in the region regularly encountered the armed groups, at weddings and funerals and at parties held by the
groups. Using the randomized response technique, I showed that civilians also held stronger ties to the groups, in the form of overlapping social networks. Indeed, nearly three in ten civilians reported a direct connection, friend or family, to an armed group member. More than a fifth had indirect connections to the groups.

The third implication is that civilians play a role by sharing the relevant information they have with the armed groups. I showed that, overall, 16% of civilians shared information during the height of the violent attacks on oil infrastructure. However, as the fourth empirical implication of the theory suggests, this underestimates the importance of civilians. It is civilians who live proximate to the asset — oil facilities — and the activities of the armed groups who are most likely to hold relevant information and share it with the groups. Indeed, I show that civilians living near the camps of the armed groups — where they are most likely to be discovered by the state — are much more likely to share information, up to 38% shared when an armed camp was within their community. I showed that there is a steep increase in the rate of informing as a function of how long it takes for civilians to walk from their community to the camps of the groups. Moreover, I show that the informing rate is dramatically higher among civilians living with oil facilities nearby, and especially those with facilities in walking distance.

This evidence suggests that there is an important, independent role played by civilians, and particularly civilians living near where armed groups live and interrupt oil production, who share relevant information with armed groups. These civilians may also play other roles, as I suggest, including by sheltering them in their homes and communities and providing food and other material assistance.
6. Alternative Explanations

The evidence presented in thus far, I have suggested, indicates that civilians — in particular, ordinary people — play an independent, causal role in the interruption of state revenues from oil production in the Niger Delta. In this section, I explore three theoretical claims that could explain the results I have presented but would indicate that ordinary people did not play such a role.
6.1 Local elites inform, not ordinary people

First, I explore whether it is not ordinary people but local, traditional elites who play this role. I find that traditional leaders do hold direct and indirect social connections to the armed groups — indeed, slightly more traditional leaders personally know members of the groups than ordinary people do. Focusing on the 399 traditional leaders purposively interviewed in the survey, I estimate that one-in-three have a personal relationship with a member of an armed group — substantially more than among ordinary people (difference = 3.3%, s.e. = 2.25%). Traditional leaders also have indirect social connections to the armed groups (21%), approximately the same proportion as ordinary people do. Figure 4.1 illustrates these comparisons.

However, it was not only local leaders who shared information with the armed groups. Ordinary people are estimated to share information just as frequently as local traditional leaders interviewed in the same communities. I find no difference between rates of information sharing between the two groups, with, if anything, civilians informing more often (difference = 0.4%, s.e. = 2.62%).

Though this case presents a difficult test against this alternative, because of the hierarchical nature of social relations in rural West Africa described in Section 3.4, it appears that both ordinary people and their leaders have social relationships (and casual encounters with) the armed groups and indeed both share information at similar rates. Though there may be hierarchical information collection by these traditional leaders, information is also being transmitted horizontally, and directly, from ordinary people to the armed groups.
6.2 *Armed groups use violence to coerce civilians to cooperate*

Second, I examine whether armed groups in the Niger Delta coerced cooperation from civilians, which would call into question the nature of the civilian role and suggest it might not have been causal. Consistent with findings in other contexts (see, for example, the effects of victimization on attitudes toward armed groups in Afghanistan Lyall, Blair and Imai, 2013), there is indeed a large difference in information sharing rates among those victimized and those not victimized by the armed groups. Civilians whose person, family, or property was harmed by the armed groups were more than twice as likely to share information with the groups. Figure 4.D.1 in Appendix 4.D displays the rates among each group and the estimated difference with 95% confidence intervals.

However, the levels of coercion are extremely low, so low as to make active coercion unlikely to be a driving force of information sharing. Respondents were asked a series of questions about whether they had been victimized by the armed groups or state security forces during same period of the information sharing measurement, 2007 to 2008 (see Figure 4.D.2 in the Appendix). Fewer than five percent of civilians had ever experienced harm to themselves or their families at the hands of the armed groups (4% of respondents) or to their household’s property (4%). Indeed, only 4% of respondents knew of harm against persons or property in their community. In fact, though there are high levels of information sharing to the armed groups, there was less coercion against civilians by armed groups than there was by state security forces. Nearly a tenth of civilians reported knowing of harm against persons or property at the hands of the state.
Figure 4.2: Minority Ethnic Groups No Less Likely to Cooperate with Militant Groups than the Ijaw. Mean reporting proportions are calculated from a randomized response regression with indicators for each ethnic group. The question text to solicit ethnic identity reads, “Na which tribe wey you be,” which roughly translated to “which ethnic group are you.”

6.3 Armed groups coerce civilians by enforcing cooperation from coethnics

Finally, I consider the possibility that there was non-violent coercion by armed groups through the sanctioning of coethnic civilians who do not cooperate. If this is the case, we should observe high rates of informing among the Ijaw ethnic group whose members dominate armed groups in the region. There should be comparatively low rates among minority ethnic groups. In fact, as Figure 4.2 shows, many minority groups inform to the armed groups more frequently than the Ijaws do, including the Kalabari, Abuat, and Ibani who are among the largest ethnic groups represented in the region. Moreover, the estimated difference between the information sharing rate among Ijaw is not statistically different from the informing rate of non-
Ijaw civilians (diff = 4.1%, s.e. = 3.3%). Though ethnicity may play a role in the decisions of individual civilians to inform or not inform in other ways, in-group punishment by the armed groups does not appear to be driving the high rates of information sharing.

7. Conclusion

Who perpetrates interruptions of state revenues? In this chapter, I show that in addition to the small groups with technical skills, violent capacities, or both that directly interrupt revenues, ordinary people play an independent supporting role crucial to their success. People living near the interrupted assets and the homes of the perpetrators hide and protect their identities against the spies of the state among the civilian population and the state’s security forces. The empirical evidence focuses on one such role, sharing information about the groups enemies and activities at the interruption sites. I show that this role is independent, and not dependent on violent coercion or in-group policing of coethnics. Moreover, most informing is from the ordinary people who hold direct knowledge of security force movements and the identities of state spies — and not local elites who might exclude these rank-and-file informers from the benefits to collaboration.

In Chapter 5, I examine how the ability of local organizations to interrupt state revenues with the help of ordinary people leads to changes to state policy changes that benefit those organizations. I show that an interruption of oil production in an earlier period in the Niger Delta, from 1998 to 2000, forced the state to change how it distributed oil revenues in the country and to the creation of a major new state agency to provide for economic development in the homeland of the Ijaw groups that organized to interrupt production.

The evidence in this chapter holds important applications beyond the study of revenue interruptions for the role of civilians in civil conflict. Though much ink has been spilt theoreti-
ically on what civilians know, think, and do during civil conflict, there is very little consistent empirical evidence to evaluate these ideas. Evidence about informing, one of the most risky behaviors during civil conflict, is particularly scarce, despite the fact that the implications of theories of informing are perhaps most consequential for practitioners of counterinsurgency. In this chapter, an autonomous and active role for civilians is suggested, in which civilians voluntarily collaborate with armed groups by sharing actionable intelligence about other combatants with substantial frequency. The evidence also suggests that this cooperation may not be uniform across the conflict, but particularly concentrated where members of armed groups live and operate on a regular basis.

Finally, this study suggests the importance of careful selection of measurement instruments for sensitive subjects. Revealing participation in extremely sensitive behaviors requires the utmost care in protecting individual-level data. The randomized response technique, unlike the list experiment, entirely protects individual-level sensitive responses, yet the estimates are still directly interpretable measurements of the behavior in the aggregate. Thus, it is a promising methodology for addressing even the most sensitive subjects, such as informing in civil conflict.

<table>
<thead>
<tr>
<th>Leader</th>
<th>Local Government Area</th>
<th>State</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ebi Albert aka Commander Eze</td>
<td>Brass</td>
<td>Bayelsa</td>
</tr>
<tr>
<td>Gibson Kala aka Prince Igodo</td>
<td>Brass</td>
<td>Bayelsa</td>
</tr>
<tr>
<td>Ken Neweigha aka Daddy Ken</td>
<td>Kolokuma/Opuokuma</td>
<td>Bayelsa</td>
</tr>
<tr>
<td>Commander Woki Godwill Ibralafu aka Kitikata</td>
<td>Nembe</td>
<td>Bayelsa</td>
</tr>
<tr>
<td>Victor Ben aka Boyloaf</td>
<td>Southern Ijaw</td>
<td>Bayelsa</td>
</tr>
<tr>
<td>Gibson Kala aka Prince Igodo</td>
<td>Southern Ijaw</td>
<td>Bayelsa</td>
</tr>
<tr>
<td>Gibson Kala aka Prince Igodo</td>
<td>Southern Ijaw</td>
<td>Bayelsa</td>
</tr>
<tr>
<td>Commander Jackson aka The Young Shall Grow</td>
<td>Southern Ijaw</td>
<td>Bayelsa</td>
</tr>
<tr>
<td>Timi Ukparasia Owe aka General Africa</td>
<td>Southern Ijaw</td>
<td>Bayelsa</td>
</tr>
<tr>
<td>Timi Ukparasia Owe aka General Africa</td>
<td>Southern Ijaw</td>
<td>Bayelsa</td>
</tr>
<tr>
<td>Joshua Mackiver</td>
<td>Southern Ijaw</td>
<td>Bayelsa</td>
</tr>
<tr>
<td>Paul Eris aka General Ogbunboss</td>
<td>Southern Ijaw</td>
<td>Bayelsa</td>
</tr>
<tr>
<td>Commander Adonna</td>
<td>Southern Ijaw</td>
<td>Bayelsa</td>
</tr>
<tr>
<td>Victor Ben aka Boyloaf</td>
<td>Southern Ijaw</td>
<td>Bayelsa</td>
</tr>
<tr>
<td>General Reuben Wilson, fondly called Pastor</td>
<td>Southern Ijaw</td>
<td>Bayelsa</td>
</tr>
<tr>
<td>Victor Ben aka Boyloaf</td>
<td>Southern Ijaw</td>
<td>Bayelsa</td>
</tr>
<tr>
<td>General John Togo</td>
<td>Burutu</td>
<td>Delta</td>
</tr>
<tr>
<td>General Ezekiel Akpasibewei</td>
<td>Egbea</td>
<td>Delta</td>
</tr>
<tr>
<td>Government Ekpemopololo aka Tompolo</td>
<td>Warri South West</td>
<td>Delta</td>
</tr>
<tr>
<td>Government Ekpemopololo aka Tompolo</td>
<td>Warri South West</td>
<td>Delta</td>
</tr>
<tr>
<td>Government Ekpemopololo aka Tompolo</td>
<td>Warri South West</td>
<td>Delta</td>
</tr>
<tr>
<td>Government Ekpemopololo aka Tompolo</td>
<td>Warri South West</td>
<td>Delta</td>
</tr>
<tr>
<td>High Chief Bibopre Ajube aka Shoot at Sight</td>
<td>Ese Odo</td>
<td>Ondo</td>
</tr>
<tr>
<td>Farah Dagogo Ipallibo</td>
<td>Akuku-Toru</td>
<td>Rivers</td>
</tr>
<tr>
<td>Soboma George</td>
<td>Akuku-Toru</td>
<td>Rivers</td>
</tr>
<tr>
<td>George Adumu</td>
<td>Andoni</td>
<td>Rivers</td>
</tr>
<tr>
<td>Alhaji Asari Dokubo</td>
<td>Asari Toru</td>
<td>Rivers</td>
</tr>
<tr>
<td>John Agilo and others</td>
<td>Bonny</td>
<td>Rivers</td>
</tr>
<tr>
<td>Prince Glad aka Prince Igodo</td>
<td>Degema</td>
<td>Rivers</td>
</tr>
<tr>
<td>Farah Dagogo Ipallibo</td>
<td>Degema</td>
<td>Rivers</td>
</tr>
<tr>
<td>Alhaji Asari Dokubo</td>
<td>Degema</td>
<td>Rivers</td>
</tr>
<tr>
<td>Farah Dagogo Ipallibo</td>
<td>Degema</td>
<td>Rivers</td>
</tr>
<tr>
<td>Farah Dagogo Ipallibo</td>
<td>Degema</td>
<td>Rivers</td>
</tr>
<tr>
<td>Farah Dagogo Ipallibo</td>
<td>Degema</td>
<td>Rivers</td>
</tr>
</tbody>
</table>

144
<table>
<thead>
<tr>
<th>Name</th>
<th>Location</th>
<th>Region</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soboma Jackris aka Egberi-Papa</td>
<td>Degema</td>
<td>Rivers</td>
</tr>
<tr>
<td>Soboma Jackris aka Egberi-Papa</td>
<td>Degema</td>
<td>Rivers</td>
</tr>
<tr>
<td>General Alali</td>
<td>Degema</td>
<td>Rivers</td>
</tr>
<tr>
<td>Commander Reason Agala</td>
<td>Emuoha</td>
<td>Rivers</td>
</tr>
<tr>
<td>Alhaji Asari Dokubo</td>
<td>Emuoha</td>
<td>Rivers</td>
</tr>
<tr>
<td>General Cairo</td>
<td>Emuoha</td>
<td>Rivers</td>
</tr>
<tr>
<td>Tokuebe-Oba</td>
<td>Emuoha</td>
<td>Rivers</td>
</tr>
<tr>
<td>Solomon Ndiginen aka Osama bin laden</td>
<td>Gokana</td>
<td>Rivers</td>
</tr>
<tr>
<td>Tom Ateke</td>
<td>Ogu/Bolo</td>
<td>Rivers</td>
</tr>
<tr>
<td>Tom Ateke</td>
<td>Okrika</td>
<td>Rivers</td>
</tr>
<tr>
<td>Tom Ateke</td>
<td>Okrika</td>
<td>Rivers</td>
</tr>
<tr>
<td>Tom Ateke</td>
<td>Okrika</td>
<td>Rivers</td>
</tr>
<tr>
<td>Sunny Opuembe</td>
<td>Okrika</td>
<td>Rivers</td>
</tr>
<tr>
<td>Sunny Opuembe</td>
<td>Port-Harcourt</td>
<td>Rivers</td>
</tr>
<tr>
<td>Soboma George</td>
<td>Port-Harcourt</td>
<td>Rivers</td>
</tr>
<tr>
<td>Government Ekpemopolo aka Tompolo</td>
<td>Warri South West</td>
<td>Rivers</td>
</tr>
<tr>
<td>Government Ekpemopolo aka Tompolo</td>
<td>Warri South West</td>
<td>Rivers</td>
</tr>
</tbody>
</table>

**Table 4.A.1: Armed Group Camp Locations.** An electronic version of this data, including the approximate GPS coordinates of each camp, will be available at the author’s Web site upon publication. Duplicated names indicate multiple camps run by the same leader (the locations of the camps differ).
4.B. Respondent Screening Procedures

4.B.1 Citizens

Citizens were screened for whether they lived in the community for a majority of the time from 2007 to 2008, to ensure that they were in a position to collaborate with armed groups and did not leave. This induces selection bias in the types of civilians that remained, but is unavoidable given that the sensitive questions are not defined for those who did not remain — they were not a position to interact with armed groups.\textsuperscript{40}

4.B.2 Local Traditional Leaders

1. Seek a meeting with the village head. If he does not stay in the community AND does not stay within 20 minutes drive, then meet the highest ranking traditional leader who stays in or within 20 minutes drive of the community. During the meeting with this first leader, you have these tasks:

- Screen the first leader verbally to see if they stayed in the community during most of 2007 and 2008. If screening successful, schedule a time later in the day to interview the first leader.
- Ask to call or text another traditional leader: Ask them to schedule a time to meet with the highest ranking traditional leader who stays in or within 20 minutes drive of the community.

2. Conduct 12 citizen interviews.
3. Interview the first leader.
4. Interview the second leader.

- Screen the second leader verbally to see if they stayed in the community during most of 2007 and 2008.

If you cannot interview either the first leader or second leader within the time in the community, find, screen, and interview with the next highest ranking traditional leader. Ask the leader you are screening to help contact the next leader.

\textsuperscript{40}The full text for the question is as follows.

1. Abeg, na which year wey you come to dis community? ENUMERATOR: if 2009 or after, [ TERMINATE ]
2. From 2007 to 2008, na how long wey you stay for dis community wey be say you no travel comot? [ READ OUT OPTIONS ]
   a. Full time mean say you spend plenty of your days inside every month here for dis community
   b. Most of the time mean say you bin travel comot for time wey reach two months for dat period
   c. Part of de time mean say you travel and you no come back during day time, or you no dey around for time wey pass two months [ TERMINATE ]
4.C. Details for the Statistical Analysis of the Randomized Response Technique

In this section, I develop a statistical framework for analyzing the responses to the randomized response experiments. I build on the mean-based estimator proposed in Gingerich (2010) and develop a maximum likelihood estimator that enables multivariate analysis of the randomized response experiments.

Setup. Define $T_i \in \{1, 2, 3, 4, 5, 6\}$ to represent the result of the die roll ("treatment status"), where $T_i = j$ means that the respondent rolled number $j$ on the face of the die. There is a latent response to the sensitive question for each respondent, which may be a function of the treatment status (die roll), denoted $Z_i(t)$. $Z_i(t) = 1$ corresponds to a ‘yes’ response, and $Z_i(t) = 0$ to a ‘no’ response. The potential outcomes are defined as $Y_i(T_i = j)$ for $j = 1, 2, 3, 4, 5, 6$, and because the treatment is unobserved we denote the observed outcome simply $Y_i$.

