

THE DETERMINANTS OF CIVIL WARS:
A QUANTITATIVE ANALYSIS

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Doctor of Philosophy

by
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DETERMINANTS OF CIVIL WARS: A QUANTITATIVE
ANALYSIS

Presented by Zeynep Taydaş

A candidate for the degree of Doctor of Philosophy

And hereby certify that in their opinion it is worthy of acceptance.

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Dedicated to My Family and Grandmother:

Kahraman, Aynur, Mehmet Taydaş
&
Meliha Tunakan

Thanks for your endless love, patience, support and understanding. I could not be where I
am without you...

Sevgili Ailem ve Anneannem'e,

Desteginiz, sevginiz ve sabriniz icin binlerce teşekkürler...

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DETERMINANTS OF CIVIL WARS: A QUANTITATIVE ANALYSIS

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Dr. A. Cooper Drury, Dissertation Supervisor

ABSTRACT

In this dissertation, I investigate the conditions that facilitate the civil wars incidences and try to provide a deeper understanding of large scale domestic violence by formulating a new and more comprehensive model, which includes both opportunity and grievance factors. The results indicate that some grievance (like repression, discrimination, ethnic dominance) and opportunity factors (GDP per capita, GDP growth, non-contiguity, and population) play a significant role in predicting the civil war incidence for the period of 1975-1997. In addition, I brought an important but neglected aspect of state capacity- namely ‘quality of governance’ - back to the civil war literature and tested empirically its contribution in predicting civil wars. I found that quality of governance plays a very important role in determining the likelihood of civil wars. The level of corruption, rule of law tradition, risk of expropriation and repudiation are all important predictors of civil war incidence.

1. Introduction

Civil wars are widespread incidences of domestic political conflicts that are characterized by high levels of violence and human suffering. They not only produce economic and political devastation and pose challenges to neighboring states, regional security and stability, but also have broader implications for political order and human rights as we have witnessed in the cases of Lebanon, Cyprus, Bosnia, Kosovo, Liberia, Sudan and Rwanda (Brown 1996). Civil wars with massive human rights violations (e.g. Yugoslavia), and the protracted civil wars with substantial refugee flows (e.g. Congo, Sudan) have attracted a great deal of media attention in recent years. As a result, people all around the world started to become more aware of the destructive nature of civil wars. It is fair to say that what we have seen on TV is only the tip of the iceberg.

Despite the fact that civil wars have been the most common and deadly form of military conflict since the end of World War Two, they have been understudied. The focus of conflict studies in the academic security studies community has long been the onset and settlement of interstate wars, even though they constitute less than 10% of the total number of armed conflicts (Mack 2002). Despite all the human misery associated with civil wars, the academic community has failed to pay enough attention to them until recently (Sambanis 2004).

However, this has started to change in the past decade with the decreasing number of interstate wars. 25 interstate wars were reported between 1945 and 1999, involving a total of 25 states and with a combined death toll of approximately 3.33 million. By contrast, in the same period there were 127 civil wars in 73 states that resulted in 16.2

million battle deaths and more than 50 million displaced persons.¹ While interstate wars had a median duration of approximately three months, intrastate wars had a median of six years (Fearon and Laitin 2003).

A quick comparison of the numbers presented above will show that the number of intrastate wars as a percentage of all wars has not only been increasing since the end of World War Two, but they also tend to last much longer than interstate wars. Despite the growing academic interest and significant advances since the early 1990s,² major disagreements among the leading scholars remain about the causes, duration and termination of civil wars (Mack 2002). Therefore; it is fair to conclude that we are still far from a thorough understanding of the main determinants of civil wars. Nicholas Sambanis (2002:217), a prominent scholar in the study of civil wars, rightfully points out that civil war still “represents the most poorly understood system failure in domestic political processes.”

1.1. The Puzzle, the Research Question and Goals

This dissertation started with one observation: In all states, there are some citizens who are dissatisfied or frustrated with the existing political, economic or social conditions. However, only in some societies does this latent unrest cross a certain threshold and transform itself into a massive civil war. Why do some states experience political violence in the form of civil wars while others do not? Under what conditions do civil wars break out? Which countries are more prone to violent domestic conflict? These

¹ As a comparison, Mason and Fett (1996) report that there have been 127 post-World War Two conflicts listed in Correlates of War (COW), of which more than 72% were some type of civil war that account for 63.7% of the total battle deaths between 1945- 1992 (Small and Singer 1993).

² See the special issues of *Journal of Peace Research* (2002, vol 39: 4) and *Journal of Conflict Resolution* (2002, vol. 46: 1) on civil wars.

are puzzling questions that are in need of further investigation. Therefore, the main goal in this dissertation is to uncover the universal factors that best account for cross-national political violence.

The research questions stated above are of evident importance. The level of social and economic destruction and suffering produced by civil wars makes them an important issue area of study for international relations scholars. Despite all the efforts at theory building and the existence of several coherent lines of theoretical development - relative deprivation, resource mobilization, and rational choice - the empirical evidence in the literature is mostly contradictory and inconclusive both across and within the types of data employed (Snyder 1978). This is a huge problem both for researchers and policy makers.

My concern regarding the relative impact of political, economic and other factors that increase the risk of civil wars is not simply academic. Without understanding the origins of domestic conflicts and the factors that make a society more prone to domestic political violence and civil war, it would be almost impossible for policy makers to devise ways to end these conflicts, or to prevent them from happening in the first place. Policy makers, based on the existence of these characteristics, can devise institutions, political systems and electoral rules to decrease societal competition and prevent conflicts before they start.

Another important reason for studying civil wars is the possibility of spill-over effects. The impact of civil wars can easily go beyond the national borders of the countries in which they take place and affect regional security and stability (Lake and Rothchild 1998). The Kurdish insurgency in Turkey, for example, has always had

implications for neighboring countries like Iraq. Similarly, the civil war in Tajikistan is influenced by the civil war in Afghanistan (Regan and Aydin 2004). In addition to political spill-over, civil strife is also an important impediment to sustained social and economic recovery, poverty reduction and development not only in countries in which they unfold, but also in neighboring states (Deninger 2003; Murdoch and Sandler 2002). The research can be an especially rewarding enterprise for war-torn regions like Africa. Preventing future conflicts can provide these countries with peace whereby they can channel their efforts toward resuscitating their war-ravaged economies instead of fighting with each other.

In addition to preventing outbreaks, knowing the exact causes of political violence and civil wars can be vital for third-party interventions that aim to terminate or shorten the duration of the conflict. If policy makers have essential information about the characteristics of a civil war that is unfolding, the conditions of successful interventions, the type and timing of intervention (that is expected to be most efficient and least costly), the success of interventions can increase dramatically. Therefore, this dissertation should be perceived as an effort to advance the research on crisis prevention and management with the hope of promoting peace and stability around the world.

With these benefits of studying domestic violence and civil wars in mind, in this dissertation, I will attempt to evaluate and extend the theoretical and empirical knowledge about the root causes of domestic political violence in the form of civil wars. The dissertation will revolve around the question: What sort of political, economic and demographic factors play a crucial role in shaping the dynamics of domestic political violence? More specifically, I will try to achieve the following goals:

(1) To review the literature and existing theoretical models of civil wars and point out their limitations;

(2) to evaluate our substantive knowledge about how different indicators affect the likelihood of civil war by systematically assessing the empirical robustness of existing research findings using a unidirectional approach;

(3) to offer a more comprehensive model of civil wars and test it with cross-national time-series data;

(4) to evaluate the direct link between grievances and civil wars;

(5) to bring an important but neglected aspect of state capacity – ‘quality of governance’ - back to the civil war literature and empirically test its contribution to civil wars with the best available data, and

(6) to check the robustness of all the results using alternative data, measurements and methods.

I accept that each civil war is different from others in a number of respects and that the historical context plays a significant role in shaping a people’s attitudes and their reactions to government policies. However, accepting each civil war as a ‘unique event’ prevents researchers from making comparisons and reaching generalizations that can be useful for predicting future conflicts or can contribute to the termination of existing wars. It also runs the risk of complying with undisciplined formulations. If we want to understand the general mechanisms behind civil wars, what we need to do is develop theories and general models of political violence and evaluate them with the best data available. This dissertation should be seen as a small step towards this goal.

So, what are the distinguishing characteristics of this research? First, it employs the most comprehensive model of civil war to date. In addition to some new factors, like the quality of governance or repression, it also includes most of the theoretically important variables that are suspected to determine civil wars. Second, unlike some of the existing studies, I do not aim to defend or support any specific domestic conflict model and explanation (grievance/ relative deprivation versus opportunity/ mobilization and rational choice).³ I believe in the necessity of a ‘synthetic approach’ that combines both models in explaining phenomena as complex as civil wars. With this idea in mind, I will construct not only the ‘grievance’ and ‘opportunity’ models separately (to make sure that my results are comparable to existing findings in the literature) but also a ‘comprehensive model’ that includes both approaches. The results of a comprehensive model are more informative and provide new evidence for some of the linkages. Third, the goal of this dissertation is by no means limited to empirical testing. I hope to contribute to theory building given that quality of governance is an area that is significantly under-theorized.

It is important to note that, some of the variables used in this dissertation have not been used in the testing of theorizing about civil wars in the literature of international relations before. In this regard, the most important aspect is the incorporation of “quality of governance” in the empirical testing of the determinants of civil wars. It is a totally new line of inquiry and has a lot to offer when it comes to predicting civil war incidences.

³ In the comparative politics literature, the contrasting theories of domestic conflict are relative deprivation and opportunity/mobilization. In international relations literature the competing theories are grievance and greed/opportunity.

1.2. Outline of the Dissertation

Five additional chapters follow the introduction. The second chapter provides an overview of the domestic political violence and civil war literature. This theoretical overview combines the arguments developed not only in international relations but also in the comparative politics literature. In this section, I identify the limitations of the literature, introduce my comprehensive model of civil wars and explore how changes in various social, political, economic and other factors influence the risk of civil war. In the second part of the theory chapter, I specifically focus on the theoretical connection between ‘quality of governance’ and the likelihood of civil wars.

In the third chapter, I discuss the research design, including data, method and operationalization of the proxies selected to measure the levels of economic, political or other types of factors influencing the prevalence of civil wars. In an attempt to understand the determinants of civil wars I build three different models: a grievance, opportunity and comprehensive model.

Chapters 4 and 5 are devoted to data analysis. In chapter 4, I empirically test the explanatory power of opportunity, grievance and combined models of civil wars. In chapter 5, I focus on one particular aspect of the state - the quality of governance - and conduct an empirical analysis to understand how much it adds to our capability of predicting civil war incidences. Both analyses are carried out utilizing a cross-national time-series data test. In both chapters, I first present the results of the regressions and then discuss the implications of the results.

In the last chapter, I discuss the implications and limitations of my research. I also provide conclusions and try to develop a strategy for preventing future conflicts based on

the results of the empirical analyses. I conclude with the implications of my results for future research and policy development.

1.3. Background Information on Civil Wars

Due to the existence of a wide variety of terms in referring to collective political violent activities, I want to start by explaining my use of terminology in this dissertation. In addition, in the last part of the chapter, I will provide some background information regarding the contemporary state of the civil war literature in international relations field.

1.3.1. Terms and Definitions

Scholars have always been interested in explaining concepts like civil strife and rebellion (Gurr 1968), collective violence (Tilly 1975), revolution (Davies 1962), violence (Hibbs 1973), and internal armed conflict (Caprioli 2005). Some scholars use ‘domestic conflict’ to refer to anti-government behavior ranging from demonstrations and protests to revolutionary movements and civil war. Therefore domestic conflict is a fairly broad term that includes both violent and non-violent behavior. Many scholars use ‘rebellion’ and ‘civil war’ to refer to a sub-category of domestic conflict that is the most violent form of domestic conflict involving armed combat between rebel forces and the government.⁴ In addition to the level of violence and destruction, civil wars are also

⁴ Gurr distinguishes rebellion from protest based on its goals, strategy of mobilization of coercive power and its systematic use of violence (Gurr 1993b: 169-173, 1997:1089). In MAR coding, *rebellion* is a broad category that includes: (0) none reported; (1) political banditry; (2) campaigns of terrorism; (3) local rebellion (armed attempts to seize power in a locale); (4) small scale guerilla activity (all of the following must exist: a) fewer than 1000 armed fighters; b) sporadic armed attacks less than six reported per year); and c) attacks in a small part of the area occupied by the group, or in one or two other locales; (5) intermediate scale guerilla activity (has one or two of the defining traits of large-scale activity and one or two of the defining traits of small-scale activity); (6) large scale guerilla activity (all of the following must exist: a) more than 1000 armed fighters; b) more than 6 armed attacks per year); and c) attacks affecting a

different than other forms of domestic violence in terms of objectives, the level of coordination essential for successful prosecution and its more protracted nature (Henderson and Singer 2000).

Following Snyder (1978: 500), I define ‘domestic collective violence’ as “events which meet some minimum criteria of size and damage to persons and/or property.” Therefore, for an action to be considered part of this category, it has to be both ‘collective’ and involve ‘violence.’ Based on this definition, collective action conventionally excludes international wars, the acts of individual violence, assassinations or peaceful demonstrations. While not denying the importance of peaceful demonstrations and protest, in this dissertation, I limit my focus to *domestic collective political violence* and more specifically, to *civil wars* as defined by Fearon and Laitin (2003). For this study, the most important characteristic that distinguishes civil war from other types of domestic violence is the *level (magnitude) of violence*. Therefore throughout the dissertation, ‘conflict’ ‘domestic (intrastate) conflict’ and ‘rebellion’ refer to ‘civil strife/ war/violence’.

It is also important to mention that some authors differentiate between minor domestic armed conflicts exceeding 25 battle-related deaths and major ones (like civil wars exceeding 1,000 battle deaths). Therefore, what they refer to with the term

large part of the area occupied by the group; (7) protracted civil war (fought by rebel military units with base areas). Coding of *Protest* is as follows: (0) none reported; (1) verbal oppression (public letters, petitions, posters, publications, agitation, etc.); (2) symbolic resistance (scattered acts of symbolic resistance like sit-ins, blockage of traffic, sabotage, symbolic destruction of property) or political organizing activity on a substantial scale; (3) small demonstration (demonstrations, rallies, strikes, and/or riots, less than 10,000); (4) medium demonstration (demonstrations, rallies and strikes, and/or riots, less than 100,000); (5) large demonstration (mass demonstrations, rallies and strikes, and/or riots greater than 100,000) (MAR Coodebook).

‘domestic conflict’ is the collectivity of all major and minor armed conflicts.⁵ I will only use this distinction (minor armed conflict and civil wars) in my sensitivity analysis in which I will test the robustness of my arguments on quality of governance with alternative data. Since generalizability is one of the goals of this study, the results of the empirical test should be subject to a sensitivity test with alternative definitions.

1.3.2. Civil War in International Relations Literature

The civil war literature, very broadly, can be divided into three categories: onset, duration, and termination. Scholars not only try to understand why these conflicts happen but also the dynamics during the war and the end results. More specifically, in the first group, scholars focus mainly on the determinants of civil wars. Their main question is ‘why do civil wars occur?’ The answer to this question is quite diverse and broad. While some scholars focus on economic and political factors (e.g. Fearon and Laitin 1999; 2003; Hegre et al 2001; Collier and Hoeffler 2004; Collier and Hoeffler 1998), some others investigated the impact of environmental degradation (e.g. Hauge and Ellingsen 1998) or foreign aid on civil wars (e.g. Collier and Hoeffler 2002b). Since onset is the focus of this dissertation and the related theory and findings will be discussed in detail, I will move on to the second category.

There is the realization in the duration camp that civil wars show a remarkable variation in terms of their duration. While some civil wars last only a few months, some others can last longer than a decade. What explains this variation in the duration? In order to explain this question scholars examine various factors, like the characteristics of the

⁵ See Wallerstein and Sollenberg (1999), Caprioli (2005), Melander (2005) and De Soysa (2002) on this issue.

countries in which civil war unfolds, the type of conflict, the combatants and the role of outside parties. Scholars also investigate the impact of various factors on civil war duration including veto players (Cunningham 2005), political and economic indicators (Collier and Hoeffler 2002c; Collier et al. 2004; Balch-Lindsay and Enterline 2000), social fragmentation (Elbadawi and Sambanis 2000) and forms of intervention (Regan and Aydin 2004).⁶

The questions regarding duration are strongly related to the third dimension, the management and termination of civil wars.⁷ The main questions of the termination literature are: What types of civil wars have quick, clear, and successful terminations? Why do some civil wars end quickly while others last very long without any resolution? Does one method, like partition, provide a more effective solution to civil wars than others? (Sambanis 1999; Saideman 2002). Some researchers tend to focus on the costs associated with civil wars or the commitment problems and uncertainty in explaining the duration and termination of civil wars. Due to extreme uncertainty and risk involved in civil wars, many scholars analyzed the necessity of external intervention and international enforcement, which might make it easier for the warring sides to sign and implement a settlement to end the civil war (Walter 2002). There are also serious attempts to understand the conditions of successful and efficient third party intervention (Regan 2002a, b; Enterline and Balch-Lindsay 2002; Regan and Abouharb 2002). In addition, some scholars are interested in the consequences and impact of civil wars on civilian

⁶ Some other studies on the duration or intervention to civil conflicts are Balch-Lindsay and Enterline (2000), Regan (1996, 1998, 2000, 2002), Fearon (2004), Cunningham (2005), Collier et al. (2004), Smith and Stam (2003), Collier and Hoeffler (1998) and Hegre (2004).

⁷ See Walter (1997, 2002), Licklider (1995), Doyle and Sambanis (2000), Hegre (2004), Mason and Fett (1996), Mason et al. (1999) and Harztell et al. (2001).

populations, economic development, and poverty (Murshed 2002; Murdoch and Sandler 2002a, b; Ghobarah et al. 2003; Collier et al. 2003).

Going back to the first line of research, onsets, like many scholars, I am fascinated by the following three questions: Why do some states experience civil war but not others? What characteristics make countries susceptible to domestic political violence and civil wars? If we identify these factors, can we contribute to conflict prevention or management? These questions have generated considerable interest and controversy within the academic community over the last decade. It attracted the attention of not only economists but also political scientists. As one reads the research that has been conducted on the issue, it becomes quite clear that there is very little consensus. The earlier literature in both fields made it clear that civil wars and domestic violence are events that can not be explained by arguments that are made in isolation or with simple bivariate correlations (Gupta et al. 1993). This is not surprising given that civil war is a very complex phenomenon.

Research about the causes of civil wars in the international relations literature is relatively new. As mentioned earlier, international relations scholars were preoccupied with interstate wars and conflicts for a long time, and this resulted in a neglect of domestic conflicts. Given the lack of attention paid to domestic politics in major international relations theories like realism, the lack of interest in civil wars is not that surprising. On the contrary, comparative politics scholars started to pay considerable attention to causes of dissent starting in the 1960s. During the 1960s, 1970s and early 1980s, theories of relative deprivation and resource mobilization dominated the discussions of collective violence. Scholars, utilizing these theories, not only tried to

understand the causal mechanisms behind political violence but also non-violent tactics like protest. As early as the 1980s, there was a strong awareness among comparativists that protest and rebellion, despite being ‘members of the same family,’ have their unique causes and characteristics. Hence, it is essential to study them both individually and collectively not only to figure out the similarities and differences and but also to be able to make meaningful suggestions to policy makers regarding the emergence of domestic political violence.

In the next chapter, I will review this broad literature with a special emphasis on the roots causes of violent expressions of dissent and civil wars.

2. Theoretical Overview

As mentioned in the introduction, there are three main research questions that will guide this dissertation and the theoretical discussion in this chapter. These are:

- (1) What factors lead to domestic civil violence, more specifically, to civil wars?
- (2) What is the direct impact of grievances on the emergence of civil wars? Do they increase the risk of civil war?
- (3) What is the role of state capacity and quality of governance on the incidence of civil wars?

The goal of this chapter is to review the literature on the determinants of domestic violence and civil wars. In the first part, I will present the theoretical explanation and my fully specified model in order to systematically analyze the determinants of civil wars. More specifically, I will investigate the direct theoretical linkage between ‘grievances’ and civil war taking into account the effects of other important factors within a comprehensive model. The reason for investigating this relationship is because despite a strong theoretical appeal behind the grievance/ relative deprivation argument, most scholars do not find evidence for the hypothesized relationship.¹ This is a very interesting puzzle not only for relative deprivation theorists but also for the proponents of competing theories and policy makers. At the end of the first part, I will state the hypotheses derived from the theoretical framework. They will be tested in chapter four.

In the second part of the theory chapter, I will turn my attention to a very important but neglected aspect of state capacity and argue that the ‘quality of

¹ See Saxton (2005) for an exception.

governance' of a state is of great importance in predicting civil war incidences. I will explain my theory behind the governance and domestic violence linkage in detail and a second set of hypotheses will follow the theoretical discussion. In chapter five, I will empirically test the hypotheses derived from the theoretical framework using best available proxies and the data.

A clarification is in order here. As explained in the previous chapter, there are ambiguities with regard to some of the terms used in international relations literature on civil wars. Therefore, in this chapter, I will use 'greed' and 'grievance' as two sources of motivation for the rebel groups², rather than alternative theories of civil war. While 'greed' refers to the desire to gain control of natural resource rents, 'grievance' stands for feelings originating from factors that create resentment, frustration and anger, like inequality, deep social divisions and discrimination. Therefore, grievance arguments are heavily influenced by the relative deprivation theory of Gurr and others.

2.1. Parameters of Domestic Violence and Civil Wars: Overview of Major Theories

For quite some time political scientists and sociologists have been trying to explain violence using three theories: (1) relative deprivation³, (2) resource mobilization/opportunity⁴, and (3) rational choice/ collective action. The resource mobilization theory borrows a great deal from rational choice theories. Even though relative deprivation and resource mobilization theories are not exhaustive, they seem to be the main competitors in explaining collective political violence. "The history of the study of contentious politics since the 1960s may be summarized as a movement from culture to structure,

² Insurgent and rebel group are used interchangeably.

³ I use relative deprivation, discontent and deprivation interchangeably.

⁴ These theories are also referred to as group mobilization theories in the literature.

from collective behavior and relative deprivation to resource mobilization to political process, or from Gurr (1977) to Tilly (1978)” (Lichbach 1998: 404). The main difference between relative deprivation and resource mobilization theories is the underlying explanatory variables they use to explain collective political violence⁵ (Karmeshu et al. 1990). While the former emphasize people’s discontent due to unjust deprivation as the primary motivation for political action, the latter focuses on mobilization of group resources in response to changing political opportunities (Gurr 1993a: 123-124). In other words, the relative deprivation theory assumes that there is a direct strong link between deprivation-induced discontent and political violence, while the resource mobilization theory claims otherwise and emphasizes the importance of the organization resulting from discontent as the most important factor determining the emergence of civil wars.

Even though some scholars claim that opportunity theories on contentious politics exert “dominance and hegemony over the field” (Lichbach 1998:401), I argue that none of the theories offer an explanation that is capable of capturing the mechanism behind political violence in its entirety. In the following section, I explain all three theories mentioned above and present their limitations. I argue that both *motivations* (greed and grievance) and *opportunities* for the organization of collective action need to be understood to predict civil wars. I expect both groups of factors to have a direct link with political violence, more specifically with civil wars. I also try to overcome the biggest problem of the existing literature: theorizing without considering the complexity of our world in which the relationships take place (Gupta et al. 1993). I aim to move the debate beyond the predominant perspective by accounting for this complexity and building a comprehensive framework.

⁵ For a detailed review of the theories see Snyder (1978) and Zimmerman (1980).

2.1.1. Relative Deprivation Theory⁶

The relative deprivation theory is far from being a homogenous category. Despite variation among scholars, certain features of the theory are fairly common. First of all, relative deprivation theories are atomistic in nature. Secondly, the logic of the theory implies that the likelihood of collective violence (and aggression) is the function of various forms of frustration, injustice and resentment experienced by individuals (Rule 1988). I will explain these aspects in detail below.

The early relative deprivation model was heavily influenced by psychological theories, which led to focusing on social/psychological variables like relative deprivation and socially experienced frustration at the individual level (Gurr 1968; Feirabends 1966). In this regard it shares some similarities with Marxism, which perceives the exploitation and misery of the proletariat as the prime cause for revolution.

Without a doubt, the most prominent scholar of the relative deprivation theory is Ted Robert Gurr⁷. He developed his famous model for civil strife in the late 1960s and continuously modified and developed his unified model of ethno-political rebellion over the last three decades⁸. It is important to note that there are not only variations among the opinions of relative deprivation theorists but that also Gurr's own model of social discontent has evolved over time. Relative deprivation assumes theoretical primacy in Gurr's view. Despite slight differences between his arguments developed in the early

⁶ It is some times labeled as social psychological, frustration- aggression, collective discontent, achievement deprivation, or structural.

⁷ Rule (1988: 210) states that Gurr's "work represents a quantum leap in conceptual and methodological sophistication".

⁸ Gurr defined civil strife (1968:1107) as follows: "all collective, non-governmental attacks on persons or property that occur within the boundaries of an autonomous or colonial political unit". "Operationally the definition is qualified by the inclusion of symbolic demonstrative attacks on political persons or policies, e.g. political demonstrations, and by the exclusion of turmoil and internal war events in which less than 100 persons take part".

1970s and 1990s, the core of the model (greater frustration, greater aggression) remains the same and will be the focus of this section.⁹

Relative deprivation is simply defined as the extent of the gap between normative expectations (value expectations) and actual achievements of individuals (value capabilities)¹⁰. Gurr (1968, 1970), Davies (1962) and Feirabend and Feirabend (1966) perceive frustration and anger as the innate responses to perceived deprivation and state that the difference between subjective value expectations and value capabilities is the root cause of domestic discontent.

“The primary source of the human capacity for violence appears to be frustration aggression mechanism....If frustrations are sufficiently prolonged or sharply felt, aggression is quite likely, if not certain, to occur....The frustration aggression mechanism is in this sense analogous to the law of gravity: men who are frustrated have an innate disposition to do violence to its source in proportion to the intensity of frustration” (Gurr 1970: 36-37).

In this approach, relative deprivation and the postulated responses to it - namely anger, psychological strain, discontent, and grievances - are the *necessary* conditions for the occurrence of civil conflict (Gurr 1968, 1105), and the level of civil strife is *directly* associated with the magnitude of the relative deprivation (Parvin 1973). In Gurr’s own words: “Relative deprivation.....is a necessary precondition for civil strife of any kind. The greater the deprivation an individual perceives relative to its expectations, the greater his discontent the more widespread and intense is discontent among embers of society, the more likely and severe is civil strife” (Gurr 1970:596).

[See Gurr’s early causal model (1968) -Figure 2.1- here]

⁹ See Davies (1962), Feirabend and Feirabend (1966, 1972), Gurr (1968, 1970), Gurr and Duvall (1973, 1976) and Huntington (1968) for more on relative deprivation theory. For a thorough discussion of relative deprivation theory see Rule (1988).

¹⁰ For different types of relative deprivation like decremental, aspirational or progressive see Sayles (1984: 451). Murshed (2005) uses ‘horizontal inequality’ to refer to differences between the groups.

In Gurr's early causal model there are several intervening variables between relative deprivation, magnitude of anger and civil strife (Gurr 1968, 1970). These are coercive potential, institutionalization, social facilitation and legitimacy of the political regime, and there is no hierarchical relationship between these intervening factors. Each is expected to have an independent effect on the relationship between deprivation and civil conflict.¹¹ He measures relative deprivation by using economic and political discrimination, potential separatism and the type of inferred separatism, dependence on foreign capital, religious cleavages, and lack of educational opportunity. He finds that none of the mediating variables affect the relationship between persisting deprivation and civil strife. As a result, he concludes that "there is certain inevitability about the association between such deprivation and strife" and the "civil strife changes in magnitude according to the level of relative deprivation in the society" (Gurr 1968: 1120).

While the cost of participation in collective violence and the process of mobilization are largely neglected in the early works, in his later formulations Gurr (1993b, 1996, and 2000) made efforts to incorporate opportunities to his model of civil strife. Therefore, his later work can be seen as a theoretical synthesis of relative deprivation and group mobilization/opportunity theories. His model's most basic theoretical premise is the following: "protest and rebellion by communal groups are jointly motivated by deep-seated grievances about group status *and* by the situationally

¹¹ Gurr (1968:1107) measured civil strife as follows: (1) Turmoil (relatively spontaneous, unstructured mass strife, including demonstrations, political strikes, riots, political clashes, and localized rebellions); (2) Conspiracy (intensively organized, relatively small-scale civil strife, including political assassinations, small-scale terrorism, small-scale guerilla wars, coups, mutinies, and plots and purges, the last two on grounds that they are evidence of planned strife); (3) Internal war (large scale, organized, focused civil strife, almost always accompanied by extensive violence, including large-scale terrorism and guerilla wars, civil wars, private wars, and large-scale revolts). In specifying magnitude, pervasiveness, duration and intensity were taken in to account.

determined pursuit of interests, as formulated by group leaders and political entrepreneurs” (Gurr 1993b: 166-167, emphasis in original). In short, the interaction of grievances and mobilization is needed for the emergence of civil violence.

Grievance is mainly defined as “widely shared dissatisfaction among group members about their cultural, political, and/ or economic standing vis-à-vis dominant groups” (Gurr and Moore 1997: 1081). According to Gurr (2000: 73), there are three broad types of grievances that encourage groups to participate in political actions: (1) the extent of their material, political and cultural disparities; (2) the historical loss of political autonomy, and (3) the extent to which force has been used to continue their subordinate status¹² (Gurr 1993a). Relative deprivation theorists mainly focus on factors like group disadvantages, inequality, poverty, repression, education and discriminatory treatment, since grievances are a byproduct of these factors. They foster a sense of injustice, frustration and anger in society against an out-group (or the state) and people start organizing themselves to express their opposition to government policies. It is assumed that the greater the grievances against economic, political or social order, the greater also the potential for civil political violence.

Gurr also emphasizes the importance of *shared group identity* among group members in providing the necessary base for mobilization and in facilitating ethno-political mobilization and rebellion (Saxton 2005). “Ethnopolitical action presupposes an identity group that shares values cultural traits and some common grievances or aspirations” (Gurr 2000: 94). Gurr (1993b:167) summarizes this idea as follows:

¹² Gurr (1993a) concludes that different sort of grievances lead to different demands. For example, grievances driven by political and economic disadvantages lead to demands for greater political and economic opportunities, whereas loss of autonomy leads groups to fight for secession.

If grievances and group identity are both weak, there is little prospect for mobilization by any political entrepreneurs in response to any external threat or opportunity. On the other hand, deep grievances and a strong sense of group identity and common interests- as among black South Africans and Shi'i and Kurds in Iraq- provide highly combustible material that fuels spontaneous action whenever external control weakens. Whenever these sentiments can be organized and focused by group leaders who give plausible expression to members' grievances and aspirations, they animate powerful political movements and protracted communal conflicts.

Three factors are perceived to contribute to the salience of group identity: the severity of a group's disadvantages in relation to other groups, the extent of cultural differences in relation to others with whom it interacts, and lastly the intensity of the conflict with other groups and the state (Gurr 1993a : 126).

It is important to note that in this process of development of collective consciousness and identity, the feeling of illegitimacy is the key: "The proposition is that if men think deprivation is illegitimate, i.e. justified by circumstances or by the need to attain some greater end, the intensity and perhaps the level of expectations decline and consequently deprivation tends to be accepted with less anger" (Gurr 1968:55). However, to fully understand this linkage it is essential to be aware of the social structures that generated the tensions in the first place (see Sayles 1984; Gurr 1968, 1970, 1993b; Gurr and Duvall 1973, 1976; Lichbach and Gurr 1981).

In addition to emphasizing the importance of a cohesive group identity and shared grievances for political mobilization, Gurr also states that the timing and strategy of rebellion greatly depend on the political opportunities external to the group, since they determine the group's relationship with the state and other groups. His understanding of political opportunities is fairly broad: It not only includes domestic aspects like the

characteristics of the regime but also international factors like foreign support and aid (Gurr 2000). Contrary to the simplifications of various scholars, Gurr's interest is not limited to relative deprivation and structural inequality. He rather tries to develop a unified model of civil strife by accounting for the interplay among *identity*, *grievances*, *mobilization and opportunities*¹³ (Saxton 2005).

[See the MAR model- Figure 2.2- here]

Gurr and Moore specifically state that “Ethnopolitical rebellion is primary driven by grievances among an ethnic group and by how well that group is mobilized and, hence, in a position to take collective action”. They argue that “both grievances and mobilization are proximate causes of rebellion”, and they “hypothesize that they will have a positive impact on levels of repression” (1997:1082). In the MAR model, as shown in Figure 2.2, rebellion is directly influenced by grievances, mobilization and opportunities.¹⁴ Mobilization is directly affected by group identity, grievances and repression. Repression not only affects grievances and mobilization but also group identity, which implies that as repression on a group increases, people in that group will solidify their positions and get closer to each other. Group ID/cohesion is related to both mobilization and grievances. Saxton (2005: 91) states that “grievances are a function of repression and collective disadvantages”, and they have a positive impact on both mobilization and rebellion.

It is important to note that while proponents of the relative deprivation theory expect a direct association between deprivation (absolute and relative) -induced discontent and political violence, as the simplified version of ethno-political rebellion in

¹³ This is fairly explicit in two of Gurr's books: 1993a and 2000.

¹⁴ This figure is a simplification of Gurr's theoretical model, but it is used by Gurr himself (Gurr and Moore 1997: 1081).

figure 2.2 indicates, they do not claim that there is a simple relationship between frustration and aggression. They also acknowledge that the causes of resentment, like social isolation or discrimination, are not assumed to hit everyone with equal force, and that deprivation will not lead to violence or civil wars every time it is experienced by citizens. It might lead to other activities like non-violent protest. The response is determined by the nature and the magnitude of the frustration and the availability of various means. In sum, it all depends on the complex interplay of incentives and opportunity structures.

In addition, there are differences in opinion among scholars. One striking example is a disagreement between Gurr and Moore. In their coauthored piece (1997) while Gurr believes both grievances and mobilization have significant impact on rebellion and that they interact with one another, Moore does not believe that grievance directly affects rebellion. He believes that grievances have a direct effect on mobilization, which, in turn, will affect the likelihood of rebellion (see footnote 4, original article, 1997). Gurr (1993b:189) also states that grievances and objective conditions to which they are a response are critical in the early stages of mobilization. As the mobilization process continues, their significance decreases, while group organization, leadership, resources, state power, regime type and state response become more important factors.

The main limitation of the early formulations of the relative deprivation theory originates from the fact that theorists paid less attention to factors besides grievances and collective discontent (like political context of collective action and other opportunity enhancing factors) and perceived these as secondary factors in explaining civil

violence¹⁵ (Schock 1996). Hence, while they offered satisfactory explanations as to *why* people want to participate in collective political action (motivation), they could not successfully explain *how* groups of people come together, organize themselves and fight against the government.

Most empirical tests of the relative deprivation argument are conducted by using cross-national, objective, aggregate indicators, rather than individual level indicators that account for relative deprivation. Some of these studies show a significant direct association between the indicators of discontent¹⁶ and political violence, while others do not.¹⁷

2.1.2. Resource Mobilization/ Opportunity Theory

The mobilization/ opportunity theory provides an alternative explanation for the emergence of political violence. It is heavily influenced by rational choice theories¹⁸. The theory's basic premise is that social movements are the product of 'calculus of risk, cost and incentive' (Tarrow 1989: 8), and grievances are not sufficient for mass political violence to emerge. The emergence of large-scale collective violence mostly depends on the political environment and opportunity structures, which provide individuals with incentives to participate in collective action by affecting their expectations of success or failure (Tarrow 1994: 85). The process of political mobilization, which refers to organization and commitment of the group for collective action in pursuit of group

¹⁵ There are some exceptions: Gurr and his collaborators in later works tried to incorporate the collective responses to discontent, process of collective action and mobilization in their models (Snyder 1978; Gurr and Duvall 1976; Gurr and Bishop 1976).

¹⁶ See Feirabend and Feirabend (1966), Gurr and Duvall (1973), Gurr (1968) and Saxton (2005).

¹⁷ See Lindstrom and Moore (1995), Hibbs (1973) and Snyder and Tilly (1972).

¹⁸ For some examples of mobilization theory, see Gamson (1975), Jenkins and Perrow (1977), Snyder and Tilly (1972, 1975, 1978), Oberschall (1973), Muller and Opp (1986), Jenkins and Klandermans (1995), McCarthy and Zald (1977), Wilson and Orum (1976), McAdam (1982) and Snow et al. (1986).

interests and marshaling the resources to sustain collective action, holds a central place in this theory (Schock 1996; Tarrow 1989; Tilly 1978; Snyder and Tilly 1972; Eisinger 1973). The most important and direct explanatory factors are the organization of discontent and the ‘ability to mobilize resources’ (Muller and Selingson 1987). According to this perspective, relative deprivation is neither *necessary* nor a *sufficient* condition for conflict; what matters is simply *rational politics* (Lichbach 1989, 1998; Snyder 1978; Mc Adam 1982).

Tarrow (1994:1) argues that social movements are “triggered by incentives created by political opportunities, combining conventional and challenging forms of action and building on social networks and cultural frames”(Lichbach 1998:413). Therefore, the extent of collective political violence is determined by the political context¹⁹, relative power and resources capability, opportunity structures and the mobilization processes.

Tilly (1978) argues that when opportunity and resources for mobilization are available, if it is in their interests, individuals can choose to participate in a collective response. Therefore, participation in collective political violence is the product of the probability of victory and its consequences rather than grievances. Individuals will take up weapons only if they perceive the status quo worse than the future status quo that will emerge after organized armed violence. Therefore, protest and domestic violence should not be seen ‘an emotional reaction to grievances’ (White 1989: 1278) but rather as ‘simply politics by other means’ (Gamson 1975:139). In this regard, overcoming free-

¹⁹ Eisinger (1973:11) defines political environment as the combination of formal political structure, the climate of government responsiveness, social structure and social stability.

rider problems (and mobilizing groups to act collectively) through cultural, material or other incentives is *essential* for the transformation of discontent into political violence.

This approach perceives grievances and inequalities as ubiquitous, weak and relatively constant in all societies²⁰, and hence opposes the relative deprivation view that grievances are *automatically* politicized and that discontent will *directly* translate into increase in the activities of rebel groups for collective action. The existence of grievances is no guarantee for mobilization; the linkage between motivations and effective political action *depends* on the organizational capacity of groups and political/structural opportunities (Wald et al. 2005).

Skocpol provides a good representation of this perspective. In her famous work, *States and Social Revolutions* (1979), she offers a comprehensive theory of social revolution based on evidence from the French, Russian and Chinese revolutions. By using the absolutist state and its collapse in the face of increasing international pressure as her main explanatory variable, she makes a very strong argument for the importance of the state in providing the necessary opportunity structure for revolutionary movements to be successful. In essence, she defends the mobilization theory perspective by asserting that revolutions in these countries took place not because of peasants' grievances due to the maldistribution of landholdings but rather took place because these peasants experienced a certain level of autonomy from their landlords, which allowed them to successfully mobilize themselves against the state.

There are various criticisms of this theory. First of all, proponents of this approach minimize the importance of motivations and ideology and underestimate the

²⁰ See Jenkins and Perrow (1977), Mc Carthy and Zald (1977) and Snyder and Tilly (1972) for this argument.

significance of motivational concepts. By seeing them as theoretically unfruitful, they fail to address one of the most interesting theoretical questions: Why do groups rebel in the first place? (Gurr 1993b). The role individuals play in the development of collective action and their commitment to groups due to psychological factors are both underestimated. To give a real-world example, the most important factors that determine the collective activities of Kurds - from the viewpoint of the mobilization theory - are the political opportunities and constraints (like resources) they experience in various countries like Iran, Iraq and Turkey, rather than their group cohesion and deep-seated grievances about their group status. History has shown that psychological factors and frustrations have been vital for their movement. Secondly, the existence of ethnic and religious divisions in society is largely neglected. Thirdly, mobilization theorists do not have a satisfactory explanation for spontaneous large-scale events without strong operational base (Snyder 1978; Piven and Cloward 1991; Schock 1996).

2.1.3. Rational Choice Approach: Collective Action Theory

Similar to the mobilization theory, the rational choice framework provides micro-level explanations as to *how* people rebel, but they do not explain *why* people do so (Moore 1995; Lichbach 1998). The main focus of the collective action theory is the “rebel’s dilemma” or the problem of free-riding and non-participation in protest and rebellion (Lichbach 1998, 1995, 1992; Moore 1995; Olson 1965). This line of theorizing started with Olson’s famous work the *Logic of Collective Action* (1965). Scholars in this field challenge the relative deprivation thesis that “absolute and relative deprivations, institutional and structural strains, or threats to subsistence and moral indignation

eventually lead peasants to rebel” (Lichbach 1994b:386). They argue that discontent, grievances or aggravation are *neither* essential *nor* sufficient for rebellion (Lichbach 1994b).²¹

Two aspects of rational choice theories are distinctive and important to mention. First of all, it is argued that while making their choices individuals try to choose the option that will bring the maximum expected utility to the best of their knowledge.²² Therefore, people will rebel if they are convinced that (1) the payoffs from the continuation of the status quo is lower than the benefits of the new status quo, and (2) the collective action will be successful and lead to collective good. Second, rational choice theorists perceive collective domestic action (protest or rebellion) as a public good. This means that even when people stay out of the action against the government or the state, they can still enjoy the benefits.