Assumptions. With this setup, I propose three assumptions that allow identification of the proportion of respondents who respond “yes” to a sensitive question asked with the randomized response technique either with a mean-based estimator or a multivariate maximum likelihood estimator. The first assumption is that the die roll that forms the basis of the randomized response is, in fact, randomized. Formally,

Assumption 1 (Randomization of the Treatment).

$$\{Z_i(T_i = j)\}_{j=1}^{6} \perp \!\!\!\!\perp T_i$$

Assumption 2 (Compliance). When the respondent rolls $j = 0$, she responds ‘no,’ and when the respondent rolls $j = 1$, she responds ‘yes.’

$$Y_i(T_i = 0) = 0; \text{ and } Y_i(T_i = 1) = 1$$

Assumption 3 (No Liars). When the respondent rolls $j \in \{2, 3, 4, 5\}$, she responds truthfully. Formally, for each $j = 2, 3, 4, 5$,

$$Y_i(T_i = j) = Z_i(T_i = j)$$

Under these assumptions, we can identify the quantity of interest, the latent probability of answering “yes” to the sensitive time, based on the probability of the observed response being
“yes” as follows,

\[
\Pr(Y_i = 1) = \Pr(Y_i = 1 \mid Z_i = 0) \Pr(Z_i = 0) + \Pr(Y_i = 1 \mid Z_i = 1) \Pr(Z_i = 1) \tag{4.4}
\]

\[
= \Pr(Y_i = 1 \mid T_i = 1, Z_i = 0) \Pr(T_i = 1)
\]

\[
+ \Pr(Y_i = 1 \mid T_i \in \{2, 3, 4, 5\}, Z_i = 0) \Pr(T_i \in \{2, 3, 4, 5\})
\]

\[
+ \Pr(Y_i = 1 \mid T_i = 6, Z_i = 0) \Pr(T_i = 6) (1 - \Pr(Z_i = 1))
\]

\[
+ [\Pr(Y_i = 1 \mid T_i = 1, Z_i = 1) \Pr(T_i = 1)
\]

\[
+ \Pr(Y_i = 1 \mid T_i \in \{2, 3, 4, 5\}, Z_i = 1) \Pr(T_i \in \{2, 3, 4, 5\})
\]

\[
+ \Pr(Y_i = 1 \mid T_i = 6, Z_i = 1) \Pr(T_i = 6) \Pr(Z_i = 1)
\]

\[
= \Pr(Y_i = 1 \mid T_i = 1) + \Pr(Y_i = 1 \mid T_i = 6)
\]

\[
+ \Pr(T_i \in \{2, 3, 4, 5\}) \Pr(Z_i = 1)
\]

\[
\tag{4.6}
\]

Finally, to identify latent probability of answering “yes” to the sensitive item, we can rearrange terms and then substitute the known probabilities of each treatment status and the conditional probability of responding yes in the forced response treatment groups,

\[
\Pr(Z_i = 1) = \frac{1}{\Pr(T_i \in \{2, 3, 4, 5\})} \cdot \{\Pr(Y_i = 1) - \Pr(Y_i = 1 \mid T_i = 1) - \Pr(Y_i = 1 \mid T_i = 6)\}
\]

\[
\tag{4.7}
\]

\[
= \frac{3}{2} \cdot \left\{ \Pr(Y_i = 1) - \frac{1}{6} \right\}
\]

\[
\tag{4.8}
\]

This justifies the mean-based estimator for the estimated proportion \(\hat{\eta}\) of respondents who respond affirmatively to the latent sensitive item,\(^4\)

\[
\hat{\eta} = \frac{3}{2} \cdot \left\{ \frac{1}{n} \sum_{i=1}^{N} Y_i - \frac{1}{6} \right\}
\]

\[
\tag{4.9}
\]

\(^4\)The variance of this estimator is, \(\mathbb{V}(\hat{\eta} \mid X_i) = \frac{9 \hat{p}(1-\hat{p})}{4} \frac{1}{N}\)
In addition to this simple mean-based estimator, I estimate a non-linear regression model:

\[
\Pr(Y_i = 1 \mid X_i) = \frac{2}{3} f(x, \delta) + \frac{1}{6}
\]

where \( f(x, \delta) = \Pr(Z_i = 1 \mid X_i = x, T_i \in \{2, 3, 4, 5\}) \). Then the observed likelihood is,

\[
L_{\text{obs}} = \prod_{i=1}^{N} \left\{ \frac{2}{3} f(x, \delta) + \frac{1}{6} \right\}^{Y_i} \left\{ 1 - \left( \frac{2}{3} f(x, \delta) + \frac{1}{6} \right) \right\}^{1-Y_i}
\]

I model the latent response \( Z_i \) using binomial logistic regression, setting \( f(x, \delta) = \logit^{-1}(X_i^T \beta) \).

### 4.C.1 Estimation with the expectation-maximization algorithm

In this section, I derive the expectation-maximization algorithm to estimate multivariate models for the randomized response design. To do so, I first define the complete likelihood if the missing data, \( T_i \) were observed:

\[
L_{\text{com}} = \prod_{i=1}^{N} \left\{ f(x, \delta) Z_i (1 - f(x, \delta)) \right\}^{T_i} \left\{ 1 - (f(x, \delta)) \right\}^{1-T_i}
\]

I then define a transformed treatment indicator \( T_i^* \), where

\[
T_i^* = \begin{cases} 
1 & \text{if } T_i \in \{2, 3, 4, 5\} \\
0 & \text{if } T_i \in \{0, 6\}
\end{cases}
\]

Then we can write the complete likelihood as follows,

\[
L_{\text{com}} = \prod_{i=1}^{N} \left\{ f(x, \delta) Z_i (1 - f(x, \delta)) \right\}^{T_i^*}
\]

\[
\ell_{\text{com}} = \sum_{i=1}^{N} T_i^* Z_i \log f(x, \delta) + T_i^* (1 - Z_i) \log(1 - f(x, \delta))
\]

The E-step is the conditional expectation of the missing data, \( T_i^* \), with two weights defined...
as \( w_{i,y} \) for \( i = 1, \ldots N \) and \( y = 0, 1 \),

\[
\begin{align*}
\ w_{i,1} &= \mathbb{E}(T_i^* | X_i = x, Y_i = 1) \\
&= \frac{\Pr(T_i^* = 1 | X_i = x, Y_i = 1) \Pr(Y_i = 1 | X_i = x, T_i^* = 1)}{\Pr(Y_i = 1 | X_i = x)} \\
&= \frac{\Pr(T_i^* = 1) \Pr(Y_i = 1 | X_i = x, T_i^* = 1)}{\Pr(T_i^* = 1) \Pr(Y_i = 1 | X_i = x, T_i^* = 1) + \Pr(T_i^* = 0) \Pr(Y_i = 1 | X_i = x, T_i^* = 0)} \\
&= \frac{\frac{2}{3} \Pr(Z_i = 1 | X_i = x, T_i^* = 1)}{\frac{2}{3} \Pr(Z_i = 1 | X_i = x, T_i^* = 1) + \frac{1}{6}} \\
&= \frac{\frac{2}{3} f(x, \delta)}{\frac{2}{3} f(x, \delta) + \frac{1}{6}} \\
\ w_{i,0} &= \mathbb{E}(T_i^* | X_i = x, Y_i = 0) = \frac{\frac{2}{3} \left(1 - f(x, \delta)\right)}{\frac{2}{3} \left(1 - f(x, \delta)\right) + \frac{1}{6}}
\end{align*}
\]

where equality (4.18) follows from Bayes’ rule, (4.19) from the law of total probability and random assignment of \( T_i \), and (4.20) based on the fixed assignment probability of \( T_i \), the uniform probability distribution of \( Y_i \) in the control group, and Assumption 1.

4.D. Additional results

![Figure 4.D.1: Civilians whose families were victimized by the armed groups are more likely to inform (more than half did). Yet given the low rates of informing, this explains little of the high informing rate.](image-url)
Figure 4.D.2: Coercion Perpetrated by Either Armed Groups or the State is Rare, Suggesting Coercion is Not Driving High Rates of Informing. Self-reported rates of victimization at the hands of armed groups is reported, as well as harm perpetrated by the state counterinsurgency Joint Task Force. Less than 5% of respondents report harm to themselves or their family at the hands of the armed groups.
CHAPTER 5

How Asset Proximity Yields Political Leverage:

I marshall case evidence from Nigeria in this chapter to evaluate the proposition that the interruption of state revenues by people living near major assets will force the state to respond with policy changes targeted at the perpetrators of the interruption. During the period of political opening that followed Nigeria’s transition to democracy in 1999, ethnic and religious groups who were neglected during decades of military rule demanded change. The state responded to few of them. One exception stands out: demands for development aid by the Ijaw — a small minority group in the oil-rich Niger Delta region. In resource-poor settings with multiple competing demands, large groups that are electorally important or that include coethnics of state leaders could expect to benefit. The Ijaw were neither. Yet among the first acts in office by elected President Olusegun Obasanjo in 1999 was a trip to meet with Ijaw leaders in Port Harcourt to hear their demands (his first official trip) and the introduction of a bill to create a major new development agency for the Niger Delta (his second legislative proposal).

Most observers believe that the creation of that agency, the Niger Delta Development Commission (NDDC), was the low-level conflict led by Ijaw organizations that began in 1998. Yet the conflict was unusual: few combatant or civilian lives were lost; neither territorial control nor secession were aims of the Ijaw; and by and large state institutions were not the target of

The field research described in this chapter was approved by the Princeton University Institutional Review Board under Protocol #5650.
attacks. Ijaw organizations also led protests during the conflict, but they were small and did not gain the same international press attention that led to a state response to Ken Saro-Wiwa’s ethnic Ogoni movement in the same Niger Delta region. Why, then, did the state fund a new institution with an annual budget in the hundreds of millions of dollars and target its services to this small, electorally-unimportant minority group?

In order to explain the creation of the NDDC, I argue in this chapter that the interruption of state oil revenues by people living near oil production infrastructure was the novel source of political leverage that ultimately led the state to offer and implement this major, targeted change in the distribution of state development funds.

The analysis of this particular case complements the macro- and micro-level evidence presented in Chapter 3 and Chapter 4. I demonstrate in Chapter 3 that oil discoveries cause subsequent conflict when they are found onshore near people, but that finding could not be definitively ascribed to interruption by the people living near the discovery. In Chapter 4, I use individual-level evidence to demonstrate that ordinary citizens aid and hide the perpetrators of oil production interruptions from the state. Yet that individual-level evidence cannot show that citizens’ actions influenced elites who make policy. It is in this chapter that I trace the full set of strategic interactions between individual and elite actors from the interruption of oil production to state policy change to complete the account of how and why the proximity of people to major assets such as oil wells grants those people bargaining power with the state.

The chapter proceeds in five parts. First, theoretical propositions derived in Chapter 2 and existing narratives in the case literature are discussed. Second, I discuss the process-tracing methodology employed in the case as well as the set of tests used to evaluate the probative value of the case evidence. I present the case evidence in three parts: a discussion of the independent variable, the oil production interruption, and how it is caused by the conflict; a
discuss the outcome; and finally, I offer a narrative linking the independent variable to the outcome.

1. Theoretical predictions and existing narratives

A core implication of the theory proposed in Chapter 2 is that the interruption of state revenues by people living near major assets will force the state to respond with policy changes targeted at the perpetrators of the interruption in proportion to the interrupted revenues. This chapter evaluates this implication with evidence from the interruption of oil production in the Niger Delta. In addition to probing the causal connection between the interruption of state revenues and state policy responses, I highlight the identity of the perpetrators, and examine whether they hail from areas near major assets. This complements evidence from Chapter 5 on the identities, location, and role of civilians aiding the perpetrators.

The aim of the empirical tests that follow is to establish that the outcome, state policy change, was caused by the interruption to state revenues by people living near major assets — the core of my theoretical argument — and not only by other factors. Existing literature on the case examined in this chapter has identified four competing hypotheses to explain the state policy change outcome. These include the state response to violence, settlement of a civil conflict, response to a social movement, and changed incentives following democratization. I now briefly review each hypothesis. The aim of the chapter is not to demonstrate that existing accounts are wrong, but rather that they are incomplete. In the narrative, I highlight limitations in these competing accounts in order to make sense of key features of the case. The burden is nevertheless on the narrative to provide positive empirical evidence consistent with the account I propose.

The dominant view in the case literature on the conflict in the Niger Delta focuses on the
state’s policy response as a means for preventing further violence in the region. As one prominent Nigeria specialist put it, the creation of the NDDC was “an attempt to defuse tension and secessionist tendencies” (Oyefusi, 2008). Others wrote that the state, “faced with growing violence in the Delta” region (Mähler, 2012; 397), aimed to “blunt the violent agitational instinct of the people who have largely remained restive” (Gambo, 2008), to “address the renewed and heightened wave of youth restiveness in the region, following years of neglect and underdevelopment in the midst of oil wealth” (Oluduro, 2012), and to “address violent conflict” (Mähler, 2012; 397).

Political science scholarship presents an opposing prediction: bargains between parties to civil conflicts to end violence are exceedingly rare and there are a range of theoretical reasons why bargains are hard to strike and to maintain. There is no existing explanation suggesting why bargains should be easier in resource conflicts, raising a puzzle over why several bargains were made in the case of the Niger Delta including the one described in this chapter. Indeed, the UCDP-PRIO conflict dataset demonstrates that fewer than a quarter of civil conflicts resulted in settlements, and only 12% resulted in peace agreements. Theoretically, there are many reasons why bargains are difficult including the presence of private information about “relative capabilities or resolve” (Fearon, 1995; 380) coupled with incentives to misrepresent that information to the other side and problems of commitment to the terms of the ex-ante agreement.¹ In the context of civil wars between the state and some set of non-state domestic actors, as in the present context, the problems of credible commitment become even more stark in the absence of international factors including reputation that constrain state behavior in inter-state wars (Walter, 1997). Surveying the empirical literature, Walter (1997) writes that

¹Issue indivisibilities, such as over valuable territory or “sacred spaces,” are also considered by Fearon, but I omit them given that the division of revenues derived from assets proximate to people is an inherently divisible object of conflict. Moreover, the emphasis in scholarship that followed is on these first two mechanisms since indivisibility conflicts are outside a small number of prominent examples such as the Israeli-Palestinian conflagrations.
"most internal wars ended with the extermination, expulsion, or capitulation of the losing side" (p. 335).

Why is it important to distinguish between the causal effects of violence per se and the interruption of state revenues? Typical bargaining in civil war is over an end to the fighting — in return for a state response to a set of demands from non-state actors over, for example, territory, revenue sharing, or policy. In these accounts, the loss of state revenues or the destruction of assets that produce them are epiphenomenal to the conflict. Two prominent examples come from the recent literature on revolutions and political regime change. In the Boix (2003) account of conflicts over redistribution, a central constraint faced by both the rich and poor actors is the "cost of war" incurred by the winner (pg. 27), represented as the destruction of assets during the war. Similarly, Acemoglu and Robinson (2006) write, “it is plausible that a violent event like a revolution creates significant turbulence and destruction and, consequently, reduces the productive capacity of the economy” (pg. 121). In each case, the destruction of assets is not a strategic choice of either side, but rather an inevitable byproduct of fighting in war.

Instead, in this account, the interruption of revenues is itself the source of leverage instead of a byproduct of the fighting. Indeed, there need not be substantial fighting for non-state actors to gain leverage. The argument proposed in Chapter 2 is the proximity of people to major assets in the state that grants them bargaining power because they can interrupt revenues from those assets. In this chapter and in Chapter 5, I lay out an empirical case for how proximity leads to this privileged position.

In addition to violence, protests in the major cities of the Niger Delta and at the sites of oil production were among the most visible elements of the conflict. In some popular accounts, these protests led to each state’s response. Among numerous mechanisms that can lead from
protests to state accommodation (cf. Goldstone and Tilly, 2001), two particularly relevant to this case are domestic electoral pressure or pressure from international partners such as aid donors. Several accounts by prominent political scientists focus on these channels. Lewis (2004) argued that the creation of the NDDC was in “response to demands for resource ownership and greater benefits from oil production” (pg. 192) and, similarly, Oyefusi (2007) wrote that the state created the NDDC in “response to increasing anti-oil protests and under pressure of public opinion.”

A final major alternative explanation is that the timing of the transition from military to civilian rule broadly coincides with the timing of the Niger Delta conflict, and thus is a possible confounding factor. The changing opportunity structure for groups caused by the political opening during this period might have enabled organizations in the Niger Delta to take action when they could not have before. Democratization might also have constrained the state’s recourse to coercive mechanisms to end the conflict.

It is important to note that violence, civil conflict, and the protests and other actions of a social movement may directly lead to an interruption of production from valuable assets such as oil in addition to having direct effects of their own. This suggests that disentangling empirically the effects of violence per se and violence that leads to an interruption will be a challenge; the same problem exists for protests. In the analysis that follows, the effects of each alternative mechanism are considered exclusive of their effects on interruption. I will argue the state did not respond to protests in the oil region per se, but it responded to the fact that they interrupted oil production — rather than other mechanisms such as the raised public profile of social justice claims in the region as a result of the protests for example.
2. *Research design, sources, and hypotheses*

This chapter evaluates a core prediction of the theory proposed in Chapter 2: the interruption of state revenues by people living near major assets will force the state to respond with policy changes targeted at the perpetrators of the interruption. The research design is a process tracing case study, which evaluates eight claims that connect the interruption of state revenues to targeted policy changes by the state. The eight claims, enumerated in Table 5.1, are not implications of the theory. Rather, if true, they together establish the plausibility of this key theoretical proposition (Van Evera, 1997; Collier, 2011; Mahoney, 2012).

The evidence in this chapter forms a part of a consciously nested analysis, in the sense of jointly testing theory through linked analyses at different levels of analysis (Lieberman, 2005). Evidence from the macro-level that the proximity of people to major assets in the state leads to conflict is presented in Chapter 3. Evidence at the micro-level in Chapter 5 establishes the role of ordinary people living near major assets in interruptions, including aiding and hiding the perpetrators of state revenue interruptions from state security services. In this chapter, an elite-level analysis directly connects the actions of elite actors who organize the interruptions of state revenues and make demands of the state on the one hand, and the state actors who bargain with the perpetrators and offer targeted policy changes to end the interruptions.²

The primary source evidence itself comes in the form of documents I collected and semi-structured interviews I conducted in Rivers State and Bayelsa State in the Niger Delta, in Lagos, and in Abuja, the Nigerian capital. The fieldwork from which this material emerged was conducted largely between 2010 and 2013, with additional field visits in 2014 and 2015. I con-

²In this project, the large-N analysis presented in Chapter 3 was conducted in parallel but largely independently of the effort for this chapter, so there was not a direct selection based on the residuals of the empirical analysis. However, the selection of this most-likely case did follow the implicit regression line of the large-N analysis, in that a positive case of the independent variable (people living in proximity to an oil discovery) and a positive case of the outcome (conflict) was selected.
ducted interviews with federal elected officials and staff in the House of Representatives and Senate of the National Assembly; and bureaucrats in the Ministry of Finance, the Presidency, the Revenue Mobilisation Allocation and Finance Commission, Ministry of Petroleum, and Department of Petroleum Resources. The interviews were conducted with open-ended scripts matching what I knew about the actor’s experience in the case. That the evidence comes in large part from first-person sources raises concerns over cognitive and strategic biases of the responses, which might range from recall or confirmation bias to deliberate manipulation of the record to match the respondent’s current interests. In the narrative that follows, I aim to highlight the perspectives of each actor to indicate when such biases may operate and to present views of actors from both the state and the groups that interrupted oil production.

In addition, I draw on the speeches and writing of key actors in the case, hundreds of newspaper accounts from Nigerian publications, and records for the period between 1999 and 2003 of the National Assembly. I also consulted the memoir of Obasanjo’s top press aide during the 1999 election campaign (Olusunle, 2005) and a civil society account of Obasanjo’s daily schedule and speeches in the first 100 days in office (Jokosenumi et al., 1999). The chapter also relies on secondary accounts in parts of the narrative that are widely agreed-upon. These sources include dozens of books and articles from Nigerian scholars, activists, and journalists on the Niger Delta obtained during and after fieldwork in addition to those written by scholars and journalists based outside the country.

The method used to evaluate the propositions is process tracing, in which a narrative is constructed based on “causal-process observations” (Collier, Brady and Seawright, 2004) from primary sources that evaluates whether a change in an independent variable caused a change in an outcome of interest. The form of process-tracing employed is “analytic explanation,” or a process-tracing narrative structured by hypotheses or “a set of standardized, general ques-
tions” (George and Bennett, 2005; 68, 211), enumerated in Table 5.1, which contribute not only to an explanation of the case but an evaluation of the theory. The formulation of the hypotheses follows Mahoney (2012), who suggests process tracing be used to “establish that (1) a specific event or process took place, (2) a different event or process occurred after the initial event or process, and (3) the former was a cause of the latter” (571).

The evidence I present here represents, by and large, a model-testing case. I collected the data and developed the narrative after the development of the theory, except for interviews on the fiscal structure of the state and the mechanisms for distributing oil revenues (conducted in 2010 and 2011). Yet all the material comes from the same sub-national case as evidence collected in a theory-building effort described briefly in Chapter 1 on the Niger Delta case from 2006 to 2009. This approach is justified in Bennett and Checkel (2014), who write, “theory or explanation derived inductively does not necessarily need to be tested against a different case for us to have confidence in the theory; rather, it can be tested against different and independent evidence in the case from which it was derived” (p. 13).

In the table that follows, I enumerate the eight hypotheses that are used to evaluate the broader theoretical proposition, that the interruption of state revenues forced the state to enact policy changes demanded by the perpetrators. The eight hypotheses and the evidence used to evaluate them represent, by and large, a model testing exercise. I collected the data and developed the narrative after the development of the theory, except for interviews on the fiscal structure of the state and the mechanisms for distributing oil revenues (conducted in 2010 and 2011). However, I knew about the broad outlines of the case, in particular the outcome (the creation of the Niger Delta Development Commission) and the independent variable (the interruption of oil production) as any casual observer of the region would. I also developed a

---

3See also George and Bennett (2005; 218-220).
theory-building case, briefly described in Chapter 1 but largely not presented, on interruption and the state’s response in the Niger Delta from 2006 to 2009. What I did not know were the steps between interruption and state action nor their sequence, which is the core of the issue for this chapter. These intermediate steps represent the causal mechanism linking interruption to state response. This approach is justified in Bennett and Checkel (2014), who write, “theory or explanation derived inductively does not necessarily need to be tested against a different case for us to have confidence in the theory; rather, it can be tested against different and independent evidence in the case from which it was derived” (p. 13).4

In the table, I discuss potential sources of evidence to evaluate each hypothesis, and the findings from the Niger Delta case described in this chapter. The boundary conditions for these theoretical propositions are states with some combination of relatively weak military capacity and terrain that makes insurgency-like tactics possible (cities or swamps, for example), and in addition state dependence for a substantial portion of its revenues from the assets in question.

<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>Sources of evidence</th>
<th>Findings in Niger Delta case</th>
</tr>
</thead>
<tbody>
<tr>
<td>$H_1$</td>
<td>Organizations made up of people living proximate to assets, the “perpetrators,” (threaten to) take actions that interrupt state revenues.</td>
<td>For overt tactics such as violent attacks, periodicals and public statements by the perpetrators; state security service or police incident reports; and, in the case of private revenues that are taxed, private security incident reports. For tactics that are difficult to observe, such as sabotage, semi-structured interviews with perpetrators or private firms may be required. Interruption incident reports may also be compiled by industry regulators, state security services, and private firms.</td>
</tr>
</tbody>
</table>

4See also George and Bennett (2005; 218-220).
<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>Sources of evidence</th>
<th>Findings in Niger Delta case</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>H2</strong> State leaders believe its revenues (will) decline.</td>
<td>Published revenue data may <em>ex post</em> identify what the state knew. However, for private revenues that are taxed, the state may have imperfect or delayed knowledge of interruptions. Public statements in periodicals may also indicate state beliefs.</td>
<td>Nigeria’s oil production declined beginning in 1998 (Sec. 3), and state leaders believed that it declined (Sec. 3). See Ch. 1 Sec. 3 for a discussion, and estimates of the magnitude of Nigeria’s oil revenue interruption from 2006 to 2009. Data availability prevent the same exercise for the 1998–2000 period.</td>
</tr>
<tr>
<td><strong>H3</strong> Perpetrators say their actions (will) interrupt state revenues, in public, in private, or both.</td>
<td>Semi-structured interviews with the promise of anonymity with perpetrators on their beliefs. Periodicals and organization publications for public announcements.</td>
<td>Ijaw organizations say their actions interrupted oil production, in private to the state and in public (Sec. 3).</td>
</tr>
<tr>
<td><strong>H4</strong> The state blames the (threatened) actions of the perpetrators for (expected) interruptions to state revenues, in public, in private, or both.</td>
<td>Semi-structured interviews with the promise of anonymity with state officials and perpetrators for private communications from the state to perpetrators. Periodicals and state publications for public announcements.</td>
<td>Nigerian state officials and oil firms blamed the actions of Ijaw organizations for interruptions in Nigeria’s oil production, in private to the perpetrators and in public statements (Sec. 3).</td>
</tr>
<tr>
<td><strong>H5</strong> State actions in response to revenue interruption occur after the (threatens of) interruption of state revenues, and are closely linked temporally.</td>
<td>Detailed timeline of (1) interruption actions from periodicals, reports from private firms, and state revenue data (see Claim 2); and (2) private and public state actions in the period before and after the (threatened) interruption from public and private documents and from semi-structured interviews with the promise of anonymity with those present at private meetings between perpetrators and the state.</td>
<td>The creation of the Niger Delta Development Commission (NDDC) by the federal government occurred after threatened and actual interruption of oil revenues (Sec. 4). State responses began soon after the interruption campaign began, and the state policy changes proposed then transformed in successive proposals into the creation of the NDDC (Sec. 5).</td>
</tr>
</tbody>
</table>
Table 5.1: Tests of the theory proposed in Chapter 2, a discussion of possible research designs to evaluate the tests with evidence, and the empirical findings of this chapter.

<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>Sources of evidence</th>
<th>Findings in Niger Delta case</th>
</tr>
</thead>
<tbody>
<tr>
<td>H6 Perpetrators (a) announce publicly and (b) tell the state privately that (threatened) interruption actions were for the purpose of interrupting state revenues in order to pressure the state to respond.</td>
<td>Periodicals and organization publications for public announcements. In rare cases, private deliberations may be described in those sources, but semi-structured interviews with the promise of anonymity with participants are more likely to yield unbiased accounts.</td>
<td>Ijaw organizations publicly said that their actions from 1998 to 2000 were for the purpose of interrupting state revenues in order to pressure the state into responding. In private meetings following major interruption events, Ijaw organizations made demands in return for ending the interruption of oil production (Sec. 5.)</td>
</tr>
<tr>
<td>H7 The state (a) announces publicly and (b) tells perpetrators privately that it is making concessions in return for an end to (to avoid) the interruption of its revenues.</td>
<td>Periodicals and state publications for public announcements. In rare cases, private deliberations may be described in those sources, but semi-structured interviews with the promise of anonymity with participants are more likely to yield unbiased accounts.</td>
<td>State leaders publicly tied state concessions including the NDDC to the interruption of oil revenues. In private meetings following major interruption events, the state offered the policy changes that were later enacted (Sec. 5.).</td>
</tr>
<tr>
<td>H8 State actions directly follow the (threatened) interruption of state revenues per se, and are not generic responses to the tactics themselves (i.e. violence, protests).</td>
<td>Detailed timelines of actions representing the alternative accounts, compared to the timing of the intermediate and ultimate responses of the state. Semi-structured interviews with the promise of anonymity with participants in private meetings when state concessions were made.</td>
<td>The creation of the NDDC was not caused per se by the protests or violent attacks that were some of the tactics used by Ijaw groups that interrupted oil production (Sec. 6). Rather, it was the fact that these tactics together interrupted state revenues.</td>
</tr>
</tbody>
</table>

To those who know the contemporary Niger Delta case well, several of the empirical propositions may appear self-evident — and some even to those who regularly read the front page of the New York Times in the late 1990s. The value-added of this chapter for those readers is to systematically detail the sequence of events and to establish, through evaluation of the eight hypotheses, the best fitting theoretical account of what happened and why. It is in tracing the intermediate steps in the causal process that I assess the validity of the causal claim connecting
the first step to the last. As George and Bennett (2005; 206-7) put it, “you observe that domino number one and domino number fifty are now lying flat with their tops pointing in the same direction […] Does this mean that either domino caused the other to fall?” To find out, you must “look at the intervening dominoes, which given evidence on potential processes.” Nevertheless, less weight will be placed on evidence tying down some of seemingly self-evident claims, such as whether Nigeria’s oil production declined.


The first empirical aim of this chapter is to evaluate whether, in the case of Nigeria from 1998 to 2000, there is an interruption to state revenues by organizations made up of people living proximate to major assets. This section provides partial evidence on four hypotheses described in Table 5.1. First, organizations made up of people living proximate to major assets in the state take actions that interrupt revenues (H1). This is a claim both about the tactics of interruption (what actions are taken), and the identities of the perpetrators (who took the actions). Here, I describe the set of tactics used by organizations from 1998 to 2000 in Nigeria’s oil region including protests, sabotage, and kidnapping; and the show that these organizations were led and constituted by members of the Ijaw ethnic group, which lives close to Nigeria’s major oil infrastructure. Second, state leaders believe its revenues declined (H2). In what follows, state revenue data from the oil sector provides ex-post evidence of what the state knew about oil revenues. In addition, I present evidence from declarations of force majeure from oil firms, which are public statements to which the state had access that directly reflect interruptions to oil production.5 The final two hypotheses assess the beliefs of the perpetrators and the state.

H3 examines whether the perpetrators say their actions interrupt state revenues, and H4 ex-

5Force majeure, a French phrase meaning literally “superior force,” is a common legal tool used in contracts that allows firms to forfeit their obligations under the contract when circumstances out of their control such as natural disasters or war prevent them from doing so.
### Table 5.1: Examples of the Use of Interruption Tactics in the Niger Delta, 1997–2000

Incidents collected from reports in Nigerian newspapers; wire reports; *Oil & Gas Journal* publications of oil firm *force majeure* declarations; and secondary sources including Gambo (2008), Iliffe (2011), and Manby (1999). “Volume” indicates the volume of oil interrupted per day, and “–” indicates unknown volume.

<table>
<thead>
<tr>
<th>Year</th>
<th>Date</th>
<th>Volume</th>
<th>State</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997</td>
<td>Jan.</td>
<td>–</td>
<td>Rivers</td>
<td>Protests</td>
</tr>
<tr>
<td>1997</td>
<td>Apr. 2</td>
<td>210m</td>
<td>Delta</td>
<td>Protests</td>
</tr>
<tr>
<td>1997</td>
<td>Aug. 12</td>
<td>–</td>
<td>Rivers</td>
<td>Facility access blockade</td>
</tr>
<tr>
<td>1997</td>
<td>Sep. 3</td>
<td>10k</td>
<td>Bayelsa</td>
<td>Protests</td>
</tr>
<tr>
<td>1997</td>
<td>Oct. 6</td>
<td>–</td>
<td>Bayelsa</td>
<td>Protests</td>
</tr>
<tr>
<td>1997</td>
<td>Oct. 14</td>
<td>2k</td>
<td>Delta</td>
<td>Protests</td>
</tr>
<tr>
<td>1997</td>
<td>Nov. 14</td>
<td>6.5k</td>
<td>Delta</td>
<td>Protests</td>
</tr>
<tr>
<td>1997</td>
<td>Nov. 25 - Dec. 23</td>
<td>80k</td>
<td>Bayelsa</td>
<td>Protests</td>
</tr>
<tr>
<td>1997</td>
<td>Dec. 13-17</td>
<td>–</td>
<td>Ondo</td>
<td>Hostage-taking</td>
</tr>
<tr>
<td>1998</td>
<td>Jan. 20</td>
<td>18k</td>
<td>Rivers</td>
<td>Protests</td>
</tr>
<tr>
<td>1998</td>
<td>Mar. 10-20</td>
<td>–</td>
<td>Rivers</td>
<td>Occupied facility</td>
</tr>
<tr>
<td>1998</td>
<td>Apr. 12</td>
<td>–</td>
<td>Delta</td>
<td>Protests</td>
</tr>
<tr>
<td>1998</td>
<td>May 25</td>
<td>–</td>
<td>Ondo</td>
<td>Occupied facility</td>
</tr>
<tr>
<td>1998</td>
<td>Jun. 11</td>
<td>–</td>
<td>Bayelsa</td>
<td>Protests</td>
</tr>
<tr>
<td>1998</td>
<td>Jul. 15</td>
<td>400k</td>
<td>Rivers</td>
<td>Protests</td>
</tr>
<tr>
<td>1998</td>
<td>Aug. 11</td>
<td>60k</td>
<td>Rivers</td>
<td>Protests</td>
</tr>
<tr>
<td>1998</td>
<td>Aug. 29</td>
<td>640k</td>
<td>Rivers</td>
<td>Protests</td>
</tr>
<tr>
<td>1998</td>
<td>Oct. 9</td>
<td>–</td>
<td>Bayelsa</td>
<td>Occupied facility</td>
</tr>
<tr>
<td>1998</td>
<td>Oct. 12</td>
<td>510k</td>
<td>Across region</td>
<td>Occupied facility; protests</td>
</tr>
<tr>
<td>1998</td>
<td>Oct. 14</td>
<td>–</td>
<td>Delta</td>
<td>Occupied facility</td>
</tr>
<tr>
<td>1998</td>
<td>Nov. 12-18</td>
<td>–</td>
<td>Delta</td>
<td>Hostage-taking</td>
</tr>
<tr>
<td>1998</td>
<td>Dec. 9</td>
<td>–</td>
<td>Bayelsa</td>
<td>Occupied facility</td>
</tr>
<tr>
<td>1999</td>
<td>Feb. 11</td>
<td>–</td>
<td>Rivers</td>
<td>Occupied facility</td>
</tr>
<tr>
<td>1999</td>
<td>Apr. 17</td>
<td>–</td>
<td>Rivers</td>
<td>Hostage-taking</td>
</tr>
<tr>
<td>1999</td>
<td>Jul. 9</td>
<td>–</td>
<td>Across region</td>
<td>Hostage-taking; occupied facility</td>
</tr>
<tr>
<td>1999</td>
<td>–</td>
<td>–</td>
<td>Rivers</td>
<td>Occupied facility</td>
</tr>
<tr>
<td>1999</td>
<td>Nov. 8</td>
<td>100k</td>
<td>Across region</td>
<td>Local violence</td>
</tr>
<tr>
<td>2000</td>
<td>Mar. 12</td>
<td>–</td>
<td>Bayelsa</td>
<td>Occupied facility</td>
</tr>
<tr>
<td>2000</td>
<td>Jun. 30</td>
<td>–</td>
<td>Rivers</td>
<td>Protests</td>
</tr>
</tbody>
</table>

amines whether the state blames the perpetrators for an interruption to state revenues. In this section, I provide evidence on public statements from the Ijaw organizations arguing their actions interrupt oil production and public statements from Nigerian leaders blaming the same organizations for the interruption to Nigerian revenues from oil production.

**Tactics of interruption.** The first hypothesis, H1, asks whether organizations of people living near major assets in the state took actions that interrupted state revenues from those assets. This section discusses a set of actions that could have interrupted state revenues in Nigeria from
oil revenues. The next section examines the broad impact on state revenues of actions in this period, and the subsequent section examines who took these actions. Beginning in 1997, a set of interruption tactics were employed across the oil-producing states in the Niger Delta (the most in what were then the largest producing states: Bayelsa, Delta, and Rivers). There were four primary tactics, which are illustrated here with representative narratives of the events.

By far the most commonly used tactic was oil facility sabotage, especially pipeline vandalization. In addition to these three types of visible events that took place frequently from 1998 to 2000 (see Table 5.1), perhaps the most damaging was a less visible but even more frequent campaign of oil facility sabotage. The most common tactic was the vandalization of pipelines, for example through puncturing. The details of these events are often difficult to pin down, with the perpetrators having fled before authorities or the oil firm’s investigators arrived. Some incidents certainly reflected technical errors by the oil firms and their employees, yet the number of incidents documented by a variety of sources in government, civil society, and the oil firms suggests a widespread campaign. The Nigerian National Petroleum Corporation reported 58 pipeline vandalizations in 1998 and an explosion to 497 in 1999 and 800 from January to October 2000.

The second tactic was protest, ranging from large demonstrations in the capitals of the oil states to smaller events at oil facilities in remote areas. The series of large protests during this period, coupled with the state’s violent responses to them, created a climate of instability that made travel for oil firm workers impossible across large areas surrounding the unrest, and thus directly led to interruptions of oil production. For example, the protests in Yenagoa in the early days of 1999 launched “Operation Climate Change,” a sustained campaign initiated

---

at the Kaiama meeting of the Ijaw Youth Council. On December 30, “hundreds of Ijaw youths took to the streets of the Bayelsa State capital, Yenagoa, and other communities to implement the Kaiama declaration stipulation that oil companies withdraw immediately from Ijaw territory. The security forces fired into crowds of protesters” (Maier, 2009; 127-8).

Many were also considerably smaller, and took place close to oil facilities. As a result, they often directly interrupted the ability of oil firms to drill for oil or transport it in that area, leading to an interruption of production. For example, in Rivers State, 100 people protested in January 1997 at the Shell-owned Ahia flow station in the community Omudioga. They demanded “socio-economic infrastructure in the community” (Gambo, 2008). They were arrested at the end of the protest by state security forces.

An equally common interruption tactic was the seizure of oil facilities by either peaceful protesters or armed actors, or blockades of access roads or gates to facilities. These at times also involved taking hostages. In a representative incident, 400 people physically occupied the Shell Forcados oil shipping terminal on October 9, 1998, preventing transfers from pipelines into waiting ships. The occupiers demanded payment for an oil spill in January of that year (Gambo, 2008).

Finally, though kidnapping would take hold as a central tactic of organizations in the Niger Delta only later (roughly beginning in 2003), there were numerous incidents of short-term hostage-taking (hours, days, or a week) during this period that halted production in facilities run by the oil firm employee hostages. In one incident, a group of Ijaw men confronted a group of 24 Chevron workers in a remote area near the Benin River at a Chevron-operated pipeline on June 16, 2000. The boats of the Chevron employees were stolen and they were kidnapped.8

---
Together, evidence on the frequency of these three tactics and the resulting disruptions to oil firm operations provide suggestive evidence on H1. Organizations took many, often coordinated, actions in the Niger Delta that interrupted oil production, a key source of state revenues. In the next section I examine the effects of these tactics on state revenues, and in the subsequent section I examine the identities of the organizations that carried out the sabotage, protest, facility seizure, and kidnapping actions.