Regarding the second point, according to the conventional Olsonian version of the rational choice theory, individuals will think that their contribution to the success of the rebellion, as a single individual, would be marginal. Besides, the costs associated with participation are definitely higher than the benefits that would be gained. People can not be denied to enjoy the benefits resulting from successful collective action (like regime change) because they did not participate (Finkel and Mueller 1998); “unless this collective action problem is somehow overcome, rational peasants will never rebel- even though all peasants stand to gain by rebellion” (Lichbach 1994b: 387).

²¹ For some examples of the collective action theory, see Olson (1965), Hardin (1982) and Oliver (1980). See also Popkin (1979) for an application of the same theory to peasant rebellions.

²² For related articles see Olson (1965), Tarrow (1994), Mc Adam et al.(1996; 1997), Lichbach (1995, 1987), McCarty and Zald (1977), Moore (1995) and Muller and Opp (1986)

Therefore, the main questions of this theory are: Why do people take extraordinary risks and join rebel movements that aim at the disruption or replacement of the state or government while they can free-ride on the actions of others instead of paying the cost? If rational people think like Olson and choose not to rebel but free-ride, then how can we account for all the rebellions that took place in the past? There are many examples of rebellion in which peasants did choose to take part in struggles against the state. So, how does the rational choice theory explain this so-called ‘non-rationality’? This is what make selective incentives of central importance to this theory and to dissident groups²³ (Tullock 1971; Lichbach 1998, 1995, 1992; Moore 1995; Olson 1965).

For a rebellion to be successful, a rebel group’s leadership needs to recruit and mobilize people and provide weapons for them. Given that the provision of a collective good is not enough to make people join rebel groups and that there is a high probability of free-riding, the rebel leadership has to offer some selective incentives *only* to its participants so that potential rebels would *not* think that abstention is better than participation (Olson 1965). Olson (1965: 51) states that “only a separate and ‘selective’ incentive will stimulate a rational individual in a latent group to act in a group- oriented way”. According to this perspective, the state plays an important role in determining the actions of the potential rebels; and indiscriminate and harsh state repression can lead to less free-riding if it is extremely costly not to join the rebel movement (De Nardo 1985; Moore 1995; Mason and Krane 1989).

Many scholars in the conflict literature believe that offering economic (i.e. material gains, direct payments, looting) or social (i.e. emotional or psychological gains)

²³ For an excellent review of mechanisms to overcome collective action problems associated with rebellion see Lichbach (1995).

selective incentives to rebels will solve the collective action problem experienced during the mobilization of large groups²⁴ (Moore 1995; Lichbach 1994a, b; Finkel et al.1989; Finkel and Opp 1991; Muller et al.1991; Opp 1989, 1990, 1994; Mason 1984; Muller and Opp 1986). While Olson's (1965) selective incentives are limited to economic ones, Finkel and Muller (1998:40) state that

soft incentives may motivate participation: Individuals may derive psychic satisfaction or suffer guilt from adhering or not adhering to personal norms about taking part in illegal political actions; they may participate in order 'to stand up for what they believe in,' or to gain knowledge about politics, or simply because of the sheer entertainment value involved in group political activities.²⁵

2.2. The Theoretical Framework and the Model

2.2.1. Factors of Discontent

An important reason for trying to account for the relative deprivation theory is because despite attracting considerable attention from scholars and its strong theoretical appeal, relative deprivation has not held up well under the scrutiny of modern political science research. The empirical success of the argument is fairly modest.

Testing the relative deprivation thesis by using handful of factors is a challenging task for any researcher. However, it is worth trying, given that it has important policy implications. Acknowledging the limitations of incorporating only economic inequality, I included five other factors in my model in order to better account for the 'unjust treatment of groups', feelings of injustice and frustration that are central to the

²⁴ Some scholars like Lichbach (1994b) argue that selective incentives can only be successful if they are supplemented with ideology, otherwise they will turn out to be counterproductive.

²⁵ For the non-economic gains like entertainment value or individual's sense of duty to class, country, race god or to other entity see Silver (1974: 64-65), Tullock (1971), Salert (1976:49) and Muller and Opp (1986).

discontent/deprivation thesis. These are regime type, gender inequality, political and religious discrimination and repression.

There is an important reason behind this selection. The relative deprivation/grievance thesis is inherently political; therefore, it can not be captured by simply analyzing one or two economic factors, like income inequality. The roots of the relative deprivation idea are anchored in complex political, economic and social conditions of a society. An individual's feeling of relative deprivation can be political or can originate from various sources like race, gender, social status, religion, income or ethnicity. It is relatively easy to come across studies claiming to test the relative deprivation theory simply with economic inequality data that is not very refined. However, other dimensions of relative deprivation have not been thoroughly examined in the literature. My goal is to offer a better way in testing the impact of relative deprivation and inequality on political violence.

Repression is substantively different than the limitation of the political, economic or religious rights by government policies. It can be evaluated as a factor of discontent, since it can lead to grievances among people (e.g Fox and Sandler 2003). However, it is important to remember that repression plays a vital role in the mobilization of rebellion by creating (or limiting) opportunities and by increasing (or decreasing) the cost of rebellion. Therefore, I chose to evaluate its impact separately.

a) Inequality

One of the most obvious sources of relative deprivation is inequality in society. The relationship between structural inequality and mass political violence is of great

importance for the relative deprivation thesis. Inequality indicates hierarchy in society, and the relationship between inequality and political violence has been one of the most widely questioned and tested issue areas in conflict literature. Aristotle perceived inequality as ‘the universal and chief cause’ of revolutions. In *The Politics* he states that inferior people will revolt so that they may be equal, and equals so that they may be superior. De Tocqueville (1961: 302) echoes the same idea in his well-known book *Democracy in America*: “Almost all of the revolutions which have changed the aspect of nations have been made to consolidate or to destroy social inequality”.

Some degree of political, social and economic inequality exists in all societies. In most cases, different types of inequality are also connected to each other. Dominant groups, for example, can use their economic wealth in the political arena, elections, policy making or in education and mass communication to influence the values, opinions, and preferences of subordinate groups for various purposes (Rueschmeyer 2004). Rueschmeyer (2004) argues that in countries characterized by poverty, people who seriously suffer from the lack of economic resources also lose their political voice, as well. The ones with higher-than-average earnings, on the other hand, are expected to have disproportional political influence. The role of money in elections and campaigns is just one of many examples that can be given.

The relative deprivation theory states that individuals not only judge their situation relative to their own expectations (relative deprivation) but also compare themselves with others in society (structural inequality). These are two different variants of the relative deprivation argument, and the underlying causal mechanisms behind each of them are very different (Regan and Norton 2005). Inequality “accounts for the actions

of rebels based on their evaluation of their lot relative to others; deprivation accounts for violence by focusing on an individual's perceptions of their aspirations relative to their immediate achievement" (Regan 2002c: 2). According to the inequality variant of the relative deprivation theory, when a substantial portion of the public does not fully share in the allocation of scarce resources, anti-system frustrations tend to be high (Sigelman and Simpson 1977: 106). The structural inequalities and collective disadvantages (economic and social) generate grievances among those at the bottom of society and if it is handled poorly by the state, such a situation can evolve into large scale political violence (Regan and Norton 2005). In short, inequality breeds discontent.

Rational choice theorists, on the other hand, claim that people do not rebel due to their grievances and frustrations that are by-products of income or wealth inequality (e.g. Lichbach 1990). In other words, they assert that rational people are self-regarding, not regarding others, and they care about the absolute deprivation (and their income relative to what they can do), rather than relative deprivation (their income relative to others). Therefore, rational people will not rebel against economic inequality, unless there is absolute poverty. In short, they expect inequality (in the form of the gini coefficient, land inequality, ratios of resource levels) to be uncorrelated with rebellion (Lichbach 1989: 464).²⁶

There has been a major disagreement among scholars who conducted empirical tests with regard to the impact of inequality on domestic violence. Even though the inequality argument has strong theoretical foundations, the results of empirical investigations have been inconsistent and not very supportive (Schock 1996; Regan and

²⁶ For example Lichbach (1990:1073) states that "inequality would never produce violent conflict among rational people" and "violent conflict may occur even in the best of times when rational but relatively deprived people make Samson's choice".

Norton 2005). Before discussing the implication of these results for the theory, a few issues need to be mentioned.

First of all, scholars conceive inequality in different ways and can not agree on the utility of each others' conceptions. While some scholars used indicators like land inequality (especially in predominantly agrarian societies) (see Russett 1964; Nagel 1974, 1976; Tanter and Midlarky 1967; Mitchell 1968; Moore, Lindstrom and O'Regan 1996; Midlarky 1988), others used inter-sectoral income inequality (see Parvin 1973) or income inequality (see Muller 1985; Sigelman and Simpson 1977; Hardy 1979; Weede 1981). Secondly, the results of the empirical tests have been inconclusive. While some scholars found support for the direct significant effect of relative deprivation or inequality on the severity of a rebellion (e.g. Gurr 1993; Regan and Norton 2005; Dudley and Miller 1998; Scarritt and McMillan 1995; Park 1986; Sigelman and Simpson 1977; Boswell and Dixon 1993; Nagel 1976; Parvin 1973; Russett 1964; Tanter and Midlarsky 1967; Midlarsky 1988), others found no significant direct relationship between relative deprivation, economic inequality and political violence (Lindstrom and Moore 1995; Moore, Lindstrom and O'Regan 1996; Gurr and Moore 1997; Hauge and Ellingsen 1998; Deininger 2003; White 1989; Weede 1981, 1987; Hardy 1979; Muller 1985; Nagel 1974). Midlarsky (1988:492) summarizes the state of the research on this issue: "Rarely is there a robust relationship discovered between the two variables. Equally rarely does the relationship plunge into the depths of the black hole of non-significance."

The lack of association between economic inequality and civil violence can be seen as a disappointing result for relative deprivation theorists and encouraging for both the rational choice and mobilization perspectives. It fits the rational choice perspective,

because rational choice claims that the decision to participate in a rebel group is not determined by inequality but rather by the success of the action and the overall cost benefit calculation of the potential rebels. It is also in line with mobilization theory, because it asserts that the main explanatory factor behind the rebellion is the organization and mobilization of collective action, not the social and economic inequalities inherent in society.

The findings about inequality are important, because, as Muller (1985:47) states, if inequality does not have a direct impact on the risk of civil war, and the overall level of economic development is the main determinant, then “developing countries would be well advised to follow the ‘Brazilian model’ of development, which emphasizes rapid accumulation of wealth at the cost of enhancing distributional equality in order to reach a high level of development as quickly as possible”. Or similarly, if both inequality and the level of economic development have a direct effect on civil war incidences, then the strategy should be one that emphasizes not only accumulation of wealth but also distributing it equally, over a relatively long period of time.

At this point, a renewed effort to analyze the inequality-violence nexus with a focus on multiple dimensions of inequality is needed, and I hope to contribute to this aspect with my dissertation. Given the difficulty of accounting, operationalizing and measuring societal inequality and the dubious quality of existing measures, it would be inaccurate and premature to call relative deprivation theory ‘dead’ or ‘not capable of explaining collective violence’ just based on the results of a few empirical studies. Furthermore, “it is possible to argue that relative deprivation matters in producing political violence without claiming that income inequality matters” (Weede 1987: 98).

In sum, I will test whether there is a direct relationship between various kinds of deprivation-induced discontent and domestic political violence. If such a direct relationship does not exist between the two, then this will support the mobilization/opportunity school. My first hypothesis is related to income inequality:

H1 (Income inequality): As income inequality increases, the likelihood of civil war increases.

As stated earlier, the most commonly used economic inequality proxy in the literature is income inequality.²⁷ “Income inequality is limited conceptually to measuring relative deprivation in terms of relative economic well-being, as opposed to other equally valid orientations, including political autonomy, political rights, and social and cultural rights” (Dudley and Miller 1998:78). It is important to note that in the relative deprivation theory, the importance of structural inequality for the occurrence of civil violence is not limited to economic aspects. Due to these reasons, I supplement income inequality with alternative measures in order to be able to account for the relative deprivation theory and better evaluate its predictions for civil wars.²⁸

Lichbach (1989:467) states that “inattention to different dimensions of inequality is a major flaw of economic inequality and political conflict studies”. In an attempt to expand this debate, I argue that domestic gender inequality is an important aspect of structural inequality and societal-level discrimination, and it is powerful enough to capture the structure of social relationships within society. The term gender inequality entails how women are valued relative to men in society and it “is the most obvious and

²⁷ For examples, see Panning (1983) and Berrebi and Silber (1985)

²⁸ For similar approach see Gurr and Moore (1997), Gurr (1993a, b), Lindstrom and Moore (1995) and Dudley and Miller (1989).

widespread manifestation of hierarchical social structures” (Caprioli and Trumbore 2005: 8).

The difference between men and women in society originates from the subordination of women. Status differentials are usually sustained by intolerance and hierarchical organization, and they determine the relative influence of women on various aspects of life and politics (Melander 2005). “Gender is a multifaceted aspect of discrimination with issues of gender determining roles, power relationships, responsibilities, expectations, and access to resources” (Caprioli 2003:4). Gender inequality like all other sources of inequality (created by racial, linguistic or religious differences) affects all aspects of human interactions in a society and is an important indicator of structural inequality and subjugation (Caprioli 2003; Tickner 1992, 2001; Melander 2005).

Feminist and constructivist arguments state that the existence and continuation of social exclusion and subordination by norms of violence and oppression poses risks for domestic peace and stability (Tickner 1992; Caprioli 2000, 2005; Melander 2005; Goldstein 2001). “More equitable societies may be more peaceful because the norms of inviolability and respect that define equal relations between women and men are carried over also to wider relations in society, for example, vis-à-vis ethnic minorities or political opponents.” (Melander 2005: 696). The logic behind this argument is that in societies characterized by less equal gender roles, the existence of male dominance in the smallest social unit - namely family - will have implications on a broader scale by ‘creating a culture of domination, intolerance, and dependency in social and political life’ (Fish

2002:30). On the other hand, the prevalence of equality in all sorts of human relations will strengthen the social norms that oppose abuse, repressiveness and violence.

Based on this reasoning, I expect that a high level of gender inequality leads to the development of in-group/out-group and ‘us versus them’ feelings. Social injustice and subordination are expected to increase the likelihood of collective political violence. Therefore, the hypothesis on income inequality is:

H2 (Gender inequality): As the level of gender inequality in a society increases, the likelihood of civil war increases.

b) Regime type

Rummel (1994:1) states that “Power kills, absolute power kills absolutely”. What is the impact of a regime type on the emergence of civil wars? In the literature, regime type has been used as proxy not only for repression, discrimination but also institutions by many scholars (see Gurr and Moore 1997: 1083). Even though the regime type has important implications for equality, repression and discrimination within a society, its power in accounting for all of these aspects is limited. I will include regime type only to proxy the extent of political freedoms and civil liberties in a society.

The nature of the regime has a significant impact both on the lives of its citizens and on the tactics utilized by rebel groups. It can create grievances and limit (or facilitate) the transformation of discontent into collective violent action. It is commonly asserted that democratic political structures will less likely to foster civil wars, since they are more inclusive, constrained, egalitarian, tolerant, accountable and responsive to the wishes of the people (see Dahl 1971). They are expected to be less discriminatory and less

repressive in their policies (Davenport 1999). The citizens in fully democratic regimes tend to have more freedoms, access to power and resources than in dictatorships. Aggravated individuals can express their grievances in peaceful ways, like voting, bargaining and negotiation instead of violence. Competitive elections allow citizens to overthrow a regime if they are not satisfied with its policies. Besides, groups can make use of available legitimate channels to espouse and organize dissent, like protest demonstrations. In many ways, the availability of formal institutions and effective channels to express dissent puts brakes on large scale violence (Regan and Henderson 2002; Krain and Myers 1997; Powel 1982; Gurr 2000).

Fully functional democracies²⁹ are limited in their actions, since they have to operate within the boundaries of the constitution and checks and balances. Regime legitimacy is the paramount concern for the leaders. These characteristics of democratic representation can significantly decrease the grievances citizens experience in society (Powell 2004; Saideman et al. 2006; Rummel 1995). It is important to mention that in Gurr's model, democracy and democratic durability are two factors that directly influence the level of repression. However, their impact on rebellion is via grievances or mobilization.

There is empirical evidence showing that while democracies are associated with peaceful communal protests, communal rebellion is more common in non-democracies (Gurr 1993; Zimmerman 1980).

Note that in democratic systems, political leaders such as Mahatma Gandhi and Dr. Martin Luther King openly advocated defiant, nonviolent means. In stark contrast, Mao, Che Guevara, and other leaders facing dictatorial regimes spend a great deal of time elaborating the tactics of guerilla attacks (Gupta et al. 1993: 307).

²⁹ For a definition of democracy see Dahl (1971, ch. 1), and Vanhannen (1990, ch. 2).

The mobilization theory states that democratic regimes will facilitate citizen activities in pursuit of political aims. As opposed to closed regimes, open ones are more responsive to citizens' needs and demands, and there are multiple channels for citizens to influence the decision making. If they can not exercise influence through their representatives, then they can try to replace them. In other words, in democracies, opportunity structures are open for collective action (Eisinger 1973). Instability of the regime is another factor that is expected to increase the opportunities for group mobilization. Political instability breeds disorganization and state weakness and this, in turn, increases opportunities for insurgents to engage in violent activities (Fearon and Laitin 2003; Gates 2002; Barbieri and Reuveny 2005; Hegre et al 1998).

Some scholars assume a curvilinear relationship between regime type and civil strife, because semi-democratic systems (anocracies) provide limited channels of political participation to their citizens.³⁰ In dictatorships and closed regimes, even though there is widespread discontent, people do not have effective peaceful mechanisms to articulate their opinion. Since the repressive nature of the regime increases the costs of collective action dramatically, mobilization attempts are being hindered. The relationship between regime type and civil strife is the same as the repression-political violence relationship. Extremely closed or repressive political systems will inhibit collective political actions (Schock 1996).

Semi-democratic regimes “do not have sufficient institutional development to cater to the demands of the public”. Therefore, when people prefer to articulate their

³⁰This argument has also been made by the following authors: Hegre et al (2001), Fearon and Laitin (2003), Ellingsen (2000), Regan and Henderson (2002), Henderson and Singer (2000), Reynal-Querol (2002 a, b), Collier and Hoeffler (2000), Sambanis (2001) and Elbadawi and Sambanis (2002).

demands and interests using peaceful strategies of participation, they are faced with a limited range of options (Regan and Henderson 2002:131). Given that people are more likely to experience discontent in semi-democracies than in democratic regimes, and given that mobilization is not as difficult as in the case of autocracies, the likelihood of civil war is expected to be higher in semi-democracies as compared to democracies and autocracies.

Based on the explanations above the hypotheses related to the regime type are as follows:

H3 (Regime type 1): Democracies are less likely to experience civil wars than autocracies (negative relationship).

H3a (Regime type 2): The likelihood of civil war is highest in anocracies (curvilinear relationship)

H3b (Regime type3): The likelihood of civil war is higher in unstable societies.

c) Political and Religious Discrimination

Does discrimination play an important role in the emergence of large-scale political violence and civil wars? Relative deprivation theorists and Fox's (a leading expert on religion and conflict) answer to this question would be yes: "A major, if not the primary, cause of ethnic conflict is discrimination by a majority group against a minority group" (Fox 2000b: 425), since it creates conditions that are responsible for the continuation of inequalities between groups (Gurr 1993a). In general, all groups expect the state to provide collective goods without discriminating against any group of people. However, when the government provides less tangible benefits (like education, health

services and infrastructure) or limits political or other rights of certain groups, this leads to increased feelings of injustice and resentment among disadvantaged citizens. From the relative deprivation point of view, the intensity of unjust differential actions of the state - political, religious or economic - provides the essential base for the mobilization and shapes the claims made by the leaders of the groups (Gurr 1993b). Therefore, discrimination has been hypothesized to increase the propensity of groups to rebel (Dudley and Miller 1998).

Until this point, my discussion of grievances has been mainly based on economic factors. However, such a simple depiction fails to capture the complex reality. As much as people suffer from economic inequalities (like discrimination in taxation, public services like education and health care or accessing productive assets that are essential for livelihoods), they can suffer from non-economic deprivations, as well (Sayles 1984; Murshed 2005). Political and religious discrimination in addition to repression and gender inequality, are added to my model to account for the non-economic differentials and deprivations that might affect individuals. In order to be able to capture the effects of different types of discrimination, I will focus on two different types: political and religious discrimination.³¹

Gurr (1993a:36) states that “groups that won out in conquest, state building, and economic development established patterns of authority and various kinds of social barriers to protect their advantages, including the policies and practices for which we use

³¹ The logic of economic discrimination is very similar to economic inequality; therefore I do not include a specific measure for economic discrimination to my model. As people realize that they are getting less than other group of people without any legitimate reasons, this discontent and frustration increase the bonds between the disadvantaged people. The stronger the grievances are of less well-off groups and individuals due to economic discrimination and inequality, the higher is the likelihood of internal political violence.

the shorthand label of ‘discrimination’”. As mentioned earlier, in his formulation (2000:71), the concept of collective disadvantages (defined as ‘socially derived inequalities in material well-being, political access, or cultural status by comparison with other social groups’), inter-group differentials and discrimination play a significant role in the emergence of frustration and civil strife.

Political discrimination can be defined as the systematic limitation of opportunities of group members limiting their political rights, participating in political activities, accessing political positions by comparison to other groups in society (Gurr and Gurr 1983:52; Gurr 1993a: 46). Discrimination can also occur in the form of limiting the freedom of expression and movement of individuals and putting restrictions on political organizations and voting. When disadvantaged groups are denied power to advance their interests and to influence policies, they will become suspicious about the intentions of the dominant group and “it becomes quite possible that arbitrary actions will be blown out of proportion and increased insecurities will undermine cooperative behavior” (Hartzell et al. 2001: 186). A good example for this is the exclusion of black representatives from the overwhelmingly Afrikaner cabinet in South Africa. It increased social distance and tensions between various groups. A similar example is the political discrimination against Turks in Bulgaria. During the early and mid-1980s, Turks were forced to change their names, and their collective existence was mostly denied. They were also banned from taking political party-related positions. The exclusion from power created the suspicion of aggressive intentions and significantly decreased the Turks allegiance to the state and created discontent (Gurr 1993; Lijphart 1985; Hartzell et al. 2001).

Relative deprivation theorists would claim that as the level of economic, political and cultural discrimination an ethnic minority is faced with increases, the likelihood of violent rebellion against the state increases, as well³² (Hartzell et al. 2001; Regan and Norton 2005; Gurr 1970, 2000; Caprioli 2005; Gurr and Harff 1994; Harff and Gurr 2004; Gurr 1993). Therefore, the hypothesis is:

H4 (Political Discrimination): As the level of political discrimination increases in a state, the likelihood of civil war increases.

The religious aspects of domestic conflicts have been largely ignored by mainstream international relations scholars. Contrary to the expectations of the modernization/secularization theory³³ and functionalism, the influence of religion has been on the rise in the post cold war era (Fox 2004, 2000c). World events like the September 11 attacks, ethno-religious conflicts³⁴ including Algeria, Afghanistan, Sri Lanka, Northern Ireland, the Balkans and Sudan and the rise of religious fundamentalism have encouraged scholars to think about the impact of religion on conflict more seriously.³⁵ Following the 1980s, scholars started to realize that religion is a major source of domestic and international conflict, including terrorism (Stern 2003; Rapoport 1984; Huntington 1996; Fox 1997, 1999, 2000a, b, c, 2001, 2004a, b; Rummel 1997; Reynal-Querol 2002a; Fox and Sandler 2004). For example, Huntington (1993; 1996) argues that

³² One interesting example for the political discrimination and collective violence relationship is the Roma population (Gypsies) in Eastern and Western Europe. They are one of the most politically, economically and culturally marginalized minorities in Europe (Fox 2001/2002). Despite considerable grievance formation due to discrimination, their actions were never organized and therefore did not reach the level of rebellion or civil war.

³³ While modernization theory expects the decrease in the salience of primordial factors (like religion) in modern society due to modernization, urbanization and economic development, the secularization theory of sociology assumes that the ethnicity and religion will be replaced by secular, rational and scientific developments (Fox 2004: 716).

³⁴ In this context ethno-religious refers to the ethnic minorities that have a different religion than the majority group in their state.

³⁵ In Huntington's classification of civilizations religion seem to play a major role even though it does not explicitly expressed. See Fox (2004; 710, ft 9) for more information on this point.

the main division in the post-cold war world would be along the lines of culture, ethnicity and religion, rather than caused by different political systems or levels of economic development (Fox 1999, 2001). Therefore, his list of civilizations is largely determined by religion.

Religion is a part of culture and it serves as a cultural marker distinguishing groups. It plays a major role in the construction, development and stabilization of individual and group identity by providing believers with a major framework, rules, standards and perspective, with which believers can make sense of the world around them. It also contributes to their psychological needs by creating a sense of belonging, self-esteem and actualization (Seul 1999). Seul (1999) states that the preservation of old content, rituals, moral frameworks, rules and traditions acts as a safeguard for traditional order, brings predictability and continuity to peoples' lives, helps them deal with the pressures of change and stabilizes their individual and group identity. "Religion often lies nearer to the core of one's identity, in part, because the other elements of one's identity typically do not address the full range of human needs, fears, and concerns as comprehensively or powerfully as religion does" (Seul 1999: 562). Therefore, when a religious framework or the integrity of a group's identity is challenged due to various policies like discrimination, believers have a hard time dealing with reality. They interpret these threats against their group as threats against their own identity. It essentially becomes a challenge for a believer's own values and deepest beliefs and feelings, strengthens group cohesion and creates a defensive, mostly conflictual reaction (Fox 2000c).

There is evidence in Gurr's (1993) and Fox's (1999, 2000, 2004) work that religion is a powerful source of individual and group identity. "Religion has a protean quality: it can divide groups that otherwise are culturally similar, as in the case of Yugoslavia, it can align fairly neatly with ancestral and linguistic markers, as it does, for example in Northern Ireland; or it can serve as the basis for differentiation among groups that are similarly diverse, as it does in the case of Indian Hindus and Muslims" (Seul 1999: 565). Religious cleavages are perceived as a chronic source of deprivation which, in turn, can contribute to the emergence of domestic conflicts in a number of ways (Gurr 1968: 1110; Fox 2004c).

More specifically, religious discrimination refers to the extent of restrictions and limitations on religious activities and practices due to government policies or to widespread social practice (Fox 2000b). Some examples are the restrictions on the celebration of religious festivals, on building places of worship, restrictions on religious education and schools. Relative deprivation proponents claim that religious discrimination and limitations on religious expression will produce feelings of discontent and in turn, these motives can translate into violent political conflict (Fox 2004b). Schock (1996:127) briefly summarizes Gurr's idea: "The combination of weak, illegitimate states and cultural divisions of labor, with their institutionalized discrimination provides a potent formula for violent conflict".

Mobilization theorists, on the other hand, put a spin to the relative deprivation argument and argue that the translation of religiously grounded grievances into violent political action is possible *but* contingent on some other conditions, like the political opportunity mechanism and means. The Islamic Salvation front in Algeria is an example

that clearly shows the importance of opportunity structures for religiously-based collective actions (e.g. Wald et al. 2005).

In addition to serving as a factor that binds people and strengthens their identity religion in general can also be a great resource for the mobilization of a group. Wald et al. (2005:135) state that “compared to nonreligious social movements religious organizations have a real organizational advantage in communication”. Regular church or mosque meetings, for example, can be used as agencies for mobilization by the leaders to distribute information to the masses (Marty and Appleby 1992; Fox 2004c). Based on the discussion above the hypothesis concerning religious discrimination is as follows:

H5 (Religious Discrimination): As the level of religious discrimination increases in a state, the likelihood of civil war increases.

2.2.2. Repression

Political repression³⁶ is usually defined as the systematic violation of political rights (like human rights and the respect for people’s personal integrity) and civil liberties (like the freedom of expression) of individuals or groups by the government to weaken their resistance to the will of the authorities. Similarly, Goldstein (1978: xvi) defines political repression as “government action which grossly discriminates against persons or organizations viewed as presenting a fundamental challenge to existing power relationships or key government policies, because of their perceived political benefits”. It can take many forms, like arbitrary arrest, detention, torture, disappearance and political killings. Political repression is widely perceived not only as another type of

³⁶ To prevent redundancy in the text I will use repression interchangeably with ‘repressive behavior’, ‘political repression’ and ‘negative sanctions’.

discrimination by the state (Fox and Sandler 2003) but also as a strategic choice that is made by governments to create or maintain the political quiescence and a climate of fear (Davenport 1999; Tilly 1978; Gurr 1986; Henderson 1991).

The key question regarding repression in the domestic conflict literature is ‘how do people (groups) react to repression?’ It is commonly argued that repressive actions of the state play an important role in determining the likelihood of social movements and the participation of individuals in these collective activities. However, the impact of repression on domestic political violence is interpreted differently by various theories and their predictions are therefore different. Relative deprivation theorists argue that repressive acts of the state will have psychological reactions and increase a challenger’s anger, levels of dissatisfaction and frustration (Karmeshu et al. 1990). If people who are subject to repression perceive these acts as immoral and illegitimate, they will lose their trust in the established political order. The moral distress and the search for justice are expected to increase the level of participation in social movements (Barkan 1980).

Similarly, the most prominent scholar of relative deprivation theory, Gurr (1970: 238) states that “imposed sanctions are deprivations, the threat of sanctions is equivalent to the concept of anticipated deprivation, the innate emotional response to both is anger”. In these circumstances “the apathetic become politicized, the reformers become radicalized, and the revolutionaries redouble their efforts” (Lichbach 1987:269). Therefore, the general prediction is that intense repression will elicit aggression.³⁷ Lenin and Khomeini can be given as examples for this argument. Both of them faced various policies of repression from the state, which led to the strengthening of their feelings and

³⁷ For a positive relationship between policies of repression and rebellion see Eckstein (1965), Gurr (1969), Hibbs (1973), and Gurr and Duvall (1973).

political struggle (Lichbach 1987; Opp and Ruehl 1990; White 1989). As shown in the MAR model, repression has a positive association with grievances and also mobilization. Therefore, MAR scholars expect a high level of repression to increase peoples' grievances and the likelihood of rebellion (e.g. Saxton 2005).

[See the MAR model- Figure 2.2- here]

The derived hypothesis can be stated as follows:

H6 (Repression 1): As the level of political repression increases in a state, the likelihood of civil war increases (positive relationship).

Mobilization/opportunity theorists, on the other hand, argue that repressive activities and tight social control will limit mobilization attempts of insurgency groups. These sorts of activities significantly increase the cost of collective action by impeding the capability of groups to challenge the government and to mobilize resources like people, money and guns (Tilly 1978; Oberschall 1973; Jenkins and Perrow 1977; Rasler 1996; Barkan 1980; Eisinger 1973). They perceive political repression as 'a cost' and 'a negative selective incentive' (Opp and Roehl 1990: 522). Besides, if according to this logic rational individuals expect more repression due to participation in a collective movement, then they will be even less inclined to take part in violent collective action (Tilly 1978; Snyder and Tilly 1972; Olson 1965; Hardin 1982). Therefore, the general prediction of this theory is that a higher level of repression is associated with a low likelihood of civil political violence.

H6a (Repression 2): As the level of repression increases in a state, the likelihood of civil war decreases (negative relationship).

A more refined version of the mobilization theory state that the relationship between repression and domestic violence is not a linear one but rather an inverted U shape (Tilly 1978; Weede 1987; Dudley and Miller 1998; Muller 1985; Boswell and Dixon 1990; Muller and Seligson 1987; Gurr 1970; Mueller and Weede 1990, 1994; Khawaja 1993). When the level of repression is very low or high, little collective activity is predicted because extreme levels of repression will make mobilization very difficult and costly. Similarly, a low level of repression is not going to make people believe that violence is essential to show dissent against the government policies. In states characterized by middle levels of repression “organization is possible, the cost of collective action is not prohibitive, but opportunities for effective participation are restricted” (Muller 1985: 48). Therefore, given that in semirepressive regimes are not so repressive as to prevent all collective action, and that some opportunities for mobilization are available the translation of discontent will be easier. Hence, more domestic violence is expected.

H6b (Repression 3): The likelihood of civil is highest at the moderate levels of repression (curvilinear relationship).

In short, “there are theoretical arguments for all conceivable basic relationships between government coercion and group protest and rebellion, except for no relationship”³⁸ (Lichbach 1987: 267). The results of empirical research have been mixed and inconclusive with respect to the relationship between repression and collective political violence.

³⁸ For recent empirical research on the relationship between repression and violence, see Rasler (1996), Opp and Ruehl (1990), Muller and Weede (1990), Henderson (1991), Oliver (1991), Hoover and Kowalewski (1992), Gupta et al. (1993) and Khawaja (1993).

2.2.3. Economic Development and Growth Rate

States are expected to fulfill certain functions, like providing security internally and externally. One other important function of the state is to meet the fundamental socio-economic needs of its citizens (regardless of the group they belong to), raise the physical quality of life of the general population according to available resources and shape the distribution of the economic surplus (Moon and Dixon 1985). Individual welfare, in the broadest sense, shows the extent to which basic human needs are satisfied in a society. If there are sharp needs for housing, jobs, water, health and food and if the government is not handling the scarcity efficiently, these circumstances will increase discontent and the likelihood of civil war occurrence. When the level of economic development is high, people will be more satisfied and will not pressure their governments with these sorts of demands.

Relative deprivation theorists claim that economic development plays a huge role in shaping peoples perceptions, opinions and grievances. In addition to basic needs, individuals and groups have some expectations and demands for change. While basic needs are more related to the absolute level of development, expectations of change in the ongoing processes of production and distribution of commodities are about relative perceptions. In other words, people can be concerned about change for private gains (“ego-focused image of change”), implying a rise in their income, and it can take place as a result of an upward class movement (Parvin 1973: 274). Countries that are not economically well-developed will experience social immobility problems and other sorts of social strain factors, and it will contribute to the accumulation of frustration (Gurr 1970). Secondly, people can desire economic change for their group. Parvin (1973) calls

this type of change a ‘general-interest demand’ for change. While “a decrease in the flow of necessities implies biologically experienced frustration on the part of individuals directly affected”; “a decrease (relative or absolute)” in the flow of needs implies a psychosocially experienced frustration” (Parvin 1973: 276).

Based on the strong association between individual welfare and the overall economic development level scholars expect to find a strong relationship between economic characteristics of a country and the incidence of civil wars (e.g. Blomberg and Hess 2002; Collier and Hoeffler 2004). Indeed, after more than 30 years of empirical testing, there is near consensus among scholars that there is a *negative* relationship between the state of economy and domestic violence³⁹ and that per capita income is the *single most important indicator* in explaining civil war across nations⁴⁰ (Murshed 2005).

Similarly, high growth rates are perceived as a positive development by deprivation theorists since it means not only the economy is expanding but also ‘more’ for everybody. High growth rates decrease the competition for goods, as well as the level of frustration and deprivation, unless there are extreme levels of inequality in society (Collier and Hoeffler 2002; Ellingsen 2000).⁴¹ There are cases like Brazil, where a rapid

³⁹ For some examples see Gupta et al. (1993), Hibbs (1973), Gurr and Duvall (1973), Zimmerman (1983), Muller (1985), Hardy (1979), Sambanis (2002), Elbadawi and Sambanis (2002), Henderson and Singer (2000), Collier and Hoeffler (2004), Ellingsen (2000), Barbieri and Reuveny (2005), Regan and Henderson (2002), Blomberg and Hess (2002) and Walter (2004).

⁴⁰ Blomberg and Hess (2002) label this self-reinforcing phenomenon ‘poverty-trap’.

⁴¹ See Hardy (1979) for the argument that the economic development level and growth matter but inequality does not contribute to the explanation of cross-sectional variation in the occurrence of political conflict. In addition, some scholars focus on the negative consequences of growth. It is argued that rapid growth rates create socio-economic imbalances, which in turn, can lead to relative deprivation. Olson (1963), for example, assumes that fast economic growth or decline, will break down the ties between people and therefore will make societies susceptible to violence. “Excessive social mobilization, creating wants which cannot be satisfied because of rather slow economic development, provides an example of such imbalances” (Weede 1987:97).

increase in growth did not decrease the aggravation and frustration of the people due to massive inequalities in the distribution of wealth, high inflation and low wages.

In Gurr's model (1985) the general economic decline, unemployment, high inflation rates, low GDP, unequal economic growth and greater scarcity appear as important factors that increase individual perceptions of absolute and relative deprivation. In addition it is argued that ethnic, racial or other antagonisms can easily get activated and group solidarity can be strengthened in times of economic hardship (Oliver 1989).

Likewise, mobilization and rational choice theorists claim that the state of the economy and quality of life are the most important indicators that determine the cost of rebellion, and the level of participation in insurgency (supply of rebel labor). When an economy is in crisis or in decline, groups will hold the government accountable for their hardship and will be more interested about the benefits of the rebellion. In times of economic hardship, people will be more likely to engage in risky behavior because the expected benefits appear to outweigh the costs. Growing interest among the insurgency to change the status quo will strengthen the cohesion of the group and make mobilization easier.

The opportunity cost of rebellion is significantly higher in countries with high levels of economic development and growth rates, and the likelihood of political violence is lower. The logic is very simple: A person with a very low level of income will have much less to lose by participating in violent domestic activities than those who are economically better off. Similarly, if the growth rate is low, the individuals' economic expectations for the future (both in terms of income or employment) will be low. Therefore, in countries with low living standards, the incentives to change the status quo

by risking one's own life will be higher, since people have 'nothing to lose but chains' (Parvin 1973: 282; Collier and Hoeffler 2004; Walter 2004; Fearon and Laitin 2003).

While the empirical evidence for the association between GDP per capita and civil war is very strong, the evidence for the link between growth and civil war is modest.⁴²

A good example for the importance of economic agendas for the emergence of civil wars is Georgia. After the collapse of the Soviet Union, Georgia experienced a strong struggle for state power and secessionist wars in South Ossetia and Abkhazia between 1989 and 1993. Even though the country is not very rich in terms of natural resources, the availability of weapons from Soviet bases, dire economic conditions, the easy conditions for smuggling and the availability of volunteer fighters reduced the initial cost of civil war and provided the opportunity for it (Demetriou 2002; Wennmann 2003).

In addition to economic development level, it is essential to take into account the role of economic inequality in civil wars, since per capita income or growth rates are insensitive to distributional variations within a society. The probability of civil war may depend not only on the average level of wealth but also on the manner in which it is distributed (Sigelman and Simpson 1977; Schock 1996). Inequality is less bearable in poor societies since "these countries have less 'slack', so resource crises will push more people more quickly to and below subsistence margin" (Gurr 1985:71). Henderson and Singer (2000) state that economically better off states have resources that can be distributed to disaffected people at times of hardship to continue to get their support of the status quo; however, poor states do not have this luxury. So, supplementing income indicators with inequality measures will allow researchers to better understand the importance of human welfare when it comes to civil wars (Moon and Dixon 1985: 662).

⁴² Fearon and Laitin (2003) do not find support for the economic growth argument.

In sum, economic development is expected to decrease the likelihood of political violence and the hypotheses are as follows:

H7 (GDP per capita): The higher the per capita income in a state, the lower the probability of civil war.

H8 (GDP growth): The higher the growth rates in a state, the lower the probability of civil war.

2.2.4. Military Strength and Geographical Factors (Terrain and Contiguity)

The military survival of rebel organizations is a function of various factors like the state's military power, the cohesion and the financial capabilities of the organization, as well as geographic factors. States with weak military capabilities are not only expected to have difficulties in preventing the interferences of external enemies but also in preventing the emergence of violent movements within their borders (Schock 1996). Scholars argue that military capability is directly associated with domestic political violence, since the military capability of a state plays a major role for rebel groups' cost and benefit calculations. "The larger the government's army is to begin with, the greater its advantage and the more capable it will be of suppressing a nascent uprising before it has a chance to grow into a formidable challenge to the regime" (Mason and Fett 1996: 550). An incentive for rebellion is conditional for victory, and a state with a large and powerful army will deter insurgency by decreasing their overall chances of winning a quick and easy victory (De Soysa and Sobek 2004). In this case, rebels are not only forced to take serious risks to challenge the government but also to find ways to finance

and sustain the war for longer periods of time. Therefore, the hypothesis is stated as follows:

H9 (Military capability): As the military capability of the state increases, the risk of civil war decreases.

Opportunity theorists pay specific attention to geographic factors like topography and resources because they play a vital role in the mobilization efforts of rebel groups. Insurgents are militarily disadvantaged, meaning that they are militarily weaker than the government forces. In order to achieve their purposes, rebel groups have to build their forces from scratch in the shadow of the government's already established professional army. A large, well-trained and equipped army can easily spread out and make it very difficult for rebels to recruit people (Mason and Fett 1996; Balch- Lindsay and Enterline 2000). To make up for the lack of military power, rebel groups need to find ways to hide from government forces and their technologically advanced military attacks.