*The revenue interruption and its magnitude.* H2 suggests that state leaders believe state revenues declined. Collecting direct evidence on this question is a challenge. Yet in this case, that there was an interruption to oil revenues is self-evident from state revenue figures on an *ex-post* basis. Production figures fell dramatically, and I will present evidence that oil firms on numerous occasions in this period suspended deliveries of oil under contracts using the *force majeure* clause and that government figures referred to the interruption frequently. What is less established is who did this, and how.

Based on figures from the Global Dataset of Oil and Gas Production and Exports (Ross, 2013), there was a dramatic reduction of nearly 20% in Nigeria’s daily oil production begin-
ning in April 1998 (see Figure 5.1). Production rates did not recover fully until after 2000, though the dip was most pronounced in 1998 and 1999.

In addition to the observable decline, reports by oil firms of an inability to make deliveries according to the schedules in contracts with buyers increased substantially during this period. This indicates that the decline we see in production did not reflect choices made by firms in response to broader economic forces in the oil market, but rather a local interruption.

Who interrupted. The first hypothesis presented in Table 5.1, H1, is that organizations made up of asset-proximate people are the perpetrators of actions that interrupt state revenues. The preceding two sections examined whether there was interruption of state revenues and the actions that were taken to interrupt them. In this section, I describe the Ijaw organizations that carried out the actions. In the following section, I discuss where members of the groups live in relation to oil production. In the final two sections, I examine the statements of the leaders of the Ijaw organization and state leaders that tie the actions directly to the interruption of state revenues.

Here, I show that two types of organizations publicly organized and participated in the interruption activities. First, civil society organizations largely made up of and led by ethnic Ijaws joined in launching the anti-oil campaign known as “Operation Climate Change.” The most public face of this movement was the Ijaw Youth Council, which organized the meetings in Kaiama in rural Bayelsa State in which top Ijaw leaders signed the Kaiama Declaration. The second set of organizations that used the interruption tactics was a set of nascent armed groups that grew out of local vigilante groups known as ogbos that formed in the mid-1990s in parts of Bayelsa, Rivers, Delta, and Ondo states. These organizations gained financing

---

and weapons during the 1999 election campaign, and also by providing protection to illicit oil theft operations. Their leaders included Government Ekpemupolo, known as Tompolo, and Dokubo-Asari. Three large organizations participated in the early use of these interruption tactics: the Federated Niger Delta Ijaw Communities (FNDIC); the Niger Delta Volunteer Force; and the Egbusu Boys. A variety of smaller organizations also participated. A brief description of the organizations and use of interruption tactics follows:

By far the largest group that participated, and also the most influential, was the Ijaw Youth Council (IYC). The public face of the Ijaw movement in this period, the Ijaw Youth Council was formed in 1998. It held a major summit of the Ijaw ethnic group known as the Ijaw Youth Congress on December 11, 1998. At that meeting, the organization issued demands for the oil firms to leave Ijaw land and to cede ‘resource control’ to Ijaws. The Declaration specified:

“Ijaw youths in all the communities in all Ijaw clans in the Niger Delta will take steps to implement these resolutions beginning from the 30th of December, 1998, as a step towards reclaiming the control of our lives. We, therefore, demand that all oil companies stop all exploration and exploitation activities in the Ijaw area. We are tired of gas flaring; oil spillages, blowouts and being labelled saboteurs and terrorists. It is a case of preparing the noose for our hanging. We reject this labelling [sic]. Hence, we advice all oil companies staff and contractors to withdraw from Ijaw territories by the 30th December, 1998 pending the resolution of the issue of resource ownership and control in the Ijaw area of the Niger Delta.”

When it became clear later in December that these demands were not going to be met, the organization announced at a meeting in Bomadi on December 28 that it would effect its demands through force with a campaign called “Operation Climate Change” in response to “the refusal of the trans-national oil companies and their business partner, the military dictatorship, to enter into dialogue with Ijaw youths” (Ukeje, 2001). A statement issued by IYC leaders Felix Tuodolo, Isaac Osuoka, and Kingley Kuku called for Operation Climate Change to run

10Interview subject P13, leading Ijaw activist
12Interview subject T19, high-ranking Ijaw youth leader
from January 1 to 10.

The campaign began two days early, on December 30, 1998, first with a large public demonstration against oil firms in the capital of Bayelsa State, Yenagoa, and then with a series of other interruption tactics. The protest was met with “a heavy-handed security force response [that] led to confrontations over the next few days between youths and soldiers in Yenagoa and nearby communities that resulted in the deaths of dozens of youths and two or three soldiers” (Human Rights Watch, 1999). At the same time, “the IYC through Operation Climate Change and Operation Warfare, commenced the shut down of oil installations and the resistance against militarization, military attacks and repression in the Niger Delta in 1999” (Ikelegbe, 2006). In particular, members of the organization seized an oil platform and oil company vehicles, shut down flow stations, and kidnapped six Chevron workers after hijacking their boat off the coast.13

The involvement of the Ijaw Youth Council in the interruption campaign remained at the center of the interruption throughout the period before the NDDC law was passed. For example, it threatened in a communique to shut down oil and gas production across Ijawland if the town of Odi was not rebuilt by May 29, 2000 (Ikelegbe, 2006). (The town was destroyed in a state bombing campaign in response to interruption actions carried out allegedly by people living there.)

Two militant groups perpetrated interruption tactics most prominently: the Niger Delta Volunteer Force and the Federated Niger Delta Ijaw Communities (FNDIC).14 A third organization, the Egbusu Boys, also participated. There was only a narrow distinction between the Youth Council and these militant organizations. For example, the leader of the Niger Delta Volunteer Force armed group was also the second IYC president and one of its founders (Camp-

---

13Interview subject T19, high-ranking Ijaw youth leader; Olusunle (2005; 104).
14Interview subject P13, leading Ijaw activist
As another former IYC leader put it: “Leaders move back and forth from one group to another [...] These are all the same groups — the IYC is for intellectuals, others are for militancy.”

Whether the organizations perpetrating the interruption to state revenues are made up of people living near the asset is central to the predictions of the theory of asset proximity. In the case of each of the three major militant organizations in the Niger Delta, two features are notable. First, they were led by overlapping leadership with the main ethnic Ijaw pressure group, the Ijaw Youth Council. In each case, the leaders were prominent Ijaw leaders themselves, and participated in the formation of the Ijaw Youth Council and its Kaiama Declaration of demands for local control of oil revenues. Second, each organization participated in the organized oil production interruption campaign known as Operation Climate Change. Some of the organizations, especially FNDIC, also perpetrated many of the interruption tactics used earlier on. Each organization continued to play a role in the period between the end of Operation Climate Change and the passage of the NDDC legislation.

In what follows, I briefly describe each group and its role in the interruption of state revenues. The first important military group was the Niger Delta Volunteer Force, led by Alhaji Dokubo-Asari. The Volunteer Force was a major perpetrator of interruption tactics, and was directly involved in negotiations with the federal government. In meetings with candidate Obasanjo in January 1999, for example, Dokubo-Asari agreed to a ceasefire of Operation Climate Change in return for promises from Obasanjo about economic development plans he would carry out if elected. (Olusunle, 2005; Ikelegbe, 2006) The organization did not stay neutral, however, and after the promised development legislation was delayed in late 1999 and 2000, the Volunteer Force began participating in interruption activities again. In April 2000, for

---

15Interview subject P13, leading Ijaw activist
example, the organization released a statement reading in part: “we have agreed that oil must stop flowing from the length and breath of the Niger-Delta.”

The Federated Niger Delta Ijaw Communities, led by Chief Government Ekpemupolo, was the second important armed group. Ekpemupolo was a prominent ogbo leader in Delta State before starting FNDIC. The group directly participated in Operation Climate Change, and threatened “to commence full-scale insurrection and asked [multi-national oil companies] and foreigners to leave the region, because of the neglect, impoverishment and harassment of leaders” (Ikelegbe, 2006). The group was also active in 1997 and 1998, before the founding of the IYC and the organized Climate Change actions, including seizing oil facilities in 1997-1998 in areas known as Ogulagha and Forcados (Ikelegbe, 2006). Unlike the Dokubo-Asari, Ekpemupolo did not accept the agreement with candidate Obasanjo on his visit to the Delta in January 1999, a master plan in return for a ceasefire (Ikelegbe, 2006).

The final major group involved in interruption actions was the Egbusu Boys, led by Timi Ogoruba. The organization also directly participated in Operation Climate Change, including in the clashes with military and police in Mbiama, Yenagoa, Kaiama, and elsewhere in Bayelsa State (Ikelegbe, 2006). In particular, the organization “attacked military checkpoints and the military in the streets of Yenagoa, East-West Express Road, Ekeki Yenagoa and Kaiama. The police station at Kaiama and Odi were sacked” (Ikelegbe, 2006; 110).

What local organizations say about the effects of the interruption tactics. Did interruption tactics like protests and sabotage interrupt oil production in this case? Key evidence to answer this comes from whether the perpetrators say their actions interrupted production (hypothesis H3) and whether the state blames the interruption on those actions (hypothesis H4). To understand whether the interruption tactics of the four Ijaw organizations named above led to the large

---

17Interview subject P13, leading Ijaw activist
observed interruption to Nigerian oil revenues, the first source is the Kaiama Declaration that initiated the organized interruption campaign.

The demands in the Kaiama Declaration, which led to Operation Climate Change and a campaign that continued through the passage of the NDDC bill, were explicitly about interruption of the ability of oil firms and the state to produce oil and collect revenues from it. It reads, in part:

“We, therefore, demand that all oil companies stop all exploration and exploitation activities in the Ijaw area. [...] we advice all oil companies staff and contractors to withdraw from Ijaw territories by the 30th December, 1998 pending the resolution of the issue of resource ownership and control in the Ijaw area of the Niger Delta”\(^{18}\)

Further evidence comes from interviews I conducted with a politician from the Niger Delta and a high-ranking Ijaw youth leader. The first said, “If the oil pipelines are vandalized, Nigeria has no means of survival, because unlike most economies that survive from taxation – we get very little money from that. [...] If we don’t have oil money, Nigeria would go broke.”\(^{19}\) On the same question, the Ijaw leader said: “We thought we couldn’t fight the Nigerian state, but we could fight oil.”\(^{20}\) The organized campaign of interruption tactics interrupted oil revenues, and was constructed to do so.

*What the state says about the effects of the interruption tactics.* Similarly, addressing hypothesis H\(_4\), state officials blame the actions of these Ijaw organizations for the interruption to state revenues from oil, both in private and in public. In private meetings with top leaders from the Ijaw Youth Council and armed organizations in June 1999, President Obasanjo drew the connection directly, demanding a halt to the tactics because they interrupted oil production and with it oil revenues.\(^{21}\) A resolution in the House of Representatives to address an oil firm

---


\(^{19}\)Interview subject V\(_5\), federal Senator representing a constituency in a top oil-producing state.

\(^{20}\)Interview subject T\(_{19}\), high-ranking Ijaw youth leader

\(^{21}\)Interview subject P\(_{13}\), leading Ijaw activist; Interview subject T\(_{19}\), high-ranking Ijaw youth leader.
employee hostage situation also blamed the organizations: “That the Federal Government do
liaise with the Oil Companies and take remedial measures to ensure that peace returns to the
Niger-Delta for smooth operation of the Oil Companies pending the implementation of the
Niger-Delta Development budgeted programmes.” The same day, representative Agbeotu
Emibra said, “Since things are coming to a standstill, that is, talking about oil production in the
country, I do support the Motion as amended.”

Are the Ijaw proximate to Nigeria’s oil production? This section has demonstrated that organiza-
tions from the Ijaw ethnic group took actions that interrupted state revenues from oil in Nige-
ria. The final step necessary for evaluating hypothesis H1 is to establish that the organization
that takes actions that interrupt state revenues must be made up of people living proximate
to major assets in the state. Where do the Ijaw live? The description from the Kaiama Declara-
tion above highlighted the fact that Ijaws believe their homeland encompasses important oil
production areas of Nigeria. Figure 5.2 depicts the “homelands” of the Ijaw ethnic group in
the Niger Delta, encompassing large parts of Bayelsa, Delta, and Rivers states. Overlaid on the
homelands are the locations of oil fields. It is clear from the maps that the Ijaw live on land
that encompasses much of Nigeria’s onshore oil assets.

Discussion. The first four hypotheses presented in Table 5.1 ask whether there was an interrup-
tion in oil production in Nigeria caused by organizations made up of people living near oil
infrastructure (H1), whether the state believed oil revenues were interrupted (H2), whether the
perpetrators say they interrupted revenues through their actions (H3), and whether the state
blamed the perpetrators for the interruption (H4). In this section, I showed that there was a
substantial, and undisputed, interruption to oil production in the Niger Delta region between

---
22Hansard, House of Representatives, July 7, 1999. Motion moved by Chibudom N. Nwuche; and seconded by
1998 and 2000. I presented evidence on who interrupted oil production and how and when they did it. I described a set of organizations of members of the Ijaw ethnic group who live across much of Nigeria’s oil producing land. I showed that they used a set of tactics during the period between 1998 and 2000 including violent attacks and seizures of oil facilities; kidnapping of oil employees; and protests in oil region cities and at oil facilities. Each of these actions could and in many cases did lead to the interruption of oil production either by directly interrupting oil extraction or pipeline operations or by creating an insecure climate impossible for oil firms to operate in. I showed that the use of these tactics coincides with the period of time when the observed interruption to Nigeria’s oil production took place. The interruptions began in 1997 and became more organized in the middle of 1998, just when the observed shortfall in the country’s oil production took place. Finally, I showed that the Ijaw live on land that
encompasses much of Nigeria’s onshore oil assets.

In addition to the evidence about the who, how, and when of the interruption, I presented evidence that the Ijaw organizations carrying out these tactics claimed that the tactics interrupted oil production and that the state publicly blamed the Ijaw organizations for the interruptions. These last two sets of evidence are particularly probative against the claims that it was violence or protests that were the aim of the Ijaw organizations or that violence and protests were what drew the state’s attention to issues in the Niger Delta.

4. Outcome: creation of the Niger Delta Development Commission

In this section, I present evidence on the timing of state actions responding to the oil production interruption actions of Ijaw organizations in the Niger Delta. For the two to be linked, hypothesis H5 tests whether state actions in response to a state revenue interruption occur after the interruption, and whether they are closely temporally linked. Here, I examine the timing of actions by Nigerian state leaders and show that they indeed follow the major interruption of state revenues from oil that are documented in the last section. Further evidence on the close temporal link between interruption and state action is documented in the narrative section.

The chief policy change by Nigerian leaders linked to the interruption of state oil revenues was the creation of the Niger Delta Development Commission in 2000. This happened in two successive waves of state action: first, the president brought a bill, the second of his presidency, to create a prominent new federal institution to address the development needs of a small minority group. Second, the National Assembly eventually passed the bill, and indeed strengthened it by funding it in addition to the new constitutionally-mandated 13% derivation funds the president had allotted for the new agency.
Oil revenue sharing in Nigeria. In this section, I describe the origins of revenue sharing arrangements in Nigeria in order to establish the status quo policy before the creation of the Niger Delta Development Commission. The Nigerian system of regional fiscal federalism was born as part of the effort to centralize the two British protectorates in 1914 to take advantage of economies of scale in governing the two bordering colonies. The British Governor-General administered the protectorates jointly, with a lieutenant governor managing the fiscal affairs of each unit separately. The northern protectorate held little revenue generation capability of its own, however, and was largely sustained through grants from London (Nwokedi, 2003). The southern zone, however, produced substantial revenue, which was used to offset the losses of its northern neighbor after the amalgamation of the two in 1914. Since 1946, legislated formulae have determined how revenues are shared both vertically between the center and regional governments as well as horizontally across regional units are allocated (Suberu, 2001).

Oil was discovered in the Niger Delta region in June 1956, four years before the end of British colonial administration. The first oil was drawn from the Oloibiri field deep in the creeks of Bayelsa State by the local affiliate of Shell in 1958, and a law was passed to distribute the proceeds (Steyn, 2009). Half of revenues collected from oil were retained by producing states (a “derivation” payment meant to compensate the government on whose territory the oil was derived), which in the beginning only included Bayelsa State. Later, Akwa Ibom, Delta, and Rivers became major producers and began to draw derivation payments. The rest was divided between the federal government (40%) and state governments including the Delta states according to size and need (60%). This formula remained in place through independence from Britain, but was turned upside down after the coup in 1966 by northern Nigerian generals, which led to a northern-dominated junta from 1966 to 1979. In 1968, the formula changed such that less than 2% of revenues produced in states was retained there and of the remainder, 80%
retention at the center, 20% percent to the states. This remained roughly constant until the 1999 constitution was enacted. However, this _de jure_ formula was routinely ignored, with the center retaining more than its share of revenues in the joint account.\(^{24}\)

The federal government has been responsible for collecting the largest sources of government revenue, including import and export levies, business taxes, and mineral taxes — and oil revenues. These revenues first flow to the central “federation account,” in which revenues collected by the federal government are pooled before distribution vertically to state and local governments (Suberu, 2001). Oil revenues in particular come into the federation account through the Nigerian National Petroleum Corporation, which controls large shares of a set of joint ventures between the Nigerian government and oil exploration and production firms.

In the 1999 constitution, as discussed in Chapter 2, there was a return to derivation payments made to states where oil was drilled. 13% of net oil revenues were mandated to be returned in proportion to the each state’s contribution. This meant, early on, that Bayelsa, Delta, and Rivers states were the primary beneficiaries. However, when Obasanjo took office, he refused to make payments of the derivation funds. Indeed, these funds did not start in full each month until after the NDDC bill was passed in 2000. As a result, in this period, an interruption to oil revenues was most heavily felt in the federal budget, from which the 13% was largely meant to be taken.\(^{25}\)

The impact of a shortfall in oil revenues was substantial in this period: oil revenues made up 70 percent of total Nigerian government revenues.\(^{26}\)

_The new agency._ The outcome I aim to explain in this chapter is state policy _change_ and this implies a comparison to the status quo. In this section, I describe the policy as adopted in July

---

\(^{24}\)This account draws on discussions of revenue sharing provisions at several points in time in Elaigwu (2008); Ojo (2010); Suberu (2001).


\(^{26}\)“Nigeria.” Natural Resources Governance Institute country profiles.
2000, how it differed from existing development policies for the Niger Delta, and how it differs from policies for development for other regions in Nigeria. The Niger Delta Development Commission is an economic development agency working in nine Niger Delta states (Abia, Akwa Ibom, Cross River, Bayelsa, Delta, Edo, Imo, Ondo, and Rivers) with offices in each state and it is headquartered in Port Harcourt. Its mission is to “conceive, plan and implement... projects and programmes for the sustainable development of the Niger-Delta area” in sectors from agriculture to transportation (National Assembly of the Federal Republic of Nigeria, 2000). Its budget in the years following its creation was large, a total of 1.62 billion USD between 2000 and 2006 (Obi and Rustad, 2011; 39). The commission is funded by a combination of contributions from the federal government and oil companies: 15 percent of the allocation is due to the member states of the commission under the “derivation principle” of revenue allocation; 3 percent of the total annual budget of any oil company operating in the Niger Delta; and 50 percent of funds due to the member states from the ecological fund, a separate federal fund set up for the remedy of ecological problems caused by oil production (National Assembly of the Federal Republic of Nigeria, 2000). The NDDC replaced the Oil Mineral Producing Area Development Commission (OMPRADEC) was established in 1992 with a similar mission.

The NDDC’s budget was large compared to previous spending on economic development in the Niger Delta. OMPADEC was allocated approximately $95 million annually (Okonta and Douglas, 2003; 33). OMPADEC was funded by 3 per cent of federal oil revenues (Obi and Rustad, 2011). The NDDC budget nearly trebled the federal development spending allocation for the Niger Delta region (Ikein, Alamieyeseigha and Azaiki, 2008; 436, Table 1). It not only increased spending compared to previous spending on economic development for the region, but it dwarfed regionally based development spending for other regions. Regional spending is primarily through state and local governments (few large programs are federal). Fiscal fed-
eralism payments to states and local governments are, in law, based primarily on population size, poverty incidence, land area, and a principle of equality (equal spending across states) that mean by and large at least officially spending is largely equal on those dimensions. After 1999, spending also takes into account oil production (13% of net revenues are sent to Niger Delta states).

The timing of formal presidential action on the NDDC bill. The temporal connection between the interruption to state revenues and state policy changes is important to establish a causal connection. It must be the case that the policy changes follow the interruption (hypothesis H5). Indeed, the formal announcement of the creation of the NDDC followed closely several major interruption actions, notably Operation Climate Change, which began on 30 December 1998. President Olusegun Obasanjo took office on 29 May 1999. He announced little over two weeks later, on 14 June 1999, that he would establish an independent “Niger Delta Commission” to oversee development needs in the region. Less than a month later, he sent a bill – his second legislative proposal, after an anti-corruption bill – to the National Assembly to create the Niger Delta Development Commission. It was formally presented 10 and 12 days later to the House of Representatives and the Senate, respectively. In the narrative below, I describe in detail the timing of negotiations, speeches, and other action by Obasanjo that led to the 29 May announcement and the drafting of the bill. This will build evidence on the intermediate links connecting the interruption to state revenues and the ultimate passage of the NDDC bill.

The timing of debate and passage of the NDDC bill by the National Assembly. Parliamentary action on the president’s proposed bill also followed the major interruption actions. The first sitting of the National Assembly was on 3 June 1999 (Jokosenumi et al., 1999; 212), and after the pres-
ident forwarded the NDDC bill it was presented and its formal first reading in the House of Representatives was on 3 August 1999. After the first reading, there was a substantial delay in the legislative action on the bill, which is described further in the narrative. It was not until 1 June 2000, nearly a year later, that the bill was passed by the House (National Assembly of the Federal Republic of Nigeria, 2000) and not until 6 June that it was passed in the Senate. The President refused to sign the bill in June 2000, but did not explicitly veto it. His objections, described in further detail in the narrative, were over amendments to the bill made by the National Assembly on the mechanisms for funding it and appointing commissioners to it. Following a constitutionally mandated 30-day waiting period for a response from the president, there was a vote to pass the bill over the president’s effective veto. This vote required a two-thirds majority in both houses. On 7 July 2000, the act was passed by both houses. It was signed by the Speaker of the House on 11 July 2000 and after the President of the Senate signed it the next day (Oluduro, 2012) it came into force (National Assembly of the Federal Republic of Nigeria, 2000).

Discussion. The purpose of this section, in addition to describing changes in the outcome under study, is to evaluate whether the state responses (the creation of the NDDC bill) took place after the interruption of oil production in Nigeria, as predicted in hypothesis H5. There are two key outcomes: first, that the president introduced a bill to create the NDDC, and second, that the bill was passed by the National Assembly. This section documents that the bill was signed by the Speaker of the House on 11 July 2000 and after the President of the Senate signed it the next day (Oluduro, 2012) it came into force (National Assembly of the Federal Republic of Nigeria, 2000).

---

32 The Constitution of 1999 Part II Section 58 (4)-(5) reads: “(4) Where a bill is presented to the President for assent, he shall within thirty days thereof signify that he assents or that he withholds assent. (5) Where the President withholds his assent and the bill is again passed by each House by two-thirds majority, the bill shall become law and the assent of the President shall not be required.”
first introduced by the president in early July 1999, just weeks into his presidency and that, following nearly twelve months of debate, the bill was passed by the National Assembly in early July 2000. Based on the timing of the interruption of oil production documented in Section 3, it is clear that each event took place after many large interruption events took place — and that the interruption continued throughout the debate in the National Assembly until the passage of the NDDC bill. I claim that this evidence passes the hoop test (Van Evera, 1997) for a causal relationship between the two — the outcome must have taken place after the interruption, but this evidence is not decisive in favor of a causal connection between the two.

5. Narrative

This section provides evidence of the causal connection between the interruption of oil production by groups living in the Niger Delta and the creation of the Niger Delta Development Commission by the state. The narrative that follows traces directly from the local interruptions of specific actors who live there all the way to the private meeting in Port Harcourt in which presidential candidate Olusegun Obasanjo first promised the creation of the Commission and ultimately to the tabling and passage of legislation that founded the Commission.

The core of the narrative is illustrated in the timeline in Figure 5.1. The series of interruption actions (first panel, top) carried out by Ijaw groups included sabotage, facility seizures, kidnappings, and protests and also the organized, large-scale Operation Climate Change campaign (evidence on H1). These events, I will argue, caused presidential candidate and then president Obasanjo to sit for a series of meetings with Ijaw leaders (second panel) beginning days after the initiation of Operation Climate Change (H5). During these meetings, Obasanjo negotiated state policy changes in return for an end to the interruption campaign. These meetings, the narrative will argue, led directly to the policy proposal announced in Obasanjo’s inau-
Operation Climate Change aimed to cause oil companies to 'withdraw' and 'stop all exploration and exploitation activities in the Ijaw area.' Ijaw organization threats: 'oil must stop flowing from the length and breadth of the Niger-Delta.'

Ijaw leader: '[We] shut down flow stations. This caused them to say we need concessions.' Obasanjo promises development 'master plan' in return for interruption halt.

Ijaw demand follow-through on promise of NDDC.

Obasanjo inauguration speech ties NDDC to 'crisis in the oil producing areas.' Niger Delta commission announced, Obasanjo warns of 'danger of having anarchy being unleashed by our youths'. NDDC sent to National Assembly.

National Assembly debate on 'urgent actions to assuage the youths' so they will 'allow these Companies to operate' First reading of NDDC bill.

NDDC bill passed.

Figure 5.1: Timeline of the Narrative from the Interruption of State Revenues to State Policy Changes in the Niger Delta, 1998 to 2001.

guration speech, which was submitted as legislation to the National Assembly soon after (third panel). Indeed, the policy changes he proposed in the initial meetings with Ijaw leaders — a "master plan" for development in the Niger Delta, and a development commission to develop and implement the plan — were the core of the legislation (H5). The proposal then stalled in the National Assembly, reflecting a dispute between executive and legislative leaders. In this period, from mid-1999 to mid-2000, interruptions actions continued and reached a climax with threats from Ijaw leaders that the organized interruption campaign would resume (top panel). These further interruption actions, and threatened actions, led to the quick passage over the
president’s veto of the development commission legislation (third panel; H5). As illustrated from quotations from participants at each stage, perpetrators tied their actions to the interruption of state revenues and their demands for policy change (H3, H6), and the state responded for the stated purpose of ending it (H7).

The narrative begins before these events, exploring in detail the genesis of the Ijaw movement, whose members perpetrated the interruption of oil revenues.

The beginning: Youths Earnestly Ask for Abacha and Ijaw-Itsekiri conflict in Warri. This first section of the narrative aims to establish the timing of the very beginning of the oil production interruption campaign in the Niger Delta. This is traced, first, to the conflict in Delta State in March 1997 between the Ijaws and two smaller ethnic groups living next to each other: the Urhobos and the Itsekiris. Interruption activities began shortly thereafter, as documented in Section 3. The second event, a march in Abuja, catalyzed Ijaw grievances against the state.

Ijaw activists first formed the organizations that would later interrupt oil production in as result of a conflict with two other ethnic groups, the Urhobos and Itsekiris. This began a year before the Youths Earnestly Ask for Abacha rallies, in March 1997. The dispute was over the borders and composition of local government areas, the lowest of three levels of government in Nigeria. In some accounts, the conflict turned violent when the military governor of Delta State, of which Warri is the largest city, switched the capital of one local government from an Ijaw town (Ogbe-ijoh) to an Itsekiri town (Ogidigben) (Maier, 2009; 126). This dispute was not unrelated to oil; the local governments were important because they were key recipients of inter-governmental fiscal transfers derived in large part from oil revenues.

In response to this conflict, a set of self-protection groups known as ogbos formed in Ijaw-dominated areas across much of the Niger Delta. The organizations “provided protection for communities against Itsekiris and oil companies,” and formed in most Ijaw areas except Rivers
These self-protection groups would be the source both of the armed groups that would directly carry out interruption actions against oil production and of the activist groups that organized the Ijaws more broadly, as described later.

Many activists and political figures trace the founding moment of the wave of violence in the Niger Delta between 1998 and 2000 to a two-million man march in Abuja organized by “crony organizations” of military head of state Sani Abacha (in office from November 1993 until his death in June 1998). The two main organizations, Youths Earnestly Ask for Abacha and the Youth Movement of Nigeria, aimed to construct the popular perception that Abacha held grassroots support in his bid to become civilian president after a planned regime change (Oriola, 2013). The organizations “mobilized youths from all over the federation to attend the event through generous funding from the government. Participants received cash gifts for their efforts. Several buses were hired to convey participants to Abuja. Among those youths were individuals from the oil-rich Niger Delta” (Oriola, 2013; 79).

The event, on 28 March 1998, ignited grievances among Niger Delta activists who attended the rally over underdevelopment of their home region in the face of state wealth in the capital — derived from Niger Delta oil. This feeling was illustrated in a widely circulated (possibly apocryphal) quotation from an attendee of the rally, who said in Pidgin English, “Na our money make Abuja fine,” meaning that Niger Delta oil money financed state wealth.

The organization of ethnic Ijaws. Following events including Youths Earnestly Ask for Abacha and sporadic Ijaw-Itsekiri conflicts, disparate Ijaw ethnic group organizations began to move toward centralization and to develop plans to make demands of the federal government over the use of funds from oil and gas drilled from Ijaw lands. The Ijaw National Congress, an orga-
nization founded in 1991 (Human Rights Watch, 1999), issued a series of requests to negotiate with the federal government following the death of military head of state Sani Abacha in June 1998. These included letters sent beginning in June 1998 to the military head of state, Abdulsalami Abubakar (29 June); to National Security Adviser Abdulsalam Muhammed (2 July; 24 July); to military Chief of General Staff Mike Akhigbe (10 August); and to several oil firms (September 1998). None responded, except Muhammed, who wrote that the government was already addressing Ijaw demands (Ibaba, 2011). Joshua Fumudoh, former president of the INC, characterized the demands this way: the INC believes that, “[t]he only Panacea for continued peaceful coexistence in this country is for each ethnic nationality to have meaningful control over its own environment and resources, and to use them for self-development in accordance with each nationality’s aspirations and desires.” (Ibaba, 2011: 72).

It was following the government’s universal non-response to these demands over the months of June to September 1998 that Ijaw organizations began to coalesce around an action plan. The leaders of the ogbo organizations that formed in response to Ijaw-Itsekiri and Urhobo conflict in 1997 met and planned to form a new organization, the Ijaw Youth Council, and to host a meeting of Ijaw leaders from across the Niger Delta to be called the All Ijaws Youth Conference. At the “All Ijaws Youth Conference, everyone who attended came from the Ogbos.” This was “not reflected in Kaiama Declaration because they had a bad name.”

Early state responses before Obasanjo’s inauguration. The first responses to the interruption tactics was a set of military campaigns in each of the three top oil-producing states that were designed to identify and arrest the perpetrators. Operation Salvage took place in Bayelsa State in August 1997, and Operation Flush was set up by the military administrator of Rivers State at the same time. In April 1998, the military administrator of Delta State initiated a similar

---

37Interview subject P13, leading Ijaw activist
operation (Okonta and Douglas, 2003).

These military responses were unsuccessful in ending the interruption campaign, so the state switched tactics toward negotiation over revenue distribution shortly after a new leader took over. Abdulsalami Abubakar became military Head of State following the June 1998 death of Sani Abacha. He launched the new state response to the interruptions in a speech in September, which both foreshadowed reforms to the regional development authority of the Niger Delta (OMPADEC, the predecessor to the NDDC created under Obasanjo) and pointed directly to the interruption actions as the cause of the government’s response. He said:

“We are disturbed by the current rate of disruptions of the operations of the oil companies. These have degenerated to kidnapping, extortion and willful damage to pipelines and facilities. However, we are sensitive to the agitation of the inhabitants of the oil-producing areas for a better standard of living. The Chief of Air-Staff, and a member of the [Provisional Ruling Council], Air Vice-Marshal Nsikak Eduok, is the chairman of a committee established to reorganise OMPADEC. [...] The new OMPADEC will be adequately funded to provide much-needed basic facilities to the oil-producing communities. In the meantime, we appeal [...] to the communities to cooperate with the oil companies and government to improve the living conditions of the people. Government will not tolerate any acts of lawlessness by youths and others in these areas.”38

The All Ijaws Youth Conference and the Kaiama Declaration. The Kaiama Declaration was the public airing of grievances and call to action for Ijaws that followed months of organization by Ijaw leaders and inaction by state leaders. The statement was published following the All Ijaws Youth Conference, during which a large group of Ijaws met in the small river town of Kaiama in rural Bayelsa State on December 11, 1998, a location nearly at the center of the core oil-producing states of Delta, Bayelsa, and Rivers. The leaders of the newly created Ijaw Youth Council issued the Declaration:

“We, Ijaw youths drawn from over five hundred communities from over 40 clans that make up the Ijaw nation and representing 25 representative organisations met,

today, in Kaiama to deliberate on the best way to ensure the continuous survival of the indigenous peoples of the Ijaw ethnic nationality of the Niger Delta within the Nigerian state."\(^{39}\)

The Ijaw youths put forward a claim against the state and oil firms primarily on the grounds of justice. They wrote that the “quality of life of Ijaw people is deteriorating as a result of utter neglect, suppression and marginalisation visited on Ijaws by the alliance of the Nigerian state and transnational oil companies.”\(^{40}\) The main demands were for local “resource control” – retaining revenues from oil extracted from Ijaw land – and for environmental cleanup, a frame designed to mimic the successful mobilization of international environmental activists by Ken Saro-Wiwa.

The importance of the Conference and the Declaration in this period of the conflict in the Niger Delta cannot be overstated. The Conference served to bring together the disparate organizations representing Ijaw interests before it and catalyzed the creation of the organizations conducting interruption actions in 1997 and 1998. Moreover, the deliberations at the Conference set in motion the organized campaign of oil production interruption in the two years that followed.

*Operation Climate Change and the formation of Ijaw armed organizations.* In this section, I describe the timing of the first large-scale interruption activities perpetrated by Ijaw organizations following the Kaiama Declaration. The campaign, known as Operation Climate Change, is the first event described in the timeline in Figure 5.1, that I will argue began the cascade of state responses that culminated in the creation of the NDDC. However, these were not the first interruption actions, which began in 1997 and were carried out by local *ogho* self-protection groups.

Here, I provide further evidence in support of hypothesis H\(_1\), on the identity of the organi-

---


zations perpetrating interruption actions and for H5, on the timing of interruption actions. I also the explicit rationales of the group leaders in order to evaluate hypothesis H6, which asks whether the perpetrators of revenue interruptions say that interruption actions were for the purpose of interrupting state revenues in order to pressure the state to make concessions. The identities and leadership of these armed organizations were described in detail in Section 3.

The latter half of 1998, and especially the months after the All Ijaws Youth Conference, saw the formation of numerous organizations formed of Ijaws and smaller allied ethnic groups, including the Ikwerre Youth Movement, the Isoko National Youth Movement, the Movement for the Survival of Izon Nationality, the Niger Delta Oil Producing Communities Association, the Bayelsa Youths Federation for Nigeria, the Movement for the Survival of Itsekiri Ethnic Nationality, and the Urhobo Youth Movement (formed in 1999). In addition, “at least 20 other militant groups were formed after the declaration” (Oriola, 2013; 73), including the major organizations discussed in detail in Section 3.

There was little distinction between the leaders of the armed and unarmed wings of the Ijaw organizations, though publicly the organizations remained distinct. “Leaders move back and forth from one group to the other, e.g. Asari was 2nd IYC President. These are all the same groups. The IYC is for intellectuals; others are for militancy. [...] Tom Polo was major Ogbo leader in western Ijawland from the beginning.”

In addition to this wave of organization, a key enabling factor for the interruption actions including Operation Climate Change was an influx of cash and weapons from the 1998-99 election campaign, the first election following a transition to democracy. The other source of cash was the provision of security for illicit oil theft operations (“bunkering”) – “these Ijaw activists start making small money guiding these bunkerers around” since the time of military head of

41This list is compiled from a variety of sources, especially Ikelegbe (2001).
42Interview subject P13, leading Ijaw activist
state Babangida’s regime but lasting through the current president in 1998, Abubakar.\textsuperscript{43} This funding source continued.

The first public actions of these organizations were presaged in the Kaiama Declaration itself. In the document, Ijaw leaders demanded that oil firms end exploration and production of oil and gas on Ijaw lands by the deadline of December 30, 1998. They promised that “Ijaw youths...will take steps to implement these resolutions” if the deadline were not met.\textsuperscript{44} These steps became what the organization called “Operation Climate Change,” a series of coordinated actions to interrupt oil exploration and production in the Ijaw homeland.

On the day of the deadline, the organized interruption campaign began. “Violence erupted on December 30, when hundreds of Ijaw youths took to the streets of the Bayelsa state capital, Yenagoa, and other communities to implement the Kaiama declaration stipulation that oil companies withdraw immediately from Ijaw territory. The security forces fired into crowds of protesters. In a week of violence, dozens of people were killed. The state administrator...imposed a one-week state of emergency in Bayelsa. In Kaiama the security forces engaged in running battles with the youths, taking time out for an occasional looting spree...” (Maier, 2009; 127-8)

The events are described in further detail in Section 3.