Rough terrain and a large distance to the center of a state increase the survival chances of the insurgency and provide the opportunity for rebellion. The areas covered by jungles, rainforests and mountains limit the reach of state authority and are great for guerrilla warfare, because it is harder for government forces to find, capture and destroy the rebel groups. Similarly, noncontiguous territories are thought to foster rebels' efforts since they make it harder for a government to defend the national territory and monitor the activities of people (Fearon and Laitin 2003; Buhaug and Gates 2002; Barbieri and Rauveny 2005; Collier and Hoeffler 1998). The related hypotheses about the viability factors are as follows:

H10 (Mountains): More mountainous countries are more likely to experience civil wars.

H11 (Noncontiguity): Countries with a territorial base that is geographically separated from the center of the state power (capital city) by land or water are more likely to experience civil wars.

2.2.5. Demographic factors: Population, Social Pluralism, Fractionalization and Domination

Population is one of the variables that has consistently been found to have a significant effect on civil strife (Fearon and Laitin 2003; Collier and Hoeffler 2002, 2004). While population plays only an indirect role in relative deprivation, it plays a key role for the mobilization theories. It is assumed that when the population is large, the pool for rebel recruitment tends to be correspondingly larger. It is also argued that when the country is populous, not only the risk of one individual to be punished for his participation in a rebel movement is lower, but that it is also harder for the government to control what happens on the local level (Collier and Hoeffler 2004; Elbadawi and Sambanis 2002; Barbieri and Reuveny 2005; Regan and Norton 2005; Fearon and Laitin 2003). Therefore, the opportunity theory perceives a large population as an opportunity-enhancing factor for domestic violence. Furthermore, scholars prefer to control for this variable since the coding of civil wars depends on the 1,000 battle deaths threshold. It is obviously easier for more populous and larger states to reach this threshold and experience civil wars as compared to less populous states.

H12 (Population): More populous countries are more likely to experience civil wars.

Most people assume that ethnic (cultural, religious, racial or linguistic) differences, inequalities and tensions among groups are among the root causes of civil wars. The impact of ‘social pluralism’ and diversity on democracy (Fish and Brooks 2004; Lijpart 1977; Horowitz 1985), foreign policy behavior of countries (Davis and Moore 1997, Saideman 2000), human rights (Walker and Poe 2002; Lee et al. 2002), domestic instability and political violence (Rummel 1997; Sambanis 2001; Annett 2001; Hibbs 1973; Ellingsen 2000), and economic growth (Alesina 2003 et al.; Easterly and Levine; Lian and O’Neal 1997) has always attracted great attention from scholars.⁴³ Given that so many diverse societies, especially in Africa, remain undemocratic, experience civil wars and other forms of conflict, scholars wonder about the impact of ethnic fragmentation on democracy and collective violence.

Ethnic, linguistic and religious forms of diversity are widely perceived as important causes of domestic conflicts for three main reasons: (1) Discrimination at the group-level tends to coincide with ethnic or religious divisions (Sambanis 2002); (2) tensions among people are about non-divisive issues, like identity, and (3) cross-cultural interactions make compromise and consensus a challenging enterprise (Ellingsen 2000; Montalvo and Reynal-Querol 2005; Rummel 1997; Fish and Robin 2004; Annett 2003).

From relative a deprivation (and primordialist) standpoint, social divisions and heterogeneity are important contributors to discontent, since the origin of tension among people is about non-divisive issues like identity. High levels of social fragmentation make it easier for groups to perceive each other as adversaries and experience a security dilemma (Posen 1993). The dislike and hatred can contribute to the overall level of

⁴³ For examples see, Collier and Hoeffler (2000, 2002), Tangeras and Lageroff (2003), Horowitz (1985), Reynol-Querol (2002a), Fox (2004), Collier and Hoeffler (2004), Elbadawi and Sambanis (2002), and Montavo and Reynal-Querol (2005).

hostility in society (Gurr 1993b; Gupta et al. 1993; Kelman 1973; Rummel 1997; Ellingsen 2000; Horowitz 1985). Often, discrimination at the group-level tends to coincide with ethnic or religious divisions (Sambanis 2002). When resources are distributed along the lines of identity and one group suffers much more than others from poverty, the grievances of have-nots can increase up to a level that can foment opposition to government and civil war. Such divisions can also provide political entrepreneurs with some opportunities to take advantage of the people. Therefore, the related hypothesis is as follows:

H13 (Ethnic/ religious fractionalization 1): The higher the ethnic/ religious fractionalization in the society, the higher the likelihood of civil war.

Opportunity theorists, however, would claim that social fragmentation along ethnic, religious, linguistic or other lines will inhibit rapid rebel recruitment, reduce organizational cohesion among rebels and make the maintenance of the rebellion difficult. For successful large-scale organized violence, people need to rally around an idea and a common identity. When there are various divisions in society, this process will be more challenging. In addition, social heterogeneity makes it easier for government forces to divide the rebels. Therefore, a high level of fractionalization is expected to increase coordination (mobilization) costs and decrease the likelihood of civil violence.

H13a (Ethnic/religious fractionalization 2): The higher the ethnic/ religious fractionalization in the society, the lower the likelihood of the civil war.

Another dimension of ethnic composition is dominance. Collier (1998, 2001) and Auvinen (1997) assert that the existence of one powerful ethnic group can produce incitement, victimization and aggression if it excludes smaller groups through

monopolizing important positions in the government. This might foster self-defense and violence on the side of the minority (Ellingsen 2000).

“When the state is dominated by a single group or coalition of groups can acts aggressively toward out-group interests, exploiting and repressing their politically disadvantaged peoples, it can combine the hardness of military and police strength with the softness of political illegitimacy. Under these conditions the state itself can become the source of manifest grievances and opposition” (Hartzell et al 2001: 185).

For the same reasons, Collier and Hoeffler (2000/2001: 17) argue that fragmented societies are safer than homogenous societies as long as they avoid dominance. As the exploitation of a minority by a dominant group increases, the likelihood of organized violence increases (Horowitz 1985; Auvinen 1997). The cruel actions of the Serbian army against Kosovo villagers in the late 1990s can serve as an especially unfortunate example for this argument. The policies adopted by Serbs created distrust, social polarization and discontent among ethnic groups and led to strong resistance from Albanians (Hartzell et al 2001).

H13b (Ethnic dominance): The existence of a dominant group in the country increases the risk of civil war.

It is my understanding that the relative deprivation theory does not only emphasize the structural pluralism and division (the number of competing groups in society) as shown in percentages in the census data. Obviously this measure does not distinguish between strong and weak groups or account for the relative size of existing groups and the degree of polarization between the competing groups. It is argued that ethnic diversity becomes problematic *only* when a large majority faces a large minority (Horowitz 1985) and therefore states that are dominated by two large groups are expected to be more conflictual and violent than diverse societies. Along these lines, Montalvo and

Reynal-Querol (2005) argue that it is more informative to understand how far the distribution of ethnic groups is from a bipolar distribution, since the risk of civil war is significantly higher when a society is polarized into two groups that are of almost equal size (like 45 percent of population). Collier and Hoeffler (1998) report that polarized countries have a 50% higher likelihood of facing civil war than either homogenous or highly fractionalized societies, since the coordination cost of rebellion is significantly lower in societies that exhibit a middle range of diversity.

H13c (Ethnic/religious polarization): The greater the ethnic/ religious polarization in a society, the higher the likelihood of the civil war.

2.2.6. Natural Resource Abundance

The latest work on the economics of civil war has emphasized the fact that in order to understand civil wars, it is essential to know the role played by easy-to-procure natural resources like oil, gems, precious hardwoods and illegal drugs.⁴⁴ There are diverse theoretical arguments with regard to the impact of natural resource dependence on the likelihood of civil wars and so far the empirical evidence has been inconclusive.

Natural resources can have impact on civil wars in two different ways. First of all, as mentioned above, ‘greed’ can increase the value of controlling the state and motivate rebels to start a civil war⁴⁵. Greed in the literature is used to refer to the role of rents from natural resources that can be easily appropriated (Murshed 2005). Capturing mining

⁴⁴ For a recent discussion on the link between natural resources and civil war see for example Karl (1997), Fearon and Laitin (2003), Ross (2004), Le Billion (2001), Ron (2005), Collier and Hoeffler (2004), Ross (2004), Snyder and Bhavnani (2005), Lujala et al.(2005) Humphreys (2005), de Soysa (2002), DeRouen and Sobek (2004), Snyder (2001) and Fearon (2005). See also *Journal of Conflict Resolution*’s special issue on this specific issue (2005, vol 49, 4).

⁴⁵ Deininger (2003:583) states that “‘greed’ and the desire to appropriate economic resource appear to be key elements underlying the majority of civil wars”.

operations or drug processing facilities and getting rich can encourage people to mobilize themselves against the government (Gates 2002). Kofi Annan, the UN Secretary General, states “the pursuit of diamonds, drugs, timber, concessions and other valuable commodities drives a number of today’s internal wars. In some countries the capacity of the state to extract resources from society to allocate patronage is the price to be fought over” (Annan 1999: quote taken from Kalyvas 2001).

Secondly, rebellion and war-making require financial resources to proceed. ‘Lootable’ high-value natural resources can be used to pay the price of rebel labor, new recruits and weapons, and also to sustain the ongoing wars that were started for other reasons.⁴⁶ The access to drugs like cocaine, heroin (Afghanistan, Columbia, Georgia), oil (Sudan, Nigeria, Angola, Chad), gemstones like diamonds (e.g. Liberia, Russia, Angola, Sierra Leone, Democratic Republic of Congo) or timber (Cambodia, Myanmar, Philippines) is vital for insurgency groups, since rent from these resources provides a way to cover the costs of rebellion. Many scholars claim that the presence of natural resources, when controlled by insurgent forces, not only makes civil wars more likely; but also makes them longer and intractable (Addison, et al. 2000; Buhaug and Gates 2002; Collier and Hoeffler 2004; Fearon and Laitin 2003; Ross 2004; Ballantine and Sherman 2003).

Despite the theoretical appeal, the relationship between resource abundance and civil wars is constantly being empirically questioned. For example, Fearon and Laitin (2003) have found strong evidence for Collier and Hoeffler’s opportunity-based

⁴⁶ Lootable resources are the ones that can be acquired by simple methods and cheap equipment by individuals or groups and that have low economic barriers to entry (easy to smuggle). While secondary diamonds are lootable the mining of primary diamonds are non-lootable since they require sophisticated techniques and equipment. Therefore type of the natural resource carries great deal of importance (Lujala et al. 2005).

explanation for civil wars but failed to find any support linking primary commodity exports to civil wars. Instead, Fearon (2005) argues that oil producers (countries that are dependent on oil exports) are more prone to civil wars than non-oil producers because rentier states tend to have weak state apparatuses, bureaucratic systems and tax structures to collect revenues. In their model these reasons can serve as a facilitating factor for the development of the insurgency, as it happened in the case of Azerbaijan, the Congo and Nigeria.

There is substantial disagreement among scholars about how to best account for the natural resource dependence in predicting civil wars. The most commonly used indicator - the ratio of primary commodity exports to GDP⁴⁷ - is criticized because it not only includes commodities that are not highly valuable and amenable to loot (like coffee) but also excludes commodities that are easy to extort (like gems, timber and illegal drugs). The problem is even more obvious given that even not all diamonds are lootable. In short, the association between natural resources (especially non-fuel minerals) and civil war remains ambiguous (e.g. Elbadawi and Sambanis 2002; Ross 2004; Sambanis 2002) and we are still far from understanding exactly why diamonds or gold brought resource curse in the form of political instability and civil war to some resource-rich countries like Sierra Leone, but not to others like Ghana and Saudi Arabia.

Many scholars explain this puzzle with state strength (Ron 2005). The considerable amount of gold in Ghana has been extracted by seven or eight large industrial firms, and it served a strong tax base for the government. The government not only tried to regulate the activities of extractive industries but also used some of this money for education and other social services and to fight smuggling. In contrast, in

⁴⁷ This is the key variable of Collier and Hoeffler's opportunity model.

Sierra Leone income generated from diamonds was mostly used by Stevens to maintain patron-client relationships rather than to develop an efficient bureaucracy and state structures that are capable of raising revenue and offering services to citizens (Snyder and Bhavnani 2005). Even though the exact causal mechanism behind the resource-conflict association is unknown, a direct positive relationship is expected, given that it provides some means to the continuation of the rebellion.

H14 (Oil): Oil exporting countries are more likely to experience civil wars.

[See Table 2.1-Summary of the hypotheses- here]

2.3. Modeling Civil Wars

The lively debate in the international relations literature with regards to the causes of civil wars mainly originated from Collier and Hoeffler's early econometric work (2000, 2002) under World Bank auspices.⁴⁸ They created a heavily-cited dichotomy ('greed' versus 'grievance') and developed an econometric model of civil war influenced by rational choice and mobilization approaches. This taxonomy and model have been the main axis of discussion, theorizing and testing of civil wars in contemporary international relations.

According to the grievance-based explanations, justice-seeking behavior is the origin of civil wars. The main motivation and goal of the rebel groups is to achieve public goods like equal political rights or redistribution. According to this perspective it is the systematic exclusion of ethnic minorities from political power and the equitable division of economic resources that led to the emergence of separatist conflicts in Kosovo and Sri

⁴⁸ There are multiple versions of the "greed versus grievance" paper. I refer to 1999, 2000 versions as the first drafts of their work. The latest version is dated 2004.

Lanka (Ballentine 2003). This perspective is heavily influenced by the relative deprivation theory.

The greed argument, on the other hand, is mainly based on private material gains and self-interested behavior. It suggests that the primary motivation of the rebel groups is economic rather than political/ideological and that insurgents are criminals acting in pursuit of material benefits (Collier 2000). The income that will be acquired either during the rebellion from looting or benefits that will follow after the successful rebellion is the main incentive for rebel groups (Collier and Hoeffler 1998). Several scholars claim that regardless of the motivation, rebel groups need to generate some revenue to build a large organization and cover the costs of rebellion (e.g. rebel labor, weapons). If the costs outweigh the benefits, then civil war is not likely. If it is the other way around, then civil war is likely.

Collier (2000) and Collier and Hoeffler (1998, 1999, 2002, 2002c) argue that greed/opportunity/viability arguments (economic factors) have more explanatory power than grievance arguments (originating from deep problems in the social structure) in predicting the risk of civil wars, since individuals decide to join the insurgency only if expected economic benefits from violence outweigh perceived risks associated with violence. They claim that grievances are not enough to initiate or sustain large-scale collective action. It “depends on the degree to which the prevailing opportunity structure creates conditions permissive to mobilization” (Ballentine 2003: 262). Natural resources like diamonds provide lootable income over which to fight and this, in turn, makes costly strategies of violence sustainable and helps overcoming collective action problems. Without adequate financing, arms and new recruits, it is impossible for rebel

organizations to survive (Elbadawi and Sambanis 2002; Olson 1965; Lichbach 1995; Hegre 2004).

Similarly Fearon and Laitin (2003:75), in their attempt to extend Collier and Hoeffler's model, argue that ethnic antagonisms, nationalist sentiments and objective political grievances are broad factors that are too common in order to distinguish between cases of civil war emergence. Thus, "the factors that explain which countries have been at risk for civil war are not their ethnic or religious characteristics but rather the conditions that favor insurgency".

It is important to mention that there are problems with modeling civil wars as 'greed' versus 'grievance' (or the 'justice model' versus 'loot model'). Collier and Hoeffler (1998, 1999, 2000, 2002c) and Collier (2000) claim to test a 'greed' theory focusing on the ability to finance rebellion (opportunity structures), against a grievance theory emphasizing social division and inequalities. Based on strong empirical association between primary commodity exports and civil war, they claim that 'greed' (capture of loot), not grievance, is the main motivating factor behind domestic violence. They did not find a robust relationship between socioeconomic inequality between or within groups and conflict risk. Therefore, their economic model mainly provides support for the resource mobilization theory.

In their early formulations, the distinction between 'greed' and 'opportunities' is not clear.⁴⁹ They state that "opportunity as an explanation of conflict risk is consistent with the economic interpretation of rebellion as greed- motivated" (Collier and Hoeffler 2000/2001: 17). Their understanding of looting is "analytically problematic because it is

⁴⁹ They define greed as "the extortion of economic rents on a grand scale by quasi-criminal rebel groups" (Collier and Sambanis 2002: 4).

unclear whether it refers to the causes of war or the motivations of the combatants (or both)” (Kalyvas 2001:103). Greed and natural resources seem to refer not only to motivation for civil war, but also the opportunities for mobilization. In other words, the direction of the causality is not clear. Does looting take place in order to facilitate the waging of war? Or do people wage war in order to loot? These questions are left unanswered.

In their later work, Collier and Hoeffler (2004) tried to clarify the distinction between motivations (greed and grievance) and opportunity. This time, they perceived ‘greed’ as one specific type of motivation for rebellion and stressed the importance of economic agendas and opportunities in the emergence of civil wars.⁵⁰ In this new understanding, looting is one of the factors that contributes to the opportunity for insurgent mobilization. They argue that the main determinants of civil wars are not the injustice feelings (grievance) but the costs of recruiting and organizing insurgency to fight with government forces (opportunity), which is measured by natural resource dependence. They assert that “without resources, even the most extreme grievances will be insufficient to generate civil unrest” (Regan and Norton 2005: 322).

There is no doubt about the importance of resources for the emergence of civil wars. Kalyvas states that (2001:106) “looting is a recurring element of civil wars, including the most ideological ones such as Russian and Chinese revolutions and anti colonial rebellions such as the one in Indonesia in 1940s”. Kalyvas (2001: 104) asks “can we seriously reduce the 1992 Los Angeles riots to a phenomenon of “looting” even though much of looting - among many other things - did take place?” He also claims that

⁵⁰ Keen (1994, 1998), De Waal (1997) and Duffield (1994) are other examples that stress the importance of economic motivations and agendas behind civil wars.

putting the war in Sierra Leone, Columbia, Sudan and Somalia in the ‘looting box’ due to role of diamonds would be a “gross simplification”.

In the absence of a cause or motivation, the mobilization of insurgency to challenge the state would be nearly impossible. Therefore, the linkages between looting and grievances are very complex and fluid (Kalyvas 2001). Collier and Hoeffler (2004) accept the fact that both motivation and opportunity are needed for civil wars to emerge but they believe that ‘opportunity’ (viability) arguments are more realistic and have more explanatory power than grievance in explaining the occurrence of civil wars. Their conclusion is “loot is not usually the root motivation for conflict, but it may become critical to its perpetuation, giving rise to conflict trap” (Collier et al. 2003:79).

Civil wars in the Democratic Republic of Congo in 1990s are the prime examples that exhibit the importance of a combination of the grievance motivations and opportunity structures in the emergence of collective violence. Since 1998, the civil war caused displacement of 2.5 million people in addition to a death toll of 3 million. They claim that at the initial stages of the civil war, grievances both against Mobutu and the Kabila regime played a big role in initiating the fighting. However, once the fighting emerged what motivated the rebel groups, kept the movement going and what determined its intensity was greed. Capturing the natural resource fields and rents provided rebels and warlords with a great incentive to continue fighting (Olsson and Fors 2004).

Why is this discussion vital for my study? Unlike some scholars, rather than perceiving ‘greed and grievance’ as competing theories or explanations of conflict, I perceive them as equally important (and not mutually exclusive) explanations for domestic collective violence. They seem to complement each other especially in poor

country settings (Murshed 2005; Collier et al. 2003). They “can co-exist simultaneously; it is difficult to motivate groups to fight one another without historical grievances even when valuable resource rents are at stake” (Murshed 2005: 1). Also, wars originally motivated mainly by grievances can degenerate into greed, as they unfold and provide new opportunities for profit for the few. Thus, greed and grievance are inextricably intertwined” (Murshed 2005:1).

Besides, if the categorization of civil war models is absolutely essential, it is more meaningful and accurate to divide it as ‘motivation’ versus ‘opportunity’. Even this distinction has its problems because it forces scholars to evaluate their explanatory variables in isolation, favor one model over the other and neglect the interaction between various factors across categories. Contrary to Collier and Hoeffler (2000), I do not think that proxies for opportunity and grievances are distinct and therefore they can be compared as two non-nested economic models. I think the models are not mutually exclusive; one can easily argue that the level of economic development, regime type, repression and ethnic fragmentation can be included in both models since they create both motivation and opportunity for the insurgency movements. The discussion should be more on the question of how grievances and opportunities for mobilization interact with each other and civil wars take place rather than the question of what proxies to include in each model and which model is more capable to predict civil war incidence. I think perceiving ‘greed and grievance’ (or even ‘motivation and opportunity’) as competing explanations significantly limits our understanding of civil wars. “Separating the explanations of civil war into ‘greed versus grievance’ has imposed an unnecessarily limiting dichotomy on what is, in reality, a highly diverse, complex set of incentive and

opportunity structures that vary across time and location” (Ballentine and Sherman 2003: 6). What is needed is, as Collier and Hoeffler (2001, 2004) mention, an *integrated comprehensive approach* and model which combines opportunities and motivations in explaining civil wars.⁵¹

Even Gurr, who is the founder of the modern relative deprivation idea, points out the necessity of synthesis of relative deprivation and mobilization theories, rather than perceiving them as competing theories. Grievances are obviously essential but not sufficient conditions for mobilization. Deininger (2003:583) summarizes this idea as follows:

the most comprehensive empirical model to date combines three factors, namely (i) economic or ‘greed’ factors such as the presence and the size of primary exports, population density, and the availability of a financially potent diaspora that can finance the substance of at least one of the warring parties; (ii) social factors causing ‘grievance’ or making it easier to feel and express grievance such as ethnic dominance, social fractionalization, demography and inequality in the access to resources; and (iii) factors relating to ‘conflict technology’ or ‘cost’ in the widest sense.

He clearly tries to point out the complexity of the causal mechanism behind civil wars and the necessity of combining factors that have strong bearing on the mobilization of a violent group and that motivates potential rebels to challenge the government. This is the approach I adopt in this dissertation. In order to make sure that my results are comparable to other scholars’ results (especially to Collier and Hoeffler model 2000/2001, 2004), first, I will construct these two models separately and report the results.

[See Table 2.5& 2.6- opportunity and grievance models- here]

⁵¹ Collier and Hoeffler (2000/ 2001) explicitly state that they can not reject one model (grievance or opportunity) in favor of other, based on the results of their J-test. They find, however, the opportunity model superior in terms of its explanatory power.

Later, I will construct the comprehensive model, which combines grievance and opportunity models to test the claim made by the most prominent scholars: Grievances and inequalities are too common to distinguish countries with civil wars; economic motivations provide a superior explanation for civil war incidences.

[See Table 2.4-Comprehensive model- here]

2. 4. What is Missing in this Framework? State and the Quality of Governance

One factor that is not accounted for in the general model presented here is the ‘quality of governance’. Even though state strength is a factor that both determinates the political opportunity structure and creates discontent/grievances among people (Goodwin and Skocpol 1989), in the models I presented and in the models in the existing literature, the state’s role is only partially accounted for.

[See Figure 2.3-MAR model and the state- here]

As explained earlier, the main focus of scholars has been on the following questions: What motivate rational people to take all the risk and join a rebel group? What factors do affect the recruitment and mobilization of a rebel army? (De Rouen and Sobek 2004; Gates 2002). Most studies of civil war onset are at the state level and both the relative deprivation and opportunity/ mobilization theory acknowledge that the state and its characteristics (its capacity, quality of governance, institutions, regime type and regulatory power) play a considerable role in shaping the context of political action and the likelihood of civil violence. Despite this connection, thus far, the civil war literature lacks a thorough examination of the role of the state in the emergence of civil wars. Through what mechanisms the state capacity contributes to civil wars remains mostly

unexplored. How do the state, its actions and governing ability affect citizens' attitudes? What is the role of the state in generating grievances and/or in creating opportunities for insurgent groups? In the following section, I will try to address the limitations of the literature with regard to the role of the state and offer answers to the above mentioned questions.

Many scholars claim that state strength is a nebulous concept (Schock 1996). Therefore, they limit their understanding of state capacity and strength to regime type measures (to account for institutional aspects), in addition to GDP and military capability. However, this kind of approach is not capable of creating an understanding of the mechanism behind civil wars and state capacity in its entirety. Due to the importance of the subject and the necessity of developing the theoretical linkage between civil war and quality of governance, I excluded these factors from the first part of the theoretical and empirical test and devoted a separate analysis and theoretical discussion for the 'quality of governance'.

2. 5. The Role of the Quality of Governance in Civil Wars

No matter which civil war definition is used, it always involves fighting between the military forces of a state and the insurgent forces that have certain goals and agendas (i.e. taking control of a government, taking power in a region, or using violence to affect government policies). Therefore, the state is and always has been one of the most important actors in explaining the emergence of civil wars. State policies, structure, institutions and capacity play a major role in citizens' everyday lives, attitudes, actions

and in turn, reactions. Despite this background, the importance of state capacity has been rarely examined.⁵²

In this dissertation, I define state capacity as “the ability of the state to formulate and implement strategies to achieve economic and social goals in society” (Kjaer et al. 2002:2), while governance refers to something slightly different but closely connected. It does not only account for the ability of the state to formulate and implement various strategies (institutional/administrative capacity), but also for its ability to do this in an efficient, effective, transparent, impartial and accountable manner. Therefore, governance should be perceived as a concept that is located in between state and society, structures and actors (Kjaer et al. 2002: 11).

What are the specific limitations of the existing understanding in the civil war literature with regard to the state and its capacity? First of all, there are theoretical issues. When the state capacity is mentioned in the civil war literature, the discussion usually revolves around the relative strength of the state against insurgents. This notion of state strength mainly rests on the ‘autonomy’ and ‘repressive capacity’ of the state, and lower state capacity is often perceived as a viability-enhancing factor since it creates opportunities for the insurgency and increases the probability of success of the rebel groups (Fearon and Laitin 2003; Synder 2001).

Defining the state capacity as a function of an insulated centralized body is fairly common and originates from Skocpol’s structuralist understanding of the state. She defines state the as “... a set of administrative, policing, and military organizations headed, and more or less well coordinated by, an executive authority” (Skocpol 1987:

⁵² De Rouen and Sobek (2004) is the first piece that brought the role of state capacity to the forefront as opposed to rebel-centric approaches.

29). In her conceptualization, state capacity originates from its autonomy. The autonomous state can be seen as one that claims control over people and territory, formulates policies that are not simply reflective of the demands of society and its various classes and social groups and that shapes societal outcomes (Evans et al. 1985). According to the structuralist understanding of the state, only a strong centralized state with an autonomous structure can formulate and pursue policies that are not necessarily the reflections of societal demands. In other words, a state's capacity in society is associated with the degree to which the state can impose its despotic power over the citizens. This approach however, overlooks the importance of how the governance of a state as an institutional body is conditioned by society and whether the state is received by its citizens as a legitimate body (Kjaer et al. 2002).

Perceiving the state capacity only in terms of a state's repressive power over society and overlooking the interactions between a state and its citizens is problematic. "The state capacity arguments rest on notions of strength and not quality of institutions and do not capture any aspect of social realities that may interact with state capacity in crucial ways" De Soysa and Wagner (unpublished: 14). The structuralist definition of the state falls short of considering the state's success or failure in functioning effectively (beyond the suppression of anti-government violence), providing necessary services like securing property rights, fulfilling the responsibilities of the impartiality and fairness in implementing public policies, and ensuring strong rule of law. The state as an organization needs to provide public services and ensure public safety and wealth in an effective manner, and in the meantime they need the support and deference from citizens to maintain their institutional legitimacy. Thereby, I believe that in order to have a more

complete understanding of the state and its performance it is vital to account for the quality of governance.

For instance, in their seminal piece, Fearon and Laitin (2003), assert that weak central governments will less likely succeed in repressing rebellion and thus, will render feasible conditions for insurgency to recruit non-combatants. The essence of this argument is that the states that lack strong police and military capabilities, as well as strict administrative control in rural areas, will make insurgents more likely to survive longer against a weak central government and military. In other words, “the greater capacity a state has, the more effectively it can repress rebellion” (Mack 2002: 521). This understanding is heavily influenced from the opportunity/ mobilization theory.

In this discussion, the works by De Rouen and Sobek (2004:305) and De Soysa (2002) need to be singled out, because they brought the ‘role of state capacity’ and institutions to the forefront of civil war literature. De Rouen and Sobek (2004) argue that “the rebel-centric approach essentially underemphasizes the importance of state capacity and grievances by focusing on viability”. Instead of perceiving state as a single concept they perceive it as a combination of various factors like regime type, army size and effectiveness of bureaucracy. Altogether, the factors that indicate state capacity show the ability of the government to hold the state together (2004: 306).

De Soysa (2002: 399-400), on the other hand, claims that existing civil war models, including Collier and Hoeffler’s, lack an institutional component. “Institutional factors fashion the opportunity costs of people and help to solve collective action problems at the level of the group, or society at large.” He argues that there is a link between the institutional environment and civil wars and uses the ‘ratio of total trade to

GDP' as proxy for the 'quality of governance'. Therefore, what he really means and tests is the impact of institutional factors (trade openness) in predicting civil wars. While he makes an important contribution to the civil war literature, his understanding of governance is very limited.

Another line of research tries to link low state capacity to civil wars through analyzing the factor of natural resource abundance. As mentioned earlier Fearon (2005) argues that oil exporters are more prone to civil war, because oil wealth reduces incentives to develop a strong administrative capacity especially to extract taxes from citizens, which consequently results in weaker and less reliable state institutions. It has been argued that natural resource abundance - in the form of oil, diamonds, etc. - leads to weaker state apparatuses and makes states unstable. This, in turn, can serve as a catalyst for civil wars.

In their latest piece, Collier and Hoeffler (2004:567) go one step further and state the following: "primary commodities are associated with other characteristics that may cause civil war, such as poor public service provision, corruption and economic mismanagement" (Sachs and Warner 2000). Potentially, any increase in conflict risk may be due to rebel responses to such *poor governance* rather than to *financial opportunities*" (emphasis added). In the same article, they also point out the possibility that primary commodity dependence can worsen governance and, in turn, can generate stronger grievances (2004: 588). The implication here is that there can be another important mechanism –*poor governance*– that might lead to civil war.

Following Collier and Hoeffler's lead, Ross (2004: 338) claims that the correlation between natural resource dependence and civil war can be spurious.

Both civil war and resource dependence might be independently caused by some unmeasured third variable, such as weak rule of law. A state where the rule of law is weak might be unable to attract investment in its manufacturing sector, and hence would depend more heavily on resource exports; it might also face a heightened risk of civil war through a different process.

Besides stressing the importance of “other potentially significant missing variables” like rule of law and securing property rights, he acknowledges the difficulty of measuring these indicators across countries and over time (338). Unfortunately, neither Collier and Hoeffler nor Ross provides a complete theoretical framework to grasp how the components of poor governance play in the well-known grievance and opportunity model of civil wars. In sum, another essential aspect of civil wars that needs a more systematic analysis is the link between the quality of governance and domestic violence.

In addition to theoretical limitations of the structural approach, I also find it problematic to account for state capacity mainly using the Gross Domestic Product (GDP) per capita. To account for their Hobbesian interpretation of the state, Fearon and Laitin (2003:80) use per capita income as the proxy for a state’s overall financial, administrative, police and military capabilities relative to potential insurgents. I believe the GDP is a good measure to account for the military and financial capability of a state; because

a country's economic status or relative affluence dominates all other factors in predicting the risk of civil war onset. This is because poorer countries tend to have correspondingly inferior institutions of conflict management, greater short-termism in decision making and less to loose from war. In other words per capita income and governance standards are strongly and positively correlated (Murshed 2005: 2).

However, it is problematic to presume that it is also capable of accounting for governance performance. It does not tell us much about how the state efficiently maintains its impartiality and fairness in implementing policies, securing property rights, and ensuring the competence of the rule of law in the country. Simply put, I believe per capita income should be one of the indicators in particularly measuring a state's structural capacity, but caution should be exercised in interpreting those results and making generalizations when there is only one indicator used to account for state capacity.⁵³

To summarize, what we do not know about the state is the role its governance plays in paving the way for the emergence of domestic violence. To account for the state's role, it is essential to look beyond the obvious. This is the task I take on. In the following section, I will first define theoretically important concepts with regard to governance; then I will establish the link between the quality of governance and civil war incidences using relative deprivation/grievance and opportunity/mobilization theories.

2.5.1. Conceptualization of State Capacity and Quality of Governance

Acknowledging the lack of a broad conceptual consensus on the exact definition of governance in the literature, in this dissertation I define *governance* as “the institutional capability of public organizations to provide the public and other goods demanded by a country's citizens or their representatives in an effective, transparent, impartial and accountable manner, subject to resource constraints”⁵⁴ (World Bank 2000: 48). This definition not only emphasizes the administrative capacity of the government to

⁵³ DeRouen and Sobek (2004), in their piece on the duration and civil war outcome, use regime type, army size and effective bureaucracy to account for ‘state capacity’. While they find no support for the regime type and the army size variables, they find a weak support for effective state bureaucratic capacity.

⁵⁴ There is no consensus among the scholars on what exactly the concept of governance constitutes. For an excellent review of different conceptualizations of governance see Weiss (2000).

manage its resources, but also stresses the respect of citizens and the agents to oversee economic and social interactions among them. I perceive governance as a relatively narrow concept that is part of the state capacity.

The governance definition I adopt is very similar to the conceptualizations of the World Bank and United Nations' political economists who have been examining the impact of the quality of governance on the socio-economic conditions of various countries during the last two decades (see for example Knack and Keefer 1995; Easterly 2002). The UN Economic and Social Commission for Asia and the Pacific states that 'good governance' entails eight characteristics:

It is participatory, consensus oriented, accountable, transparent, responsive, effective and efficient, equitable and inclusive and follows the rule of law. It assures that corruption is minimized, the views of minorities are taken into account and that the voices of the most vulnerable in society are heard in decision-making. It is also responsive to the present and future needs of society.⁵⁵

The UN's and my own perception of governance are fairly broad and have a lot in common. To offer a comprehensive understanding of governance, following Knack and Keefer (1995), I identify five interrelated factors as the components of governance: corruption in government, the rule of law tradition, bureaucratic quality and the mechanisms for securing property rights and private economic transactions – namely expropriation risk and repudiation of contracts by the government.

Corruption in government is be defined as “the misuse of public office for private gain” (Sandholtz and Koetzle 2000: 32). The degree of corruption can be perceived as a proxy for the general efficiency of the government in providing its services and also the

⁵⁵ Taken from <http://www.unescap.org/huset/gg/governance.htm>.

extent of the damage of rent-seeking behavior⁵⁶ (Knack and Keefer 1995). Rule of law as another component of governance refers to the existence of established institutional mechanisms such as sound political institutions and a strong court system that manage the interactions between citizens. It shows a government's administrative capacity in making and enforcing the law and establishing peaceful mechanisms to adjudicate disagreements. It is well established among scholars that without rule of law, the citizens' rights will not be safe and their equality will be at risk (Carothers 1996, 1998; Knack and Keefer 1995; Keefer 2005; O'Donnell 2004; Diamond and Morlino 2004). Like corruption, the rule of law tells us a lot about the efficiency of the government and its institutions in providing services to its citizens (Back and Hadenius 2005).

Bureaucratic quality refers to a bureaucratic structure that is independent of any political or governmental influence and especially efficient in providing basic public services. It is a useful indicator of the tradeoff that governments have to make between the pursuit of private and general interests (Keefer 2005; Easterly 2001).

The two other components of a state's governance capacity are expropriation risk and repudiation of contracts by government (Acemoglu, et al. 2001; Knack and Keefer 1995; Easterly 2001). These measures not only show how state agents as independent actors perform in securing property rights and dealing with contracts but also delineate the impartiality, accountability and efficiency of the state agents in adjudicating the economic transactions between two private actors. They both reveal the institutional capacity of the state, since good institutions are the ones that can guarantee freedom from

⁵⁶ Keefer defines rent seeking as "the diversion of economic resources to the private requirements of political decision makers" (Keefer 2005:12).

expropriation, grant freedom from repudiation of contracts and constrain the actions of government officials (Acemoglu et al. 2001; Easterly 2001).

How does the quality of governance affect civil war incidences? What is the theoretical link between the two? Following the literature, I will inquire about this relationship in the light of two broad theoretical approaches: relative deprivation (grievance) and mobilization (opportunity).

According to the MAR model and relative deprivation perspective, “if the state is weak, personalistic, ineffective at channeling political participation, or nonresponsive to the needs of its citizens, then it is more likely that its legitimacy will be questioned and more likely that violent challenges to the state or its policies will develop and be sustained” (Schock 1996: 107). Therefore, as the state penetrates in the society and as its power increases the likelihood of civil strife decreases (Gurr 1993b; Lindstrom and Moore 1995; Gurr and Moore 1997). This negative relationship is depicted in Figure 2.3.

[See Figure 2.3-MAR model and the state- here]

How does the poor governance in a country lead to grievances and discontent among citizens? Absence of an effective governance structure in general terms - in the form of a highly corrupt government, inefficient administrative capabilities, a weak court system, or insecurity of property rights - indicates state weakness. It is expected to decrease people’s faith and confidence in the political system, create a gap between ordinary citizens and inefficiencies in the delivery of public services, and to lead to domestic violence.

The prevalence of corruption in a government provides privileged access to political power for some groups while excluding others. In corrupt political systems,

public services assist those who pay bribes or who have connections (or both), while denying the same services to those who do not (Treisman 2000). Differential treatment not only leads to uneven and often inferior services to many people but also to an inefficient and ineffective government when it comes to responding to public needs (Selingson 2002; Della Porta and Vannucci 1999; Rose-Ackerman 1999). Since corrupt administrative bodies violate the norms of equality, fairness, impartiality, openness and accountability, as the level of corruption increases in the society, citizens will perceive administrative corruption as illegitimate and improper and therefore will have lower levels of support for the political system. While corruption and clientalism breeds political bossism and increase the trust between only patron and client; it significantly reduces the “trust for the political system, which is viewed as being at the service of the highest bidder” (Selingson 2002: 412; Hadenius and Teorell 2005: 90; Gibson and Caldeira 1995; Tyler 1990). Therefore, in political systems with high levels of corruption, people will experience high levels of mistrust and lesser appraisal of the existing political system⁵⁷ (Della Porta and Pizzorno 1996; Della Porta 2000; Sandholtz and Koetzle 2000; Anderson and Tverdova 2003; Warren 2004; Johnston 1979; Kurer 2005).

By definition, rule of law entails a system in which the laws are public knowledge, non-retroactive, clear in meaning and are applicable equally to everyone; courts, prosecutors and police are fair, impartial, competent, independent and efficient and most importantly, the state institutions are law-abiding. Similarly, countries with low

⁵⁷ Some people argue that there are benefits associated with corruption. They perceive corruption as the grease that gets the bureaucracy moving in some developing countries (Merton 1957; Huntington 1968; Seligson 2002). In addition, the perceptions of the citizens about the government are mainly determined by the culture. Therefore, it is difficult to show the linkage between corruption and citizens’ perception of the government. Since culture provides the lens for how people view the world, Anderson and Tverdova (2003) claim that in some societies corruption can be seen as an acceptable or benign behavior that increases the efficiency of government. Hence, showing the relationship between corruption and attitudes toward the government is a challenging enterprise, both theoretically and empirically.

bureaucratic quality, the bureaucratic structure is likely to have no procedural clarity and/or technical efficiency in provision of public services such as police protection (Knack and Keefer 1995). When bureaucracy is effective, on the other hand, the promotions and recruits will be on professional grounds and decision - making rules will be clear, impartial, open and accountable towards the other branches of the state and the public in general.

Another deadly impact of corruption, weak rule of law and the lack of bureaucratic quality is that differential treatment and exclusion deepen the political and economic inequality in the society (Gupta et al. 1998; Della Porta and Pizzorno 1996; Sandholtz and Koetzle 2000; Warren 2004). The impact of inequality on civil violence has been mentioned in the earlier part of this chapter in detail. Therefore I will keep it fairly brief here. Inequality “generates discontent among those who go without, resulting in large-scale political violence that, if handled poorly by the state, can evolve into civil war” (Regan and Norton 2005: 320). In the long run, corruption in government will reduce the possible fair allocation of resources and economic activities that harm the material gains of the excluded groups and thus create a greater economic gap between different societal groups (Gupta et al. 1998). Therefore, the misuse of political authority and public resources and services for private gain creates grievances in society by deepening socio-economic inequalities, which can lead to a cycle of international anarchy (Le Billion 2003; Seligson 2002; Theobald 1990).

Well-functioning and fair bureaucratic institutions and the application of laws without favoring any political or private interests are essential for just and peaceful interactions between citizens. Unequal treatment due to political and judiciary

mechanisms only worsen the public's perception of state institutions, while boosting mistrust and dissent towards the established system. A weak practice of rule of law will likely lead to the suppression of marginalized groups, common abuse of political power by the political elite, unfair political competition and overall unresponsiveness of state institutions to citizens (Diamond and Morlino 2004). As Roger (2004) points out, when citizens do not trust their state officials and the existing political system, they are unlikely to choose to participate in the peaceful democratic political life of their nation and express their demand for radical changes and frustration through non-violent and legitimate channels. This, in the long-term can bring instability (Anderson and Tverdova 2003).