Importantly, though the unification and organization of Ijaw efforts at the All Ijaws Youth Congress led to the coordinated, visible actions of Operation Climate Change, it was not the beginning of them. As the Kaiama resolution suggests, the ongoing efforts of the Ijaws to interrupt oil production in 1997 and especially 1998 led Ijaws to be “labelled saboteurs and terrorists,” and this constituted “a case of preparing the noose for our hanging.”\textsuperscript{45}

Why did the newly organized Ijaw decide to rely on interrupting oil production as its chief tactic for pressing demands for development? First, they were faced with the specter of what

\begin{footnotesize}
\begin{itemize}
  \item \textsuperscript{43}Interview subject P13, leading Ijaw activist
  \item \textsuperscript{44}Ijaw Youth Council. 1999. “Kaiama Declaration.” December 11.
  \item \textsuperscript{45}Ijaw Youth Council. 1999. “Kaiama Declaration.” December 11.
\end{itemize}
\end{footnotesize}
some saw as the failure of Ken Saro-Wiwa’s peaceful actions in the early 1990s to effect change for Niger Delta groups. Yet violence against the state itself and its military was not an option. As one leading Ijaw youth leader put it, “We thought we couldn’t fight the Nigerian state, but we could fight oil.”\textsuperscript{46} The result was a rise in the use of tactics for interrupting oil production by ogbos in 1997. These groups were formed following a flareup of conflict in Warri. The tactics came into particularly widespread use after the Youths Earnestly Ask for Abacha march. These culminated in the public, large-scale actions of Operation Climate Change.

*How the state learned of the interruption to state revenues.* This section develops further evidence in support of hypothesis H\textsubscript{2}, which examines whether the state believed its revenues had declined due to the interruption campaign. If the state had not believed revenues fell in response to an interruption event, it would have been unlikely to respond. The Nigerian state does not have an immediate way to assess the effects of changes in oil production on its revenues. First, there is a time delay between when oil is drilled and when cash enters the federation account. Oil is drilled, transported through pipelines, and piped onto ships at the several terminals in the Niger Delta. It is then sold on the international market, and funds are transferred to the federal government following a revenue sharing calculation net of costs between the state and the oil firm.

Moreover, state leaders did not have a direct way of learning the aggregate impact of interruption events on production, because the state lacked an independent metering system for well-level production or the rate of flow through pipelines.\textsuperscript{47} Only the oil firms themselves had an accounting of the impact of interruption activities. Federal government officials learned on a monthly basis how much the oil firms would pay into the Federation Account through the

\begin{footnotesize}
\textsuperscript{46}Interview subject T\textsubscript{19}, high-ranking Ijaw youth leader

\textsuperscript{47}Interview subject Q\textsubscript{41}, senior official of the Department of Petroleum Resources, the Nigerian petroleum sector regulator; Interview subject G\textsubscript{10}, high-ranking official in the presidency on the petroleum sector
\end{footnotesize}
NNPC, and likely on a more frequent basis from communications from the oil firms. These communications were eased by the fact that, at the executive level, there is a revolving door between oil firms and government regulators in the NNPC, the Department of Petroleum Resources, and in the presidency (Obi, 2010; 446).

When did state leaders begin to take the actions of Niger Delta armed groups seriously as a threat to state revenues? Law enforcement and state intelligence services learned about events such as facility seizures, kidnappings, and protests directly, and they learned about other events indirectly from oil firm incident reports shared with government officials. Two events in particular caught the attention of state leaders in late 1998 before Operation Climate Change. First, Ijaw organizations kidnapped seven police officers and then, later, ogbos kidnapped several Chevron employees and their helicopter. These two visible events were the beginning of state interest in the Ijaw movement. As an Ijaw activist put it, “This is when, after these two events, that the federal government started to take Ijaw activists seriously.” In part, this was because it was then that the government took note that “people with masters degrees are working in this movement.”

In subsequent sections, evidence from the statements of state leaders including from the presidency and parliament make clear that news of these interruption events and their connection to levels of oil production was making it to the highest levels of government. Given the high proportion of state revenues coming from oil production in the Niger Delta, any changes in production led to meaningful changes to state coffers.

A direct example of this from military head of state Abubakar followed the first days of Operation Climate Change. Abubakar repeated rhetoric that connected state responses to the interruption of oil production. He demanded a halt to interruption actions by Ijaw groups and

---

48Interview subject P13, leading Ijaw activist
linked them directly to the interruption of oil production. He said on New Year’s Day 1999 that,

“this administration is [...] aware of the dissatisfaction among certain segments of our population arising from certain government actions or inactions in the past. [...] Genuine as such grievances may be, we cannot allow the continued reckless expression of such feelings. The development in the oil producing areas of the Niger Delta are a case in point. [...] this administration notes with great displeasure the disruptions of the activities of oil companies and private enterprises by rampaging youth. Seizure of oil wells, rigs, and platforms as well as hostage-taking and vehicular hijacking, all in the name of expressing grievances are totally unacceptable to this administration.”

State responses to Ijaw organization. State leaders responded with action as well as rhetoric to the interruption events of Operation Climate Change. Abubakar formed a blue-ribbon commission known as the Popoola Panel on 3 March 1999 (Human Rights Watch, 1999), just over two months after the start of the new organized interruption campaign. The panel held its sole meeting in Port Harcourt on 4 April 1999. The goal of the commission was “to examine the problem of the Niger Delta and advise government on the developmental needs of the area” (Azaiki, 2008). Given that Obasanjo was about to be inaugurated, Abubakar took no action in response to the Popoola Panel. The panel nonetheless provides important support for hypothesis H5, that state actions in response to interruptions occurred after and were closely temporally linked to the interruption events. The Popoola Panel was clearly linked to Operation Climate Change, based on Abubakar’s 1 January 1999 speech.

The 1999 election campaign. As the state under Abubakar began its response to the oil production interruptions in 1998, candidates vied for office in the first election after the return to democracy. This section provides a narrative of the concurrent oil production interruption and campaign for president. In doing so, I provide evidence on hypothesis H4, that the state

49Text of budget address delivered by Head of State Abdulsalami A. Abubakar to the National Assembly, January 1, 1999.
blames Ijaw organizations for the interruption of oil production; on H5, that state actions were closely temporally linked to the interruption of oil production; on H6, that perpetrators said the interruption actions were for the purpose of pressuring the state to respond with policy changes; and H7, that the state told perpetrators it would make concessions in return for an end to the interruption of revenues. The state actions in this case are promised — presidential candidate Obasanjo negotiated for an end to interruption actions in return for promises to change state development policy toward the Niger Delta when (and if) he assumed the presidency.

From the beginning, the Niger Delta featured prominently in the campaign of the eventual victor, Olusegun Obasanjo, a former military head of state. In a tour before local government elections that were held on December 8, 1998, Obasanjo’s first stop was Port Harcourt, the largest city of the Niger Delta, on November 29, 1998. He addressed a group of top PDP officials from across the Niger Delta (Olusunle, 2005). These campaign stops took place as leading Ijaw leaders were formalizing their organizations and preparing to issue the Kaiama Declaration.

Obasanjo played a central role in early negotiations with Ijaw leaders, before he was elected. Days after the initiation of Operation Climate Change and Abubakar’s speech denouncing it, Obasanjo traveled to Benin City, in Edo State at the edge of the Niger Delta, on January, 3, 1999. He met there with representatives from many of the organizations that formed following the Kaiama Declaration, including the Niger Delta Oil Producing Communities Development Association and including people from Bomadi, Patani, Port Harcourt, and Yenagoa according to his traveling spokesman (Olusunle, 2005). This meeting is the first of a set of state responses that, I will argue, ultimately led to the creation of the NDDC (see Figure 5.1 for a timeline of the connections between interruption actions and state responses).
Obasanjo was a player in early negotiations with Ijaw groups not only because he was a frontrunner in the presidential campaign. He played a direct role in Niger Delta policy as military head of state, passing a law known as the Land Use Decree which many believed “had robbed them of their oil” (Iliffe, 2011; 187). One Ijaw leader said to Obasanjo in the meeting: “Sir, the problem we have in the Niger-Delta was caused by you, when you were the Commander-in-Chief of this country. The Land Use Decree which you introduced made us slaves to the Federal Government and to the oil companies ... In Nigeria, because of your Land Use Decree, Niger-Delta people are the poorest.” (Olusunle, 2005; 104) In public in this meeting, he made the first offer to negotiate for state policy changes. He said, “from the beginning of our own federal system, mineral rights have been the responsibility of the federal government. If you want us to change that, that is a different thing.” (Olusunle, 2005; 105) At the same time, he called for an end to the interruption actions.

The two sides agreed to a ceasefire at the meeting, according to the President’s traveling spokesperson and Ijaw leaders who attended.50 The spokesperson wrote in an account of the meeting that “Obasanjo did extract the commitment of the youths to lay down arms. They agreed to cease-fire following Obasanjo’s plea. At least until May 1999 when he was to assume office as the President and articulates a new policy direction for the Niger-Delta” (Olusunle, 2005; 105). The timing and content of the meeting and the agreement struck between the two sides is key evidence for hypothesis H7, that the state tells perpetrators privately that it is making concessions in return for an end to the interruption of its revenues, as well as H5 on the close temporal link between state policy changes and interruption actions.

A high-ranking Ijaw youth leader drew the connection between the interruption actions of Operation Climate Change and Obasanjo’s offer of changes to state policy toward the Niger

50Interview subject T19, high-ranking Ijaw youth leader
Delta. He said, describing why Obasanjo made promises at this January 3 meeting: “First, after Kaiama, we were sufficiently networked to Amnesty and Greenpeace from Saro-Wiwa. They endorsed the statement. Second, Operation Climate Change. On the 11th, we issued a document [...] that launched operation climate change and national mobile parliament. Then [we] took over oil platform and oil company vehicles for mobile parliament. [...] [We] shut down flow stations. This caused them to say we need concessions.”

Obasanjo then campaigned in January across the Delta, including in Port Harcourt, Uyo, Calabar, and Yenagoa. The promises he made at the January 3, 1999, meeting became a central part of his stump speech in the region. For example, he held a meeting of the national party in Yenagoa on January 28 where he “bemoaned the near-absolute neglect of the oil producing communities in the country” (Olusunle, 2005; 105) and told an audience including top Bayelsa State leaders that “Yenagoa, as capital of a state which produces a very substantial percentage of Nigeria’s wealth, deserves a much fairer deal from the Federal Republic of Nigeria. Within the first few years of my tenure, I will make sure that Yenagoa competes favourably in terms of infrastructure with any other state capital in the country” (Olusunle, 2005; 106). In another campaign rally, in Uyo on January 30, he said that it is “inhuman to assume that those areas where such minerals are located deserve no special attention... The goose that lays the golden egg is in the Niger-Delta of Nigeria, but the benefits of the golden egg are not enjoyed to a large extent in the Niger-Delta areas. That is both an issue of development and justice...” (Olusunle, 2005; 106). Speaking in Uyo, Obasanjo said, “There is no master plan for the Niger-Delta areas which should be the beginning of the comprehensive development of the area. When you have that, you can decide to carry out developmental projects based on the plan before you” (Olusunle, 2005; 156).

51Interview subject T19, high-ranking Ijaw youth leader
The promises Obasanjo made during campaign rallies and private meetings echoed throughout the interruption campaign that continued until state policy changes were formalized in legislation in 2000. In a statement demanding speedy passage of the Niger Delta Development Commission bill in 2000, Ijaw leaders from Niger Delta Izon Youths reminded him of “promises he made during his campaign tours that his administration would open a floodgate of development in the Niger Delta region.”52

Leaders of the armed organizations described in Section 3 were centrally involved in the 1999 campaign for local, state, and federal offices in the Niger Delta. In Rivers State, Ateke Tom was an important armed organization leader and was contracted to deliver the election for the People’s Democratic Party (PDP), the party of Obasanjo. In an interview, a Port Harcourt gang leader said, “In 1999 and 2003, [Rivers State Governor] Odili called us and told us we should work for him. He called other faction leaders of different groups in Port Harcourt. ...They gave some groups N5 million, 3 million, 10 million...We disrupted the election in favor of our governor and his candidates—we stood at the election ground so people would not come. There was no election.” (Human Rights Watch, 2007; Case Study C) Ateke Tom confirmed in an interview, “Any place Odili sent me, I conquer for him. I conquer everywhere” (Human Rights Watch, 2007; Case Study C). Indeed the 1999 elections represented the first point in which non-state actors were given guns en masse by politicians running for office. Nevertheless, after the campaign ended, the armed groups were held at arms length. None of the top armed group leaders took up appointed office in the period between 1999 and 2000 during which state policy changes for the Niger Delta were debated.

vote. A week after his election, Obasanjo flew to Port Harcourt to meet with top Ijaw Youth Council officials, as the interruption campaign continued. This meeting is the second negotiation session between the state and the perpetrators of the oil revenue interruption described in the timeline in Figure 5.1, which I argue was directly connected to the ultimate creation of the NDDC by the state. Further key evidence for hypothesis H6, whether the perpetrators of revenue interruptions tied their actions to aims to extract policy changes from the state, and H7, on whether the state told perpetrators privately that it would make concessions in return for an end to the interruption.

In the meeting, Obasanjo promised in return for an end to the interruption actions that he would propose soon after becoming president a development commission for the Niger Delta, that would oversee the drafting and implementation of a master plan for economic development in the region. A leading Ijaw activist who was present at that private meeting described it as follows: “Obasanjo came to Port Harcourt in the first week after the election in 1999. He invited Felix [Tuodolo], Oronto Douglas, [and others] to Government House because things were really bad. It was organized by Alabo Graham Douglas, the leader of the eastern Ijaws. They told him that the Ijaws [...] were ready for an [unreadable, believe ‘development’] commission. After this meeting, the NDDC’s fate was sealed as a new addition.”53 Tuodolo was president of the Ijaw Youth Council and Douglas a top Ijaw leader.

A federal senator representing a Niger Delta state directly linked these promises by Obasanjo to the interruption in describing why Obasanjo made concessions to the groups:

“Nigeria was [...] at the point where you had several crisis [sic]. Those youths in the Niger Delta were crying, breaking pipelines, kidnapping ex-pat workers, and then indigenous workers in the oil companies. And so they had no choice but to find a way to avert a real crisis. If the oil pipelines are vandalized, Nigeria has no means of survival, because unlike most economies that survive from taxation – we get very little money from that. The laws are there, but they have not been implemented. If

53Interview subject P13, leading Ijaw activist
we don’t have oil money, Nigeria would go broke. And so they had to find a way to appease those from the Niger Delta region so they could sustain the production of oil to sustain the economy.”

**Obasanjo’s inauguration as president.** Obasanjo was sworn in on May 29. In Obasanjo’s inauguration speech, the importance of his plans for addressing the Niger Delta conflict became clear publicly.

In listing the 18 top priorities of his new administration, Obasanjo listed first “The crisis in the Oil Producing Areas” and suggested the administration had “worked out measures” on each priority to be “implemented within the first six months” (Obasanjo, 1999; 15-16).

Of the Niger Delta, Obasanjo said, “A bill will be forwarded within weeks of inception of the administration to the National Assembly, for a law providing for 13% derivation in Revenue Allocation to be used for ecological, rehabilitation, infrastructure, and other developments. A competent group will be set up immediately to prepare a comprehensive Development Plan for the Niger Delta Area. Dialogue will be held at all levels with the real representatives of all sections of the oil-producing communities to improve communication and better mutual understanding. The responsibility and initiative for resolving the crisis rests with the Government” (Obasanjo, 1999; 18). This is exactly what he first promised in meetings four days after the initiation of the interruption campaign known as Operation Climate Change, and in subsequent private meetings with top Ijaw leaders.

**Private meeting in Port Harcourt between Obasanjo and Ijaw leaders in June 1999.** Twelve days after his inauguration, in his first trip from Abuja as president, Obasanjo flew to Port Harcourt to meet with top Ijaw leaders. This was the final meeting between the state and perpetrators of the oil production interruption, described in the timeline in Figure 5.1, which I argue was precipitated by the interruption and led directly to the creation of the NDDC. The circumstances

---

54Interview subject V5, federal Senator representing a constituency in a top oil-producing state
and content of the meeting provide further direct evidence in favor of hypothesis H5, on the close temporal link between interruption events and state policy changes, and particularly probative evidence on H8, that the state policy changes are not a response to the specific events per se but rather because they interrupted oil production. The meeting took place the day before Obasanjo announced the government would create the NDDC.

The events that precipitated the meeting were an outbreak of violence in Warri, the second city of the Niger Delta and a major center of oil production infrastructure. There was fighting between members of three ethnic groups with claims to land where oil is extracted, the Ijaw, Urhobo, and Itsekiri. Fighting was fierce, “with weapons that included bazookas and Kalashnikovs” causing “several hundred deaths” (Iliffe, 2011; 187).

Days after the crisis, the newly inaugurated Obasanjo met in Warri with governors of key oil-producing states, other elected officials, traditional rulers, and youth and women’s’ group leaders to resolve the crisis. It was a contentious meeting. A high ranking Ijaw youth leader recalled: “During the meeting with Obasanjo, he insulted IYC guys. They challenged him openly.” In response, Obasanjo said to IYC leaders: “You want to threaten me? You can’t. Can you fight? See im face like Ijaw man face. I totally, absolutely reject your presentation. But the door is open for dialogue and discussion.” He said to elders, “You have failed to pull them by their ears. We are in danger of having anarchy being unleashed by our youths.” (Iliffe, 2011; 187).

Yet the resolution to the crisis did not directly address the conflict over land in Warri that precipitated the meeting. Instead, Obasanjo “promises the creation of the NDDC. And he went back and he did it.” At the meeting, Rivers State governor Odili quotes Obasanjo as saying,

---

55This description of the meeting draws on material from Interview subject V5, federal Senator representing a constituency in a top oil-producing state; Interview subject T19, high-ranking Ijaw youth leader; and public remarks by Rivers State governor Odili (2008).

56Interview subject T19, high-ranking Ijaw youth leader

57Interview subject T19, high-ranking Ijaw youth leader
“the time has come to listen and do something about the cries of the women and children of the Niger Delta area” (Odili, 2008). The Commission that was later created responded broadly to the calls of the Ijaw Youth Council and to the events beginning most prominently with Operation Climate Change. It was not in response to the violence in Warri: a resolution to that particular crisis would not have yielded a development policy change or at least not one that affected all of the Niger Delta region collectively.

The president’s proposal. The president forwarded a bill on July 3, 1999, to establish the Niger Delta Development Commission less than a month after announcing the proposal, and just over a month after he took office. It was the second bill he presented to the National Assembly, after a corruption-fighting proposal that created Nigeria’s first anti-corruption commission. This is the first direct evidence of state policy changes that are hypothesized to be in response to the interruption campaign by Ijaw organizations. Yet the Commission and its mandate in the legislation forwarded by Obasanjo were nearly exactly mirrored in the language he used in public and private meetings directly following major oil production interruption events. The first was in a meeting in Benin City on January 3, 1999, following the commencement of Operation Climate Change, in which the President promised to created a master economic development plan for the region. Later, in a private meeting with top Ijaw leaders, he promised again to create a master plan but also to constitute a “commission” to draft and implement it. This is precisely what was enacted in the Niger Delta Development Commission legislation. The announcement, moreover, took place a day after a meeting with top Niger Delta leaders who demanded he follow through on the earlier promises (see timeline, Figure 5.1).

The proposed bill was not enacted quickly: it took more than a year to pass in the National Assembly. The funding of the body and the method of appointment of commissioners were the two bones of contention between the president and the National Assembly. In the president’s
proposal, the body was largely funded from three sources: 10 percent of statutory vertical allocations from the federal “Federation Account” due to states in the Niger Delta; 10 percent of the derivation fund allocated in the constitution to the Niger Delta states (itself 13 percent of net revenues); and a contribution from oil firms of 1.5 percent of their annual operating budgets (Uganwa, 2014). “[R]egional representatives saw this as a means of taking power and funds out of local hands” (Iliffe, 2011; 187-8). This left open the possibility that interruption events would yield promised but not actualized state policy changes.

Debate and passage by the National Assembly. The National Assembly took up the legislative proposal forwarded by President Obasanjo in July 1999, and quickly rewrote the bill. In this section, I examine the debate in the National Assembly over the Niger Delta Development Commission, and in particular assess the evidence for hypothesis H4 and H7 — that the state blamed the hypothesized perpetrators for an interruption of state revenues, and that it tied concessions to ending the interruption.

The legislation that ultimately created the Niger Delta Development Commission was among the most visible and debated acts of government in 1999 and 2000. It was a central source of conflict between the National Assembly and the presidency, and attracted substantial public attention. A spokesperson for the Senate president, noted: “It is on record that no bill in the history of the present National Assembly attracted so much dialogue and public attention before its passage as the NDDC Bill.”\(^{58}\) Moreover, it was one of the few items that were debated and one of only 14 bills passed by the National Assembly in 1999 and 2000 (Iliffe, 2011; 227).

The major changes that delayed the bill’s passage and ultimately caused Obasanjo to veto it were over funding, the appointment of commissioners, and the location of its offices. In each

---

\(^{58}\)Nwabuko, Chukwudi and Tokunboh Adedojah. 2000. “NDDC: Senate Deplores Macebuh’s Statement.” This Day. 14 April.
case, at stake was the central or local control of the body. The contribution from the Federation Budget was 15 percent in the legislation that finally passed, and three percent of oil firm revenues were set aside for this purpose (National Assembly of the Federal Republic of Nigeria, 2000; Uganwa, 2014). These changes returned autonomy to state governments in spending the 13 percent derivation fund set aside in the 1999 constitution, replacing the derivation contribution with funds that were allocated for specific purposes from the Federation Account and external funds from the oil firms. Obasanjo wished to avoid paying out both the derivation funds and new funds for the development commission.

The duration of the debate — from July 1999 to July 2000 — meant that oil interruptions continued to influence the debate over state development policy for the Niger Delta. Indeed, legislators were well-informed about interruption actions that took place before and during the debate period. Three examples illustrate the views of legislators on interruption actions, drawing the connection to state revenues (evidence on H4), and with their legislative deliberations (evidence on H7).

First, the kidnapping of oil industry employees and an incident of oil pipeline sabotage in July 1999, just as the debate began in the National Assembly, was discussed in an open sitting of the House of Representatives. Representative E. E. Agbeotu (representing Burulu) recounted a meeting he attended in person:

“At the meeting, we were told that irate youths drawn from Akwa Ibom, Cross River, Rivers, Bayelsa and Delta States had hijacked a Bristol Helicopter at Enwen in Rivers State to Okoloba in Delta State and two expatriates, the Pilot and the Engineer, were subsequently kidnapped. [...] we went through the rivers and got to the place in the night. [...] In another instance, some youths [...] went to Ughelli town in Delta State to kidnap two other expatriates and they have been taken to an unknown destination. While this is happening, other ones that were going to Bayelsa State at the place called Oloibiri to assess damages caused by oil spillages, in order that owners be compensated, were subsequently kidnapped. The boys are currently demanding for thirty million Naira.”

The next day, again in the House, a resolution was passed that directly tied interruption actions to the debate over the Niger Delta Development Commission legislation. It read:

“be it resolved: ‘That this House do urge the Federal Government to intervene and dialogue with the Oil Companies and concerned youths to ensure urgent release of the hostages and the helicopter; That the President do take urgent steps to lay before the House the proposed Niger-Delta Commission Bill for consideration to assuage the grievances of the youths; That the Federal Government do liaise with the Oil Companies and take remedial measures to ensure that peace returns to the Niger-Delta for smooth operation of the Oil Companies pending the implementation of the Niger-Delta Development budgeted programmes; and That this House do institute Parliamentary peace delegation to the Niger Delta generally to assure them of the resolve of Government to address comprehensively developmental needs of the Communities and intervene in the hostage matters.’” Moved by Chibudom N. Nwuche (Abua/Odua/Ahoada East), seconded by Nduese Essien (Eket/Onwa/Esit/Eket/Ibeno).60

This resolution, in response to two interruption actions in the days leading up to the beginning of the debate, makes clear that legislators tied the interruption of oil revenues to youth groups in the Niger Delta, important evidence on hypothesis H4. A speech by Representative Agbeotu Emibra on the resolution reinforces the connection not only to unrest but state revenues: “Since things are coming to a standstill, that is, talking about oil production in the countly, I do support the Motion as amended.”61 Moreover, the Niger Delta Development Commission bill itself was meant in legislators’ minds to be a concession to address demands from organizations in the Niger Delta, evidence in favor of hypothesis H7. This is further reinforced by a speech by representative Chibudom N. Nwuche in favor of the resolution:

“I believe that if we do not take urgent actions to assuage the youths of these areas and to assure them of government interest in their plights and measures being put in place to remedy the neglect of the past, they would not allow these Companies to operate. And as you are aware, petroleum is currently the country’slivewire. We cannot afford to lose production of the companies, and also it is threatening the peace and security of the Niger Delta area. I will urge this House to please support the Motion moved on these grounds in view of the importance of the industry to the economy, in view of the fact that the companies are now threatened and feel in-

secure 10 operate in Nigeria. I wish to urge that the House supports this Motion.”

Together, this evidence makes clear that legislators debating the creation of the Niger Delta Development Commission believed there was a direct connection between the actions of organizations in the Niger Delta and state revenues from oil production and, moreover, between that interruption and the need to create the Commission. The Commission was a concession in their mind to the demands of the groups carrying out the interruption.

*Ongoing oil production interruption, and threats from Ijaw organizations.* The “ceasefire” negotiated by Obasanjo in early 1999 with several armed organizations did not last. Though he quickly introduced the Niger Delta Development Commission bill to the National Assembly, the slow process of passage — often blamed on Obasanjo in the media — led to a swift return to interruption tactics. In 2000, the drumbeat of demands from Niger Delta organizations increased its tempo as the year anniversary of the bill’s introduction approached. As noted in the last section, these events shaped the debate in the National Assembly. In this section, I examine the threats and actions of Ijaw organizations during the period after the introduction of the bill and before its passage, and in doing so evaluate hypothesis H6, which suggests that perpetrators say that their actions are intended to interrupt state revenues for the purpose of pressing the state to make policy changes. Figure 5.1 highlights the connection between ongoing interruption events and threats by Ijaw groups and the eventual passage of the bill.

Two prominent threats issued during this period were from two armed groups, the Niger Delta Volunteer Force and the Niger Delta Izon Youth. The Volunteer Force warned in May 2000, after the bill had languished in the National Assembly for over 10 months, that “unless the Federal Government concedes total control of resources in the Niger-Delta to states from

---

the area, there would be anarchy across the country.” The Niger Delta Development Commission was the concession proposed by President Obasanjo at meetings with top Ijaw leaders in response to their demands for local control of oil revenues. The demands were also often tied directly to the passage of the NDDC. The Niger Delta Izon Youth, also in May 2000, gave the government 30 days to effect “the immediate constitution of the board of the NDDC” or “face ‘unpleasant’ consequences”64

These threats were not empty. In addition to the visible interruption events described in the last section, there were numerous instances of other interruption actions, including sabotage. Indeed, the frequency of interruption tactics remained high throughout the deliberations over the NDDC legislation. The number of pipeline sabotage incidents reported by the Nigerian National Petroleum Corporation rose to 800 from January to October 2000 — 60% higher than the count for all of 1999.65

**Passage in Parliament in July 2000.** Against this backdrop of frequent interruption actions, the bill was ultimately passed in mid-July 2000 (Oluduro, 2012). The President refused to sign the bill, but did not explicitly veto it. The National Assembly passed the bill over the implicit veto. His objections were over the amendments to the bill made by the National Assembly after he forwarded it, particularly over funding and the mechanism for appointing commissioners.66 Following its final passage, Obasanjo refused to implement the legislation and demanded a conference to work out the differences.67 Though discussions continued for months, no amendments were made to the bill and the Commission was inaugurated in December.

67Hansards, House of Representatives and Senate, July and August 2000. See also Iliffe (2011; 187-8).
6. Discussion

To follow the narrative that connected the interruption of oil production in the Niger Delta region of Nigeria to the creation of a new federal agency, the Niger Delta Development Commission, I now evaluate the evidence presented in the narrative and in the earlier sections in favor of the proposed interruption mechanism and three alternative mechanisms described in Section 1.

Oil production interruption. In this section, I examine the evidence on the oil production interruption mechanism by considering each hypothesis on the impact of the interruption of state revenues on subsequent state policy changes enumerated in Table 5.1.

The first hypothesis, H1, asks whether organizations made up of people living proximate to major assets take actions that interrupt state revenues. This is both a question of what actions were taken, and who took them. In Section 3 and in the narrative, I argue that a set of Ijaw organizations seized oil installations, destroyed oil pipelines and flow station components, kidnapped oil workers, and organized protests at oil facilities and against oil firms. These interruptions might be grouped into two types: those that interrupted oil production directly (seizing and destroying facilities) and those that interrupted production indirectly (kidnapping and protests). In the latter case, these tactics of the Ijaw organizations created a climate that made travel and work by oil firm employees difficult or impossible, and therefore raised the cost of insurance for those employees, particularly foreign workers. The evidence I present here is largely from secondary sources and is not conclusive in itself. This is a part of the case, however, that is not disputed by other observers. My account differs in its interpretation of these actions. I argue that these tactics do not have in common violence (protests were largely non-violent, for example) nor wide publicity (many of the kidnappings and facility seizures
escaped public notice entirely). Instead, all share the fact that they interrupted oil production.

The second element of the hypothesis assesses whether it was organizations made up of people living proximate to major state assets who perpetrated these interruption actions. I show that a small set of armed groups including the Federated Niger Delta Ijaw Communities, the Niger Delta Volunteer Force, and the Egbusu Boys were responsible for many of the interruption tactics described above. The protests were organized by a set of organizations founded in October 1998 by members of the Ijaw ethnic group, most notably the Ijaw Youth Council. The armed groups were linked directly to these Ijaw organizations. These claims are, again, largely though not entirely from secondary sources, and yet are also uncontested. I show in Figure 5.2 that the Ijaw, who by and large made up the leadership and rank-and-file membership of both sets of groups, live on land that covers most of the populated areas where oil is produced in the Niger Delta. These organizations stem from Ijaw self-protection groups set up in the 1990s to protect against attacks from the neighboring Itsekiri and Urhobo ethnic groups.

The second hypothesis, H2, asks whether state leaders believe revenues declined as a result of these interruption tactics. If they did not, it is unlikely that state policy changes were in response to the revenue interruption per se. I present direct and indirect evidence that state leaders did believe there was a decline. Indirect evidence comes from public data on oil production levels, published on a monthly basis (see Figure 5.1). The data indicate a sharp drop in production levels beginning in the middle of 1998, a 20% decline. These data originate with the Nigerian government, who would have had access to it before it was made public. In addition, I show that major oil firms made public declarations of force majeure, meaning that they could not make deliveries of crude oil according to contractual schedules (see Section 3). These declarations were made several times during this period for large parts of the country’s production, were public, and indicated they were in response to local interruptions of production.
Direct evidence that state leaders believed there was an interruption comes from public statements, including from successive presidents and members of the National Assembly. The narrative presented above includes public statements from military head of state Abubakar and presidential candidate Obasanjo indicating their direct knowledge of the interruption. Abubukar noted, for example, “the disruptions of the activities of oil companies and private enterprises by rampaging youth”\textsuperscript{68} in early 1999. The interruption was noted on the floor of the House and Senate, as discussed in the narrative. Representative Agbeotu Emibra noted after several interruption events in July 1999 that, “Since things are coming to a standstill, that is, talking about oil production in the country...”\textsuperscript{69} I do not present primary source evidence such as interviews for H2. However, there would need to be incentives to misrepresent the attribution of blame publicly for the interruption for the public statements to lose their probative value. It is not clear what other cause of the interruption that state leaders would be trying to obscure.

The third hypothesis, H3, asks whether perpetrators said in public or in private that the actions their organizations took interrupted state revenues. Though the state could respond to the interruption of oil production even if this was not the intention of the Ijaw organizations, understanding how the organizations saw their actions sheds light onto what the state might expect to change if they offered concessions and what the Ijaw organizations might have offered in private to stop in return for concessions from the state. In the narrative, the evidence suggests that indeed the intended consequences of the campaign of actions between 1998 and 2000 to be interrupting oil production, most clearly in statements launching Operation Climate Change in December 1998 (“we advice all oil companies...to withdraw from Ijaw

\textsuperscript{68}Text of budget address delivered by Head of State Abdulsalami A. Abubakar to the National Assembly, January 1, 1999.

\textsuperscript{69}Hansard, House of Representatives, July 7, 1999.
An Ijaw leader described the goals of the groups’ actions: “We thought we couldn’t fight the Nigerian state, but we could fight oil.”

The next focus, in hypothesis H\textsubscript{4}, is on what state leaders said about the actions of the perpetrators, and whether they blame them for the interruption to state revenues in public or in private. Indeed, public and private statements by state leaders, including the president and legislators in the National Assembly, drew a causal connection between the actions of Ijaw groups in the Niger Delta with the interruption of state revenues from oil production. In private meetings, presidential candidate and then President Obasanjo drew the connection directly, and demanded that the tactics used by Ijaw groups end because they interrupted state oil revenues. In interviews I conducted and in speeches on the floor of both houses of the National Assembly, lawmakers lamented the fact that much of Nigeria’s revenue comes from oil and that the tactics of the Ijaw groups and the climate of instability they caused were interrupting that revenue. For example, one senator said, “Those youths in the Niger Delta were crying, breaking pipelines... If the oil pipelines are vandalized, Nigeria has no means of survival...”

The House tabled a motion to address the demands of Niger Delta groups so as to “ensure that peace returns to the Niger-Delta for smooth operation of the Oil Companies...”

The fifth hypothesis, H\textsubscript{5}, asks whether state policy proposals occur after and are closely temporally linked to interruptions to state revenues. I argue in Section 3 that interruption of oil production began as early as 1997 but became organized and large in magnitude beginning in the middle of 1998. The first state responses began soon after that, with policy proposals and the creation of a panel to examine the concerns of Niger Delta organizations in Septem-

---

\textsuperscript{71}Interview subject T\textsubscript{19}, high-ranking Ijaw youth leader.
\textsuperscript{72}Interview subject V\textsubscript{5}, federal Senator representing a constituency in a top oil-producing state.
\textsuperscript{73}Hansard, House of Representatives, July 7, 1999. Motion moved by Chibudom N. Nwuche; and seconded by Nduese Essien. Both represent constituencies in the Niger Delta.
ber of that year. These continued under the administration of military head of state Abubakar, and then in parallel in the election campaign of Obasanjo. The early timing of state responses to the interruption is quite important evidence in favor of the interruption mechanism and against the violence and protest mechanism, because the violence and protests did not begin in earnest until late 1998 with the initiation of Operation Climate Change. The content of early state promises was also tightly tied to the policies that were eventually adopted by President Obasanjo and the National Assembly in 1999. Abubakar proposed substantial reforms of OMPADEC, the predecessor federal agency, to the NDDC and set up a panel to examine the “developmental needs” of the region. Versions of each became Obasanjo’s proposals on the stump and in his NDDC bill presented to the National Assembly.

The timing of successive state actions is examined in relation to the interruption campaign. Throughout the narrative, the close temporal link is clear, on the order of a small number of weeks and in many cases just a day or two. Military head of state Abubakar responded to the large interruption of oil revenues that began in July and August 1998 in a major public speech in September. When Ijaw organizations launched an organized campaign of interruption on December 30, 1998, Abubakar responded two days later with a public speech on New Year’s Day 1999, and presidential aspirant Obasanjo flew to the region to meet with top Ijaw leaders to address the situation on January 3. This pattern of interruption and state response continued throughout 1999 and 2000. There were major interruption threats and public threats from Ijaw organizations preceding the introduction of the NDDC bill by Obasanjo in May 1999, during the debate in the National Assembly beginning in July 1999, and in the months before it was passed in the Assembly in June and July 2000.

The sixth hypothesis, H6, examines whether the perpetrators connect their actions to the goal of pressuring the state to make policy changes. As in H3, the state could respond even
without this stated intention, but it sheds light on whether the perpetrators should be expected to halt their actions if the state offers the policy changes desired by the perpetrators. Evidence supporting this hypothesis would militate in favor of a causal relationship between state policy changes and the revenue interruption. In public statements and in interviews with me years later, Ijaw leaders said they saw the failure of earlier campaigns — for example, Ken Saro-Wiwa’s Ogoni movement — to achieve results by peaceful means and did not see a path to directly challenging the state. Instead, interrupting oil production directly and creating conditions that made operations difficult or expensive for oil firms was the goal. The goals were communicated directly in private meetings to the state. In meetings immediately following the beginning of Operation Climate Change in January 1999 and later following the election of Obasanjo, top Ijaw leaders said they would halt the interruption campaign in return for specific policy changes on economic development in the Niger Delta. As state action slowed in 1999 and 2000 while the legislature and Obasanjo haggled over the details of the new development commission, Ijaw groups publicly drew the connection between their interruption actions and the policy changes they demanded (two groups said that if there was not quick action on the policy, there would “be anarchy across the country” and “unpleasant consequences”\(^{74}\)).

The seventh hypothesis, H7, examines whether the state linked policy changes to the interruption of state revenues in public or in private. The narrative presented described numerous instances of this public connection drawn by both Abubakar and Obasanjo, in public speeches and in public fora, including a large meeting in Port Harcourt in the weeks preceding the introduction of the NDDC bill. In speeches introducing the early precursors to the NDDC bill, Abubakar referred to “the disruptions of the activities of oil companies and private enterprises by rampaging youth,” and Obasanjo in his inauguration speech linked the policy changes to

“crisis in the Oil Producing Areas.” In addition, legislators referred repeatedly to the interruption events and their consequences for state oil revenues in their debates over the NDDC bill and related policy proposals (for example, “I believe that if we do not take urgent actions to assuage the youths of these areas and to assure them of government interest in their plights and measures being put in place to remedy the neglect of the past, they would not allow these Companies to operate.”).