The other essential components of governance, effective protection of private property and contract enforcement, are two important roles that states are expected to play, and they are crucial for the economic advancement of countries (Acemoglu and Verdier 1998, 1381). Secure property and contractual rights create institutional roadblocks to expropriation (Keefer 2005; Clague et al 1996; Acemoglu et al. 2001). In the absence of peaceful mechanisms for protection of property rights and vast misuse of bureaucratic channels to enforce contracts and accept bribes, the state and its employees will be perceived by private entrepreneurship and the public in general as less credible (Knack and Keefer 1995). Examples of expropriation of land and resource rents are Angola and Belgian Congo (Murshed 2005). The lack of trust and confidence in the state and its institutions in regulating economic transitions can cause grievances among those who are economically damaged in this process. Consequently, it is likely that those disadvantaged groups can find the solution in using or supporting violent anti-

government acts and groups in return to secure their property rights and advance economic benefits.

Knack (2001:311) argues that the impact of good governance seems “to be progressive, while at worst neutral effects on the distribution of incomes within countries, and some evidence of egalitarian effects on income distributions”. What this implies is that good governance is very important for sustained and rapid growth, especially for poor countries; furthermore, it helps decreasing income inequalities to some extent (Knack 2001). Given the importance of inequalities in increasing grievances and the meaning of grievances in civil wars, the role of a state in governing its society appears as a crucial factor in predicting civil wars.

The quality of governance also plays a vital role in decreasing the negative repercussions of ethnic fragmentation. Ethnically divided and polarized societies are already fragile and more susceptible to political instability than ethnically homogenous states (Montalvo and Reynal-Querol 2005). Bad governance can be more disastrous for ethnically diverse societies, which are characterized by polarization and social conflict, like Nigeria, Sudan, and Ethiopia. When the quality of governance in a country is high, this implies that the rules of the game are clear, effective and fair, the number of broken contracts is low and bureaucracy is effective. This “may substantially reduce or eliminate costly rent-seeking behavior associated with ethnic diversity” (Easterly 2001: 693) and “lower the risk of wars and genocides that might otherwise result from ethnic fragmentation” (703).

To summarize, according to the relative deprivation perspective, low quality of governance is an essential source of socio-economic and political inequalities, and those

who suffer most from poor governance will be more likely to develop grievances against the established governing body. It is important to remember that these grievances can be resolved within existing state arrangements. However, when the demands of disadvantaged groups are not met, then these groups will be likely to look for alternative solutions, such as giving support to violent groups to ensure their safety and material well-being. The grievances of frustrated people can lead to supporting violent anti-government activities (e.g. Gurr 1970; 2000). This is the perfect time for political entrepreneurs to begin mobilizing supporters opposing existing state of affairs (Regan and Norton 2005: 325).

In addition to fueling new grievances or fostering the existing grievances among citizens, quality of governance can play a major role in providing the necessary opportunity structure for the insurgency. For opportunity/mobilization theory the theoretical connection between governance and civil wars lies in the adverse economic effects of bad governance. It is well-established in the literature that low levels of economic development increase the likelihood of civil war occurrence. As mentioned earlier poor economic conditions and low economic growth create a great opportunity for insurgents to recruit rebels for unconstitutional political change (Alesina et al. 1996). As the level of economic development increases in a country, the deterrent and repressive capacity of the state and the opportunity cost of losing income and becoming rebel increase (Elbadawi and Sambanis 2002; Collier and Hoeffler 2004). Therefore a decrease in the likelihood of civil wars is expected.

Then the key question is ‘how does poor governance affect the level of economic well-being in a society’? Previous research by economists has established that countries

with high corruption, inefficient bureaucracy with long bureaucratic delays, weak rule of law, lack of security of property rights and frequent distortionary state policies suffer from low economic growth (Mauro 1995, 1997; Shleifer and Vishny 1993; Drury et al. 2006; Knack and Keefer 1995, 2001; Keefer and Knack 1997; Clague et al 1996; Acemoglu et al. 2001; Ades and Ditella 1996; Fishman and Swensson 2000; Friedman et al. 2000).⁵⁸ When conditions like these exist (e.g. high levels of corruption and not awarding contracts to highest quality bidders) transactions become irrational for investors from an economic point of view (see Clague et al 1996; Acemoglu et al. 2001). Shleifer and Vishny (1993: 615) illustrate this point well:

To invest in a Russian company, a foreigner must bribe every agency involved in foreign investment, including the foreign investment office, the relevant industrial ministry, the finance ministry, the executive branch of the local government, the legislative branch, the central bank, the state property bureau, and so on. The obvious result is that the foreigners do not invest in Russia (Quoted in Drury et al. 2006: 122-123).

Effective enforcement of property rights and contracts are of vital importance to investors and in turn, to overall economic development of the country. A third party, namely the state, is expected to enforce the contracts and reward the suppliers' investment (Acemoglu and Verdier 1998). If there is no effective institutional mechanism to enforce the contracts, the private entrepreneurs will have no interest in investing in such a country. If property rights are not respected, corruption is widespread, then contacts will "fail to accomplish their allocational role, and agents do not invest" (Acemoglu and Verdier 1998: 1382; North and Thomas 1973; Knack and Keefer 1995; Rodrik 1999).

⁵⁸ For the relationship between quality of governance indicators and economic growth see for example Mauro (1995, 1997), Sartre (1997), Shleifer and Vishny (1993), Sartre (1997), Knack (2001), Drury et al. (2006), Knack and Keefer (1995), Keefer and Knack (1997), Clague et al. (1999), Acemoglu et al. (2001), Seligson (2002), Ades and Ditella (1996), Fishman and Svensson (2000) and Friedman et al. (2000).

Another pernicious impact of bad governance is the misallocation of public expenditures (as a result of rent-seeking and other unproductive activities) which would otherwise be used for productive outcomes. Bad governance increases the likelihood of the use of public resources for personal gains rather than channeling those resources for economic growth, provision of public goods or other activities that would be beneficial for the society as a whole like investment in public education. Therefore, the adverse economic effects of governance will make it much easier for insurgent groups to attract hopeless people to join their forces fighting against the established system (Le Billon 2003; Drury et al. 2006).

In short, assuming that participation in collective violence is a result of rational calculation (e.g. Lichbach 1990; Heath et al. 2000; Regan and Norton 2005), I argue that given the devastating impact of bad governance on the economic development of a country, economically disadvantaged groups that live in states with low levels of governance are more likely to support anti-government activities with the hope of change.

Even though the explanations of the two theories are quite different, they both expect a direct association between quality of governance and civil wars. Although I make a clear distinction between the expectations of the two theories for analytical purposes, in reality, as mentioned earlier in the chapter, they are not always mutually exclusive and independent from each other. Civil wars, by nature, are complex events and therefore, determinants of civil wars can not easily be understood in isolation. To illustrate the difference and interconnectedness between the two explanations and the

importance of a functioning state in preventing domestic conflicts, I will provide an example: Sierra Leone.

Sierra Leone is a textbook example of the importance of a functioning state. In his seminal book, *Strong Societies, Weak States*, Migdal (1988) uses Sierra Leone as the key example of 'strong society, weak state'. He argues that the British strategy of fragmenting social control has had an enduring effect in Sierra Leone, which led to the continuing weakness of the postcolonial state, meaning that its capacity to control society, to regulate social relations, to extract resources and use these resources in an effective way is very limited.

The civil war in Sierra Leone started in 1991 after 24 years of mismanagement, manipulation, corruption, abuse, suppression and exploitation (Keen 2002, 2005). During the course of the civil war (1991-2002) between 20,000 and 75,000 people were killed and more than 4.5 million people had to endure forced displacement. The existence of diamonds, poor economic conditions, adverse effects of forced liberalization, high levels of corruption, increasing inequality and declining education and health services all led to the emergence of violence in Sierra Leone.

After winning the contested elections in 1967, the All People's Party (APC) came to power with its leader Siaka Stevens. He remained the head of state until 1985. The period between 1968 and 1985 is usually characterized as a repressive and corrupt one-party regime of Stevens. In 1985, Saidu Mamoh became the president, and a multiparty system was reestablished in 1991.

The civil war in Sierra Leone was initiated by a small rebel group - Revolutionary United Front (RUF) in 1991. It was sponsored by the Liberian rebel Charles Taylor. RUF

was full of grievances towards the corrupt and tribalistic political regime of APC. Their main purpose was to overthrow the corrupt government and reestablish multiparty democracy.

As mentioned earlier, the APC rule was mainly characterized by clientalism and weak state structures. The state failed not only to collect taxes, but it also failed to redistribute resources effectively (and fairly) and provide basic services such as education. In the 1980s, inflation rose to 50% and the economic growth was at very low levels (Chege 2002). The army failed to provide security for the people. In the meantime, the country became dependent on foreign aid and loans from international financial institutions (Lord 2000).

As the state continuously failed to fulfill its duties, controlling the diamonds became one of the biggest motivations of the RUF. The lack of state capabilities, mismanagement and prevailing corruption made the existence of vast natural resources especially attractive for young people who were largely unemployed, poor, vulnerable and uneducated. During the dictatorial rule of the APC, the conditions were very favorable for manipulation and mobilization of such marginalized youths into organized violence (Mama 2003). Conteh-Morgan and Dixon-Fyle (1999) claim the reason rebel factions easily attracted young men is not the love of war but political vengeance and the possibility of economic gain. Lord (2000: 7) states:

The long years of neglect of youths in the development programmes of successive governments in Sierra Leone has been widely acknowledged as a major cause of the war. Indeed, during the dictatorial rule of the APC [All People's Congress], youths were groomed in violence and used as hired thugs in election campaigns but abandoned afterwards and left to sink into drugs, crime and other vices on the margin of society. By the time of the outbreak of the war, the conditions were favourable for manipulation and mass mobilization of such marginalized members of society into organized crime and violence.

The insurgents' control over the diamond fields was of special importance for the RUF not just because they were motivated by 'greed', but also diamonds provided certain opportunities for them - money for buying arms, recruiting new people and sustaining the violence. In other words, during times of civil unrest, diamonds were the key to the power. Despite this, many Sierra Leoneans often describe the nation's diamond wealth as a curse, given that it has brought nothing but mismanagement, misappropriation and bad government.

Similarly, Keen (2005:74) argues that what happened in Sierra Leone cannot be totally understood by just 'greed' or 'opportunity' arguments. "A detailed examination of Sierra Leone case suggests that grievances were just as important as greed" (Keen 2005: 75). He claims that externally encouraged liberalization attempts in the 1970s and 1980s affected the conflict, because privatization led to increasing inflation, devaluation, significant cuts in wages of state employees, private oligopolies, rampant corruption and the worsening of state services like education. As revenues continued to fall, the infrastructure deteriorated and smuggling escalated (Keen 2005; Bradbury 1995). At that time, the APC government was trying to continue the patronage system at the expense of its citizens by cutting government spending for important services like health care. While some people had access to education and private lessons, many did not have the opportunity to go to school. As mentioned earlier, the decline in public services not only made the rebel recruiting easier but also generated strong resentment in society. In addition to the failure to provide public services, widespread discrimination by providing services only to clients or the ones who can pay the bribe made citizens question the legitimacy of the state. Sierra Leone turned to a "shadow state" in which the ones in

power try to hijack the state for private gain (Reno 1995). As corruption and inequality increased, anger and fear mounted in society. It eventually led to violence (Keen 2005).

Not surprisingly, right after the civil war, the British government started a good governance program and the World Bank pronounced its plans to focus on institutional reform and capacity building, legal and judicial reform and strengthening property rights (Keen 2005: 84). The effects of these attempts remain to be seen.

2.5.2. Hypotheses: Quality of Governance

Based on the theoretical framework outlined above, I facilitate my argument with regard to quality of governance using six hypotheses, including one general hypothesis on governance and five individual hypotheses to examine each governance component separately:

H1 (Corruption): As the extent of corruption in a government increases in a political system, the likelihood of civil war increases.

H2 (Rule of law): As the rule of law tradition gets stronger in a state, the likelihood of civil war decreases.

H3 (Bureaucratic Quality): As the quality of bureaucracy increases in a state, the likelihood of civil war decreases.

H4 (Repudiation): As the risk of repudiation of contracts by government increases, the likelihood of civil war increases.

H5 (Expropriation): As the risk of expropriation of private investment increases, the likelihood of civil war increases.

H6 (Quality of governance): As the level of quality of governance increases in a state, the likelihood of civil war decreases.

[See Table 2.2-Summary of the hypotheses- here]

This chapter laid out the theoretical foundations that guides my study and presented the relevant hypotheses derived from the theory. While the conceptual basis for the above mentioned linkages is relatively straightforward, like all scholars doing empirical work, I am constrained by the problem of finding good proxies for the variables of interests. The proxies, data, measurement and the methods used to conduct the empirical testing of the hypotheses are explained in the next chapter, the research design.

Table 2.1
Determinants of Civil Wars- Summary of Hypotheses

H1 (Income inequality): As income inequality increases, the likelihood of civil war increases.

H2 (Gender inequality): As the level of gender inequality in a society increases, the likelihood of civil war increases.

H3 (Regime type 1): Democracies are less likely to experience civil wars than autocracies (negative relationship).

H3a (Regime type 2): The likelihood of civil war is highest in anocracies (curvilinear relationship)

H3b (Regime type3): The likelihood of civil war is higher in unstable societies.

H4 (Political Discrimination): As the level of political discrimination increases in a state, the likelihood of civil war increases.

H5 (Religious discrimination): As the level of religious discrimination increases in a state, the likelihood of civil war increases.

H6 (Repression 1): As the level of political repression increases in a state, the likelihood of civil war increases.

H6a (Repression 2): As the level of repression increases in a state, the likelihood of civil war decreases.

H6b (Repression 3): The likelihood of civil is highest at the moderate levels of repression.

H7 (GDP per capita): The higher the per capita income in a state, the lower the probability of civil war.

H8 (GDP growth): The higher the growth rates in a state, the lower the probability of civil war.

H9 (Military capability): As the military capability of the state increases, the risk of civil war decreases.

H10 (Mountains): More mountainous countries are more likely to experience civil wars.

H11 (Noncontiguity): Countries with a territorial base that is geographically separated from the center of the state power (capital city) by land or water are more likely to experience civil wars.

H12 (Population): More populous countries are more likely to experience civil wars.

H13 (Ethnic/ religious fractionalization 1): The higher the ethnic/religious fractionalization in the society, the higher the likelihood of the civil war.

H13a (Ethnic/ religious fractionalization 2): The higher the ethnic/religious fractionalization in the society, the lower the likelihood of the civil war.

H13b (Ethnic dominance): The existence of a dominant group in the country increases the risk of civil war.

H13c (Ethnic/religious polarization): The greater the ethnic/ religious polarization in a society, the higher the likelihood of the civil war.

H14 (Oil): Oil exporting countries are more likely to experience civil wars.

Table 2.2
Quality of Governance and Civil Wars- Summary of Hypotheses

H1 (Corruption): As the extent of corruption in a government increases in a political system, the likelihood of civil war increases.

H2 (Rule of law): As the rule of law tradition gets stronger in a state, the likelihood of civil war decreases.

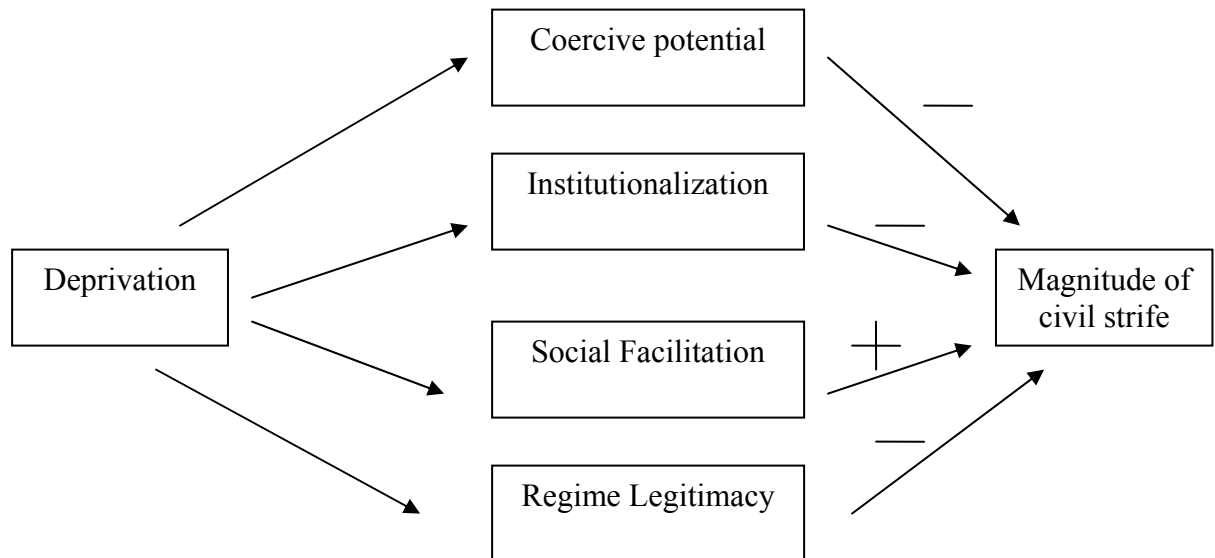
H3 (Bureaucratic Quality): As the quality of bureaucracy increases in a state, the likelihood of civil war decreases.

H4 (Repudiation): As the risk of repudiation of contracts by government increases, the likelihood of civil war increases.

H5 (Expropriation): As the risk of expropriation of private investment increases, the likelihood of civil war increases.

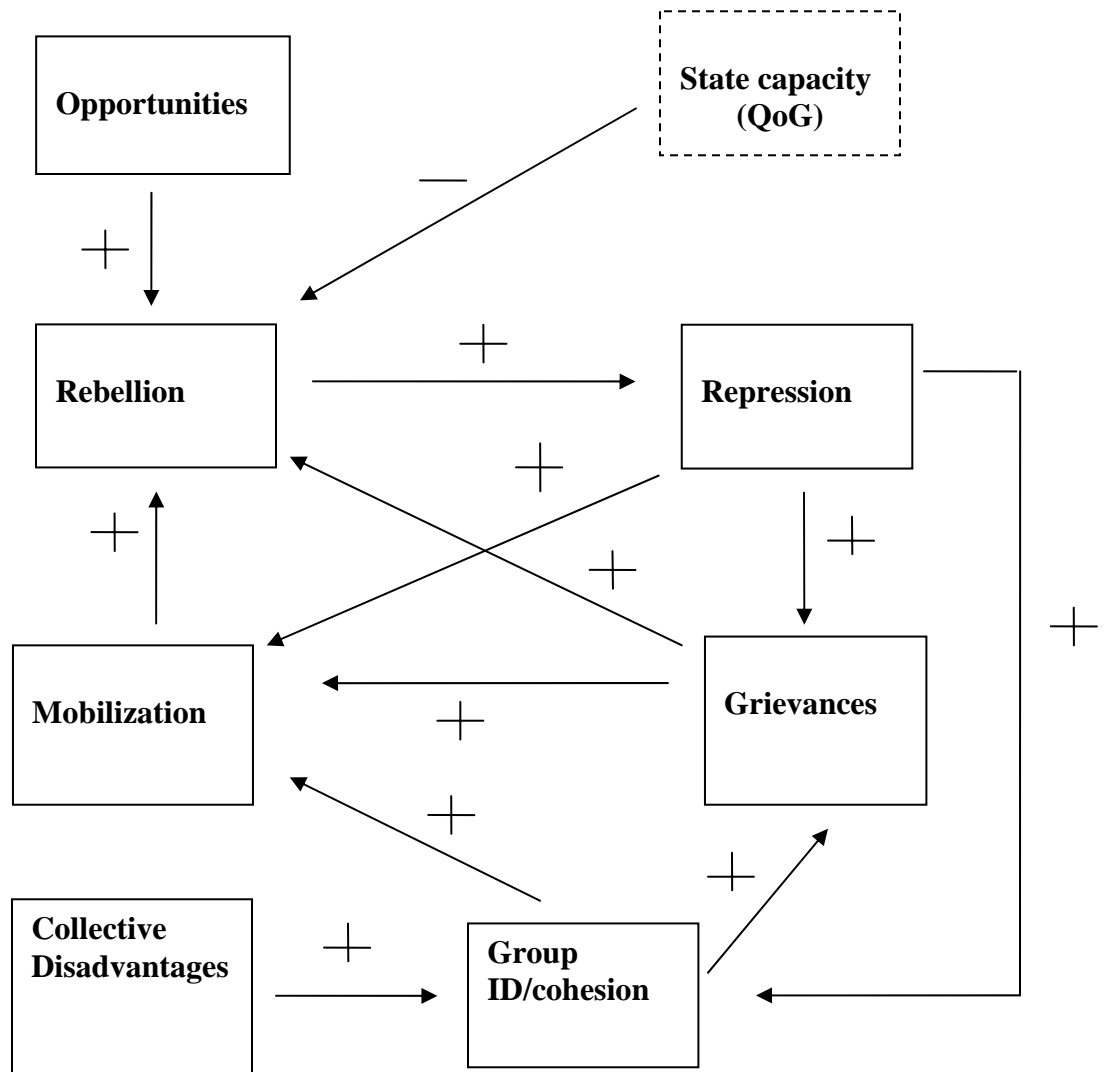
H6 (Quality of governance): As the level of quality of governance increases in a state, the likelihood of civil war decreases.

Figure 2.1
Gurr's 1968 Causal Model of Civil Strife



Source: Gurr (1968:1105)

Figure 2.3
MAR's Model of Ethnopolitical Rebellion: Importance of State



Source: Adapted from Saxton (2005:91) and Lindstrom and Moore (1995: 173)

Figure 2.4
Determinants of Civil Wars: Comprehensive Model

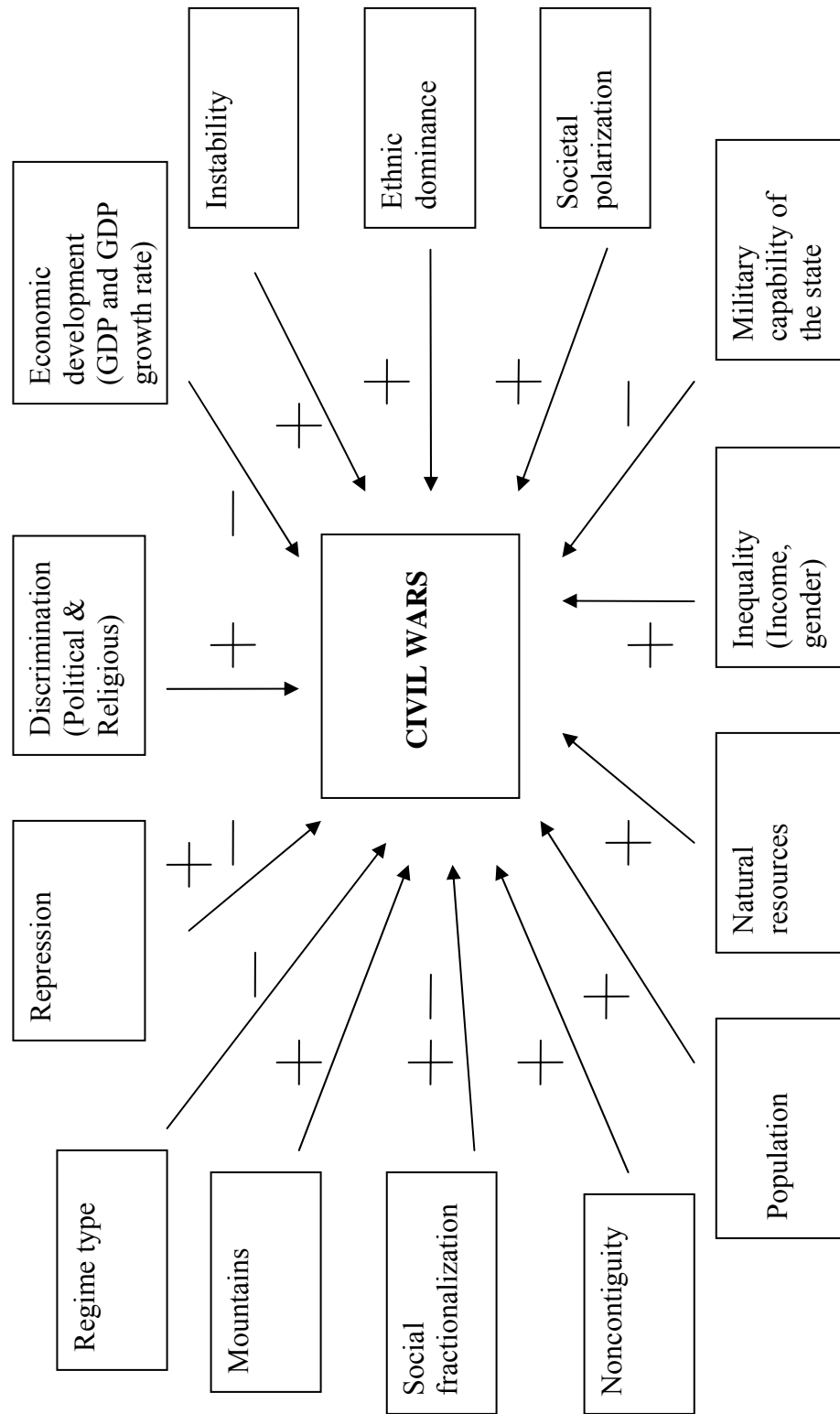


Figure 2.5
Determinants of Civil Wars: Opportunity Model

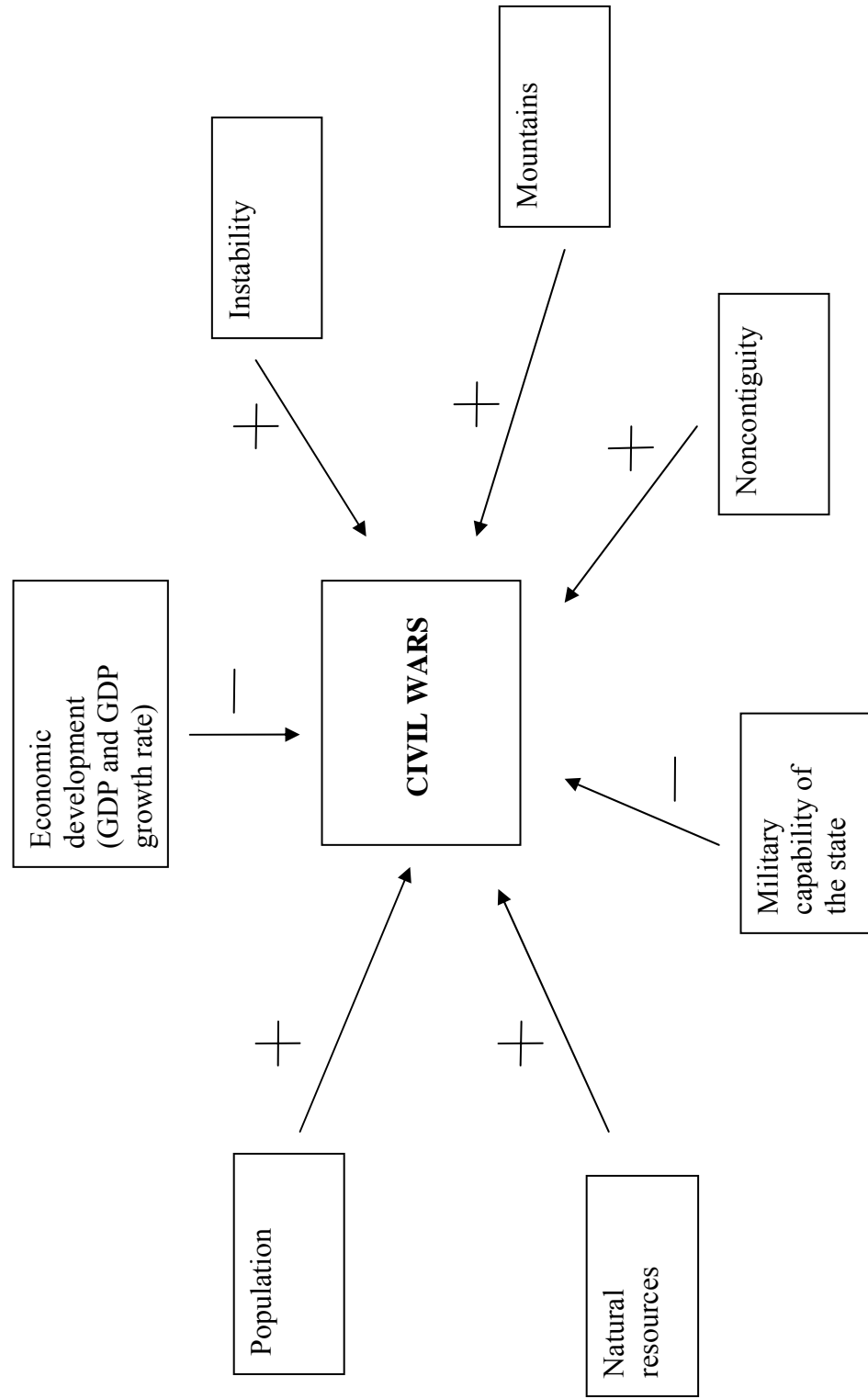
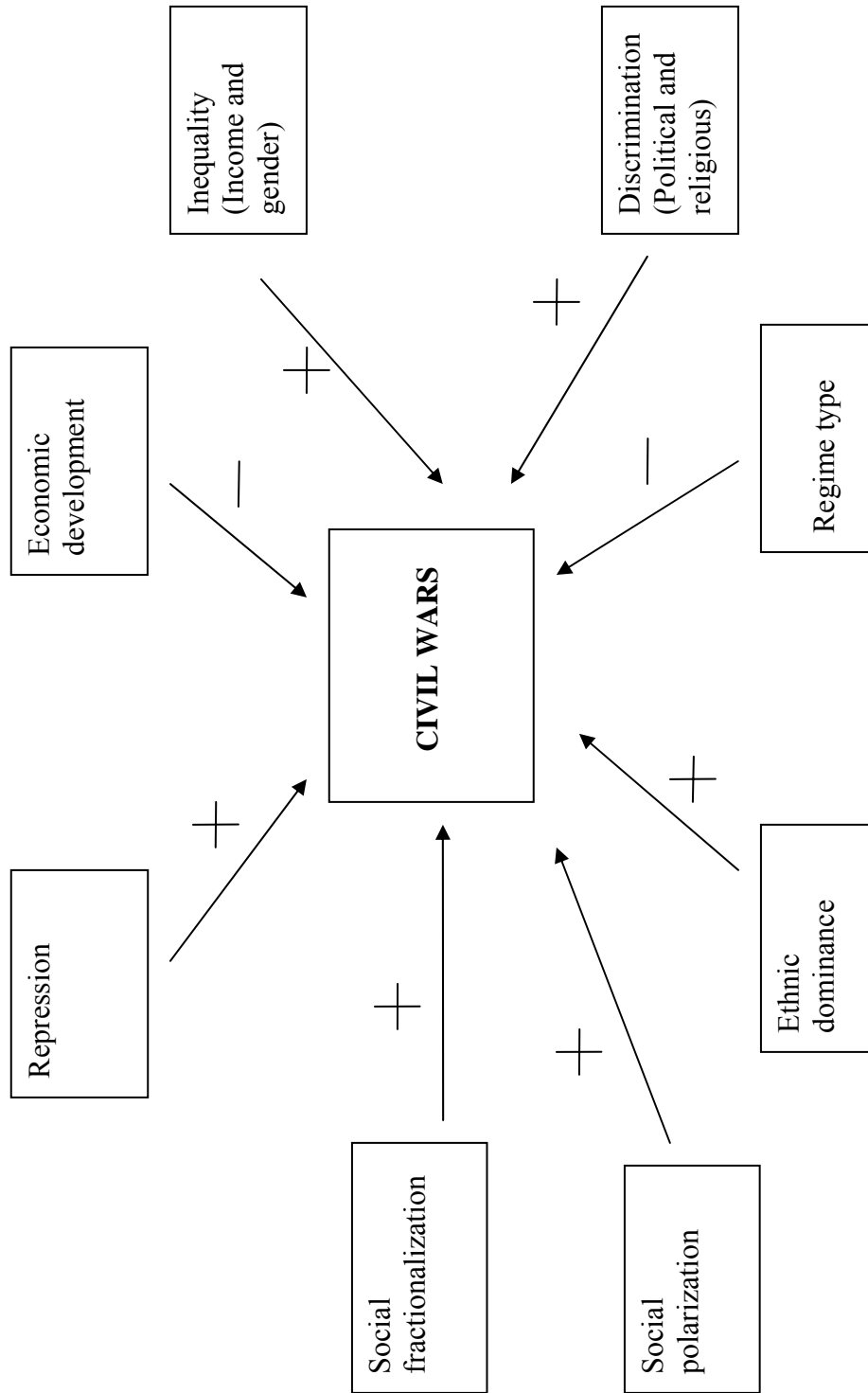


Figure 2.6
Determinants of Civil Wars: Grievance Model



3. Research Design

In this chapter I outline the research design utilized to carry out the empirical tests of the hypotheses listed in the previous chapter. I will start by explaining the three models (grievance, opportunity, and comprehensive) that will be the focus of the first data analysis (determinants of civil wars- chapter 4). Later, I will explain the data, proxies, measurements and the statistical methods used in the data analyses (chapters 4 and 5).

3.1: Determinants of Civil Wars: Grievance, Opportunity and Comprehensive Models

The main point of contention in the literature since 1990s has been the relative explanatory power of economic factors vis-à-vis social and political grievance factors in predicting civil war initiation. In order to contribute to this debate, in the first part of the empirical analysis, I will evaluate the impact of various economic, political, and social factors on the likelihood of civil violence. This sort of investigation can best be achieved by constructing a comprehensive model that includes all the theoretically relevant grievance and opportunity variables since the arbitrary division of the models causes some complications. As mentioned in the theory section, the relative deprivation/ grievance and opportunity/mobilization theories are not mutually exclusive. Therefore, placing some variables in one model, while excluding them from another, is not only challenging but also problematic. Comprehensive models have advantages over individual models given that real world civil wars are the results of complex interactions,

rather than simplistic assumptions. I will clarify and illustrate my argument in this paragraph with some examples.

In the literature, economic development is accepted as the key variable in the opportunity models since it is assumed to determine the opportunity cost of rebellion. However, as indicated earlier, relative deprivation theory claims that individuals care not only about relative deprivation but also about absolute deprivation; and low levels of economic development will contribute to the development of grievances. Even Collier (1999) includes economic incompetence of the government as a source of grievance since it can inflict economic misery on its citizens. Furthermore, scholars argue that the impact of low economic development and growth can be even more devastating when high levels of inequality exist among citizens. Therefore, the evaluation of economic development can be best conducted in a setting that includes both relevant grievance and opportunity factors.

Similarly, repression, ethnic fractionalization and regime type have been accepted as classic indicators of discontent since brutal repression, ethnic hatreds, and limited rights/freedoms are expected to generate grievances and domestic discontent. However, the same indicators can limit mobilization attempts. As much as repressive acts can be a motivation for people, it can also serve as a negative incentive and inhibit the growth of collective political action. Likewise, high levels of heterogeneity in a society can lead to more frictions, hatred, and grievances among different groups. Therefore, ethnic or religious fractionalization can serve as opportunity-inhibiting factor given the difficulty of mobilizing people around a common idea when they have different identities and backgrounds. Following the literature, I include these indicators in my grievance model;

but I am fully aware of the fact that their real impact can only be seen in the comprehensive model.

[See Figure 2.4-Comprehensive model- here]

Based on the discussion above, and following the literature, I will first construct the grievance and opportunity models separately. Then, I will incorporate both models into a single comprehensive model to assess the relative contributions of the arguments systematically. Even though I will evaluate and discuss the results of the grievance and opportunity models individually, my main focus will be on the combined model. In constructing and testing my models, I basically follow the research design of Collier and Hoeffler (2004) since they were the first scholars who initiated the ‘greed versus grievance’ debate, and constructed the opportunity and grievance models in the civil war literature.

Grievance model

The grievance model is heavily influenced by the idea of relative deprivation and it is principally concerned with political and social/demographic factors. In the literature, grievances are commonly perceived as the result of historical injustices, ethnic or religious divisions/hatreds, inter-group inequalities, lack of political and economic rights, and repression (Murshed 2005; Olsson and Fors 2004; De Soysa 2002; Collier and Hoeffler 2004). In testing the grievance model, I consider the following objective measures of grievances: political and religious discrimination, income and gender inequality, regime type (political rights), repression, and social divisions (domination, fragmentation and polarization). Further, following Collier and Hoeffler (2004), I control

for population for two reasons: (1) opportunities and grievances increase with population (Collier and Hoeffler 2004: 588); and (2) the civil war coding is dependent on the number of battle deaths, and therefore more populous countries are more likely to experience civil wars.

[See Figure 2.6- Grievance model- here]

Opportunity Model

This model¹ examines mainly the importance of various factors in creating opportunities for political violence and the increasing feasibility of rebellion. However, it does not take into account the feelings of injustice, inequality, grievance, hatred, or political exclusion. GDP per capita and its growth rate account for foregone income and the opportunity cost of rebellion. Another dimension of opportunity is natural resource abundance, which is used as a proxy for the availability of finance through extortion. The military capability of the state and the geographical indicators (e.g. mountains, contiguity) are proxies for military advantage and are influential in determining the feasibility, mobilization and the success of the rebel movement. Demographic factors (population) carry a great deal of importance for the insurgency since the size of the rebel pool can limit both the recruitment and effective functioning of rebel organizations. Finally, regime stability is included in the model since instability provides a window of opportunity for rebel groups to mobilize and be successful.

[See Figure 2.5-Opportunity model- here]

¹ This model can also be called the viability or economic model.

3.2. Quality of Governance: Second Data Analysis

In the second part of the data analysis my focus will be on the importance of quality of governance in explaining civil wars. To properly determine the impact of quality of governance on civil war incidence, I need to control for the variables that are also expected to have an impact on civil war incidence. This time I follow the research design of Fearon and Laitin (2003) since it has become a common practice in the civil war literature to control for the factors that they have found to be significant. By following their logic, not only do I have strong empirical backing for my selection of controls, but my results can be also then be compared to the many scholars that have used their structure (e.g. Barbieri and Rauveny 2005).

3.3. Data and Methodology

In order to conduct the empirical testing of both sets of hypotheses stated in chapter 2, I adopt the civil war definition used by Fearon and Laitin (2003: 76), who define civil war as a conflict that:

(1) involves fighting between a state and a non-state group who seeks to take control of a government, to take power in a region or to use violence in order to change government policies to achieve certain goals;

(2) killed at least 1000 people overall, from both sides, with a yearly average of at least 100 and

(3) killed at least 100 people on average from each side (including civilians attacked by rebels).²

² This definition is similar to the Correlates of War (COW) in the sense that it emphasizes three dimensions of civil war: internality, type of participants and effective resistance (Small and Singer 1982:210-218). The

Fearon and Laitin's (2003) list of civil wars covers all civil war incidences from 1945 to 1999. In both of my empirical tests, I use a sub-section of their list, since my time span is shorter.

[See Table 3.1 -List of civil wars- here]

It is important to note that there are other data sets using alternative definitions of civil war. The COW data set, which is one of the most commonly used data sets, includes 214 civil wars between 1816 and 1997 (Singer and Small 1994). This data set originally included cases if they met the criteria of 1,000 battle related deaths in any given year (Small and Singer 1982). In the later updates of the data set they modified this rule and the threshold for civil war was set at 1,000 battle deaths for the entire conflict (Small and Singer 1994; Sarkees 2000). Doyle and Sambanis (2000) also relaxed the annual 1,000 battle death threshold and created their own civil war data set which includes 124 civil wars between 1944 and 1997. While Collier and Hoeffler (2000) have a data set with 79 civil wars from 1960 to 1999, Fearon and Laitin's (2003) data set includes 127 civil wars between 1945 and 1999. All of the above mentioned data sets are relatively similar, given that they all use some 1,000 battle death threshold, either strictly or loosely.³

However the data set collected by Uppsala University - namely the Armed Conflict Dataset (ACD) - is quite different from others. It includes conflicts with 25 or more battle related deaths and the conflicts are classified into three groups: 'Minor armed conflicts' resulted in 25 to 1,000 battle related deaths during the course of conflict. 'Intermediate armed conflicts' resulted in a minimum of 1,000 battle deaths per conflict and 'civil wars' are the ones that resulted in a minimum of 1,000 battle deaths per year

most important difference is that this coding does not presume one thousand deaths per year, but rather uses one thousand deaths as the threshold for the entire conflict.

³ For further discussion on definition and coding of civil wars, see Sambanis (2004).

(Wallersteen and Sollenberg 1999; Gleditsch et al.2002). Using this threshold, between 1946 and 2000 they code 220 intrastate conflicts of which 95 are civil wars (Gleditsch et al. 2001; Gates and Strand 2004).

The differences in the definitions and codings have important implications for the results of any research (Sambanis 2004). Gates and Strand (2004:7) provide one example that summarizes the problem clearly: “Low level secessionist movements such as the Karen in Burma/Myanmar can be counted as one very long civil war as with the ACD data, or as three shorter wars as coded by COW, or as two wars, one long and one short as coded by Doyle and Sambanis (2000).” Acknowledging these limitations, Fearon and Laitin’s data are selected as the main source for this dissertation for three reasons. First, it is the latest data collection and their coding decisions are fairly close to the other data sets. Second, their coding decisions are consistently applied and well-documented. Third, the data set has been commonly used by other scholars, and therefore such a selection allows for accumulation of findings and knowledge. However, given the existence of different data sets and the huge difference in terms of coding between armed conflicts and civil wars, robustness checks are essential and important. There is the possibility that the causal mechanisms behind civil wars and armed conflicts can be different. It is also important to remember that since the 1,000 battle death threshold is used in coding civil wars, the results offered will only be relevant for these extremely violent civil war cases, but not for low level conflicts or non-violent large scale protest activities.

The hypotheses are evaluated using time series-cross-sectional panel data. In the civil war literature, it is standard procedure to employ pooled time series-cross sectional data given that time series analyses are good for tracking relationships over time. Cross-

sectional analyses, on the other hand, are good for identifying trends and tendencies across many cases (Jackman 1985). Using global data and examining a large number of countries allows researchers to understand global patterns and reach general conclusions that might not be possible by examining a small number of cases (King et al. 1994). However, it is important to remember the disadvantages of this selection. The details and richness of case studies are sacrificed and explanations are probabilistic, rather than deterministic.

The unit of analysis is the state-year which is the annual observation for each state that had a population of at least half a million in 1990. Analyzing the data in the country-year format allows us (1) to have greater consistency when lagging several independent variables and (2) to treat the quickly renewed civil war cases better (Fearon 2005). By using state-year as the unit of analysis I am making the assumption that various groups within states respond similarly to conditions that foster rebellion. This assumption is commonly utilized in the literature despite being sub-optimal (Dudley and Miller 1998). The other option available is to use communal groups or minorities at risk within states as the unit of analysis in order to account for communal relationships and their impact on political violence (Gurr 1993). However, that selection is also not problem-free. Due to data limitations and comparison purposes, I chose state-year as the unit of analysis.

The first empirical analysis (determinants of civil wars) is limited to 23 years (1975-1997) and the comprehensive model includes 354 civil war incidences from 108 states. Most of my indicators are available for this period. The most important exception is the religious discrimination variable, which is only available for the 1990s. Therefore, the model including this variable is limited to 702 cases. In addition, the gini coefficient,

despite being available for the time span stated above, has many missing values. Even after interpolation this variable drops significantly from 1727 to 1089 observations.⁴ When religious discrimination and the interpolated version of the gini coefficient are added to the base comprehensive model, the number of observations decreases to 466. In order to maximize the number of cases, I will construct each of the three base models (opportunity, grievance and comprehensive) from the variables that are available for the period between 1975- 1997. All other indicators that lower the number of observations will be included in successive steps and be reported accordingly.

The quantitative analysis of ‘quality of governance’ includes 345 civil war incidences for 104 states and is limited to 16 years (1982 -1997). The time span in this analysis is dictated by the availability of the quality of governance indicators. Given the limited temporal domain in both analyses, caution about generalizability of any findings is warranted.

3.4. Operationalization of the Variables

In this dissertation, I was faced with the problem every researcher in the field faces: selecting the best indicators from among a large number of possibilities. The selection and measurement of proxies have been constantly questioned by researchers in the literature. My selection of the variables is based on two criteria: (1) the relevance of the proxy to the theory and the validity of the indicator; (2) the relevance of the concept to the existing treatments in the literature (to contribute to the accumulation of knowledge).

⁴ Without interpolation, the model that includes the gini coefficient has 549 cases.

The data used here are taken from extant data sets. Therefore, variables constructed and coded based on judgments of the coders were not changed. The measurement of the independent and dependent variables is consistent with the literature mentioned above, so we will keep the discussion relatively short.⁵ I will address the quality of governance measures in detail since they have never been used in the civil war literature.

3.4.1. Dependent Variable

The outcome variable - Civil war incidence - is binary, coded 1 when a country is at war, and 0 otherwise (i.e. no ongoing war). The purpose of using the presence of civil war as the main dependent variable is to account for the role of the quality of governance in every year that the civil war continues to take place. Throughout this study, civil war presence, prevalence and incidence are used interchangeably. Similarly, civil war onset and initiation are used to refer to the same concept.

Some authors in the literature have investigated civil war onsets (e.g. Fearon and Laitin 2003; Collier and Hoeffler 2004; Sambanis 2001a; Hegre et al. 2001), while others focused on the incidence of civil war (e.g. Elbadawi and Sambanis 2002; Reynal-Querol 2002; Montalvo and Reynol-Querol 2005; Caprioli 2005). The reason behind choosing civil war ‘incidence,’ rather than ‘onset’ as the dependent variable is because civil war onsets are rare events (based on Fearon and Laitin’s [2003] definition). They constitute

⁵ In the empirical testing of quality of governance two additional controls are added in addition to the standard Fearon and Laitin (2003) controls: ethnic dominance and political discrimination. The reason for these two additional controls is that they have been found to affect the likelihood of domestic conflicts. Gates (2002: 9) states that “The following variables are generally agreed to be associated with a higher risk of civil war: (1) poverty, lack of economic opportunities and level of economic development, (2) time since previous civil war and conflict history, (3) ethnic dominance, and (4) political instability.”

less than 2% of the data given the 1,000 battle-deaths threshold (King and Zeng 2001a, b). While there are only 26 civil war onsets between 1982 and 1997, there are 345 civil war incidences. In addition, it appears that quality of governance is more relevant in explaining whether a civil war takes place in a given year rather than directly predicting the onset or initiation of civil wars. This variable is taken from Fearon and Laitin (2003). Given the binary nature of the dependent variable, in both analyses, the estimations are made by using a logistic regression random effects (RE) model.

3.4.2. Independent and Control Variables

Before describing the variables two important issues regarding the data should be mentioned. First, the independent variables that I include to test for the grievance/relative deprivation argument are not indicators that measure ‘relative deprivation’ directly at the individual level. They are cross-national aggregate measures in the form of scales that indicate the conditions that are collectively frustrating for people (Gurr 1968). While this is a less-than-perfect solution and has some problems, due to the difficulty of acquiring individual data as compared to aggregate data, it has been the conventional way of testing in the literature since the 1950s.⁶ Second, it is important to mention at the beginning that some of the independent variables that are used in the first empirical analysis are used as control variables in the analysis of quality of governance in the second part. In this section I will list all of the independent and control variables.

[See Table 3.2 – Operationalization of variables- here]

⁶ “The conditions which are assumed to bring about deprivation are positively correlated with violence” (Palmer and Thompson 1970: 292).

Discrimination

Political discrimination

From an individual's standpoint, discrimination is all about a sense of limitation, deprivation or inequality. Various scholars have attempted to tap into this idea but like other measures of relative deprivation, individual level data are hard to obtain. Instead, many scholars have tested the idea using objective aggregate macro-level indicators such as political, economic or cultural discrimination (e.g. Gurr and Moore 1997; Moore and Gurr 1998; Lindstrom and Moore 1995).

The political discrimination index is taken from Regan and Norton (2005: 328). It measures how public policies and social practices are used to decrease or promote political inequalities. The authors make the assumption that "political access translates, even if indirectly, into economic access/discrimination." (Regan and Norton 2005: 328). The political discrimination index is selected because it is the key to grievance-based explanations of civil wars. The variable ranges from 0 (no discrimination) to 4 (substantial restrictions on political freedoms) and it is adopted from the MAR data.

The original five-category ordinal scale severity of political discrimination variable in MAR is coded as follows (Gurr 1993a: 47):

0= No discrimination

Low 1= Substantial underrepresentation in political office holding or participation or both, due to historical neglect or restrictions. Explicit public policies are designed to protect or improve the group's political status.

2= Substantial underrepresentation due to historical neglect or restrictions. No social practice of deliberate exclusion. No formal exclusion. No evidence of protective or remedial public policies.

3= Substantial underrepresentation due to prevailing social practice by dominant groups. Formal public policies toward the group are neutral or, if positive inadequate to offset discriminatory practices.

High 4= Public policies (formal exclusion or recurring repression nor both) substantially restrict the group's political participation in comparison with other groups.

The mean value of this variable is 2.22 in the comprehensive model. The simple correlation of the political and religious discrimination variables yields a chi-square coefficient of .27, suggesting a positive relationship between the variables but also confirming that each of them captures a different dimension of the discrimination within each country.

Religious discrimination

The religious discrimination variable is taken from Fox's Religion and State data set (2004). It is designed to measure restrictions the government places on the practice of religion by minority groups. Fox (2004) states that this variable focuses only on restrictions on minority religions. In addition it focuses on the practice of religion itself and does not measure other types of restrictions on religious minorities. Religious discrimination is a composite variable that ranges from 0 to 48 and it is only available for 1990- 2002. The mean of this variable is 4.13. It combines all the following variables:

- Restrictions on public observance of religious services, festivals and/or holidays, including the Sabbath.
- Restrictions on building, repairing and/or maintaining places of worship.
- Restrictions on access to places of worship.
- Forced observance of religious laws of other group.
- Restrictions on formal religious organizations.
- Restrictions on the running of religious schools and/or religious education in general.

- Arrest, continued detention, or severe official harassment of religious figures, officials, and/or members of religious parties.
- Restrictions on the ability to make and/or obtain materials necessary for religious rites, customs, and/or ceremonies.
- Restrictions on the ability to write, publish, or disseminate religious publications.
- Restrictions on the observance religious laws concerning personal status, including marriage, divorce, and burial.
- Restrictions on the ordination of and/or access to clergy.
- Restrictions on conversion to minority religions.
- Forced conversions.
- Restrictions on proselytizing.
- Requirement for minority religions (as opposed to all religions) to register in order to be legal or receive special tax status.
- Restrictions on other types of observance of religious law.

This set of variables is a list of specific kinds of religious restrictions that a government can place on minority religions. Each of these specific types of restrictions is coded according to the following scale:

- 0= Not significantly restricted for any minorities.
- 1= The activity is slightly restricted for some minorities.
- 2= The activity is slightly restricted for most or all minorities or sharply restricted for some of them.
- 3= The activity is prohibited or sharply restricted for most or all minorities.

Economic Development: The GDP Per Capita and Growth

The log of GDP per capita (measured as thousands of 1985 dollars) and average GDP growth rate are used as proxies for the absolute level of welfare or deprivation among the citizens and for the ability of the state to meet the demands emanating from society (i.e. state strength) (Parvin 1973). Recruiting young men into guerilla forces is relatively easier when there are low levels of economic development (Fearon and Laitin 2003). Both GDP per capita and average GDP growth rate also measure the opportunity cost of rebellion and serve as an indication of state strength. Average GDP growth rate is

measured as a 5 year average (t-1) using GDP per capita in constant US dollars. The mean log transformed GDP per capita is 7.90. The GDP per capita data are taken from Fearon and Laitin (2003) and the economic growth measure is taken from Caprioli (2005). Both indicators reflect the level of economic well-being of the society and are insensitive to the distribution of wealth. It is also important to remember that the GDP per capita measure captures the aggregate social wealth, and it is “less-than-perfect predictor of individual well-being” (Moon and Dixon 1985:664). The inequality indicator is more sensitive to distributional variations and will be discussed next.

Inequality

Economic inequality

A completely satisfactory measure for income inequality has yet to be found. Given this fact, I will use inequality in income distribution as one measure of relative deprivation. The gini coefficient is most commonly used to measure income inequality, and it ranges from 0 (perfect equality-theoretical maximum) to 1 (perfect inequality-theoretical minimum). It is measured as the ratio of the area between the Lorenz curve and the diagonal (representing full equality) to the area under the diagonal. A high ratio indicates higher income inequality. The data are taken from UN-World Institute for Development Economic Research (WIDER), World Income Inequality Database (Version 2.0a).⁷ These data are the most updated, recent, and refined data on income inequality (it is the updated version of the Deininger and Squire database). I also chose not to use ‘reported gini’ which is the gini coefficient reported by the source, but rather the gini coefficient as calculated by WIDER. In this data set, there are some cases where

⁷ Data are available at <http://www.wider.unu.edu/wiid/wiid.htm>.

more than one gini coefficient is reported for the same year. In these cases I calculated the average. It is important to note that there are many countries for which there are no reliable data on income inequality, and I interpolated the variable. Without the interpolation, the gini variable limits the comprehensive model to 549 cases. With the interpolation the sample size becomes 1084. Even with interpolation, however, the sample size for the comprehensive model with the gini coefficient has 643 fewer cases (base model $N=1727$). As mentioned earlier, in order to maximize both the sample size and the time span, the base model does not include the gini coefficient along with some other indicators. However, I will run variations of the base model with these ‘problematic’ indicators and report the results in the data analysis chapter.

Further, to be able to evaluate the claims in the literature I will use the gini coefficient in different forms and report these results as well. First, following Siegelman and Simpson (1977) and Davis (1948) I created a variable- *midgini* ($|0.5 - \text{gini}|$) - by calculating the difference between the gini coefficient and the mid-point 0.5. Davis (1948) argued that how much a country falls below or above the mid-point is what matters. Higher levels of national deviation from the midpoint (0.5) of the income inequality scale are expected to increase levels of political violence.

Second, some scholars assert that the mid-point 0.5 is not likely to be the mid-point of the inequality scores of the countries in the sample. They claim that the greater the deviation from the arithmetic mean, the greater the likelihood of civil violence (Siegelman and Simpson 1977). To take into account this factor, I calculated the *meangini* variable by taking the difference between the gini coefficient of a state and the

mean of the distribution of national income inequality scores in the sample (| Mean-Gini|).

Gender inequality

The percentage of women in labor force measures the share of women in the adult labor force, and it is used to account for the extent of gender inequality in the society. Caprioli (2000, 2005) argues that it is a direct measure of gender inequality. As women participate more in the labor force, they feel more powerful, autonomous, and independent. This will eventually bring not only self-esteem, decision making power in the family, but also a change in their economic status and increased participation in politics and economics. Therefore, Caprioli (2000, 2005) claims that higher female participation in the labor force implies greater equality between men and women in society. The data are taken from Caprioli (2005) who coded this variable from World Bank sources. The mean value for female participation in the labor force for the base comprehensive model is 36.5%.

Caprioli (2005) also uses a dichotomous version of the fertility rate from the World Bank as another proxy for gender inequality. She claims that high fertility rates “are not only a result of gender discrimination, but also have a negative impact on women’s health and are related to lower levels of education, employment, decision making authority in both the family and the community” (Caprioli 2005: 169). Fertility rate is dichotomized as follows: 0 if the fertility rate is between 0 and 3 and 1 if the fertility rate is higher than 3. I will utilize both measures in order to account for gender inequality in society and its impact on civil violence.

Population

The population variable is taken from Fearon and Laitin (2003). It is log transformed and lagged one year like the other time-variant variables.

Regime Type

The extent of freedom and political rights and the openness of political institutions are proxied by the regime type variable. This measure is based on the POLITY IV data set, and are taken from Fearon and Laitin (2003). The variable- regime type- ranges from -10 (high autocracy) to 10 (high democracy) and it measures a country's level of democracy and autocracy. It is calculated by subtracting the value of the latter from the former. I normalized it to zero by adding 10 to the scores in order to eliminate the negative scores before squaring the variable. Like other independent variables I lag this variable one year.

I also included the squared Polity 2 score- regime type²- to the model specification to test the classic argument about a curvilinear relationship (an inverted U shape) between democracy and civil wars. If a curvilinear relationship exists, then the coefficient for regime type should be positive and that of regime type² should be negative. Introduction of the square terms (regime type² and repression²), however, introduces the possibility of multicollinearity. As Nagel (1974) and Sigelman and Simpson (1977) state, multicollinearity produces large standard errors in estimates of regression coefficients.

However, the significance of the coefficients (t-statistics) is inversely related to the standard errors. What this means is that “if coefficients are highly significant despite large standard errors, regression estimates should be accepted despite high correlation between the regressands (Sigelman and Simpson 1977: 113). This sort of multicollinearity is fairly common in the civil war literature due to the quadratic relationship between regime type and domestic political violence.

Instability

The instability variable reflects the change in political institutions; it takes a value of 1 if a country has experienced a change of 3 points or more in the Polity IV regime score over a period of three years prior to the country-year in question. Since the instability indicator accounts for the last three years, I did not lag this variable.⁸

Contiguity

In order to understand the impact of contiguity I included a variable *noncontiguous state*. Countries with territorial holdings of at least 10,000 people and separated from the land area containing the capital city by land or by 100 kilometers of water are coded as 1 (noncontiguous) and 0 otherwise. These data are taken from Fearon and Laitin (2003).

Terrain: Mountains

In order to understand the impact of nature (more specifically rough terrain) in facilitating or inhibiting the mobilization of collective action, I included a variable called

⁸ I did not include the ‘new state’ variable since it was a perfect predictor of peace.

mountainous. It is the logged share of the country's area covered by mountains and taken from Fearon and Laitin (2003).

Natural Resource Dependence

I proxy natural resource dependence in the form of oil, with a dummy variable- oil exporter. It takes the value of 1 if a country receives more than one-third of its export revenues from oil exports, and 0 otherwise. I also include Collier and Hoeffler's (2001) original natural resource dependence variable- the share of primary commodity exports in GDP. This indicator is measured at five year intervals.

Social Fractionalization

In order to understand the effects of social pluralism and diversity in the society, I include an index variable- ethnolinguistic fractionalization (ELF). Fearon and Laitin's (2003) coding is originally based on data from Atlas Narodov Mira (1964). It measures the probability that two randomly drawn individuals in a specific country belong to different ethnolinguistic groups. While South Korea scores 0, Uganda and Congo score 0.90 and 0.66 respectively. The mean for ethnolinguistic fractionalization is .42 and the standard deviation is .29.

Religious fractionalization is analogous to ethnic fractionalization and both variables vary from 0 (total homogeneity) to 1 (total heterogeneity). It differs significantly between countries, with South Korea scoring 0.54 whereas Uganda scores 0.72. Both fractionalization measures have been heavily used in the literature (Collier and Hoeffler 2004; Fearon and Laitin 2003; Elbadawi and Sambanis 2002; Barbieri and

Reuveny 2005; Fearon 2002; Annett 2003). The correlation between the two fractionalization measures is .35.

Social Polarization

The index of ethnolinguistic and religious polarization is taken from Montalvo and Reynal-Querol (2005). The measure captures the distribution of groups and bipolar distribution (50%- 50%) is the highest level of polarization. Therefore, it is very different from the fragmentation variable. For example while Turkey's ethnolinguistic polarization value is .34 in Montalvo and Reynal-Querol (2005) dataset, its fractionalization is equal to .25 in Fearon and Laitin's (2003) data set. Similarly Jordan gets a .98 for ethnolinguistic polarization, for fractionalization it gets a .50. For more on the logic and coding of this variable see Montalvo and Reynal-Querol (2005).

Ethnic Dominance

The index of ethnic dominance is taken from Montalvo and Reynal-Querol (2005) who coded this variable from the World Christian Encyclopedia. It takes the value 1 if one ethno-linguistic group represents between 45 percent and 90 percent of the population. Countries like Honduras, Turkey and Kuwait receive 1, while Ecuador, Bolivia and Italy receive a 0.

Repression

Some scholars argue that democracy is a good proxy for repressive behavior of the state (Gurr and Moore 1997:1083). This is not the stance taken here, however. I think

democracy is a very general proxy for the specific effects of repression⁹. Given the importance of repression and discrimination in explaining civil violence both from the relative deprivation and opportunity perspectives, I will try to account for repression and evaluate its impact directly, rather than under general regime type indicators.

To measure repression I use the political terror scale (PTS) (Gibney and Dalton 1997; Poe, Tate and Keith 1999). PTS measures the extent of a government's respect for human rights (physical integrity rights like imprisonment without due process, execution, disappearances, torture, killings, beatings at the hands of government either arbitrarily or due to political reasons). Coders read the reports of Amnesty International and the US State Department's reports and assigned a value from 1 to 5 for a country in a given year according to the set of standards developed by Gastil (1980). Higher values indicate greater levels of repression. The coding categories are as follows (taken from Gibney's data notes).¹⁰

Level 1: Countries under a secure rule of law, people are not imprisoned for their views, and torture is rare or exceptional. Political murders are extremely rare.

Level 2: There is a limited amount of imprisonment for nonviolent political activity. However, few persons are affected, torture and beatings are exceptional. Political murder is rare.

Level 3: There is extensive political imprisonment, or a recent history of such imprisonment. Execution or other political murders and brutality may be common. Unlimited detention, with or without a trial, for political views is accepted.

⁹ While the correlation between repression and regime type is .37, the correlation between repression and discrimination is .28.

¹⁰ The standards and the details of the coding can be found in Poe et al. (1999:297). Data are taken from Gibney's personal website: <http://www.unca.edu/politicalscience/images/Colloquium/facultystaff/Gibney%20Doc/Political%20Terror%20Scale%201980-2004.xls>). The data notes can be found at: <http://www.unca.edu/politicalscience/images/Colloquium/facultystaff/Gibney%20Doc/Gibney%20Political%20Terror%20Scale.pdf>.

Level 4: The practices of level 3 are expanded to larger numbers. Murders, disappearances, and torture are a common part of life. In spite of its generality, on this level terror affects those who interest themselves in politics or ideas.

Level 5: The terrors of level 4 have been expanded to the whole population. The leaders of these societies place no limits on the means or thoroughness with which they pursue personal or ideological goals.¹¹

Based on this coding countries like Sri Lanka (1990) and Bosnia (1992) are considered more repressive than New Zealand (1990) and Japan (1990) since the former score much higher on the terror scale (5) than the latter (1). In this study, I rely mainly on the coding carried out by the State Department because it has fewer missing cases. For the missing cases, I inserted the amnesty international value if it was available.

This variable was chosen for two reasons: First, “violations of personal integrity rights also have been referred to as state terrorism because they are coercive activities designed to induce compliance with others” (Anderson et al. 1998: 10). Second, this indicator is the best available measure of personal integrity rights. It has been utilized heavily by others as a proxy for repression (Lee et al. 2001; Anderson et al. 1998)¹².

A quadratic term -repression² - is also included in the analysis to capture any curvilinear relationship that might exist between repression and civil war incidence. If there is curvilinear relationship between the two, then both low and high levels of repression should decrease the risk of civil war, while middle levels of repression should increase the likelihood of civil war prevalence.

¹¹ For the details about coding see Poe et al. (1999).

¹² Indeed Davenport (1999) divides the repression literature in to three distinct traditions: state terror, negative sanctions and human rights violations. With regard to human rights violations, the field’s main focus is on violent state actions on personal integrity rights from the political deviance and international/ domestic law perspectives. Some examples of this line of research are Poe and Tate (1994), Henderson (1991), and Mitchell and McCormick (1988).

Military Strength

The variables for military capability are taken from the Correlates of War National Material Capabilities data set (version 3.02)¹³. Military expenditure is measured as the log of the ratio of a state's military expenditure (in constant US dollars) to its population. Military personnel (government army size) per 1,000 inhabitants is measured by dividing the size of the army by the total population (e.g. Balch-Lindsay and Enterline 2000; Mason et al. 1999; DeRouen and Sobek 2004). Both military personnel and military expenditure variables are coded for each state-year and are available from the period between 1816 and 2001 (Singer 1987). The military personnel variable is used as the main indicator of military strength since military expenditure variable is strongly correlated with the GDP per capita variable (.82). The correlation between both military capability indicators are modest (.64) but due to multicollinearity problems they are not simultaneously included in any of the models.

Quality of Governance Indicators

As discussed in the theory section, the conceptualization and measurement of quality of governance is a challenging task: "good direct measures of a state's administrative capability and integrity are lacking" (Fearon 2005: 502).¹⁴ In order to account for this multifaceted concept, I used multiple indicators including: corruption in government, rule of law (law and order tradition), bureaucratic quality, repudiation of contracts by government, and risk of expropriation. The data are taken from the

¹³ The data set is obtained from the following web site:
<http://www.correlatesofwar.org/COW2%20Data/Capabilities/nmc3-02.htm>.

¹⁴ Acemoglu (2001), Knack and Keefer (1995), Easterly (2001), Knack (1999), and Back and Hadenius (2005) have used similar indicators to measure state or institutional capacity.

International Country Risk Guide (ICRG), which is a commercial service that provides information on political risks to overseas investors.

[See Table 3.3- Descriptive statistics for quality of governance measures- here]

Alternatives exist for some of my quality of governance measures; however, they have severe limitations in country and year coverage when compared to the ICRG measures. Two alternative sources of governance data are Transparency International (TI) and the World Bank. TI has a corruption perception index and ranks more than 150 countries in terms of perceived levels of corruption, as determined by expert assessments and opinion surveys. The problem with this data is that it is limited to one indicator, namely corruption, and the data are available only for 1995- 2005.¹⁵ On the other hand, the World Bank's data on governance are much broader. It covers six dimensions of governance: voice and accountability, political stability and absence of violence, government effectiveness, regulatory quality, rule of law, and control of corruption for 209 countries. However, the time span for the data is limited to the years to 1996–2004 only.¹⁶ Using ICRG appears to be the best option, given that it is the most comprehensive and available governance data set that includes the majority of the countries over a long period of time (Knack 2001: 314).

Corruption

In the ICRG data set, corruption in government is the variable that shows to what extent bribes are an important determinant of decision-making and the extent of corruption in government in general. It ranges from 0-6 and lower scores indicate “high

¹⁵ http://www.transparency.org/policy_and_research/surveys_indices/cpi.

¹⁶ <http://www.worldbank.org/wbi/governance/govdata/>.

government officials are likely to demand special payments and that illegal payments are generally expected throughout lower levels of government in the form of bribes connected with import and export licenses, exchange controls, tax assessment, police protection, or loans” (ICRG codebook).¹⁷

Rule of law

Rule of law (order and law tradition) indicator is a measure that determines whether a polity possesses high or low regard for the rule of law and “indicates the degree to which the citizens of a country are willing to accept the established institutions to make and implement laws and adjudicate disputes”. It ranges from 0 to 6 and higher scores show “sound political institutions, strong court system and provisions for an orderly succession of power” (ICRG Codebook). Lower scores indicate “a tradition of depending on physical force or illegal means to settle claims”. When government changes take place new leaders “may be less likely to accept the obligations of the previous regime” (Knack and Keefer 1995).¹⁸

Quality of Bureaucracy

The quality of bureaucracy variable is perceived as a useful indicator of the tradeoff that governments have to make between the pursuit of private and general interests. Like corruption, this variable can be viewed as a proxy for the efficiency of the government and institutions in providing services to its citizens (Keefer 2005; Easterly

¹⁷ This variable has been used by various scholars (e.g. Knack and Keefer 1995, Keefer 2005, Drury et al. 2006).

¹⁸ This variable is commonly utilized in the literature (Acemoglu et al. 2002, Clague et al 1996, Keefer 2005, Easterly 2001, Simmons 2000).

2001). It measures the extent to which a country's bureaucracy is capable of carrying its administrative duties. This variable is measured on a scale that ranges from 0 to 6 and high scores of quality of bureaucracy indicate "an established mechanism for recruitment and training, autonomy from political pressure and strength and expertise to govern without drastic changes in policy or interruptions in government services when governments change" (ICRG Codebook). Low bureaucratic quality means that the quality of public services that are offered to citizens are low; however for favored constituents, these bureaucratic procedures can be simplified (Keefer 2005).

Risk of repudiation of contracts by government

The variable risk of repudiation of contracts by government "addresses the possibility that foreign businesses, contractors and consultants face the risk of a modification in a contract taking form of repudiation, postponement, or scaling down due to an income drop, budget cutbacks, indigenization pressure, a change in the government, or a change in government economic and social priorities" (ICRG Codebook). This variable is measured on a scale that ranges from 0 to 10 and when this measure is low, states are not constrained, meaning that they can unilaterally modify and repudiate contractual agreements and impinge on economic activity (Knack and Keefer 1995). Lower scores indicate "a greater likelihood that a country will modify or repudiate a contract with a foreign business".¹⁹

¹⁹ The quotations are taken from IRIS-3 file of international Country Risk Guide (ICRG) codebook.

Risk of expropriation of private investment

The last variable, the risk of expropriation of private investment evaluates the risk of “outright confiscation and forced nationalization of property” (ICRG Codebook). As the ratings get lower the risk of expropriation of private foreign investments becomes more likely.

As indicated earlier, while corruption, rule of law, bureaucratic quality indices range from 0-6 in the ICRG data, while repudiation of contracts and expropriation scales range from 0-10, with higher values indicating better ratings. To ease the reading of my results, these variables are recoded so that higher values indicate worse ratings, e.g. more corruption etc. Therefore, while the least corrupt countries (e.g. New Zealand, Netherlands and Switzerland) score a zero for some years, the most corrupt countries (e.g. Haiti, Guyana, Bangladesh) score a six. Since the five governance components are strongly correlated with each other, these indicators are separately included in the model.²⁰

Index of quality of governance

In addition to analyzing individual effects, following Knack (1999) and Easterly (2001), I also combined five indicators into an additive index of governance by taking the simple average of five indicators of governance in order to see the combined effect of all five indicators of governance.²¹ Since three of my variables (corruption, rule of law, bureaucratic quality) range from 0-6 and expropriation and repudiation range from 0-10, I

²⁰ While the correlation between expropriation and corruption is the lowest (0.60), the correlation between bureaucratic quality and corruption is the highest (0.77). See correlation matrix for other correlation issues.

²¹ Easterly (2001), Huther and Shah (2005) and Back and Hadenius (2005) are some of the other authors who use similar additive indexes.

calculated the index variable by multiplying the first three variables with 1.67. This index takes the maximum value of 50 and the minimum of 0. In 1990, for instance, Luxembourg has a quality of governance index value of 1, while Sudan, the USA and Bangladesh have values of 35.8, 2.67 and 39.72, respectively. It is important to mention that since the expropriation and repudiation indicators are only available for 1540 cases as opposed to 1578 in the case of corruption, rule of law and bureaucratic quality, the index of quality of governance is relevant for only 1540 cases.

[See Table 3.3- Descriptive statistics- here]

3.5. Strategy of Investigation: Method

A researcher can test the models of civil strife by using unidirectional or multi directional approaches. While Gurr (1993a, 1993b, 2000), and Moore and Gurr (1998) are examples of the first approach, Lindstrom and Moore (1995), Gurr and Moore (1997); Moore and Gurr (1998) and Saxton (2005) are examples of the latter. In this dissertation I employ the unidirectional approach.

Due to the binary nature of the dependent variable - civil war incidence - the models are estimated using logistic regression. Various control variables are included in the analysis to ensure that the results are not spurious. Even though it is impossible to control for all the interactions, I try to control for the variables that are already known to predict civil wars. In order to minimize the simultaneity bias, all right hand side variables are lagged except the time invariant ones.

To control for autocorrelation, I apply the correction suggested by Beck et al. (1998) and include a variable counting the number of years before the onset of civil war

(peace years).²² This variable takes the value of 0 during the course of a civil war. In order to smooth the baseline hazard over time three natural cubic splines are calculated. They are included as explanatory variables, but their coefficients are not reported in the tables. Peace years and the cubic splines are created as suggested by Beck et al (1998). The creation of the peace years and the cubic splines are common diagnostics for autocorrelation and temporal dependence in the literature.

To account for heteroskedasticity, I computed the Huber/White/ Sandwich estimator of variance and obtained robust standard errors which assume non-independence within clusters. It provides efficient and consistent estimates of beta (White 1978).

In the next chapter, chapter 4, I will specify the models and present the results of the first set of data analysis. It is followed by the presentation of the results of the second part of the data analysis, namely quality of governance, in chapter 5.

²² See Beck and Katz (1995) for a through examination of the issues in the estimation of time-series-cross-section models.

Table 3.1
Fearon and Laitin's (2003) List of Civil Wars 1945-1999

<i>Country</i>	<i>War Years</i>	<i>Case Name</i>
<i>Western Europe</i>		
1 BELGIUM	1956-61	Rwandan revolution
2 FRANCE	1945-54	Vietnam
3 FRANCE	1947-48	Madagascar
4 FRANCE	1952-54	Tunisia
5 FRANCE	1953-56	Morocco
6 FRANCE	1954-61	Algeria
7 FRANCE	1955-60	Cameroon
8 GREECE	1945-49	DSE
9 NETHERLANDS	1945-46	IPA
10 PORTUGAL	1961-75	Angola
11 PORTUGAL	1962-74	Guinea-Bissau
12 PORTUGAL	1964-74	Mozambique
13 UK	1950-56	CPM (Emergency)
14 UK	1952-56	Mau Mau
15 UK	1969-99	IRA
<i>Eastern Europe</i>		
16 AZERBAIJAN	1992-94	Nagorno-Karabagh
17 BOSNIA	1992-95	Rep. Srpska/Croats
18 CROATIA	1992-95	Krajina
19 GEORGIA	1992-94	Abkhazia
20 MOLDOVA	1992-92	Dniestr Rep.
21 RUSSIA	1946-48	Lithuania/BDPS
22 RUSSIA	1946-50	Ukraine/UPA
23 RUSSIA	1946-47	Latvia/LTSPA, etc.
24 RUSSIA	1946-48	Estonia/Forest Brthers
25 RUSSIA	1994-96	Chechnya
26 RUSSIA	1999-	Chechnya II
27 TAJIKISTAN	1992-97	UTO
28 YUGOSLAVIA	1991-91	Croatia/Krajina
<i>Asia</i>		
29 AFGHANISTAN	1978-92	Mujahideen
30 AFGHANISTAN	1992-	v. Taliban
31 BANGLADESH	1976-97	Chittagong Hills/Shanti Bahini

32 BURMA	1948-	CPB, Karens, etc.
33 CAMBODIA	1970-75	FUNK
34 CAMBODIA	1978-92	Khmer Rouge, FUNCINPEC, etc
35 CHINA	1946-50	PLA
36 CHINA	1950-51	Tibet
37 CHINA	1956-59	Tibet
38 CHINA	1991-	Xinjiang
39 INDIA	1952-	N.East rebels
40 INDIA	1982-93	Sikhs
41 INDIA	1989-	Kashmir
42 INDONESIA	1950-50	Rep. S. Moluccas
43 INDONESIA	1953-53	Darul Islam
44 INDONESIA	1958-60	Darul Islam, PRRI, Permesta
45 INDONESIA	1965-	OPM (West Papua)
46 INDONESIA	1975-99	E. Timor
47 INDONESIA	1991-	GAM (Aceh)
48 KOREA, S.	1949-50	v. Rhee
49 LAOS	1960-73	Pathet Lao
50 NEPAL	1997-	CPN-M/UPF (Maoists)
51 PAKISTAN	1971-71	Bangladesh
52 PAKISTAN	1973-77	Baluchistan
53 PAKISTAN	1993-99	MQM:Sindhis v. Mohajirs
54 PAPUA N.G.	1988-98	BRA (Bougainville)
55 PHILIPPINES	1946-52	Huks
56 PHILIPPINES	1968-	MNLF, MILF
57 PHILIPPINES	1972-94	NPA
58 SRI LANKA	1971-71	JVP
59 SRI LANKA	1983-	LTTE, etc.
60 SRI LANKA	1987-89	JVP II
61 VIETNAM, S.	1960-75	NLF

North Africa/Middle East

62 ALGERIA	1962-63	Kabylie
63 ALGERIA	1992-	FIS
64 CYPRUS	1974-74	Cypriots, Turkey
65 IRAN	1978-79	Khomeini
66 IRAN	1979-93	KDPI (Kurds)
67 IRAQ	1959-59	Shammar
68 IRAQ	1961-74	KDP, PUK (Kurds)
69 JORDAN	1970-70	Fedeyeen/Syria v. govt
70 LEBANON	1958-58	Nasserites v. Chamoun
71 LEBANON	1975-90	various militias
72 MOROCCO	1975-88	Polisario
73 TURKEY	1977-80	Militia-ized party politics
74 TURKEY	1984-99	PKK

75 YEMEN	1994-94	South Yemen
76 YEMEN ARAB REP.	1948-48	Opp. coalition
77 YEMEN ARAB REP.	1962-69	Royalists
78 YEMEN PEOP. REP.	1986-87	Faction of Socialist Party

Sub-Saharan Africa

79 ANGOLA	1975-	UNITA
80 ANGOLA	1992-	FLEC (Cabinda)
81 BURUNDI	1972-72	Hutu uprising
82 BURUNDI	1988-88	Org. massacres on both sides
83 BURUNDI	1993-	Hutu groups v. govt
84 CENTRAL AFR. REP.	1996-97	Factional fighting
85 CHAD	1965-	FROLINAT, various ...
86 CHAD	1994-98	Rebels in South
87 CONGO	1998-99	Factional fighting
88 DEM. REP. CONGO	1960-65	Katanga, Kasai, CNL
89 DEM. REP. CONGO	1977-78	FLNC
90 DEM. REP. CONGO	1996-97	AFDL (Kabila)
91 DEM. REP. CONGO	1998-	RCD, etc v. govt
92 DJIBOUTI	1993-94	FRUD
93 ETHIOPIA	1974-92	Eritrea, Tigray, etc.
94 ETHIOPIA	1997-	ALF, ARDUF (Afars)
95 GUINEA BISSAU	1998-99	Mil. faction
96 LIBERIA	1989-96	NPFL (Taylor), INPFL (Johnson)
97 MALI	1989-94	Tuaregs
98 MOZAMBIQUE	1976-95	RENAMO
99 NIGERIA	1967-70	Biafra
100 RWANDA	1962-65	Post-rev strife
101 RWANDA	1990-	RPF, genocide
102 SENEGAL	1989-	MFDC (Casamance)
103 SIERRA LEONE	1991-	RUF, AFRC, etc.
104 SOMALIA	1981-91	SSDF, SNM (Isaaqs)
105 SOMALIA	1991-	post-Barre war
106 SOUTH AFRICA	1983-94	ANC, PAC, Azapo
107 SUDAN	1963-72	Anyaa Nya
108 SUDAN	1983-	SPLA, etc.
109 UGANDA	1981-87	NRA, etc.
110 UGANDA	1993-	LRA, West Nile, etc.
111 ZIMBABWE	1972-79	ZANU, ZAPU
112 ZIMBABWE	1983-87	Ndebele guer's

Latin America and the Caribbean

113 ARGENTINA	1955-55 Mil. coup
114 ARGENTINA	1973-77 ERP/Montoneros

115 BOLIVIA	1952-52 MNR
116 COLOMBIA	1948-62 La Violencia
117 COLOMBIA	1963- FARC, ELN, etc
118 COSTARICA	1948-48 NLA
119 CUBA	1958-59 Castro
120 DOMINICAN REP.	1965-65 Mil. coup
121 EL SALVADOR	1979-92 FMLN
122 GUATEMALA	1968-96 URNG, various
123 HAITI	1991-95 Mil. coup
124 NICARAGUA	1978-79 FSLN
125 NICARAGUA	1981-88 Contras
126 PARAGUAY	1947-47 Febreristas, Libs, Comms
127 PERU	1981-95 Sendero Luminoso

Table 3.2
Operationalization of Variables

Variables	Operationalization
Dependent variable: Civil war	0= country at war, 1= no cw
Economic development	GDP per capita
Growth	Average GDP per capita growth rate
Income inequality	Gini coefficient
Gender inequality	% of women in labor force & Fertility rate
Political discrimination	index, 0-4
Religious discrimination	index, 0-38
Repression	index, 1-5
Regime type	index, 0-20
Ethnic/ religious fractionalization	index, 0-1
Ethnic dominance	1=if ethnic group 45-90%
Polarization	index, 0-1
Mountainous terrain	% of mountainous terrain
Noncontiguous state	1=noncontiguous, 0=contig.
Oil exporter	1 =Oil exporter, 0= not
Political instability	1= if 3 point change
Military strength	Army size & military exp.
Population	Population
Natural resource dependence	PCE/GDP
Corruption	index,0-6
Rule of law	index,0-6
Bureaucratic quality	index,0-6
Risk of expropriation	index, 0-10
Risk of repudiation	index, 0-10
Peace years	0 during cw, 1 otherwise

Note: Variables with skewed distributions are logarithmically transformed.