The causal link between the interruption of state revenues and the ultimate policy change is strongest if the policy demands of the perpetrators and offers from the state during private negotiating sessions are directly connected in terms of content to the ultimate policy change. In three early meetings between candidate and then President Obasanjo, the narrative documents demands for local control of oil revenues and a consistent policy response offered by Obasanjo. The narrative described three sets of key meetings between top leaders of the Ijaw organizations that both sides agree were responsible for oil production interruptions in this period. The first is a set of private meetings during the 1998-1999 election campaign, most notably in Benin City in January 1999 immediately following the public start of Operation Climate Change. The second is a private meeting between president-elect Obasanjo and top Ijaw leaders in Port Harcourt a week after the presidential election. The third is a meeting between Obasanjo and governors and elected officials of Niger Delta states, regional civil society actors, and Ijaw organization leaders — Obasanjo’s first official trip as President. In the early meetings, Obasanjo described a development master plan for the Niger Delta that would be created and acted on; in later meetings, particularly the March 1999 meeting in Port Harcourt, he specified that a new federal agency would be created to oversee development of the plan. Obasanjo’s draft Niger Delta Development Commission Bill, submitted to the National Assembly in May 1999, proposed exactly this — a new federal agency, the NDDC, and a central part of its mandate
was to develop a master development plan.

The final hypothesis, H8, asks whether state actions directly followed the interruption of state revenues *per se*, as opposed to being generic responses to the tactics themselves. The evidence presented for this hypothesis is the most speculative, in the sense that it is largely a matter of interpretation that I reject the importance of individual tactics. Chief among the tactics attributed in the media and in existing accounts of this period in the Niger Delta are violent attacks by Ijaw groups. Yet in the narrative presented in this chapter, what strikingly distinguishes the events from 1998 to 2000 in the Niger Delta from other civil conflicts is the fact that there were few (indeed, hardly any) confrontations between the armed organizations and state security forces. The conflict led to a very few civilian or state security force casualties, compared to wars of similar duration. State military capacity was hardly affected by the conflict. The violent attacks that did take place were against oil installations. Given that, the narrative suggests that the chief impact was through the loss of oil revenues, which are shown to dwarf other state revenue sources. The magnitude of oil revenue interruption and its importance as a revenue source suggest a substantial effect on the state’s coffers and thus its ability to survive.

In what follows, I assess several alternative mechanisms that might connect the tactics of Ijaw groups in the Niger Delta from 1998 to 2000 to the state policy change of creating the Niger Delta Development Commission.

*Response to violence and a social movement.* There is no doubt that substantial violence directed by Niger Delta organizations occurred, in terms of armed attacks on oil facilities and state security forces, armed seizures of oil facilities, and kidnappings among other tactics. There is also no doubt that many of these took places before each of the central events that define the outcome — the introduction of the NDDC bill by President Obasanjo in June 1999 and its
passage by the National Assembly July 2000.

Though large protests were not frequent, there were a number of noteworthy events, beginning with the events on December 30, 1998, in Yenagoa in Bayelsa State described in Section 5 that kicked off Operation Climate Change. Numerous small protests at the sites of oil facilities also took place throughout the period (see Table 5.1). Many, including the December 30 protests in Yenagoa, were organized by the same Ijaw organizations who organized the broader conflict. The protests merited attention in Nigerian newspapers and the foreign press, and in some cases heavy responses from state security services. Many of these events took place before the NDDC bill’s introduction and passage.

Yet the evidence presented in this chapter provides not only positive evidence for the oil production interruption mechanism, but also evidence against the proposition that the mechanism was instead direct effects of the violence or protests that occurred during the Niger Delta conflict. The evidence from three tests stands out. First, the limited violence and the protests that took place during the conflict also, nearly to an incident, caused an interruption of oil production (pipeline destruction, for example). For those events that did not have a direct effect, they indirectly contributed to the climate of insecurity that made sending oil firm employees to remote installations difficult or impossible. Many of the interruption events, by contrast, were nonviolent, including peaceful seizure of oil facilities. This evidence, combined with evidence suggesting that indeed the aim of the various tactics employed by Ijaw organizations was to interrupt oil production, suggests that the violence and the protests were epiphenomenal.

Second, the timing of state offers of policy changes is suggestive that it was not violence that led to the changes. The first offers, which in content were highly similar to the eventual legislation adopted by the National Assembly, were made in September 1998 by Abubakar. This was three months before the high violence began during Operation Climate Change and
followed a period of high rate of oil production interruption, but a low rate of violence against the state or others.

The most probative evidence against the violence and protests hypothesis is the evidence used to evaluate tests 3(d) and 3(g). In private meetings and in public statements, the state tied the creation of the NDDC not to violence against the state or other actors such as the Itsekiri ethnic group, but instead directly to the interruption of oil production. That the evidence comes from both small private meetings between top Ijaw organization leaders and the head of state, as well as public speeches, suggests the causal connection is not violence but interruption.

Response to civil conflict. The second view of the possible effects of violence, from the civil conflict literature in political science, suggests that bargains between parties to internal conflicts with state concessions such as the creation of the NDDC are unlikely without a neutral third party who can enforce the bargain. The narrative presented here did not identify any such third party (the oil firms are certainly not neutral, in that their interests are largely aligned with the state’s to avoid production interruptions). Yet we observe the bargained outcome in the creation of the NDDC. This suggests that the interruption mechanism holds predictive power in some cases over the more general theory of bargained settlements in civil war.

Democratization. Given the timing of the two most visible and long-lasting social movements in the Niger Delta, just before promises of democratization in the early 1990s and again as that transition began to come to fruition in 1998 under Abdulsalami Abubakar, it is hard to discount the role of democratization in providing the political space for these movements. Indeed, though the independent variable of interest (interruption of oil production) begins in 1997, well before the death of military ruler Sani Abacha and before democratization seemed
likely, it took off in the summer of 1998 following his death in June. However, this does not imply that democratization caused the creation of the NDDC.

Three arguments suggest that it was not democratization itself that caused the creation of the NDDC. First, the interruption began well before the transition to democracy, and the narrative presented in this chapter suggests that the state’s responses were the first links in a chain of events that culminated in the creation of the NDDC. The transition to democracy did not begin, and the first civilian elections did not take place, until this state response was well underway. Second, the state responses began under military head of state Abubakar, months before it was certain the elections would take place, given several false starts and an annulled election under military head of state Abacha throughout the decade. Second, the narrative presented in this chapter directly ties the creation of the NDDC to conflict, which suggests that democratization on its own is not a likely alternative explanation — the conflict and the creation of the NDDC do not appear to be independent events. Third, other instances of protest, and even of organized political violence, demanded state responses across Nigeria in 1998, 1999, and 2000 — especially communal conflicts in Middle Belt states including Kaduna and Plateau states. Yet these areas, which were poor and indeed poorer and more cut off from state services than many parts of the Niger Delta, did not result in changes to state policies.

Instead, democratization (or perhaps more importantly, political opening) may be a plausible boundary condition for the viability of the interruption strategy. One mechanism that indicates the importance of democratization in the theory is that the state’s ability to use repression was greatly reduced in the late 1990s. The social movement of the Ogonis led by Ken Saro-Wiwa was extinguished by the state’s repressive tactics, culminating in the execution of Saro-Wiwa and other top Ogoni leaders. These tactics were, it might be argued, unavailable in 1998 to Abubakar and Obasanjo due to the political opening that began after Abacha’s death. I
will not test in this case or elsewhere in the manuscript whether democratization is a boundary
condition, but leave that as a strong plausible hypothesis for future research.

7. **Conclusion**

This chapter evaluates at the elite level the theory that when organizations can interrupt state
revenues collected from assets physically proximate to the members of that organization, they
will be able to compel the state to target favorable policy changes at the group in return for
ending or avoiding the revenue interruption. This analysis fails to reject the prediction of the
theory for the case of the Niger Delta from 1998 to 2000. The interruption of state revenues
through an interruption of oil production led the state to offer and ultimately enact changes
to state economic development policy for the Niger Delta region in return for an end to the
interruption. The analysis highlights the boundary conditions of the argument. This causal re-
relationship will hold in contexts where people live near major assets that make up a substantial
portion of state revenues, where local organizations have the capacity to interrupt revenues
from those assets, and where the state does not have the ability to coercively end the interrup-
tion.

The first role of this chapter was to test the theory for the actors about whom the central
prediction is made: elites from local organizations that interrupt revenues, and state elites
who negotiate with them and can make policy changes. The second role was to trace the way
this process of policy change took place and to fail to reject that it took place according to the
theoretical mechanism proposed in Chapter 2 — that the policy change we observe was in
response to the interruption of revenues and not something else such as the tactics the groups
employed or other changes in time. This is a complement to the evidence in Chapter 3 at the
state-level. The elite-level evidence presented here tests the mechanism that is implied by the
state-level evidence in Chapter 3. In the next chapter, I explore the role of local civilians, to test whether the micro-level mechanism that enabled the organizations described in this chapter to interrupt revenues without detection or arrest by the state — requiring the cooperation of local civilians — holds.

Evaluating a theory of elite decision-making is difficult, because discussions and decisions made behind closed doors cannot always be inferred from public accounts — among other inferential challenges. This chapter addresses this issue by engaging in deep analysis of a single case, for which it was possible to interview actors present at those discussions and to collect primary documents on the detailed sequence of events. This approach cannot easily be expanded to dozens or hundreds of cases. As a result, this approach necessarily circumscribes the generalizability of the findings, a sacrifice of boundedness for depth (Gerring, 2004). A limited view would be that the chapter establishes a mechanism that applies only for the Niger Delta from 1998 to 2000. Yet the probative value comes from the ability to develop a full account of the causal mechanism from interruption to negotiated end of the conflict; many implications of the theory can be tested from the rich evidence. This establishes, at a minimum, the plausibility of the mechanisms that would allow the cross-national statistical findings in Chapter 3 to indicate what I suggest they do.

In addition to testing the theory proposed in Chapter 2, this chapter also provides a new narrative of the conflict in the Niger Delta region in Nigeria from 1998 to 2000. The conflagration is cast as a revenue distribution conflict, both from the perspective of the Ijaw ethnic group leaders who led the campaign and of the state leaders who negotiated with these Ijaw leaders over the distribution of revenues. This strategic goal of Ijaw leaders was not new. What changed were their tactics. Interruption of oil revenues was the first tactic that allowed Niger Delta groups to obtain policy concessions they had demanded for decades. Two tactics had
failed before: fighting the state with conventional tactics in the Biafran War, and public protests led by prominent Niger Delta activists in the Movement for the Survival of the Ogoni People in the early 1990s. It was successful, I suggest here, because the groups did not fight the state and were able to carry out attacks on the oil industry without detection and arrest by the state.

The interpretation of the case highlights two novel findings of the chapter. First, this was not a typical civil conflict, but rather a mode of conflict specific to this context – where local groups are able to interrupt production from major assets in the state. There were a number of tactics used in the conflict between 1998 and 2000 in the Niger Delta, but what they shared in common was not violence or publicity. What they shared was that they interrupted oil production, and with it a major source of state revenues. Second, the chapter demonstrates that there was a direct connection between this interruption and state policy changes. I rule out two key alternative explanations centered on changed incentives of democratization and responses to violent conflict per se. I describe instead a highly strategic set of state leaders who began negotiating with the perpetrators of revenue interruptions with promises of policy change.
CHAPTER 6

Conclusion

Why do natural resources seem to cause violent conflict? What are the sources of leverage in internal conflict over the distribution of resources in the state? This manuscript introduces a new source of leverage in these internal conflicts, the ability of people living near valuable assets to interrupt state revenue collection. I identify a range of interruption tactics from strikes and protests to infrastructure sabotage to violent conflict at the sites of production. The proximity of people to valuable assets enables them to carry out these actions and in doing so to gain leverage with the state. They can offer to end the interruption in return for policy changes in proportion to their ability to interrupt.

I argue in Chapter 3 that this ability to interrupt is an important cause of violent conflict in resource-rich states that has been left out of existing accounts. I show that one particularly valuable asset, petroleum, causes conflicts over local aims in which interruption by local actors could be a factor. Petroleum-rich countries are, however, not more likely than others to experience conflict over control of the state apparatus itself. I show that oil found onshore, in range of people who could interrupt production, causes conflict while oil offshore does not. This is consistent with the idea that when people live proximate to assets they are often able to interrupt production and force the state to bargain. Civil war often results when bargains break down.

Who perpetrates interruptions of state revenues? In Chapter 4, I show that in addition to the small groups with technical skills, violent capacities, or both that directly interrupt rev-
venues, ordinary people play an independent supporting role crucial to their success. People living near the interrupted assets and the homes of the perpetrators hide and protect their identities against the spies of the state among the civilian population and the state’s security forces.

Finally, I provide evidence in Chapter 5 about the decisions by local elites living near valuable assets and the state officials who respond to them. I show that when organizations can interrupt state revenues collected from assets physically proximate to the members of that organization, they will be able to compel the state to target favorable policy changes at the group in return for ending or avoiding the revenue interruption. In the case of the Niger Delta from 1998 to 2001, I show that the interruption oil production, a chief source of revenue for the Nigerian government, led the state to offer and ultimately enact changes to state economic development policy for the Niger Delta region in return for an end to the interruption.

In what follows, I discuss the implications of the theory of asset proximity and the three levels of evidence for broader debates in comparative politics.

1. Implications for social science debates

The theory of asset proximity and the capacity to interrupt state revenues addresses the puzzle raised by a range of groups in developing countries who benefit from state largess when existing theories of group size, colonial institutions, or asset ownership predict they should hold less leverage if any at all. These groups, including the indigenous groups in Bolivia and the Ijaw ethnic group in Nigeria described in the introduction, were excluded from political power for decades. Yet when they began to interrupt key sources of state revenues, they were able to force major state policy changes and, in the case of Bolivia, depose the national leader. The theory both explains why these groups gain leverage and the strategic reasons for the state to
respond to them. Grievances or claims of justice are often held up as key reasons why states in recent decades have responded to the environmental concerns of minority groups living in areas rich in timber, diamonds, or petroleum. The theoretical and empirical argument advanced in this manuscript suggest that, instead, states respond to these groups because their economic survival is at stake.

The leverage from interrupting state revenues also provides a strategic explanation for why a range of groups adopt a range of weapons of the weak tactics including the sabotage, theft, and destruction of economic assets. These tactics are common across contexts of violent conflict and peacetime resistance, as described in Chapter 2. Rather than epiphenomenal outcomes of disorder, the theory of state revenue interruption and the evidence from Nigeria provide a strategic logic for organizations that wish to extract rents from the state. These tactics are powerful, as evidenced by the magnitude of the interruption of oil production documented in Chapter 1, so they may be used even by organizations with high coercive capacity. Yet low-capacity groups who cannot directly confront the state’s military can also engage in many of these tactics. What is required is, often, the cooperation of local ordinary people, rather than weapons or military training.

The range of tactics that groups living near valuable assets can use highlights that the theory proposed in this manuscript unifies a range of contentious political actions by their intermediate effect: interrupt state revenues. Social scientists have produced a voluminous literature on contentious political action, especially on the role of protests and strikes. The theory proposed here unifies some uses of those tactics with the range of weapons of the weak actions and non-state armed tactics. The logic proposed here is that often the motivation for selecting protests or strikes as an action is not to generate public support or to pressure the state in the media and with foreign donors, but rather to interrupt state revenues. This is important
because it highlights the range of actions people living near valuable assets can take, which is broader than protests that are so commonly analyzed. Instead, recognizing their ability by virtue of proximity to interrupt state revenues, these groups may be selecting from this range of possible actions subject to the constraints of their capabilities and those of the state. The theory improves the prediction of the timing, location, and groups that carry out contentious collective action by introducing a group with the special ability to interrupt state revenues — distinct from the larger range of groups that can organize collectively but are not proximate to valuable assets.

In many developing countries with authoritarian or semi-authoritarian institutions, there are few mechanisms for ordinary people to exercise voice and made demands of government. The ability to interrupt state revenues from nearby valuable assets is just such a mechanism. In addition to protests and strikes, the variety of interruption tactics described in Chapter 2 are means with which ordinary poor people can gain leverage and demand better service provision in the same way that asset holders did in early modern Europe by hiding tradable goods from tax collectors.

The role for ordinary people in the asset proximity encompasses either direct perpetra-tion of state revenue interruption through participation in protests and strikes or, importantly, through less risky behaviors such as sharing information and shelter with perpetrators. The evidence in Chapter 4 provides the first individual-level evidence of how often these behaviors take place in conflict and who carries them out. Practitioners and students of counterinsur-gency hold closely the belief that tips shared by civilians play a central role both in sustaining insurgent movements and in state efforts to defeat them. Yet due to the sensitivity (and in many cases the government classification) of information sharing to states, there is little direct evidence on the frequency with which these actions are actually taken or how important
they are. The individual-level evidence in Chapter 4 and the narrative connecting individual interruption actions to responses by the state in Chapter 5 connect the dots.

2. Implications for policymakers

Preventing conflict is a goal shared by governments, civil society, and foreign donors. There are two clear implications of the theory and evidence presented in this manuscript. First, the groups and regions that will be at highest risk of conflict are identified. Second, the range of tactics they can employ to interrupt revenues is enumerated. Organizations of people living near valuable assets in the state are the most likely to be able to interrupt revenue and, incidentally, produce disorder locally. The disorder is most likely to take place near the assets themselves or on the transportation networks bringing outputs from the assets to market, since that is where revenues can be interrupted.

The importance of the second implication — the alternative tactics organizations that plan revenue interruptions can adopt — is that the responses by the state and civil society should not aim at the symptoms but rather the demands of the group. When the state responds with repression to protests, the same organizations may reemerge soon after with another tactic that cannot be as easily repressed. This dynamic is demonstrated clearly in the case of Ken Saro-Wiwa’s Ogoni protest movement in the early 1990s. Though he was executed and the protests ended, related groups began not long after to begin an organized campaign of sabotage, described in Chapter 5.

In addition to identifying the organizations and location of interruption campaigns, the theory and evidence suggest a policy prescription: address the demands of ordinary people, who are crucial to enabling the interruption campaigns. In the case of the Niger Delta, those demands were for better service provision and economic development aid. Without the coop-
eration of ordinary people living near valuable assets, described for the Niger Delta case in Chapter 4, the state’s security forces can identify the perpetrators of revenue interruptions and arrest them. Without gaining the cooperation of ordinary people, noncombatants in the conflict with the state, new groups or variations of old groups can quickly reemerge with the capacity to restart revenue interruptions.

The manuscript also suggests how the state can prevent conflict in resource regions. State leaders, in collaboration with industry, can harden the security of valuable assets. The power of ordinary people and local elites living proximate to valuable assets comes from their ability to interrupt production and revenue collection. If oil pipelines in Nigeria and the electrical grid in Apartheid South Africa could have been secured from external attacks, those tools would be removed for local groups. The wide repertoire of interruption discussed earlier, however, indicates just how hard a task that is. It is difficult to secure facilities from armed attack, midnight sabotage, and large-scale street protests.
References