Table 3.3
Descriptive Statistics for the Quality of Governance Analysis

Variables	Observations	Mean	Std. Dev.	Minimum	Maximum
CW incidence	1578	.2186312	.4134488	0	1
Corruption	1578	2.632636	1.458961	0	6
Rule of Law	1578	2.569011	1.637224	0	6
Bureaucratic quality	1578	2.675475	1.59293	0	6
Expropriation	1540	2.891753	2.264981	0	9.5
Repudiation	1540	3.550779	2.295928	0	9.5
Quality-of-governance (Index)	1540	19.89861	10.88046	0	45.052
GDP Per capita	1578	8.023948	1.095407	5.281613	10.09914
Population	1578	9.409633	1.450196	6.008813	14.02023
Mountainous	1578	15.45668	17.90376	0	71.3
Noncontiguous	1578	.2002535	.4003169	0	1
Oil exporter	1578	.1761724	.3810875	0	1
Regime type	1578	11.88023	7.531391	0	20
Regime type ²	1578	197.8257	167.2256	0	400
Political Instability	1578	.152725	.3598362	0	1

Ethnic Fractionalization	1578	.3620413	.2189018	0	.7782
Religious Fractionalization	1578	.4127872	.2969766	.0041175	.9250348
Ethnic dominance	1578	.5114068	.5000283	0	1
Discrimination	1578	2.247148	1.621747	0	4

4. Data Analysis I: Determinants of Civil Wars

The purpose of this chapter is to assess whether or not various political, economic, social and demographic factors provide any additional leverage to our ability to explain civil war incidence. In order to evaluate the explanatory power of various theories discussed in Chapter 2, I will first present the results of the grievance and opportunity models. Then, I will focus on the results of the comprehensive model. I conclude this chapter with a brief summary of the findings.

I utilize logistic regression models with random effects (RE) based on the results of the Hausman test. For the main opportunity model, the logistic regression model takes the following form:

$$\begin{aligned} \text{Logit} [\pi(x)] = & b_0 + b_1 (\text{Oil exporter}) + b_2 (\text{GDP per capita}) + b_3 (\text{GDP growth}) + b_4 \\ & (\text{Population}) + b_5 (\text{Political Instability}) + b_6 (\text{Mountainous}) + b_7 (\text{Noncontiguous territory}) \\ & + b_8 (\text{Military strength}) + b_9 (\text{Peace years}) + \varepsilon. \end{aligned}$$

For the main grievance model, the logit equation takes the following form:

$$\begin{aligned} \text{Logit} [\pi(x)] = & b_0 + b_1 (\text{Political discrimination}) + b_2 (\text{Repression}) + b_3 (\text{Ethnic} \\ & \text{fractionalization}) + b_4 (\text{Religious fractionalization}) + b_5 (\text{Female labor force}) + b_6 \\ & (\text{Regime type}) + b_7 (\text{Ethnic dominance}) + b_8 (\text{Population}) + b_9 (\text{Peace years}) + \varepsilon. \end{aligned}$$

For the main comprehensive model, the logit equation takes the following form:

$$\begin{aligned} \text{Logit} [\pi(x)] = & b_0 + b_1 (\text{Oil exporter}) + b_2 (\text{GDP per capita}) + b_3 (\text{GDP growth}) + b_4 \\ & (\text{Population}) + b_5 (\text{Political Instability}) + b_6 (\text{Mountainous}) + b_7 (\text{Noncontiguous territory}) \\ & + b_8 (\text{Military strength}) + b_9 (\text{Political discrimination}) + b_{10} (\text{Repression}) + b_{11} (\text{Ethnic} \\ & \text{fractionalization}) + b_{12} (\text{Religious fractionalization}) + b_{13} (\text{Female labor force}) + b_{14} \\ & (\text{Regime type}) + b_{15} (\text{Ethnic dominance}) + b_{16} (\text{Population}) + b_{17} (\text{Peace years}) + \varepsilon. \end{aligned}$$

Where $\pi(x)$ denotes the probability of a civil war incidence.

4.1. Findings and Discussion

In this section, I report and discuss the results of the opportunity, grievance and comprehensive models. For all three models, I will start with an interpretation of the findings of the main models (i.e. models 1, 5 and 14). I then report the results of different iterations of the main models that include various selections of the independent variables. Even though the interpretations of individual models will be provided, I strongly argue that it is essential to base our conclusions on the results of the comprehensive model. Therefore, I will interpret the implications of my results for the hypotheses using only the findings from the comprehensive model.

4.1.1. Opportunity Models

Table 4.1 provides the descriptive statistics for the opportunity model, and the results of four opportunity models are reported in Table 4.2. The first model (model 1) is

the main opportunity model with 2534 observations. Model 2 is the reduced opportunity model, which is model 1 minus the variables that fail to attain statistical significance. Model 3 investigates the impact of natural resource dependence on civil war incidence in the form of primary commodity exports. The last model (model 4) includes the military expenditure variable, and excludes GDP per capita since they are highly correlated with one another.

[See Table 4.1–Descriptive statistics for the opportunity model - here]

Starting with model 1, the indicators for economic development of the country, GDP per capita and GDP growth rate, are both negative and statistically significant (at the .01 level) meaning that poor countries with low income per capita and low growth rates are more likely to face civil war incidences. As expected, the population size is highly significant, thereby providing support for the argument that more populous countries are more likely to experience incidences of civil war. While the coefficient for the mountainous terrain variable is in the expected direction, it does not reach levels of statistical significance. In other words, rough terrain in the form of mountains does not affect the likelihood of civil war incidence. Similarly, the coefficients for instability and military personnel have negative signs and both fail to reach statistical significance. In addition to GDP per capita, GDP growth, and population; noncontiguity provides support for the mobilization/opportunity theories. Noncontiguity has a positive sign and is statistically significant at the .01 level. This implies that countries with territorial holdings of at least 10,000 people and separated from the land area containing the capital city by land or by 100 kilometers of water are more likely to experience civil wars than contiguous countries. Finally, as expected peace years and the three cubic splines are

jointly significant indicating the presence of temporal dependence in the models. The negative sign for the peace years indicates that the longer the duration of peace after a civil war, the less likely a state is to experience a civil war incidence.

[See Table 4.2– Opportunity model - here]

The second model in Table 4.2 is the reduced model (model 2). Removing the statistically insignificant variables from model 1 barely affects the remaining estimated coefficients. All the variables that are significant in model 1 retain their statistical significance and there are no changes in the direction of the coefficients. This would indicate that the significant results in the main opportunity model are not driven by other indicators.

The only difference between model 1 and model 3 is the replacement of the oil exporter proxy with a variable that measures primary commodity exports. As mentioned Chapter 2, primary commodity exports are one of the most significant variables in Collier and Hoeffler's (2004) research on civil war initiation. They found strong support for the curvilinear (inverted u-shape) impact of primary commodity exports on civil war initiation. The results of model 3 are almost identical with the results of the first model, even controlling for the impact of primary commodity exports. First, there appears to be no systematic relationship between primary commodity exports and civil war incidences – the variable fails to attain statistical significance. While GDP per capita, GDP growth, and peace years are negatively related and significant, population and noncontiguity are positively related with the likely occurrence of civil wars. In model 3, as in model 1, instability, mountains, and military personnel do not appear to affect the likelihood of civil war incidence.

As mentioned earlier, the military personnel variable is insignificant in both models 1 and 3. In order to examine the importance of military strength on civil war incidence further, I included the military expenditure variable in model 4. Since the logged military expenditure is highly correlated with the GDP per capita (.82), I dropped GDP per capita from the model. The results are quite surprising. The oil exporter variable is significant at .10 level, but the sign of the coefficient is contrary to the expectations generated by opportunity theory. The expectation was that the oil exporting countries should be more likely to experience civil wars, not less. On the other hand, the military expenditure variable in model 4 demonstrates statistically significant negative effects on the likelihood of civil war incidence. The results for GDP growth, population, noncontiguity and peace years are substantially the same with those of models 1, 2 and 3. As with the other models, instability and mountains fail to achieve any statistical significance.

Table 4.3 contains the correlations matrix for the opportunity models and it is worth noting that none of the models in table 4.2 are affected multicollinearity.

[See Table 4.3—Correlation matrix for the opportunity model - here]

Overall, the results of the main opportunity model provide support for some of the earlier theoretical work on economic factors as explanations for civil war (e.g. Collier and Hoeffler 1999, 2002, 2004). I found strong evidence supporting the argument that the overall level of economic development and absolute economic well-being are critical determinants of political violence. GDP per capita and GDP growth, which are important in determining the opportunity cost of the rebellion for the insurgency, are significant in all the models in which they are included. Similarly, population size appears to be a very

strong predictor of civil war incidence, supporting the idea that the pool of potential insurgents tends to be larger in more populous countries. This is perceived as a viability-enhancing factor for the opportunity/mobilization theorists. Noncontiguity, which is another feasibility-enhancing factor, turns out to be significant in all the models in which it is included and with the sign that is in the expected direction.

Somewhat counter to popular wisdom and some academic evidence, instability, mountainous terrain, and military personnel do not appear to be strong predictors of civil wars. This is quite an interesting result since all of these factors are argued to affect the feasibility, mobilization, cost, and the success of rebel movements and civil wars. This is clearly counter to the arguments of the opportunity/mobilization theory.

The results reported here are directly comparable to the extant studies in the literature that employ the opportunity model in order to predict the likelihood of civil war (e.g Collier and Hoeffler 2004). However, it is important to bear in mind that the opportunity models presented in table 4.2 exclude factors that generate grievances among citizens, and therefore the findings generated by the models should be interpreted with some caution, given that they are preliminary to the extensive analyses to be carried out using the comprehensive model.

4.1.2. Grievance Models

Given that the literature provides only very modest (and mostly inconclusive) empirical support for the grievance/ relative deprivation theory, I included seven iterations of the main grievance model to account for various factors that are known to generate discontent. Table 4.4 provides the descriptive statistics for the grievance model.

[See Table 4.4—Descriptive statistics for the grievance model - here]

This produces a total of nine grievance models that are reported in tables 4.5, 4.6 and 4.7. The main grievance model (model 5) is reported in the second column of table 4.5 and it has 1907 observations. The insignificant variables of model 5 are dropped in model 6 to produce the reduced model and its results are located in the third column in table 4.5.

[See Table 4.5— Grievance model - here]

The results of model 5 reveal that repression and political discrimination are two of the strongest predictors of civil war. They are both positively related with civil war incidence and statistically significant at the .01 level. As the levels of repression and discrimination increase, the risk of civil war increases. The association between ethnic dominance and civil war is also positive and significant at the .05 level meaning that grievances among people are higher in societies with an ethnically dominant group, which in turn renders the occurrence of civil war more likely. Other proxies of social tension (ethnic and religious fractionalization) are surprisingly unimportant. Both fractionalization indicators are insignificant with the correct sign. The proxy for political rights and freedoms- regime type- is insignificant and is therefore not a strong predictor of civil wars. This runs counter to the expectations of relative deprivation scholars.

Another surprising result is regards to the proxy for gender inequality, female labor force. Contrary to expectations of scholars like Melander (2005) and Caprioli (2005) the percentage of females in the labor force is significant but has the wrong sign. The results indicate that as the percentage of the female labor force increases, the likelihood of civil war increases. This is contrary to grievance oriented theories expectation that inequality brings discontent. The coefficient for the population is

positive and statistically significant. As in the opportunity models, the peace year variable is negative and statistically significant meaning that the likelihood of civil war incidence is lower, as the period of peace after civil war gets longer.

When the insignificant variables are dropped from the main grievance model, I reach a reduced model (model 6) in the third column of table 4.5. The results of the reduced model show that all but one of the independent variables in the original model are statistically significant and the direction of the associations do not change. The ethnic dominance variable, while statistically significant in the main model (at .05 level), only borders statistical significance ($p = .107$) in the reduced model.

In model 7, I add the squared term for repression to investigate the possibility of a curvilinear (inverted u-shaped) relationship between repression and civil war incidence. Here I find that the coefficients of repression and its squared term are statistically insignificant. In other words, I do not find support for the argument that the relationship of repression and civil war is curvilinear. The inclusion of the squared term for repression in model 7 does not result in any major changes either in the significance levels or the direction of the coefficients reported in model 5.

In model 8, I replace ethnolinguistic and religious fractionalization with ethnolinguistic and religious polarization to examine the arguments made by Montalvo and Reynal-Querol (2005). They argue that the level of friction and polarization among groups is more important than social fragmentation in predicting civil wars. Contrary to their expectations, ethnolinguistic and religious polarization do not attain statistical significance. Another surprising result in this model is the fact that ethnic dominance becomes statistically insignificant. When I compare model 8 with the main grievance

model (model 5) there are no major changes in the remaining indicators except the three variables mentioned above.

[See Table 4.6– Grievance model - here]

In model 9 in Table 4.6, I substitute female labor force with the fertility rate to further analyze the role of gender inequality in civil war occurrence. Recall that female labor force was significant but in the wrong direction in all of the previous models. As can be seen from the results female fertility rate is positively associated with civil wars and significant at the .01 level. This result is consistent with much of the previous research on the impact of gender inequality on domestic violence. As the fertility rate increases in the society, the gap between genders widens and this in turn, leads to a significant increase in the likelihood of civil war occurrence. As with the prior models, there are no major differences between the results of the remaining variables in this model and the ones in model 5.

Recall, however, that some of the grievance proxies are not included in the main model. While some variables are excluded due to their statistical insignificance some others are excluded due to sample size considerations. Religious discrimination is one of these variables. As the third column of Table 4.6 indicates (model 10), the inclusion of this variable in the main grievance model decreases the number of observations from 1907 to 769. In model 10, I assess the impact of religious discrimination on the risk of civil war and find that there appears to be no systematic relationship between religious discrimination and political discrimination. This result is inconsistent with the relative deprivation argument that countries with high levels of discrimination are more prone to

domestic violence and civil wars. There is no significant change in the remaining variables.

In the last two columns of table 4.6, I introduce the gini coefficient to the model. Since there are many missing values in the original gini coefficient in the UN-Wider data, I interpolated this variable to maximize the sample size. Although the sample size is reduced, it is substantial nonetheless - over 1150 cases. My results in model 11 do not appear to provide empirical support for the economic inequality argument (including the various formulations, mean gini and mid gini). The sign of the gini coefficient is negative and insignificant. Interestingly, in this model repression and discrimination fall short of statistical significance even though their signs are in the expected direction. Three drastic changes take place in this model, however, when compared to the original grievance model (model 5). First, female labor force not only becomes insignificant but also changes its sign and becomes negative. Second, regime type, which was consistently insignificant in the previous models, now shows a curvilinear relationship with civil war incidence. Third, the squared term for regime type attains significance with a negative sign indicating an inverted-U shape relationship with civil war incidence.

In model 12, I include both religious discrimination and the interpolated gini coefficient and the sample size is substantially reduced (N= 492). In this model, just like in model 11, the gini coefficient is negative and statistically significant at the .10 level. Religious discrimination, again, falls short of statistical significance but this time it has a positive sign. Ethnic dominance is positive but not significant and the regime type shows a curvilinear pattern. Female labor force, religious and religious fractionalization are positive but substantially insignificant. Population and peace years retained the same

direction of signs and maintained statistical significance throughout all the iterations of the grievance model.

[See Table 4.7– Grievance model - here]

In the last model, model 13 in Table 4.7, I excluded two important grievance variables, namely repression and discrimination, that have been in all the grievance models including the main model. The exclusion of these indicators seems to boost the impact of regime type¹ and ethnolinguistic fractionalization. The relationship between regime type and civil war incidence shows a curvilinear pattern. Besides, for the first time, out of nine models, ethnolinguistic fractionalization reaches statistical significance (at the .05 level) with the expected sign (positive). On the other hand religious discrimination remains substantially insignificant. Ethnic dominance and labor force remain insignificant while population and peace years remain significant and in the expected direction. None of the nine grievance models appear to have problems with multicollinearity as is evident in Table 4.8.²

[See Table 4.8–Correlation matrix for the grievance model - here]

What sort of conclusions can be achieved based on all the grievance models presented? First, models that do not include the interpolated gini coefficient show very similar results. The models that include the gini coefficient, however, reveal very different findings. First, it is important to bear in mind that there is a substantial decrease in the sample size and the quality of income inequality data is not very refined. Second, the impact of gender equality in the form of female labor force is not in the expected

¹ The correlation between the regime type and discrimination is .04, and the correlation between repression and regime type is .37.

² The inclusion of the squared terms for regime type resulted in inflated mean VIF values. However, when the squared terms and the cubic splines were removed, the mean VIF value for all the models was smaller than 2.0.

direction, even when it reaches statistical significance. Third, the social fragmentation proxies (ethnic and religious fractionalization), except in one model, are statistically insignificant. Fourth, regime type reveals a statistically significant curvilinear pattern only when the gini coefficient is included or repression is excluded from the model. Finally, the most consistent results are attained for population and peace years.

4.1.3. Comprehensive Models

As mentioned earlier the purpose of this analysis is to evaluate the relative contributions of grievance and opportunity factors in the context of a synthetic framework. Table 4.9 provides the descriptive statistics for the comprehensive model.

[See Table 4.9–Descriptive statistics for the comprehensive model - here]

In tables 4.10, 4.11 and 4.12, I report the findings of 13 comprehensive models. The second column of table 10 presents the results of the principal comprehensive model (model 14). This model includes all the factors that were included in the main individual grievance and opportunity models (models 1 and 5) discussed above. Some of the opportunity and grievance proxies that were included in the various iterations of the grievance and opportunity models are not included in the base comprehensive model either because they are highly correlated with one or more of the existing independent variables or because they decrease the sample size significantly. Without sacrificing the sample size, I hope to assess the contributions of various indicators through various iterations of the comprehensive model.

[See Table 4.10– Comprehensive models - here]

For Model 14, I will first evaluate the results generated by the opportunity variables, and I will then proceed to the grievance generating factors. It appears from the logit results that there is a strong negative association between the proxies for economic development and civil war incidence. Both GDP per capita and GDP growth are negative and statistically significant. This implies that countries with low incomes and growth rates run a higher risk of civil war incidence. Thus, it appears that there is empirical support for hypotheses 7 and 8. However, the exact mechanism(s) behind this association remains to be determined. It is possible to make causality arguments in both directions. It may be the case that economic hardship and absolute deprivation fuel grievances among the have-nots (deprived citizens) as relative deprivation theory suggests. An alternative explanation, however, might be that in impoverished countries the rebels have very little or next-to-nothing to lose, i.e. the opportunity costs of rebellion are extremely low. Thus, the recruitment of rebels is made easier if the foregone income of the potential insurgent is minimal. This is the interpretation of the results that is suggested by the rational choice and mobilization theories. My results are, unfortunately, only capable of showing the direct linkage rather than the chain of causation between economic development and civil war incidence.

Population appears also to be a strong predictor of civil wars. Hypothesis 12 is therefore supported by the empirical evidence. Population is statistically significant with a positive sign indicating that more populous countries are more prone to civil wars. As the population gets larger, the pool for potential rebel recruitment tends to be correspondingly larger. In addition it becomes more challenging for the government to control developments at the local level. Therefore, this result is consistent with earlier

scholarship (e.g. Fearon and Laitin 2003; Collier and Hoeffler 2002; Barbieri and Reuveny 2005; Regan and Norton 2005) and appears to provide support for the mobilization/opportunity theories.

The coefficient for noncontiguity is positive and significant and provides strong empirical evidence for hypothesis 11. This result implies that countries with territorial holdings separated from the land area containing the capital city are more likely to experience civil war incidences. This result is in line with the arguments of opportunity theory since noncontiguous territories make it harder for a government to defend the national territory against insurgents (Fearon and Laitin 2003; Barbieri and Rauveny 2005; Collier and Hoeffler 1998).

Four indicators that are crucial for opportunity theory- oil exporter (H14), instability (H3b), mountains (H10) and military personnel (H9)- appear to be uncorrelated with civil war incidence. According to opportunity theory, the existence of easily procurable natural resources not only motivates people to rebel with the hope of material gains but also makes the financing of the rebellion possible. It is argued that the presence of natural resources, when controlled by insurgent forces, will make civil wars not merely more likely and protracted but also more intractable (Addison et al. 2000; Collier and Hoeffler 2004; Fearon and Laitin 2003; Ross 2004; Ballantine and Sherman 2003). Contrary to both popular wisdom and some academic evidence, extractable resources in the form of oil do not appear to be a strong predictor of civil wars. The coefficient of oil exporter is in the wrong direction and insignificant, thereby failing to provide support for hypothesis 14.

In addition, both instability and mountainous terrain fail to attain significance and the coefficients are signed in the wrong direction. Opportunity theory expects a direct association between mountains and civil wars because rough terrain will limit the reach of state authority and increase the likelihood of success of guerrilla warfare by making it difficult for government forces to find and capture rebel groups. The same logic applies to instability. Political instability implies disorganization and state weakness, and this is expected to increase the opportunities for insurgents to engage in violent activities (Fearon and Laitin 2003; Gates 2002; Barbieri and Reuveny 2005; Hegre et al 1998).

The proxy for the military strength of the state – military personnel- is surprisingly unimportant. Opportunity theory suggests that a state with a strong army will be more successful in not only preventing the emergence of civil wars by deterring the insurgency but also in suppressing any existing unrests. Contrary to the expectations of opportunity theory, my results fail to support H9 which states that as the military capability of the state increases, the likelihood of civil war increases.

Focusing on the grievance elements in model 14, political discrimination, repression and ethnic dominance appear to be very strong predictors of civil war occurrence. All three indicators are in the expected sign (i.e. positive), indicating that ethnic dominance, and higher levels of repression and discrimination increase the chances that a country will experience civil wars. While the repression variable is significant at the .01 level, political discrimination and ethnic dominance reach significance at .05 levels. Therefore, evidence from this model provides supports for H4, H6 and H13b.

The direct systematic positive association between political discrimination and the likelihood of observing civil war incidence is supportive of the relative deprivation idea

that discrimination increases the propensity of groups to rebel and that “a major, if not the primary, cause of ethnic conflict is discrimination by a majority group against a minority group” (Fox 2000b: 425; Gurr 1970).

The positive and significant result for ethnic dominance also provides support for the existing literature (Collier 1998, 2000/2002, 2001; Auvinen 1997; Hartzell et al 2001; Horowitz 1985) and H13b which states that the existence of a dominant group in a country increases the risk of civil war. This is in line with the relative deprivation view that the existence of a dominant group can lead to exploitation, exclusion, suppression and victimization of minorities, which in turn increases the frustration, discontent and willingness of minorities to mobilize against the state.

Model 14 reveals support for H6 (but no support for H6a). As relative deprivation theorists have predicted, there is a systematic direct relationship between repression and civil war incidence and as the levels of repression increases, the likelihood of civil wars increases. Therefore, there is no support for (H6a) the mobilization/ opportunity argument that state repression and tight social control is a negative selective incentive and it will not only increase the cost of the rebellion but also inhibit the ability of the opposition to coalesce against the government (Tilly 1978; Oberschall 1973; Jenkins and Perrow 1977; Rasler 1996; Eisinger 1973; Opp and Roehl 1990). Repression, in the form of systematic violations of individual rights seems to intimidate the citizens and create anger and frustration among citizens, which in turn increases the likelihood of civil wars.

I provide an analysis of model 17 here because I added the squared regression term to the model to test another claim regarding the curvilinear impact of repression (H6b) on the likelihood of civil war incidence. It is argued that in the middle levels of

repression, very limited opportunities for effective participation exist and the mobilization of the insurgency is a possibility (Tilly 1978; Weede 1987; Dudley and Miller 1998; Muller 1985; Boswell and Dixon 1990; Muller and Seligson 1987; Gurr 1970; Mueller and Weede 1990, 1994; Khawaja 1993). Recall that H6b states that there is a curvilinear relationship between repression and civil war occurrence. When the results for repression in model 14 and model 17 interpreted together, the latter does not seem to support H6b. It is important to bear in mind that the inclusion of repression² does not lead to any major changes in either the significance or direction of the other variables, which suggests that the results of the main comprehensive model (14) are robust.

The remaining grievance variables in model 14, ethnic and religious fractionalization, female labor force and regime type all appear to be insignificant meaning that they are not strong predictors of civil war occurrence.

The expectations of relative deprivation and opportunity theories regarding the impact of fractionalization on civil war incidence are the opposite of one another. While relative deprivation theory claims that social pluralism will result in high levels of dislike, hatred, and discontent among citizens, which in turn lead to more civil wars (H 13), opportunity theory claims that social fractionalization along ethnic, religious, linguistic or other lines will inhibit rebel recruitment, increase the cost of rebellion and decrease the likelihood of civil war (H 13a). The results reveal support for neither hypothesis, since ethnic and religious fractionalization does not seem to be a statistically significant predictor of civil wars.

Contrary to the expectations of Caprioli (2005), Melander (2005) and various relative deprivation theorists, female labor force is in the expected direction (negative),

but fails to attain statistically significant levels. Therefore, H2, which states that the likelihood of civil wars increases as the level of gender inequality in a society increases, does not appear to have any support.

As mentioned in the theory chapter, democracies are considered more inclusive, egalitarian, tolerant, accountable, and responsive to the wishes of the people. They provide citizens with legitimate channels through which they can peacefully express their grievances without having to resort to violence. Contrary to conventional wisdom as well as strong theoretical and empirical evidence (Davenport 1999; Regan and Henderson 2002; Krain and Myers 1997; Powel 1982; Gurr 2000), however, regime type appears to be uncorrelated with the civil war occurrence in model 14. In addition to H3, the results fail to provide support for H3a, which states that the likelihood of civil wars is highest in anocracies. In order to investigate the possibility of a curvilinear association I included a squared term for regime type to the model and the results are presented in the fourth column of table 4.10. Model 16 shows no sign of curvilinear relationship. In other words, contrary to expectations, semi-democratic regimes are not more prone to civil wars.

Lastly, the significant and negative coefficient for peace years (which is the variable counting the number of years before the onset of civil war) indicates that the longer the duration since the end of the last civil war, the lower the probability of an incidence of civil war.

In model 15 (the reduced model), I dropped the insignificant variables from the main comprehensive model (model 14) to make sure that the results were not due to the influence of some set of insignificant variables. All the variables that are significant in the original model (14) appear to be significant in model 15 as well, and their signs are

identical to the ones in model 15. The only minor difference is that while the repression variable was significant at .01 level in model 15, it appears to be significant at .05 level in model 15.

In order to test the impact of polarization on the likelihood of civil war incidence (H13c), I replace ethnolinguistic and religious fragmentation with polarization indicators in Model 18. The results of model 18, which are reported in the last column of table 4.10, are not supportive of H13c and the claims of Montalvo and Reynal-Querol (2005) and Collier and Hoeffler (1998) that when a society is polarized into two groups that are of almost equal size, the risk of civil war is higher. Just like the fractionalization measures, the polarization measures fail to reach statistical significance. In addition, when compared to the results of the main model (14) there are two major changes in the results. First, when polarization is included in the analysis, the female labor force proxy for gender inequality becomes negative (as expected by the relative deprivation theory) and significant (for the first time) indicating that as the difference between men and women increases in a society, the likelihood of civil war incidence increases. Second, military personnel becomes significant (for the first time as well) implying that as the size of the army gets smaller, the possibility of civil war incidence increase. All the remaining variables show that the results of the main model (model 14) are robust.

In model 19 in Table 4.11, I replace oil exporter with the primary commodity exports to examine the impact of natural resource dependence on civil wars.

[See Table 4.11– Comprehensive models-2 - here]

Despite the strong theoretical appeal, in the literature the empirical support for the relationship between natural resource dependence and civil wars has been inconclusive. Collier and Hoeffler (2004), in both their early and later papers, report that the impact of primary commodity exports on the risk of civil war is highly significant and considerable. They found that “at the peak (primary commodity exports being 33% of GDP), the risk of civil war is about 22%, while a country with no such exports has a risk of only 1%” (2004: 580). They argue that such commodities are thought to make rebellion feasible and even attractive (588). As mentioned earlier, my results appear to contradict the results of both Fearon and Laitin (2003) and Collier and Hoeffler (2004). In order to ensure that the results are not sensitive to the data and the specification of the main model, I reran the main model with primary commodity exports. As in model 14, I fail to find any support for the natural resource argument of Collier and Hoeffler (2004). Primary commodity exports is statistically insignificant and the sign is in the wrong direction. The inclusion of primary commodity exports does not lead to any major changes in the remaining variables indicating that main comprehensive model (14) is highly robust.

In models 20 and 21, I test the relative deprivation theory’s income inequality argument. It is argued that substantial inequalities and collective disadvantages among people will fuel anti-system frustrations and generate grievances among people, which can, in turn evolve into large scale violence (Gurr 1993a, 2000; Regan and Norton 2005). On the other hand opportunity theorists assert the claim that people do not rebel because of their grievances and discontent that are byproducts of income or wealth inequality (e.g. Lichbach 1990).

My results for economic inequality proxied by the gini coefficient are both puzzling and surprising. In all the models with the gini coefficient (models 20, 21, 24 and 25), the sign of the coefficient is negative and it is statistically significant. Therefore H1 does not appear to be supported. This result is interesting because such a finding neither supports the expectations of the relative deprivation theory, nor those of opportunity theories. Indeed, it reveals a relationship that is totally opposite of the relative deprivation idea. It is also important to mention that there are significant inconsistencies in the results of other variables between model 20 (with the original gini variable N=549) and model 21 (with the interpolated gini variable N=1084). In both models, there is a significant reduction in the number of observations. Given that the results of model 14 were very robust to alternative specifications until the additions of the gini coefficient, and given that the quality of the data for the gini coefficient is not very good, the results should be evaluated with a great deal of caution.

As table 4.11 demonstrates, when model 20 and 21 are compared with model 14, it becomes obvious that GDP per capita and noncontiguity, discrimination, ethnic dominance and peace years remain statistically significant and in the expected direction. Therefore the effects of these variables are robust even in the face of drastic changes due to the inclusion of the gini coefficient. Four variables- oil exporter, instability, religious fractionalization and mountains- that were not significant in any of the earlier models, appear to be significant either in one model or in both models (models 20 and 21). Repression loses its significance in model 21, so does regime type. The extensive differences in the results of the variables between models 20 and 21 appear to be the result of the data modification (interpolation) carried out to increase the number of

observations by approximately 500 cases. However, the results seem to show drastic changes, in addition to an anomalous association between the gini coefficient and civil war, therefore, conclusions regarding the gini coefficient's contribution to predicting civil wars is still unclear, highlighting a need for future empirical work using better quality indicators.

To investigate the impact of gender inequality on civil war incidence further, I replaced female labor force with female fertility rate in the original model. Model 22 appears to support the relative deprivation idea, revealing that high levels of fertility rate as an indication of gender inequality, increases the likelihood of civil war incidence. The most important difference between model 14 and model 22 is GDP per capita. Even though this indicator was one of the most consistent predictors of civil war incidence since the beginning of the data analysis, it is insignificant in model 22. I would recommend a degree of caution in interpreting this result given that the correlation between fertility rate and GDP per capita in this model is around (negative) .62 even though the VIF score for this model is <1.76 .

In model 23 in Table 4.12 the religious discrimination variable (H5) is included in the main model to evaluate its contribution to predicting civil wars.

[See Table 4.12– Comprehensive models-3 - here]

Contrary to the expectations of the relative deprivation theory (Gurr 1968; Fox 2004c), religious discrimination fails to attain statistical significance. This result is puzzling but not very surprising given that one of the experts on the religious aspect of conflicts, Jonathan Fox (2000c) reports a very weak relationship between grievances and the likelihood of rebellion. Fox states that one of the explanations for this result may be that

people tend to be more tolerant of religious discrimination than other types of discrimination since it has been part of their lives for a long time. He also states that religious grievances are poor indicators of civil wars occurrences since they do not turn out to be enough to provoke rebellion by themselves. It is important to bear in mind, however, that this model has 702 observations since the religious discrimination data is only available for 1990s.

The next two models, 24 and 25, both include only 466 observations, and they are included in order to observe the combined effects of religious discrimination and income inequality on civil war incidence. While model 24 includes the interpolated gini coefficient, model 25 includes the meangini variable, calculated by taking the difference between the gini value of a country and the mean of the gini coefficient in the sample. It is argued that how much a country falls below or above the mean point of the sample matters and the greater the deviation from the arithmetic mean, the greater the likelihood of civil violence (Siegelman and Simpson 1977). Like the other models in which income inequality is accounted for (i.e. models 21 and 22) there are significant differences between the results of models 24 and 25. In both models oil exporting, economically less prosperous, mountainous, noncontiguous, discriminatory, semi democratic, ethnically dominant states that show greater levels of income inequality are more likely to experience civil wars. The most interesting result in model 24 and 25 is the negative sign for population. Like I stated above, the drastic changes between models and the significant decrease in the number of observations indicate that the results provided in table 4.12 and 4.13 are not conclusive with regard to the impact of economic inequality and there is need for future testing with more refined inequality data. Similarly, in order

to evaluate the impact of religious discrimination better, we need the data that is coded for more than a 10 year period.

Model 26 is constructed in order to test the impact of regime type. In the literature regime type is used as the proxy for discrimination and repression. Realizing that regime type appears to be insignificant in most of my models (supporting Fearon and Laitin 2003), I wanted to see what kind of changes would take place in the original model when repression and discrimination are excluded from the data analysis. Model 26 reveals that when discrimination and repression are excluded from the model the regime type shows a curvilinear relationship (inverted U-shape) with the incidence of civil war. The results of other variables in the main model (14) appear to be robust to the exclusion except the ethnic dominance variable which loses statistical significance. The removal of repression and discrimination and the significance of regime type and its squared term leads me to conclude that regime type picks up the effects of repression and discrimination. Therefore, the relationship between regime type and civil war incidence changes when repression and discrimination are taken into account. Therefore, these results provide support for my argument that regime type should not be used as a proxy for repression and discrimination. None of the nine grievance models appear to have problems with multicollinearity as is evident in Table 4.13.

[See Table 4.13–Correlation matrix for the comprehensive model - here]

How large is the effect of various indicators in decreasing or increasing the likelihood of civil war? Table 4.14 converts the logistic regression coefficients into more easily interpretable percentages.³

[See Table 4.14- The predicted probability of the civil war incidence- here]

Using the main comprehensive model (model 14), I calculate the change in probability for civil war incidences for different values of the explanatory variables. I estimate how much the probability that a state will experience civil war changes by moving the average level of a given measure by one standard deviation above or below the mean, while holding all other variables at their mean values.

When all the variables are set at their mean values, the probability of civil war incidence is about 2.89 percent, meaning that the likelihood of experiencing a civil war is very low. However, when it occurs, changes in the indicators listed in table 4.14 play a substantial role in affecting the occurrence of civil wars. I begin with the variable that has the largest and most dramatic impact on the probability of civil war incidence: GDP per capita. A one standard deviation decrease in GDP per capita increases the probability of civil war incidence from 2.89 percent to 7.23 percent. This constitutes an approximately 150 percent increase in the probability of civil incidence. Similarly, a one standard deviation increase in GDP per capita leads to a 61 percent decrease in the likelihood of civil war incidence.

The second largest impact on civil war incidence is generated by noncontiguity. When the value for noncontiguity is set at one standard deviation above the mean the risk of civil war is 6.16 percent, marking a 113 percent increase in the probability of civil

³ This command was executed by using the SPost Stata ado files for the post estimation interpretation of regression models for categorical outcomes (Long and Freese 2001).

incidence. When the value is changed to one standard deviation below the mean, the probability of civil war incidence is 1.33 percent. This translates approximately into a 54 percent reduction in the probability of a civil war occurring. I find that when holding all other variables at their mean, an ethnically dominant state is about 70 percent more likely to experience a civil war. When the state lacks a dominant ethnic group the likelihood of experiencing a civil war decreases by 29 percent. The fourth largest impact on the civil war incidence is produced by repression. The effect of repression is both highly significant and considerable. When repression levels are set at one standard deviation above the mean, the probability of civil war increases from 2.89 percent to 4.87 percent, marking an approximate 69 percent increase in the probability of civil war.

Similarly, holding all other variables at their mean, a state whose repression level is one standard deviation lower than the mean is 41 percent less likely to experience civil war.

When the discrimination level is increased one standard deviation from its mean, holding all other variables constant at their mean values, the probability of civil war incidence increases from 2.89 percent to 4.89 percent. This means that states with discrimination levels that are one standard deviation above the mean are about 67 percent more likely to face civil war. For the same variable, the impact of change from the mean to one standard deviation below the mean is an approximate 40 percent decrease in the likelihood of civil war occurrence. In the case of population, a one standard deviation increase while, holding all other variables at their means results in a 53 percent increase in the probability of civil war incidence. Conversely, a one standard deviation shift below the mean for population results in a 35 percent decrease in the probability of civil war. In the case of GDP growth a one standard deviation decrease leads to a 59 percent increase

in the likelihood of civil wars, while a one standard deviation increase results in a 37 percent decrease in the probability of civil war occurrence.

In sum, the analysis shows that the opportunity indicators, GDP per capita (1) and noncontiguity (2) have the largest impact on the probability of civil war incidence. They are followed by the three grievance factors, ethnic dominance (3), repression (4), and discrimination (5). Two other opportunity indicators (population and GDP growth) have, in relative terms, the least impact on the probability of civil war incidence.

4.2. Sensitivity Analysis

One of the main reasons behind running 12 different versions of the main model (model 14) is to ensure that the results are fairly robust to alternative specifications and changes in the independent variables. In the discussion of the findings, I presented the differences between the results of the main model and its various iterations, and pointed out the inconsistencies, if there were any. In this section I will perform a sensitivity analysis for the baseline results. I will consider both sensitivity to alternative data and methods. With respect to the data, I will test the robustness of my findings using Uppsala (Version 3-2005) armed conflict data set. Regarding the methods, I will run my baseline model with fixed effect.

One of the most common practices in the civil war literature is to use a 1,000 battle deaths threshold in coding civil wars (e.g. the Correlates of War data set). The logic of setting such a threshold is to capture conflict situations with a relatively high degree of violence. Even though arbitrary coding decisions can occur due to the nature of quantification, such a high threshold requires a degree of circumspection regarding my

results. A closer look at COW and other data sets using this threshold reveals that some conflicts, like Northern Ireland or Cyprus (1963-1964) have been left out since they do not reach the 1,000 annual battle deaths threshold. Furthermore, such a coding introduces a selection bias problem, given that the likelihood of 1,000 casualties is higher for more populous countries.

To avoid these problems, some scholars like Caprioli (2005), Melander (2005), and De Soysa (2002) chose to employ data that use a lower threshold of 25 battle-related deaths. They argue that the rationale for using such a high threshold is hard to defend when studying domestic conflicts. Caprioli (2005:168-169) summarizes the problem as follows:

...the 1000 death threshold is considered necessary by those who study war initiation, in which ‘an attack in strength’ criterion is used to control for actions of rogue units or small scale patrols operating outside central authority (Small and Singer 1982). In intrastate conflict, an attack in strength criterion is irrelevant, because one of the actors is a civilian group and the other, a government that has limited central authority in transitional polities (those that are neither defined as democratic nor autocratic). A 25 death threshold becomes more meaningful for intrastate conflicts as such a death rate is highly disruptive to the society.

Having a lower threshold makes it possible to capture conflicts that fell well short of full-scale civil war, reflecting better the nature of criminalized violence (De Soysa 2002: 405). Taking into account these issues, I will rerun my main model (model 14) with the Uppsala Data set (Version 3-2005), which defines armed conflict as “a contested incompatibility that concerns government and/or territory where the use of armed force between the two parties, of which at least one is the government of the state, results in at least 25 battle-related deaths” (Strand et al. 2005). This data set allows researchers to distinguish low level armed conflicts from civil wars. The 25 battle-related deaths

criterion captures less violent cases while excluding events like bloodless coups, riots, and demonstrations. The 25 fatalities threshold suggests that the demands of the opposition are such that the potential for further escalation is considerably high. The Uppsala armed conflicts data set (Version 3-2005) distinguishes between major conflict – the approximate equivalent of Small and Singer’s (COW) civil war – and minor armed conflict, with a minimum of 25 annual battle deaths (Eriksson and Wallersteen 2004). While data sets with the 1,000 deaths criterion account for 127 onsets from 1945-1999 (Fearon and Laitin 2003), studies utilizing the Uppsala (Version 3-2005) data report 403 onsets for 1945-2001 (Raleigh 2005). The 25 fatalities threshold is relatively new to the literature, but it offers a great opportunity for us to compare the results.

The results of the analysis based on the Uppsala data (Version 3-2005) are reported in Table 4.15. The dependent variable (interstate armed conflict) is taken from Melander (2005). His indicator (intralev)

“measures the level of intrastate conflict, ranging from peace over minor armed conflict to full-scale civil war. The difference between a minor armed conflict and a war as defined by the Uppsala Project is that conflicts resulting in at least 25 but no more than 999 battle-related deaths in one year are coded as minor conflicts whereas those conflicts causing at least 1000 battle-related deaths in one year are coded to be wars” (Melander 2005a, data set notes p.1.)

Therefore, in his original coding there are three categories, (0) no internal armed conflict, (1) minor internal armed conflict, and (2) full-scale civil wars. I recoded this variable as (0) if there is no internal armed conflict and (1) if there is an internal armed conflict passing the 25 battle deaths threshold. Therefore, all internal conflicts with more than 25 battle-related deaths will be included in my data set, which will allow me to

check the robustness of my results in a setting that is much less severe than a full-scale civil war.

[see Table 4.15 –Sensitivity analysis-here]

The second column in table 4.15 is the original comprehensive model. I inserted this model so as to facilitate the reading and comparison between the results of models.

Model 27 yields similar results to the results of my main model (model 14) that used Fearon and Laitin's (2003) data set. However, a couple of changes are observed. First, except repression, all the variables that appear to be significant in model 14 remain as significant predictors of civil war incidence. GDP per capita, GDP growth, population non contiguity political discrimination, ethnic dominance and peace years are all significant at least at the .05 level.

Second, in model 27 regime type indicators reach statistical significance and indicate that regime type and civil war have an inverted-U shape relationship. This implies that the risk of domestic armed conflict is higher in semi democracies when compared to autocracies and democracies. Recall that regime type showed a significant curvilinear association with civil war incidence only when either the gini coefficient (interpolated or not) was included (model 20, 21, 24, 25) in the equation or the repression and discrimination variables are excluded from the model (model 26). In model 27, however, regime type appears significant without the inclusion of the gini coefficient or exclusion of repression and discrimination.

Third, the military personnel variable appears as positive and statistically significant. This is quite surprising because opportunity theory would expect large armies to discourage insurgents from engaging anti government activities, or to suppress them

more easily if they decide to mobilize. Some scholars interpret this finding as support for the relative deprivation idea since when the state chooses to spend more in order to maintain a large army, it will less to spend on other public services like welfare, health, and education that civilians can benefit from. Henderson and Singer (2000) believe that this increases domestic discontent. Therefore, this result seems to support Henderson and Singer's (2000) findings. Lastly, contrary to the results of model 14 and the expectations of relative deprivation theorists repression loses its significance in model 27 and does not appear to be a predictor of domestic armed conflict.

What do these results and differences between models imply? It is important to bear in mind that GDP per capita, growth, population, noncontiguity, political discrimination, ethnic dominance and peace years are not only important determinants of civil wars and relatively less violent minor armed conflicts. On the one hand, while repression seems to increase the propensity of civil war, on the other hand it is not associated systematically with incidences of domestic armed conflict. Similarly regime type does not make a country more or less prone to civil war, but it increases the likelihood of domestic armed conflict. These results, as a whole indicate that the underlying mechanisms behind civil war and domestic armed conflicts which include relatively less violent cases, share certain similarities but there are also some differences. Therefore, this is indicative of the need for future empirical work to focus on the differences in the underlying processes of less violent armed conflicts and violent civil wars.

I estimated the main model using fixed effects (model 28). As can be seen from table 4.15, this estimation is only possible for a fairly small subset of the observations

(N=444). Since the fixed effects model looks for within-case effects, cases where the dependent variable does not vary are automatically dropped. Even though the fixed effects test is fairly severe, GDP per capita, repression, and political discrimination remain significant. Surprisingly in the fixed effects model, female labor force attains significance (at the .01 level) indicating that higher structural inequality increases the likelihood of civil war incidence.

Lastly, based on the results of the sensitivity analysis, the results of the main comprehensive model seem fairly robust to changes in model specification, data and estimation techniques.

4.3. Summary and Implication of Results

Given that the number of models run in this chapter is fairly high (28 in total), it is essential to take a broad look and interpret the results across all three main model specifications. First, the opportunity models (models 1-4) show that GDP per capita, GDP growth, population, noncontiguity and peace years have statistically significant relationships with civil war incidence. The oil exporter, instability, and military personnel variables do not appear to affect civil war likelihood.

The grievance models reveal that population is significant throughout all the models (models 5-13). Fractionalization, polarization and religious discrimination almost always fail to attain significance. Female labor force is signed in the wrong direction despite the significance of its coefficient. Ethnic dominance appears significant in less than half (4 out of 9) of the models. When the gini coefficient is introduced into various iterations of the main model, some results of these models are not only very different

from the results of the main model, but they also tend to appear very different from one another. The results of the models without the gini coefficient appear to suggest that political discrimination and repression are very strong predictors of civil war likelihood.

When the results of 15 comprehensive models are interpreted as a whole, I can conclude that GDP per capita is significant and in the expected direction in 14 models. While GDP growth is significant in 10 models, population is significant (and in the expected direction) in 11 models. Instability is never significant and in the right direction. Mountains and oil exporter are significant in two and three models respectively, which also include the gini coefficient. The last opportunity variable, military personnel, attains levels of significance in the expected direction in three instances only. Turning to the grievance factors in the comprehensive model, the most consistent factors throughout the models are discrimination and ethnic dominance. Both indicators are significant and in the expected direction in 14 of the models. The repression variable is significant on 10 occasions, while female labor force reaches significance in 4 models only. While ethnic fractionalization never reaches significance levels, religious fractionalization is significant three times (and only in the models that include the gini coefficient). A curvilinear relationship between regime type and civil war incidence receives support from 5 of the models. Polarization, primary commodity exports never attains significance. Religious discrimination is significant in two of the three models it is accounted for. Lastly, the gini coefficient is significant in 4 out of 4 models it is included but it is in the opposite direction (-).

Based on the results of the main comprehensive model (model 14), 7 hypotheses are strongly supported (i.e., political discrimination, repression, GDP per capita,

noncontiguity, population and ethnic dominance). Religious discrimination received only partial support from models 23, 24 and 25. All other hypotheses are not supported.

A comparison of the three main models (opportunity-model 1, grievance –model 5, comprehensive-model 14) reveals that the results of the individual models (model 1 and model 5) are mostly consistent with the comprehensive model (model 14). Even though there are no major changes in the significant variables, it is important to note that the signs of some insignificant variables change when they are included in the comprehensive model. For example while female labor force was positive in the grievance model it turns to negative in the comprehensive model. That all the grievance and opportunity factors that appear in individual models are in a single comprehensive equation increases the credibility of the individual findings.

[see table 4.16- Summary of the results by hypothesis]

What are the implications of the results of the comprehensive model of civil war on various theories covered in chapter 2? Do my results provide support for the expectations of the relative deprivation and opportunity theories? First, recall that Collier and Hoeffler (2004: 587-588) state that “most proxies for grievance are insignificant” and “the model that focuses on the opportunities for rebellion performs well, whereas objective indicators of grievance adds little explanatory power.” My results do not support this argument. The results of my main comprehensive table (model 14) indicate that both grievance and opportunity variables add to our ability to predict civil wars. Of the seven indicators that were significant, three variables are discrimination, repression and ethnic dominance. The remaining variables are GDP per capita, growth noncontiguity, and population. While the impact of GDP and noncontiguity seem to be

the largest, they are followed by ethnic dominance, repression and discrimination.

Population and GDP growth are the two at the bottom of the list.

Overall, my results provide some support for the relative deprivation theory of domestic violence. First, as opposed to Lindstrom and Moore (1995) who find no direct linkage between grievances and rebellion, I find that there is a direct association between discrimination, repression and ethnic dominance. The positive and significant coefficients for repression and discrimination are consistent with Gurr's expectations.

On the other hand, the structural inequality argument of relative deprivation theory does not receive much support from my analyses. My results provide no empirical support for the economic inequality hypothesis (including the various formulations of interpolated gini, meangini, midgini). They are all signed in the incorrect direction. The negative and significant sign of economic inequality is particularly contrary to Gurr's expectations.

The findings regarding inequality are important since Muller (1985) states that if inequality does not have a direct impact on the risk of civil war, and the overall level of economic development is the main determinant, then developing countries should be advised to follow the 'Brazilian model' of development, which places an emphasis on the rapid accumulation of wealth at the cost of distributional equality in order to attain a high level of development in as short a time span as possible. Brazil experienced one of the highest economic growth rates and lowest wage rates in the world (Henderson 1991). On the other hand, if both inequality and the level of economic development prove to have direct effects on civil war incidence, then the strategy should be one that emphasizes not

merely the accumulation of wealth but also its relatively equitable distribution throughout the society.

As mentioned earlier, however, the results regarding the gini coefficient should be interpreted with caution due to data quality and data availability issues. Before reaching definitive conclusions, more empirical investigation is essential. The results for the gender inequality and the regime type also do not appear to provide support for the relative deprivation thesis.

The results regarding repression appear to support the relative deprivation idea that higher levels of repression will increase both grievances and the likelihood of civil wars. Mobilization theory's expectation, namely high levels of repression will hinder mobilization of the insurgency- is therefore not supported. The results indicate no support for the relative deprivation claim that high levels of social fragmentation will lead to discontent, frustrations and hatred among people, which in turn will lead to civil war. Similarly, the insignificant coefficients for fragmentation do not support mobilization theory's claim that social fragmentation will increase the cost of mobilization.

The statistically insignificant coefficients for instability, natural resource dependence, mountains, and military personnel are disappointing for opportunity/mobilization theories, since they are all hypothesized to influence the viability of rebellion. Especially the lack of association between natural resources and civil wars is very surprising since the idea has strong theoretical appeal and attracted a great deal of attention from scholars and world bank researchers. The highly significant results for GDP per capita and GDP growth can be interpreted as supportive evidence for both theories since low levels of economic development can not only increase grievances but

also decrease the cost of the rebellion and make it both more easy and likely. The existence of a direct relationship between some of the grievance factors and civil war incidences run against the expectations of mobilization/opportunity theory since it is argued that the most important and direct explanatory factor for civil war is the organization of discontent, and relative deprivation is neither a necessary nor a sufficient condition for conflict (Lichbach 1989, 1994, 1998; Snyder 1978; McAdam 1982).

To summarize, I find that some of relative deprivation variables have a direct impact on the incidence of civil wars, and also that civil war incidence is significantly influenced by both grievance and opportunity factors. Grievance forms the backbone of rebellions but certain opportunities are necessary for rational people to participate and support large scale violent activities. My results, unfortunately, are limited when it comes to determining what causal mechanisms are operating between these variables and domestic violence. Such an enterprise must, alas, be left for future study.

Table 4.1
Descriptive Statistics for the Opportunity Model

Variables	Observations	Mean	Std. Dev.	Minimum	Maximum
CW incidence	2534	.18	.38	0	1
Oil exporter	2534	.16	.37	0	1
GDP	2534	7.85	1.04	5.37	10.32
Per capita GDP growth	2534	83.66	207.66	-956.69	990.96
Population	2534	9.14	1.52	5.87	14.01
Instability	2534	.16	.37	0	1
Mountainous	2534	2.04	1.46	0	4.56
Noncontiguous	2534	1.19	.39	0	1
Military personnel	2534	6.37	7.08	0	62.17
Peace years	2534	8.76	7.05	0	22

Table 4. 2.
Logistic Regression: Opportunity Model

Independent Variables	Model 1 (Main model)	Model 2 (Reduced model)	Model 3 (Main model with pce)	Model 4 (Main model with mil. exp.)
Oil exporter	-.70 (.45)			-.71* (.40)
GDP per capita	-.46*** (.16)	-.54*** (.14)	-.56*** (.16)	
GDP growth	-.004*** (.001)	-.003*** (.001)	-.004*** (.001)	-.004*** (.001)
Population	.45*** (.09)	.42*** (.08)	.33*** (.08)	.44*** (.09)
Instability	-.06 (.39)		-.32 (.44)	-.18 (.35)
Mountainous	.07 (.10)		.12 (.10)	.03 (.10)
Noncontiguous	1.03*** (.39)	.96** (.43)	1.34*** (.37)	.95** (.39)
Military personnel	-.03 (.03)		-.02 (.02)	
Primary commodity exports/GDP			-.88 (1.01)	
Military expenditure				-.24** (.09)
Peace years	-4.43*** (.44)	-4.38*** (.40)	-4.46*** (.50)	-4.58*** (.47)
Constant	1.56 (1.34)	2.38* (1.36)	3.38** (1.41)	-1.00 (.86)
N	2534	2547	2262	2504
Pseudo R2	0.79	0.78	0.79	0.77
Log Likelihood	-256.13	-265.76	-232.94	-267.91

Notes: White robust standard errors adjusted for clustering over country appear in parentheses.
*** Significant at 1 percent, ** significant at 5 percent, * significant at 10 percent. The cubic spline variables are included in analysis, but not reported here.

Table 4. 3
Correlation Matrix for the Main Opportunity Model

	CW incidence	Oil exp.	GDP	GDPgrowth	Pop.	Instab.	Mountainous	Contig.	Mil. per.
CW incidence	1.0000								
Oil exp.	-0.0468	1.0000							
GDP	-0.2309	0.1610	1.0000						
GDP growth	-0.1530	-0.1502	0.5075	1.0000					
Pop	0.3108	0.0279	0.0640	0.0919	1.0000				
Instab.	0.1617	-0.0223	-0.2216	-0.1407	0.0680	1.0000			
Mountainous	0.1708	-0.0172	-0.0302	-0.0523	0.3121	0.0481	1.0000		
Contig.	0.1321	-0.0524	0.3482	0.2966	0.3397	-0.0843	0.0876	1.0000	
Mil. Per.	-0.1239	0.1210	0.3804	0.1590	-0.1015	-0.0528	-0.0296	0.0400	1.0000

Note: Obs= 2534

Table 4. 4
Descriptive Statistics for the Grievance Model

Variables	Observations	Mean	Std. Dev.	Minimum	Maximum
CW	1907	.22	.42	0	1
Incidence					
Population	1907	9.24	1.48	5.81	14.01
Political	1907	2.22	1.65	0	4
Discrimination					
Repression	1907	2.46	1.22	1	5
Repression²	1907	7.53	6.90	1	25
Religious frac.	1907	.37	.22	0	.78
Ethnic frac.	1907	.42	.29	.004	.93
Fem.labor force	1907	36.5	9.32	5.1	51
Regime type	1907	10.8	7.64	0	20
Ethnic	1907	.52	.50	0	1
Dominance					
Ethnic	1907	.53	.23	.02	.98
polarization					
Religious	1907	.49	.35	.001	1
polarization					
Gini coefficient	1150	41.10	10.09	20	72.43
Religious	769	4.59	7.32	0	38
discrimination					
Peace years	1907	10.24	7.13	0	22

Table 4. 5
Logistic Regression: Grievance Model

Independent Variables	Model 5 (Main model)	Model 6 (Reduced model)	Model 7 (Main model with rep ²)	Model 8 (Main model with polarization)
Political Discrimination	.43*** (.12)	.43*** (.12)	.43*** (.12)	.45*** (.12)
Repression	.45*** (.17)	.39*** (.15)	.55 (.64)	.44** (.18)
Repression²			-.02 (.10)	
Ethnic fractionalization	.81 (.56)		.80 (.55)	
Religious fractionalization	.33 (.90)		.36 (.89)	
Female labor force	.04** (.02)	.04*** (.02)	.04** (.02)	.05** (.02)
Regime type	.03 (.03)		.03 (.03)	.03 (.03)
Regime type²				
Ethnic dominance	.62** (.31)	.47 ^a (.29)	.62** (.31)	.24 (.35)
Ethnic polarization				.89 (.84)
Religious polarization				-.04 (.59)
Population	.17** (.09)	.19** (.08)	.17* (.09)	.18** (.08)
Peace years	-3.39*** (.40)	3.42*** (.38)	-3.40*** (.41)	-3.39*** (.40)
Constant	-4.30*** (1.35)	-3.46*** (1.05)	-4.43*** (1.48)	-4.49*** (1.52)
N	1907	1908	1907	1907
Pseudo R2	.81	.81	.81	.81
Log Likelihood	-192.09	-194.73	-192.97	-193.81

Notes: White robust standard errors adjusted for clustering over country appear in parentheses.

*** Significant at 1 percent, ** significant at 5 percent, * significant at 10 percent. The cubic spline variables are included in analysis, but not reported here. ^a p<.107

Table 4. 6
Logistic Regression: Grievance Model-2

Independent Variables	Model 9 (Main model with fert. rate)	Model 10 (Main model with rel. dis.)	Model 11 (Main model with gini interpolated)	Model 12 (Main model with interpolated gini and rel. dis)
Political Discrimination Repression	.35*** (.11)	.34** (.15)	.41 (.31)	.39 (.34)
Ethnic fractionalization	.38* (.16)	.41* (.23)	.07 (.37)	.16 (.44)
Religious fractionalization	.41 (.62)	-.07 (.94)	.87 (.83)	.07 (1.25)
Fertility rate	1.44 (.88)	.32 (1.05)	1.70 (1.36)	1.17 (1.40)
Female labor force	1.54*** (.54)			
Regime type		.07* (.04)	-.02 (.04)	.08 (.07)
Regime type²	.05 (.03)	-0.05 (.05)	.66** (.31)	.80** (.34)
Ethnic dominance			-.03** (.01)	-.03** (.01)
Gini coefficient	.63* (.33)	.79* (.47)	.87 (.55)	.66 (.61)
Religious discrimination			-.06 (.04)	-.08* (.04)
Population		-.02 (.04)		.10 (.07)
Peace years	.33*** (.12)	.41*** (.15)	.54** (.24)	.80** (.32)
Constant	-3.37*** (.35)	-3.81*** (.55)	-3.15*** (.66)	-3.75*** (.57)
N	-5.09*** (1.51)	-6.25** (2.98)	-4.37 (2.67)	-11.31** (5.00)
Pseudo R2	.81	.80	.85	.80
Log Likelihood	-193.98	-86.61	-76.92	-43.39

Notes: White robust standard errors adjusted for clustering over country appear in parentheses.

*** Significant at 1 percent, ** significant at 5 percent, * significant at 10 percent. The cubic spline variables are included in analysis, but not reported here.

Table 4. 7
Logistic Regression: Grievance Model-3

Independent Variables	Model 13 (Main model minus repress and discrim.)
Political Discrimination Repression	
Ethnic fractionalization	.98** (.44)
Religious fractionalization	.02 (.67)
Fertility rate	
Female labor force	.02 (.02)
Regime type	.25** (.10)
Regime type²	-.01*** (.004)
Ethnic dominance	.39 (.25)
Gini coefficient	
Religious discrimination	
Population	.33*** (.07)
Peace years	-4.35*** (.40)
Constant	-2.54** (1.06)
N	2506
Pseudo R2	.78
Log Likelihood	-281.36

Notes: White robust standard errors adjusted for clustering over country appear in parentheses.

*** Significant at 1 percent, ** significant at 5 percent, * significant at 10 percent. The cubic spline variables are included in analysis, but not reported here.

Table 4.8
Correlation Matrix for the Main Grievance Model

	CW incidence	Pop.	Pol.	Discrimi.	Repress.	Rel.frac	Eth.frac	Fem.labor	Reg.type	Eth. dom
CW incidence	1.0000									
Pop.	0.2837	1.0000								
Pol.Discrimi	0.2794	0.3007	1.0000							
Repress.	0.5765	0.2756	0.3326	1.0000						
Rel.frac	0.0117	-0.0801	-0.0701	-0.0067	1.0000					
Eth.frac	0.2422	0.0584	0.2296	0.2549	0.3885	1.0000				
Fem.labor	0.0378	0.1082	-0.1660	-0.0848	0.2759	0.2098	1.0000			
Reg.type	-0.0855	0.1000	-0.1989	-0.3771	-0.0941	-0.2672	0.1331	1.0000		
Eth.dom	0.0389	-0.0334	0.1283	0.0587	-0.1121	-0.1992	-0.2219	0.0567	1.0000	

Note: Obs= 1907

Table 4.9
Descriptive Statistics for the Comprehensive Model

Variables	Observations	Mean	Std. Dev.	Minimum	Maximum
CW	1727	.20	.40	0	1
Incidence					
Population	1727	9.23	1.51	5.87	14.01
Political	1727	2.22	1.63	0	4
Discrimination					
Repression	1727	2.38	1.16	1	5
Repression ²	1727	7.03	6.41	1	25
Religious frac.	1727	.37	.22	0	.78
Ethnic frac.	1727	.42	.29	.004	.93
Fem. labor force	1727	36.5	9.07	6.2	51
Regime type	1727	11.31	7.61	0	20
Regime type²	1727	185.94	167.40	0	400
Ethnic	1727	.52	.50	0	1
Dominance					
Ethnic	1727	.52	.23	.017	.982
polarization					
Religious	1727	.48	.34	.001	1
polarization					
Gini coefficient	1084	41.52	9.90	20.7	72.43
Religious	702	4.13	6.99	0	38
discrimination					
PCE/GDP	1721	.15	.14	.002	.935
Fertility rate	1714	.63	.48	0	1
Oil Exporter	1727	.17	.37	0	1

GDP per capita	1727	7.90	1.08	5.37	9.90
GDP growth	1727	93.18	216.65	-917.68	990.96
Instability	1727	.16	.37	0	1
Mountainous	1727	2.04	1.45	0	4.42
Noncontiguous	1727	.20	.40	0	1
Military Personnel	1727	6.37	7.14	0	62.17
Peace years	1727	10.50	7.05	0	22

Table 4. 10
Logistic Regression: Comprehensive Model

Independent Variables	Model 14 (Main model)	Model 15 (Reduced model)	Model 16 (Main model with regime ²)	Model 17 (Main model with rep ²)	Model 18 (Main model with polarization)
Oil exporter	-.53 (.54)		-.46 (.55)	-.68 (.57)	-.65 (.51)
GDP per capita	-.89*** (.28)	-.83*** (.17)	-.79** (.31)	.95*** (.27)	-1.01*** (.30)
GDP growth	-.002* (.001)	-.002* (.001)	-.002 (.001)	-.003* (.001)	-.002* (.001)
Population	.29*** (.09)	.26*** (.07)	.30*** (.10)	.32*** (.10)	.32*** (.10)
Instability	-.82 (.58)		-1.03 (.64)	-.82 (.58)	-.81 (.57)
Mountainous	-.12 (.14)		-.10 (.13)	-.10 (.13)	-.15 (.13)
Noncontiguous	1.98*** (.49)	2.37*** (.42)	2.08*** (.54)	1.84*** (.47)	2.39*** (.55)
Military personnel	-.05 (.03)		-.06 (.04)	-.04 (.04)	-.06* (.03)
Political Discrimination	.33** (.17)	.26** (.13)	.33* (.17)	.34** (.17)	.31** (.14)
Repression	.47*** (.18)	.34** (.17)	.40** (.19)	-.62 (.49)	.50*** (.18)
Repression²				.17** (.08)	
Ethnic fractionalization	-.17 (.56)		-.22 (.54)	-.16 (.56)	
Religious fractionalization	.87 (.87)		.97 (.81)	.72 (.85)	
Female labor force	-.04 (.02)		-.03 (.03)	-.04 (.02)	-.04* (.02)
Regime type	.04 (.04)		.32 (.20)	.04 (.04)	.04 (.04)
Regime type²			-.01 (.01)		
Ethnic dominance	.70** (.32)	.73** (.29)	.74** (.34)	.68** (.32)	.95** (.43)
Ethnic polarization					-1.02 (.88)
Religious polarization					-.11 (.53)
Peace years	-3.11*** (.42)	-3.26*** (.41)	-3.13*** (.42)	-3.07*** (.42)	-3.09*** (.44)
Constant	5.01** (2.48)	3.88** (1.57)	3.43 (2.84)	6.77*** (2.44)	6.73** (2.91)
N	1727	1737	1727	1727	1727
Pseudo R2	.82	.81	.82	.82	.82
Log Likelihood	-157.22	-167.44	-155.58	-156.35	-157.08

Notes: White robust standard errors adjusted for clustering over country appear in parentheses.
*** Significant at 1 percent, ** significant at 5 percent, * significant at 10 percent. The cubic spline variables are included in analysis, but not reported here.

Table 4. 11
Logistic Regression: Comprehensive Model-2

Independent Variables	Model 19 (Main model + pce)	Model 20 (Main model + gini original)	Model 21 (Main model + gini interpolated)	Model 22 (Main model + fertility rate)
Oil exporter		1.01 (3.37)	2.03* (1.18)	-.66 (.54)
GDP per capita	-.93*** (.25)	-3.75** (1.47)	-2.16*** (.65)	-.45 (.29)
GDP growth	-.002* (.001)	-.0003 (.002)	-.003* (.002)	-.002* (.001)
Population	.22** (.11)	-.37 (.31)	.06 (.26)	.38** (.15)
Instability	-.85 (.58)	-9.40** (4.36)	-1.48* (.89)	-.76 (.60)
Mountainous	-.13 (.13)	2.47 (1.52)	.71* (.36)	-.11 (.13)
Noncontiguous	2.07*** (.53)	3.90** (1.93)	3.91*** (1.16)	1.75*** (.50)
Military personnel	-.04 (.03)	.22 (.14)	-.03 (.12)	-.04 (.03)
Primary commodity exports/GDP	-2.11 (1.91)			
Political Discrimination	.34** (.17)	1.84*** (.65)	1.06** (.47)	.31** (.15)
Repression	.47*** (.18)	1.48*** (.56)	.02 (.39)	.50*** (.17)
Ethnic fractionalization	-.06 (.55)	2.23 (2.22)	-.50 (1.23)	-.18 (.54)
Religious fractionalization	.99 (.87)	8.43*** (2.38)	4.62** (2.29)	1.07 (.82)
Female labor force	-.03 (.02)	.28 (.25)	.04 (.06)	
Regime type	.05 (.04)	1.66*** (.30)	1.06 (.66)	.06 (.04)
Regime type²		-.05*** (.02)	-.04 (.03)	
Ethnic dominance	.79*** (.28)	6.93*** (2.01)	2.84*** (.89)	.77** (.34)
Gini coefficient		-.14* (.08)	-.11*** (.04)	
Fertility Rate				1.41* (.80)
Peace years	-3.12*** (.42)	-5.45*** (1.92)	-3.35*** (.75)	-3.16*** (.39)
Constant	5.71** (2.49)	3.64 (13.19)	10.29 (9.08)	-1.96 (3.08)
N	1721	549	1084	1714
Pseudo R2	.82	.92	.89	.82
Log Likelihood	-157.01	-16.88	-54.41	-160.49

Notes: White robust standard errors adjusted for clustering over country appear in parentheses.
*** Significant at 1 percent, ** significant at 5 percent, * significant at 10 percent. The cubic spline variables are included in analysis, but not reported here.

Table 4. 12
Logistic Regression: Comprehensive Model-3

Independent Variables	Model 23 (Main model +rel dis)	Model 24 (Main model+ rel. dis. and gini interpolated)	Model 25 (Main model +rel. dis. and meangini interpolated)	Model 26 (Main model minus repress. and discrim.)
Oil exporter	-.55 (1.23)	8.63*** (2.89)	22.67*** (6.21)	-.19 (.43)
GDP per capita	-1.31* (.67)	-3.20*** (1.77)	-4.05*** (.77)	-.71*** (.23)
GDP growth	-.001 (.001)	.000 (.001)	-.002 (.002)	-.003*** (.001)
Population	.39* (.22)	-.58 (.41)	-3.10*** (.96)	.40*** (.08)
Instability	-.74 (.86)	-3.89* (2.29)	-8.74*** (2.48)	-.73 (.49)
Mountainous	-.01 (.23)	2.26*** (.81)	4.14*** (1.30)	.10 (.11)
Noncontiguous	3.86*** (1.19)	5.49** (2.39)	8.58** (3.84)	1.34*** (.45)
Military personnel	-.09 (.07)	-.44 (.29)	-1.45*** (1.49)	-.001 (.03)
Political Discrimination	.36 (.24)	1.56*** (.59)	2.66*** (.77)	
Repression	.54* (.29)	.33 (.80)	.32 (.86)	
Ethnic fractionalization	-1.45 (1.04)	.35 (1.67)	2.58 (2.83)	.48 (.45)
Religious fractionalization	.90 (1.52)	6.22 (4.51)	17.44*** (5.63)	.33 (.60)
Female labor force	-.007 (.05)	.22 (.16)	.38** (.19)	-.02 (.02)
Regime type	-.06 (.06)	1.40* (.72)	2.87** (1.40)	.28** (.13)
Regime type²		-.05* (.03)	-.10* (.06)	-.01** (.01)
Ethnic dominance	1.09* (.62)	3.86* (2.34)	6.38*** (2.34)	.32 (.29)
Gini coefficient		-.16** (.07)	-.63*** (.18)	
Religious discrimination	.02 (.05)	.40*** (.12)	1.35*** (.36)	
Peace years	-3.64*** (.57)	-7.61*** (2.34)	-15.31*** (4.42)	-4.31*** (.52)
Constant	6.55 (4.73)	13.97 (10.91)	20.55 (16.06)	3.11 (1.90)
N	702	466	466	2244
Pseudo R2	.83	.89	.92	.79
Log Likelihood	-66.13	-22.22	-17.54	-222.18

Notes: White robust standard errors adjusted for clustering over country appear in parentheses.
*** Significant at 1 percent, ** significant at 5 percent, * significant at 10 percent. The cubic spline variables are included in analysis, but not reported here.

Table 4. 13
Correlation Matrix for the Comprehensive Model

	CW incidence	Pol. Discrimi.	Repress.	Rel. frac	Eth. frac	Fem.labor	Reg.type	Eth.dom	Oil exp.	GDP
CW incidence	1.0000									
Pol. Discrimi.	0.2653	1.0000								
Repress.	0.5703	0.3304	1.0000							
Rel. frac	0.0548	-0.0745	-0.0155	1.0000						
Eth. frac	0.2466	0.2208	0.2528	0.3741	1.0000					
Fem.labor	-0.0065	-0.1989	-0.1062	0.3331	0.2075	1.0000				
Reg.type	-0.0540	-0.1980	-0.3525	-0.0934	-0.2719	0.1265	1.0000			
Eth.dom	0.0038	0.1127	0.0269	-0.0844	-0.2100	-0.1928	0.1070	1.0000		
Oil exp.	-0.0564	0.0931	0.1008	-0.1011	0.0465	-0.3259	-0.2308	-0.1290	1.0000	
GDP	-0.2763	-0.2487	-0.5020	-0.1480	-0.4993	-0.2766	0.5133	0.1261	0.1158	1.0000
GDP growth	-0.1674	-0.2412	-0.3800	0.0068	-0.2791	0.1839	0.4399	-0.0281	-0.1603	0.5260
Pop.	0.2966	0.2962	0.2799	-0.0807	0.0556	0.0807	0.1073	-0.0175	-0.0257	0.0305
Instab.	0.1472	0.0364	0.2737	0.0299	0.1212	0.0331	-0.0075	0.0037	-0.0247	-0.2788
Mountainous	0.2217	0.2772	0.2614	-0.1651	-0.1368	-0.1577	0.0836	0.1866	-0.0369	-0.0379
Contig.	0.1283	0.0228	-0.1869	0.0763	-0.1165	0.0728	0.3745	-0.1277	-0.1242	0.3481
Mil. Per.	-0.1197	-0.0470	-0.0721	-0.1750	-0.3234	-0.3215	-0.0204	0.1792	0.0939	0.3648
GDP growth		Pop.	Instab.	Mountainous	Contig.	Mil. Per.				
GDP growth	1.0000									
Pop.	0.0839	1.0000								
Instab.	-0.1512	0.0166	1.0000							
Mountainous	-0.0589	0.3785	0.0450	1.0000						
Contig.	0.3310	0.3068	-0.1263	0.0787	1.0000					
Mil. Per.	0.1619	-0.1533	-0.0770	-0.0784	0.0159	1.0000				

Note: Obs= 1727

Table 4.14
The Predicted Probability of the Civil War Incidence (Comprehensive Model)

	(a) Initial Probability	(b) Probability after change in variable	(c) Change in probabilities (b-a)	(d) Percentage change in probabilities (c/a)
Change for each variable				
<i>Discrimination</i>				
Change from Mean to +1SD	2.89%	4.84 %	1.95 %	67.47%
Change from Mean to -1SD	2.89%	1.72 %	-1.17%	-40.48%
<i>Repression</i>				
Change from Mean to +1SD	2.89%	4.87%	1.98%	68.51%
Change from Mean to -1SD	2.89%	1.70%	-1.19%	-41.18 %
<i>Ethnic dominance</i>				
Change from Mean to 1	2.89%	4.06%	2.01%	69.55%
Change from Mean to 0	2.89%	2.05%	-0.84%	-29.07%
<i>GDP per capita</i>				
Change from Mean to +1SD	2.89%	1.13%	-1.76%	-60.90%
Change from Mean to -1SD	2.89%	7.23 %	4.34%	150.17%
<i>GDP growth</i>				
Change from Mean to +1SD	2.89%	1.81%	-1.08%	-37.37%
Change from Mean to -1SD	2.89%	4.59 %	1.70%	58.82%

<i>Population</i>					
Change from Mean to +1SD	2.89%	4.42%	1.53%	52.94%	
Change from Mean to -1SD	2.89%	1.88%	-1.01%	-34.95%	
<i>NonContiguity</i>					
Change from Mean to +1SD	2.89%	6.16%	3.27%	113.15%	
Change from Mean to -1SD	2.89%	1.33%	-1.56%	-53.98%	

Note: The probabilities represent the predicted probability of an event occurrence for each hypothesis. The reported probabilities are calculated by holding each variable in Table 1 constant at their means. Then, only variables within each hypothesis are altered by +/- 1 standard deviation to determine individual effects. Bureaucratic Quality is not included in this table since it does not appear to be statistically significant.

Table 4. 15
Comprehensive Model- Sensitivity Analysis

Independent Variables	Model 14 (Main model)	Model 27 (Model 13 with Armed Conflict Data)	Model 28 (Model 13 with fixed effects)
Oil exporter	-.53 (.54)	.12 (.33)	
GDP per capita	-.89*** (.28)	-.70*** (.18)	-6.07*** (2.26)
GDP growth	-.002* (.001)	-.001* (.001)	-.01 (.01)
Population	.29*** (.09)	.22** (.10)	2.23 (2.93)
Instability	-.82 (.58)	-.43 (.32)	-1.00 (.75)
Mountainous	-.12 (.14)	-.04 (.09)	
Noncontiguous	1.98*** (.49)	.01*** (.37)	
Military personnel	-.05 (.03)	.05** (.02)	.06 (.15)
Political Discrimination	.33** (.17)	.19** (.09)	.93** (.42)
Repression	.47*** (.18)	.19 (.14)	1.32*** (.33)
Ethnic fractionalization	-.17 (.56)	.68 (.43)	
Religious fractionalization	.87 (.87)	.58 (.58)	
Female labor force	-.04 (.02)	-.02 (.02)	-.80*** (.30)
Regime type	.04 (.04)	.22** (.10)	.07 (.07)
Regime type²		-.01* (.004)	
Ethnic dominance	.70** (.32)	.66*** (.23)	
Peace years	-3.11*** (.42)	-2.47*** (.34)	-2.52*** (.59)
Constant	5.01** (2.48)	2.29 (1.88)	
N	1727	1727	444
Pseudo R2	.82	.66	
Log Likelihood	-157.22	-307.60	-58.00

Notes: White robust standard errors adjusted for clustering over country appear in parentheses.

*** Significant at 1 percent, ** significant at 5 percent, * significant at 10 percent. The cubic spline variables are included in analysis, but not reported here.

Table 4.16
Summary of the Results by Hypothesis

	Hypotheses	Supported (S) Not Supported (NS) Partially Supported (PS)
1	H1 (Income inequality)	NS
2	H2 (Gender inequality)	NS
3	H3 (Regime type 1)	NS
4	H3a (Regime type 2)	NS
5	H3b (Regime type3)	NS
6	H4 (Political Discrimination)	<i>S</i>
7	H5 (Religious discrimination)	PS
8	H6 (Repression 1)	<i>S</i>
9	H6a (Repression 2)	NS
10	H6b (Repression 3)	NS
11	H7 (GDP pre capita)	<i>S</i>
12	H8 (GDP growth)	<i>S</i>
13	H9 (Military capability)	NS
14	H10 (Mountains)	NS
15	H11 (Nongontiguity)	<i>S</i>
16	H12 (Population)	<i>S</i>
17	H13 (Ethnic/ religious fractionalization 1)	NS
18	H13a (Ethnic/ religious fractionalization 1)	NS
19	H13b (Ethnic dominance)	<i>S</i>
20	H13c (Ethnic/religious polarization)	NS
21	H14 (Oil)	NS

5. Data Analysis II: Quality of Governance

The purpose of this chapter is to assess whether or not quality of governance adds any additional leverage on our ability to explain the civil war incidence. In order to assess the impact of the quality of governance on the likelihood of civil war, I estimate a logistic regression random effects (RE) model based on the results of the Hausman test. It takes the following form:

$$\begin{aligned} \text{logit}[\pi(x)] = & b_0 + b_1 (\text{Governance indicators}) + b_2 (\text{GDP per capita}) + b_3 (\text{Population}) \\ & + b_4 (\text{Mountainous}) + b_5 (\text{Noncontiguous territory}) + b_6 (\text{Oil exporter}) + b_7 (\text{Regime type}) \\ & + b_8 (\text{Regime type}^2) + b_9 (\text{Political Instability}) + b_{10} (\text{Ethnic Fractionalization}) + b_{11} \\ & (\text{Religious Fractionalization}) + b_{12} (\text{Ethnic dominance}) + b_{13} (\text{Discrimination}) + \\ & b_{14} (\text{Peace years}) + \varepsilon. \end{aligned}$$

Where $\pi(x)$ denotes the probability of a civil war incidence.

5.1 Findings

In this section I discuss my main findings. I first report the results for my main independent variables and then briefly discuss the results for the control variables. I present the results of all four models in Table 5.1. The first five models include *one governance variable* at a time in addition to the same set of controls described above, as well as the variables related to temporal dependence. In these models, I test the statistical association between each governance indicator and civil war. The last model, Model 6,

includes the quality of governance index variable, along with the same set of control variables.

[See Table 5.1 & 5.2 here]

Model 1 in table 5.1 displays the full model with the corruption variable. The effect of corruption on the incidence of civil war is positive and statistically significant. Recalling the coding of these variables, my results imply that worse ratings of corruption (high levels of corruption in government) are associated with a higher likelihood of civil war. Similarly, rule of law is positively related and has a significant effect on the incidence of civil wars in Model 2 in table 5.1. Controlling other factors, in countries with a better rule of tradition the likelihood of civil wars will be lower than in countries with a weak rule of law tradition. As opposed to the expactations, in model 3 bureaucratic quality does not appear to affect the likelihood of civil wars. As I discuss in the next section, further empirical and case study research is required before reaching a definitive conclusion about why bureaucratic quality as an important indicator of governance do not empirically matter in explaining civil war incidences.

My findings for the next two models (Models 4 and 5) in Table 5.2, accounting for the role of the protection of property rights, show strong association (at a .05 level) with civil war incidence. As Model 4 shows, countries with a high expropriation risk by governments will be likely to experience more civil wars than countries with lower incidences of expropriation risk. As in the hypothesized direction, the repudiation of contracts by a government in Model 5 appears to play a strong role in predicting the likelihood of civil war. The findings on these two measures for the protection of property rights affirm that securing those rights will considerably reduce occurrences of civil war.

Model 6, which includes the Quality of governance index, also demonstrates a positive and statistically significant relationship between the governance index and civil war incidences. Based on these analyses, I conclude that the governance measures, except bureaucratic quality, have a strong effect on the risk of civil war incidence.

It is important to note that the relationship between the main governance variables and civil war incidence is substantively unaffected by the inclusion and exclusion of the two control variables that are not included in Fearon and Laitin's (2003) original study, namely ethnic dominance and political discrimination. The exclusion of these two variables does not decrease the significance level of governance measures. Indeed elimination of these two additional controls makes my indicators stronger. Only small changes occur in the significance levels of the other control variables.

5.2. Discussion

How large is the effect of the quality of governance in decreasing or increasing the likelihood of civil war? In order to answer this question, I estimate how much the probability that a state will experience civil war would change by moving the average level of a given governance measure to one standard deviation above average, while holding all other variables at their mean values.

[See Table 5.3& 5.4 here]

As tables 5.3 and 5.4 indicate, the initial probabilities - the likelihood of experiencing a civil war - are fairly low. It ranges between 2.58 to 2.79% for the governance indicators. When it occurs, however, changes in the governance indicators plays a significant role in determining civil wars. I find that when holding all other

variables at their mean, a highly corrupt state (one whose corruption level is one standard deviation higher than the mean) is more than twice as likely—specifically, 121.37% more likely—to experience a civil war.¹ When the corruption level is one standard deviation lower, the likelihood of experiencing a civil war decreases to 74.81%. The predicted probability for civil war incidence with every variable at its mean is about 2.58%. When rule of law is increased one standard deviation from its mean, holding all others constant; the probability of civil war incidence increases 3.12% and becomes 5.60%. This means states with rule of law levels that are one standard deviation above the mean are 117.74% more likely to face civil war. Similarly, holding all other variables at their mean, a state whose expropriation level is one standard deviation higher than the mean is 93.17% more likely to experience civil war. When the repudiation level is increased one standard deviation from its mean, holding all others constant, the probability of civil war incidence increases 3.30% and becomes 5.95%. This means that states with repudiation levels that are one standard deviation above the mean are 124.5% more likely to face civil war. Lastly, states with a better overall governance capacity are 200.38% more likely to experience civil war than those with an average index.

The results for the control variables are similar to those reported by Fearon and Laitin (2003) and others who used the same set of controls. In all models, as suggested in the literature, the GDP per capita is negatively related with civil war and statistically significant. In other words, civil wars are more likely to occur in economically poor countries than the rich ones. Per capita income seems to be a significant variable to control for the financial and military strength of the state. Population is another

¹ We use SPost Stata ado files by J. Scott Long and Jeremy Freese (2001), for the post-estimation interpretation of regression models for categorical outcomes.

significant variable across the models with a positive coefficient. The positive significant relationship between population rate and civil war in all of the models confirms that large population size is a significant predictor of civil war incidence.

Contrary to Fearon and Laitin's argument that mountainous terrain has a positive and significant effect on civil war; my results show that it is unrelated to civil war incidence. This result is not too surprising, however, given the mixed results found with regard to this variable in earlier empirical investigations (e.g Barbieri and Reuveny 2005). In all models, non-contiguous territory has a statistically strong and positive effect on civil war indicating that the presence of citizen groups that are separated from central state control increases the probability of civil war.

The oil exporter variable is not significant in any of the models indicating that resource abundance in a country has no significant effect on the likelihood of civil wars.² The insignificant result here is important to mention, because in the literature resource abundance has been used to control for the administrative capacity of the state. The insignificant results here, when combined with significant governance indicators, stress the necessity of thinking beyond natural resource dependence to account for state capacity.

Although some previous research (e.g. Fearon and Laitin 2003) hypothesized a positive effect of past instability, except in Model 3, I find a negative significant coefficient for the instability variable. At first sight this appears counter intuitive, but as Barbieri and Reuveny (2005; 1240) suggest, the reason for the negative effect of past

² To make sure that our results are robust with regard to natural resource abundance, we repeated my models by using "primary commodity export" as an alternative measure (Montalvo and Reynal Querol 2004 and Collier and Hoeffler 2004). I found an insignificant coefficient for primary commodity exports, our governance indicators kept their importance.

instability on war might exist because “post-change states may be better supported, better able to fend off attacks, or better able to satisfy people and prevent grievances that produce civil wars.”

While the ethnolinguistic fragmentation variable appears to be insignificant throughout the models, religious fragmentation is positively associated and significant in Model 5 and 6, which indicates that in those two models, as the level of religious fragmentation increases, this leads to an increase in the likelihood of civil wars, as well. This result is puzzling, because despite a relatively strong theoretical background behind the relationship between social fragmentation and the emergence of domestic violence, like many quantitative studies (e.g. Fearon and Laitin 2003; Barbieri and Reuveny 2005), my results do not provide strong evidence for the fragmentation argument, either.

The democracy squared variable is added to the model to examine whether my quality of governance argument will hold when a curvilinear relationship between democracy and civil war is included in the model. The coefficients for democracy and democracy squared are both statistically significant, and the coefficient for democracy is positive while squared term is negative. This indicates that democracy and democracy squared are strong predictors of civil wars, and there is a non-linear (inverted U) relationship between democracy and civil wars, as suggested in the literature. What this implies is that the likelihood of civil war is highest in semi-democracies near the middle of the democracy scale and lowest in full democracies and autocracies. While democracies provide multiple peaceful channels for people to express their discontent, autocracies decrease the likelihood of civil war by repressing dissent.

The effects of ethnic dominance and level of discrimination are positive and significant, suggesting that civil wars are more likely in countries with an ethnically dominant group and in countries with high levels of political discrimination. While the impact of discrimination provides support for Norton and Regan (2005), the ethnic dominance argument provides support for Horowitz (1985) and Collier and Hoeffler's (2005) claims. It is important to indicate that these two indicators are consistently very significant throughout my analysis even when alternative data is used. This is a further justification for my decision to include these two indicators as additional controls, in addition to the ones used by Fearon and Laitin (2003).

Peace years and three cubic splines are jointly significant in all of the models. It indicates the presence of temporal dependence in the models. The negative sign for the peace years variable suggests that the longer the period of peace after a civil war, the less likely a state is to experience a civil war.

It is worth mentioning that dropping insignificant variables from my model barely affects the remaining estimated coefficients. As indicated in Tables 5.5 and 5.6, all the governance measures - except bureaucratic quality - are positive and significant, as expected. The governance measures seem to be quite robust to the inclusion or exclusion of various controls. The only minor change in the reduced model is that there is a slight decrease in the significance levels of corruption and rule of law. The control variables, their signs and significance levels are very similar to the results of the original model.

[See Table 5.5 & 5.6 –Reduced model tables here]

Lastly, the presence of perfect multicollinearity is fatal to the estimation of parameters. In this model, like in other empirical tests of comprehensive models, GDP appears to have relatively high correlation (around .7) with some of the indicators like bureaucratic quality and the quality of governance index. Even though these correlations are in the danger range, given that there is a consensus in the literature with regard to the importance of economic development, and given the necessity of controlling this factor in examining the impact of inequality, I decided to keep it in the analysis. In addition due to the inclusion of the square of the regime type, the Variance Inflation Factor appears to be high in the analysis. However, when GDP is kept in the model but the squared term and splines are left out, the VIF levels are below 1.50 in all models. The model was also run without the square of regime type, and the results show that all the governance measures – except bureaucratic quality - are significant and in the expected direction. In this case, the models that include corruption, rule of law and bureaucratic quality have the mean variance inflation factor (VIF) of 1.49; the repudiation, expropriation and the index variable all have a mean variance inflation factor (VIF) of 1.48.

[See Table 5.7 -Correlation matrix- here]

5.3. Sensitivity Analysis

In this section the baseline results are tested for robustness. I consider not only the sensitivity to the data but also the method. With respect to the data, I investigate the effect of different definitions of the dependent and independent variables. Regarding the method, I examine random effects, fixed effects and rare events bias.

In terms of the data, two sorts of robustness checks have been completed. First, and most importantly, I tested my argument with another data set that uses a completely different definition of internal conflict with a much lower threshold. I believe this is a very tough but essential test for my argument, given that the most contentious aspect of civil war literature is the definition of civil wars. Differences in the definition of civil wars lead to different lists of civil wars, which in turn might affect the results of quantitative studies. Indeed, this is one of the biggest hurdles for the scientific accumulation of knowledge in the civil war literature. Secondly, I will rerun my analysis with some alternative variables that have been mentioned in the literature as important determinants of civil wars, like primary commodity exports and polarization.

As mentioned in detail in chapter 4, armed conflict data set has information on domestic armed conflicts and it includes not only major armed conflicts like civil wars (battle deaths > 1,000) but also includes relatively minor armed conflicts (battle deaths>25) and captures less violent cases while excluding events like bloodless coups, riots and demonstrations.

[See Table 5.8 & 5.9 here]

When I run my models using this data all governance indicators except one – corruption - appear to be significant. It is important to note that corruption is a borderline case with a P-value that is very close to the .1 threshold (.107). The most important difference between the logit analyses of Fearon and Laitin's and Uppsala's data is with respect to the 'bureaucratic quality' indicator. While it was positively related but insignificant in the original analysis, in this model it is positive and significant. This result provides support for the third hypothesis, which is the one that was rejected in the

original analysis. This implies that quality of governance plays a significant role in the emergence of not only civil wars (with a 1,000 battle-deaths threshold) but also internal armed conflicts as defined by the Uppsala data set. Therefore, I can conclude that my results are robust to change in the measurement of the key concept of this study.

Secondly, one of the most controversial findings in the literature concerns the relationship between natural resource dependence and civil wars. Collier and Hoeffler (2000, 2002, 2004) used ‘primary commodity export’ as their proxy and have found natural resource abundance as one of the most important causes of civil wars. Fearon and Laitin (2003), on the other hand, used a different measure, ‘oil exporter’ and could not find support for this argument. In this paper, I utilized the oil exporter indicator following Fearon and Laitin (2003). According to my findings, oil exporting countries do not appear to be more conflictual than non exporters. When I rerun my models using ‘primary commodity export’ as an alternative measure (Montalvo and Reynal-Querol 2004 and Collier and Hoeffler 2004), I find an insignificant coefficient for primary commodity exports, and the results are very similar to the original model with regard to the governance measures.

Similarly, in the literature it has been argued that polarization is a better indicator as compared to fractionalization, since it accounts for actual tension between the actors and tells us a lot more than the fragmentation indicators (Montalvo and Reynol-Querol 2005; Reynal-Querol 2002a). Repeating my analysis with an alternative measure – polarization - does not lead to a major change in the significance of the governance indicators.

In tables 5.10 and 5.11, I investigate a number of different estimation issues. I re-estimated my models using fixed, random effects and a rare events logit. The results are not different between fixed and random effects models. The estimation of a fixed effects logit is only possible for a sub-sample of the observations. Even though the fixed effects test was relatively harsher, the governance measures kept their importance. More importantly, two of the governance measures - expropriation and repudiation - became more significant. If the effect of governance measures was only dependent on cross-section data, it might suggest that the variable was proxying some other characteristic. However, the fixed effects regression uses only changes in governance measures, and therefore reduces the scope of alternative explanations.

In the fixed effect model, like in the original random effects logit, the bureaucratic quality indicators do not appear to be significantly related to civil war incidence. Regarding controls, the most striking changes between the random and fixed effects models concern GDP per capita and population. They both lost their significance in the fixed effects. Regime type, regime type² and political instability showed no major change, while the impact of discrimination on civil wars increased.

[See Tables 5.10- 5.11 here]

Finally, the last three columns of table 5.10 and 5.11 show the results of the rare events model. King and Zeng (2001) argue that the standard logit estimation techniques tend to underestimate the probability of rare events. In order to reduce bias and increase accuracy I reproduce the logit analysis with a rare event correction. The event I predict - civil war incidence - is unlike an onset not necessarily a rare event, but this test is being conducted to ensure that it is robust to all estimation methods. The rare events model is a

further check on the control variables, given that the fixed effects model can only include non-constant indicators. The results show only minor, even negligible differences between the standard logit results and the rare events corrected results. Just like in the fixed effects model, all the governance measures, except bureaucratic quality, either kept their significance or became more significant. The GDP per capita, mountainous area, contiguity, oil exporter, regime type, regime type², political instability, ethnic dominance and discrimination variables do not show any major difference as compared to the original random effects logit model. The only major change is that religious fractionalization, which appears significant in the original model 5 and 6, became insignificant in the rare event logit. After examining a number of estimation techniques, I can conclude that despite some minor changes in my control variables, the governance indicators are fairly robust to changes in the data and estimation methods.³

5.4. Summary

In this empirical analysis I found that the quality of governance identified as level of corruption, rule of law, expropriation risks, and the repudiation of contracts is a very significant predictor of civil wars and the results are fairly robust. Contrary to expectations, bureaucratic quality is not associated with the civil war incidence.

[see table 5.12- Summary of the results by hypothesis]

Lastly, the hypothesized relationship between natural resources and civil wars seem to disappear when quality of governance is accounted for.

³ For logit models, in addition to using peace years and its three cubic splines, we also used a lagged prior war variable to control for temporal dependence and we find no substantial change in our findings.

Table 5.1
Logistic Regression Analysis of Civil War-1

Independent Variables	Model 1	Model 2	Model 3
Corruption	.57*** (.19)		
Rule of Law		.49** (.25)	
Bureaucratic Quality			.19 (.21)
GDP per capita	-.67** (.28)	-.84 *** (.25)	-.85*** (.29)
Population	.29* (.16)	.27* (.15)	.26* (.16)
Mountainous	-.01 (.01)	-.01 (.01)	-.01 (.01)
Noncontiguous	2.26*** (.67)	2.53*** (.71)	2.27*** (.61)
Oil exporter	.12 (.69)	.24 (.68)	.14 (.68)
Regime type	.38** (.18)	.33 (.20)	.34* (.20)
Regime type²	-.02** (.01)	-.01 (.01)	-.02 ^a (.01)
Political Instability	-1.22** (.58)	-1.17** (.58)	-.97* (.58)
Ethnic Fractionalization	-.21 (.70)	-.31 (.69)	-.24 (.69)
Religious Fractionalization	1.67 (1.08)	1.58 (1.02)	1.60 (1.05)
Ethnic dominance	1.28*** (.39)	1.08*** (.42)	1.11*** (.39)
Discrimination	.46*** (.17)	.48*** (.17)	.55*** (.17)
Peace years	-1.84*** (.25)	-1.84*** (.26)	-1.86*** (.25)

Constant	-.38 (2.84)	.95 (2.56)	2.19 (3.58)
N	1578	1578	1578
Log Likelihood	-145.72	-146.75	-150.44

Notes: White robust standard errors adjusted for clustering over country appear in parentheses.

*** Significant at 1 percent, ** significant at 5 percent, * significant at 10 percent.

The cubic spline variables are included in analysis, but not reported here.

^aThe P value of this variable is at the border (0.105).

Table 5.2
Logistic Regression Analysis of Civil War-2

Independent Variables	Model 4	Model 5	Model 6
Expropriation	.31** (.13)		
Repudiation		.37** (.15)	
Quality-of-governance (Index)			.11*** (.04)
GDP per capita	-.77*** (.25)	-.70*** (.27)	-.52* (.30)
Population	.33** (.16)	.30** (.14)	.39** (.16)
Mountainous	-.01 (.01)	-.01 (.01)	-.01 (.01)
Noncontiguous	2.36*** (.66)	2.60*** (.69)	2.46*** (.73)
Oil exporter	.21 (.67)	.30 (.69)	.03 (.70)
Regime type	.39* (.20)	.39** (.20)	.36* (.19)
Regime type²	-.02* (.01)	-.02* (.01)	-.02* (.01)
Political Instability	-1.05* (.63)	-1.12* (.61)	-1.21** (.61)
Ethnic Fractionalization	-.05 (.67)	.01 (.67)	-.09 (.71)
Religious Fractionalization	1.63 (1.03)	2.00* (1.13)	1.89* (1.10)
Ethnic dominance	1.26*** (.47)	1.37*** (.44)	1.33*** (.44)
Discrimination	.47** (.18)	.54*** (.17)	.46** (.18)
Peace years	-1.84*** (.24)	-1.82*** (.24)	-1.85*** (.26)

Constant	-0.06 (2.57)	-1.05 (2.91)	-3.90 (3.67)
N	1540	1540	1540
Log Likelihood	-145.35	-145.81	-143.95

Notes: White robust standard errors adjusted for clustering over country appear in parentheses.
 *** Significant at 1 percent, ** significant at 5 percent, * significant at 10 percent. The cubic spline variables are included in analysis, but not reported here.

Table 5.3
Impact of Governance Measures on the Probability of a Civil War Occurrence

Variable	(a) Initial Probability	(b) Probability after change in variable	(c) Change in probabilities (b-a)	(d) Percentage change in probabilities (c/a)
Change for each Hypothesis				
<i>Corruption (H₁)</i>				
Change from Mean to +1SD	2.62%	5.80 %	3.18 %	121.37%
Change from Mean to -1SD	2.62%	0.66 %	-1.96%	-74.81%
<i>Rule of Law (H₂)</i>				
Change from Mean to +1SD	2.58%	5.60%	3.02%	117.74%
Change from Mean to -1SD	2.58%	1.17%	-1.41%	-54.65%

Note: The probabilities represent the predicted probability of an event occurrence for each hypothesis. The reported probabilities are calculated by holding each variable in Table 1 constant at their means. Then, only variables within each hypothesis are altered by +/- 1 standard deviation to determine individual effects. Bureaucratic Quality is not included in this table since it does not appear to be statistically significant.

Table 5.4
Impact of Governance Measures on the Probability of a Civil war Occurrence-2

Variable	(a) Initial Probability	(b) Probability after change in variable	(c) Change in probabilities (b-a)	(d) Percentage change in probabilities (c/a)
Change for each Hypothesis				
Repudiation (H ₄)				
Change from Mean to 1	2.65%	5.95%	3.3%	124.53%
Change from Mean to 0	2.65%	1.16%	-1.49%	-56.23%
Expropriation (H ₅)				
Change from Mean to +1SD	2.79%	5.50%	2.71%	97.13%
Change from Mean to -1SD	2.79%	1.39 %	-1.4%	-50.18%
Index5 (H ₆)				
Change from Mean to +1SD	2.66%	7.99%	5.33%	200.38%
Change from Mean to -1SD	2.66%	0.86%	-1.8%	-67.67%

Note: The probabilities represent the predicted probability of an event occurrence for each hypothesis. The reported probabilities are calculated by holding each variable in Table 1 constant at their means. Then, only variables within each hypothesis are altered by +/- 1 standard deviation to determine individual effects.

Table 5.5
Reduced Models-1

Independent Variables	Model 1	Model 2
Corruption	.47** (.19)	
Rule of Law		.48** (.24)
Bureaucratic Quality		
GDP per capita	-.80*** (.24)	-.88*** (.21)
Population	.24* (.14)	.25* (.13)
Mountainous		
Noncontiguous	2.72*** (.63)	2.75*** (.71)
Oil exporter		
Regime type	.35* (.19)	
Regime type²	-.02* (.01)	
Political Instability	-1.14** (.56)	-.86* (.51)
Ethnic Fractionalization		
Religious Fractionalization		
Ethnic dominance	1.12*** (.35)	.96*** (.34)
Discrimination	.36** (.16)	.40*** (.14)
Peace years	-1.83*** (.24)	-1.85*** (.24)

Constant	1.97 (2.63)	3.31 (2.37)
N	1578	1578
Log Likelihood	-148.37	-150.64

Notes: White robust standard errors adjusted for clustering over country appear in parentheses. *** Significant at 1 percent, ** significant at 5 percent, * significant at 10 percent. The cubic spline variables are included in analysis, but not reported here.

Table 5.6
Reduced Models -2

Independent Variables	Model 4	Model 5	Model 6
Expropriation	.29** (.13)		
Repudiation		.36** (.16)	
Quality-of-governance (Index)			.10*** (.04)
GDP per capita	-.84*** (.22)	-.64*** (.21)	-.53** (.22)
Population	.33** (.16)	.27** (.13)	.34** (.15)
Mountainous			
Noncontiguous	2.72*** (.68)	2.55*** (.63)	2.49*** (.65)
Oil exporter			
Regime type	.36* (.20)	.38* (.20)	.36* (.19)
Regime type²	-.02* (.01)	-.02* (.01)	-.02* (.01)
Political Instability	-1.02* (.60)	-1.08* (.63)	-1.20* (.63)
Ethnic Fractionalization			
Religious Fractionalization		2.00* (1.12)	2.08* (1.13)
Ethnic dominance	1.09** (.43)	1.26*** (.39)	1.26*** (.39)
Discrimination	.37** (.17)	.52*** (.16)	.44*** (.17)
Peace years	-1.81*** (.22)	-1.83*** (.24)	-1.86*** (.25)

Constant	1.51 (2.54)	-1.07 (2.65)	-3.33 (3.15)
N	1540	1540	1540
Log Likelihood	-147.26	-146.33	-144.55

Notes: White robust standard errors adjusted for clustering over country appear in parentheses.

*** Significant at 1 percent, ** significant at 5 percent, * significant at 10 percent. The cubic spline variables are included in analysis, but not reported here.

Table 5.7
Correlation Matrix

	Civil war	Corruption	Ruleoflaw	Burquality	Exproprio	Repudiat	Index5
Civil war	1.0000						
Corruption	0.2253	1.0000					
Ruleoflaw	0.3542	0.7365	1.0000				
Burquality	0.2348	0.7734	0.7665	1.0000			
Exproprio	0.2512	0.6028	0.7883	0.7019	1.0000		
Repudiat	0.2538	0.6165	0.7626	0.7360	0.8840	1.0000	
Index5	0.2989	0.8414	0.9169	0.8995	0.8895	0.8946	1.0000
Oilexp	-0.0670	0.1833	0.1086	0.1231	0.1516	0.1319	0.1558
GDP	-0.3248	-0.6156	-0.6529	-0.7001	-0.5744	-0.6638	-0.7233
Populat	0.3026	-0.0350	-0.0525	-0.1207	-0.1042	-0.0993	-0.0922
Instab	0.1002	0.1892	0.2507	0.2350	0.1853	0.2200	0.2446
Mountain	0.2010	-0.0038	-0.0372	0.0390	-0.0111	-0.0278	-0.0089
Relfrac	0.0253	0.0093	0.0273	-0.0801	0.0234	0.0239	-0.0005
Ethfrac	0.2626	0.3460	0.3442	0.2806	0.2720	0.3224	0.3526
Regime type ²	-0.1227	-0.5419	-0.4953	-0.5291	-0.5114	-0.5332	-0.5866
Regime type	-0.0823	-0.5145	-0.4497	-0.4914	-0.4921	-0.5059	-0.5505
Contig	0.1468	-0.2682	-0.2724	-0.3597	-0.3153	-0.3460	-0.3508
Ethdom	0.0432	-0.0747	0.0297	-0.0383	0.0041	-0.0398	-0.0257
Discrimi	0.3035	0.2511	0.2900	0.1864	0.2485	0.2338	0.2723

	Oilexp	GDP	Popul	Instab	Mountain	Relfrac	Ethfrac
Oilexp	1.0000						
GDP	0.0896	1.0000					
Populat	-0.0684	-0.0436	1.0000				
Instab	-0.0242	-0.2810	0.0199	1.0000			
Mountain	-0.0661	-0.0041	0.3045	0.0163	1.0000		
Relfrac	-0.0571	-0.1553	-0.0639	0.0233	-0.1793	1.0000	
Ethfrac	0.0422	-0.5573	0.0872	0.1163	-0.0561	0.4244	1.0000
Regime type ²	-0.2360	0.5235	0.0191	-0.0865	0.1247	-0.1038	-0.3580
Regime type	-0.2684	0.4618	0.0452	-0.0144	0.1401	-0.1121	-0.3189
Contig	-0.1162	0.2978	0.3278	-0.1330	-0.0069	0.0603	-0.1273
Ethdom	-0.1144	0.1589	-0.0192	-0.0064	0.1734	-0.1092	-0.2083
Discrimi	0.0814	-0.2731	0.3279	0.0191	0.2823	-0.0918	0.2484
<hr/>							
	Regime type ²	Regime type	Contig	Ethdom	Discrimi		
Regime type ²	1.0000						
Regime type	0.9843	1.0000					
Contig	0.3686	0.3478	1.0000				
Ethdom	0.0684	0.0784	-0.1716	1.0000			
Discrimi	-0.2679	-0.2295	0.0156	0.1199	1.0000		

Table 5.8
Logistic Regression Analysis of Internal Armed Conflict-1

Independent Variables	Model 1	Model 2	Model 3
Corruption	.18 ^b (.11)		
Rule of Law		.31** (.13)	
Bureaucratic Quality			.23* (.12)
GDP per capita	-.44** (.18)	-.39** (.20)	-.36* (.20)
Population	.11 (.11)	.13 (.11)	.14 (.11)
Mountainous	-.002 (.01)	-.004 (.01)	-.003 (.01)
Noncontiguous	.95* (.50)	1.05** (.51)	1.00** (.49)
Oil exporter	.40 (.34)	.39 (.34)	.36 (.35)
Regime type	.26** (.11)	.24** (.11)	.26** (.11)
Regime type²	-.01** (.01)	-.01** (.01)	-.01** (.01)
Political Instability	-.61 (.38)	-.66* (.38)	-.64* (.38)
Ethnic Fractionalization	.13 (.53)	.20 (.53)	.25 (.56)
Religious Fractionalization	.65 (.70)	.63 (.69)	.82 (.67)
Ethnic dominance	.91*** (.29)	.86*** (.28)	.92*** (.28)
Discrimination	.31** (.12)	.28** (.12)	.33*** (.12)
Peace years	-1.15*** (.29)	-2.08*** (.29)	-2.15*** (.28)

Constant	.87 (1.83)	-.30 (2.06)	-.54 (2.26)
N	1578	1578	1578
Log Likelihood	-277.42	-274.78	-276.95

Notes: White robust standard errors adjusted for clustering over country appear in parentheses.
*** Significant at 1 percent, ** significant at 5 percent, * significant at 10 percent.
The cubic spline variables are included in analysis, but not reported here. ^b $p < 0.107$

Table 5.9
Logistic Regression Analysis of Internal Armed Conflict-2

Independent Variables	Model 4	Model 5	Model 6
Expropriation	.19*** (.07)		
Repudiation		.22***	
Quality-of-governance (Index)			.06*** (.02)
GDP per capita	-.39* (.20)	-.30 (.20)	-.24 (.20)
Population	.15 (.11)	.16 (.10)	.17** (.11)
Mountainous	-.001 (.01)	-.001 (.01)	-.002 (.01)
Noncontiguous	1.11** (.51)	1.13** (.53)	1.10** (.52)
Oil exporter	.35 (.36)	.34 (.35)	.25 (.35)
Regime type	.28** (.12)	.28** (.12)	.27** (.11)
Regime type²	-.01** (.01)	-.01** (.01)	-.01** (.01)
Political Instability	-.62 (.39)	-.61 (.38)	-.71* (.39)
Ethnic Fractionalization	.31 (.55)	.28 (.53)	.33 (.54)
Religious Fractionalization	.56 (.67)	.63 (.59)	.74 (.67)
Ethnic dominance	.93*** (.29)	.93*** (.27)	.95*** (.29)
Discrimination	.30** (.12)	.32*** (.12)	.30** (.12)
Peace years	-2.07*** (.30)	-2.07*** (.29)	-2.06*** (.30)

Constant	-.35 (1.98)	-1.37 (1.97)	-2.42 (2.31)
N	1540	1540	1540
Log Likelihood	-272.97	-272.96	-272.19

Notes: White robust standard errors adjusted for clustering over country appear in parentheses.
 *** Significant at 1 percent, ** significant at 5 percent, * significant at 10 percent. The cubic spline variables are included in analysis, but not reported here.

Table 5. 10
Robustness Checks-1

Independent Variables	Fixed effects	Fixed effects	Fixed effects	Rare Events Logit	Rare Events Logit	Rare Events Logit
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
Corruption	2.42*** (.68)			.54*** (.16)		
Rule of Law		.82** (.36)			.47*** (.18)	
Bureaucratic Quality			.22 (.48)			.18 (.17)
GDP per capita	-1.42 (2.49)	-.09 (2.04)	-.64 (2.02)	-.62** (.31)	-.79** (.32)	-.80** (.31)
Population	6.34* (3.89)	2.60 (3.46)	-.56 (3.31)	.27* (.17)	.25 (.15)	.24 (.17)
Mountainous				-.01 (.01)	-.005 (.01)	-.01 (.01)
Noncontiguous				2.11*** (.72)	2.38*** (.73)	2.11*** (.63)
Oil exporter				.12 (.64)	.24 (.65)	.14 (.68)
Regime type	.77** (.36)	.59* (.31)	.64** (.30)	.36*** (.14)	.31** (.15)	.32** (.15)
Regime type²	-.03* (.02)	-.03* (.02)	-.03* (.01)	-.02** (.01)	-.01* (.01)	-.01** (.01)
Political Instability	-2.06*** (.78)	-1.45** (.64)	-1.34** (.63)	-1.15** (.46)	-1.11** (.47)	-.92** (.44)
Ethnic Fractionalization				-.22 (.82)	-.32 (.76)	-.26 (.75)
Religious Fractionalization				1.60 (1.24)	1.51 (1.17)	1.57 (1.18)
Ethnic dominance				1.22*** (.42)	1.04** (.42)	1.06*** (.40)
Discrimination	3.44*** (.88)	3.09*** (.83)	3.01*** (.81)	.43** (.17)	.44*** (.17)	.51*** (.16)

Peace years	-2.16*** (.45)	-2.02*** (.40)	-2.15*** (.41)	-1.70*** (.27)	-1.70*** (.29)	-1.72*** (.28)
N	369	369	369	1578	1578	1578
Log Likelihood	-46.67	-53.12	-55.76			

Notes: White robust standard errors adjusted for clustering over country appear in parentheses.

*** Significant at 1 percent, ** significant at 5 percent, * significant at 10 percent.

The cubic spline variables are included in analysis, but not reported here.

Table 5. 11
Robustness Checks-2

Independent Variables	Fixed effects	Fixed effects	Fixed effects	Rare Events Logit	Rare Events Logit	Rare Events Logit
	Model 4	Model 5	Model 6	Model 4	Model 5	Model 6
Expropriation	.60*** (.20)			.29*** (.09)		
Repudiation		.68*** (.26)			.35*** (.10)	
Quality-of-governance (Index)			.27*** (.08)			1.00*** (.03)
GDP per capita	.25 (2.08)	.10 (2.06)	.32 (2.14)	-.73** (.29)	-.66** (.32)	-.49 (.34)
Population	5.94 (3.81)	3.40 (3.53)	8.72** (4.24)	.31* (.16)	.28* (.16)	.37** (.17)
Mountainous				-.01 (.01)	-.01 (.01)	.01 (.01)
Noncontiguous				2.21*** (.67)	2.44*** (.67)	2.30*** (.74)
Oil exporter				.21 (.59)	.30 (.62)	.04 (.63)
Regime type	.55** (.29)	.59* (.30)	.50 (.31)	.37** (.15)	.37** (.15)	.34** (.15)
Regime type²	-.02* (.01)	-.03* (.02)	-.02 (.02)	-.02** (.01)	-.02** (.01)	-.01** (.01)
Political Instability	-1.13* (.63)	-1.42** (.64)	-1.45** (.66)	-1.00** (.46)	-1.06** (.45)	-1.14** (.46)
Ethnic Fractionalization				-.07 (.75)	.01 (.75)	.06 (.78)
Religious Fractionalization				1.56 (1.15)	1.94 (1.20)	1.80 (1.21)
Ethnic dominance				1.20*** (.46)	1.31*** (.44)	1.26*** (.44)
Discrimination	3.20*** (.87)	3.07*** (.84)	3.18*** (.86)	.44** (.17)	.51*** (.17)	.43** (.17)

Peace years	-1.93*** (.39)	-1.94*** (.38)	-1.96*** (.40)	-1.70*** (.28)	-1.68*** (.29)	1.71*** (.29)
N	369	369	369	1540	1540	1540
Log Likelihood	-50.67	-51.93	-48.55			

Notes: White robust standard errors adjusted for clustering over country appear in parentheses.

*** Significant at 1 percent, ** significant at 5 percent, * significant at 10 percent.

The cubic spline variables are included in analysis, but not reported here.

Table 5.12
Summary of the Results by Hypothesis

Hypotheses		Supported (S)	Not Supported (NS)	Partially Supported (PS)
1	H1 (Corruption)			<i>S</i>
2	H2 (Rule of Law)			<i>S</i>
3	H3 (Bureaucratic Quality)		NS	
4	H4 (Repudiation)			<i>S</i>
5	H5 (Expropriation)			<i>S</i>
6	H6 (Quality of Governance)			<i>S</i>

6. Conclusions

In this section I will summarize the findings and elaborate on the contribution of my research for civil war studies. I will also highlight some of the limitations of this study and its implications for future research in the field.

This dissertation is an attempt to answer the following questions: Why are some countries afflicted by civil wars, in some cases multiple times; while others never experience one at all? What are the factors that increase a country's likelihood of experiencing a civil war? Do large scale civil conflicts emerge because of the grievances of the populace, or as a result of rational calculations and opportunities, or some combination of both? I have attempted to uncover the factors that best account for civil war incidences. In order to achieve this goal, I reviewed the literature and existing theoretical models of civil wars. In light of their insights I offered a comprehensive model of civil wars and tested it with time series-cross-national data. I also brought an important but neglected aspect of state capacity- namely 'quality of governance' - back to the civil war literature and tested empirically its contribution in predicting civil wars with the best data available to date.

As mentioned in the introduction, understanding the factors that shape intrastate wars and identifying the risk factors are essential in order for taking necessary measures for preventing and/or resolving existing civil wars. With this goal in mind, I conducted two sets of analyses.

In the first part of the analysis I tried to evaluate the contributions of various theories of political violence to determine which of the grievance and opportunity factors

make countries more prone to civil wars. It was assumed for a long time that people engage in violent collective action against the state either as a direct result of their sense of injustice or deprivation or because of the availability of opportunity structures and rational cost-benefit calculations. Even though my analyses were conducted at the level of the state and included only state level variables, I made the assumption that these results will be informative about the actions of the individuals participating in the insurgency since they form the rebel groups. Despite the limitations imposed by the data (or more accurately the lack of data), this has been the dominant approach in civil war studies for quite long time. My theoretical discussion was based primarily on two major theoretical frameworks: relative deprivation theory and opportunity/mobilization theory.

The proponents of relative deprivation theory argue that deprivation - originating from factors like inequality, discrimination, ethnic and religious divisions, repression - leads to the generation of grievances and results in domestic political violence. Therefore, they expect a direct association between the above mentioned grievance factors and the incidence of civil wars. On the other hand, following Olson's rational choice perspective, opportunity and mobilization theories predict that "deprivation and discrimination by themselves do not lead to rebellion" (Dudley and Miller 1998:81). Advocates of opportunity/mobilization theory claim that an individual's course of action is the result of the ratio of benefits to costs, and without selective incentives groups will remain latent and will not be able to achieve their objectives (Lichbach 1994, 1995, 1995; Moore 1995). Therefore, they *do not* hypothesize a direct association between grievance inducing factors and civil wars. Rather they emphasize the importance of factors that

affect the mobilization and organization of the rebellion and their linkage to civil war occurrence.

In the second part of the dissertation, I specifically examined whether or not quality of governance adds any additional leverage to our ability to predict civil war incidences. I utilized five proxies: rule of law, corruption, bureaucratic quality, risk of expropriation, and repudiation, in order to account for quality of governance and argued that low quality of governance will lead to the civil war incidence since it leads not only to the accumulation of grievances but also to creation of opportunities for the emergence of civil wars.

Taken together the findings of this dissertation indicate that would-be rebels need a motivation that will unify them and strengthen their identity. The grievances against the existing state of affairs due to repression, discrimination or ethnic dominance will generate willingness on the part of potential rebels to engage in anti-government activities. Therefore, these grievances form the backbone of insurgency movements. However, individuals need incentives and opportunities in order to be able to mobilize and sustain their fight against the government (Regan and Norton 2005).

The realization of the goals of the rebels may be eased by factors like the separation of territory from the center of the power. Similarly, when there is a large pool of potential rebels to recruit from, and to provide financial support to the rebel movement, then the mobilization process will be much easier. Lastly, a common identity is crucial for group formation. Civil wars or rebellions are large scale activities that require the mobilization of a large group of people to fight for a cause. Regardless of the motives of the rebels and the opportunities available, they will not act together unless

they are able to see themselves in the same camp and unified by some common identity (Lujala et al. 2005).

To account for the extent of resentment in the society, I accounted for the objective conditions that are believed to determine the level of frustration or satisfaction of the people. As expected, the levels of collective violent behavior seem to vary directly with some (not all) of the objective conditions that generate popular discontent. While the expectation of a high correlation between some objective indicators of deprivation (i.e., gender inequality, income inequality, and religious discrimination) and collective violence is not satisfied in the empirical testing, some other factors of discontent (i.e. repression, discrimination, and ethnic dominance) appeared to be highly significant predictors of civil wars. Furthermore, my results indicated that there is a direct link between opportunity factors and civil war. It appears that relative deprivation provides the psychological impetus ('fuel of revolutionary fire' in Moore and Jagger's [1990] terms) for collective action, but in order for aggravation to transform into violent collective action certain macro level conditions and opportunities (e.g. being distant from the state center, recruitment, money, leadership etc.) are also needed.

My results also show that neither theory is capable of providing a completely satisfactory explanation of the emergence of large scale political violence. Each theory emphasizes certain aspects on the road to violence and treats all others as secondary. While relative deprivation cannot explain the mobilization process, opportunity theory does not account for why people choose to participate in the collective action. It is reasonable to assume that some level of political grievance and the potential for unrest exists in all societies. However, this unrest or frustration does not always lead to, or reach

the level of, political violence or more specifically, civil war. “Not until substantial pressures for economic and political changes have risen to a threshold level is such latent unrest qualitatively transformed into manifest political unrest in the forms of political demonstrations and civil obedience” (Parvin 1973: 271). This is where opportunity structure, political context and the relative capabilities of rebels versus the state enter into equation.

In other words, grievances can be an important source of frustration and motivation but the mobilization of rebel groups depends on the opportunities that are available to the frustrated populace. I perceive motivations as an essential part of domestic political violence and civil wars; however for a civil war to take place the aggrieved populace require opportunities and need to believe that violence is a viable and effective option (McAdam 1982).¹ I argue that rebel groups can be deprived but at the same time they can be rational and opportunity takers as Lindstrom and Moore (1995) suggest. In this perspective hostile groups engaging in political violence are not perceived as less rational than others who do not partake of violence. Being frustrated or, angry does not automatically make people irrational; they can still make the cost-benefit analysis and decide whether violence is a proper response (White 1980). The two theories are often viewed as rival or competing explanations for civil wars, but both relative deprivation (grievance) and opportunity (mobilization) have made significant contributions to our understanding of the dynamics of civil war and appear to be complementing one another in my study.

Most studies in the literature favor one line of argument (either resource mobilization/opportunity or relative deprivation/grievance) and most efforts have been to

¹ For similar approaches see Muller (1985), Eisinger (1973), and White (1989).

determine which approach has greater explanatory power in predicting domestic political violence and civil strife (e.g. Lichbach 1989, 1995; Muller and Weede 1990, 1994; Collier and Hoeffler 2004; Fearon and Laitin 2003). In order to account for the complex relationships behind the emergence of civil strife it is essential to develop a more general theory of political conflict, which combines the psychological aspects of the relative deprivation argument with the structural and organizational approach of mobilization theory. There is growing evidence in the literature, however, that “relationships among grievances, mobilization and opportunities are interactive in determining” the domestic violent activity (Saxton 2005: 107). We need to understand the interaction “between the environment, understood in terms of the notion of a structure of political opportunities, and political behavior” (Eisinger 1973: 12) by synthesizing the relative deprivation and mobilization/opportunity theories (Snyder 1978; Korpi 1974; Moore and Jagers 1990; Gurr 1993b, 2000; Ferree and Miller 1985; Law and Walsh 1983). Isolating grievance motivations from opportunity factors does not appear to be the best strategy in explaining the complex dynamics behind civil wars, from either a theoretical or empirical perspective.

Unlike the first part of the data analysis, in the second part my focus was narrower: I examined one aspect of state capacity that has been long neglected. I examined whether or not the quality of governance provides any additional leverage to our ability to predict civil war incidences. I tried to go beyond the simple understanding of the state based on its coercive power and provide a theoretical model and empirical test of the role of quality of governance in preventing civil war incidences. Given that hitherto no one has performed a systematic and thorough analysis of quality of

governance, this analysis fills an important gap in the civil war literature. I found that ‘quality of governance’ identified as level of corruption, rule of law, expropriation risks, and the repudiation of contracts is a significant predictor of civil wars. Based on the results of the empirical test conducted with Fearon and Laitin’s (2003) data, bureaucratic quality does not appear to have a systematic relationship with civil war incidences. Bureaucratic quality seems to be very sensitive to the data and operationalization. I argued that the governance of a state matters just as much as its financial and military capabilities when it comes to keeping citizens relatively satisfied and loyal to the state. State capacity and governance are issues that are under-theorized in the civil war literature, and this line of inquiry should be encouraged given that it can be beneficial not only to the academic community but also to policy makers.

Overall my findings can be summarized very briefly as follows: There is a complex mechanism behind the domestic violence. A non-contiguous, ethnically dominant, populous, repressive, discriminatory, and economically less developed country has a good chance of experiencing a civil war incidence. While discrimination, repression, and the domination by an ethnic majority will lead to the generation of grievances among minorities, the large size of the labor pool, low opportunity cost of rebellion, distance away from the state center and deleterious economic conditions will provide the opportunities for people to engage in civil wars. In addition, countries with good quality of governance are more likely to avoid civil wars than the ones with low quality of governance.

6.1. Limitations of the Study, Implications and Future studies

The conclusions of this dissertation are far from pessimistic about the emerging literature on the determinants of civil wars. Scholars who participated in this debate offer important theoretical and empirical insights about why civil wars occur in some countries but not in others. However, it is important to be aware of the fact that drawing reliable conclusions on this issue is challenging for any researcher due to various reasons.

First of all scholars' ability to test theoretical models is significantly limited due to data availability. As mentioned in the research design chapter, conflicts are commonly defined according to battle related deaths. In other words the level of violence is the most important defining characteristics of internal conflicts. For example civil wars, commonly defined as internal conflicts with more than 1,000 battle-related deaths, while 'minor armed conflicts' are the ones with more than 25 battle related deaths. However, in civil wars civilians constitute the majority of the fatalities and the exact data on the number of fatalities is very difficult to obtain (Collier and Hoeffler 2001; Cairns 1997; Herbst 2001). Given the importance of the number of fatalities for our conceptualization, data set and results, it is essential to be aware of the limitations and problems in the data sets and coding process.

Similar problem exists in the measurement of economic inequality. Not only there are many countries (especially less developed ones) with either no data or very limited data points, but also the quality of the data is questionable. Besides this, the variance in economic inequality is not sufficient to account for the variance in potential conflict (Moore et al. 1996). Therefore, we need better indicators measuring economic inequality to be able to offer more convincing evidence.

Another data problem is about the discrimination (political, economic and cultural) indicators. These variables are available in the (group based) MAR data set but the cross sectional data coverage is limited to the 1980s and 1990s. Similarly, Fox's coding of religious discrimination is only available for the 1990s. Given the importance of discrimination for the relative deprivation theory we need to continue our efforts to collect better data that accounts for the various dimensions of inequality (including religious, cultural, political, economic, gender and racial).

Other important data related issues are the selection of the unit of analysis and the use of objective versus subjective data. "Movements may occur in broad macro context, but their actual development clearly depends on a series of more specific dynamic operating at the micro level" (McAdam 1988:127). While objective socioeconomic conditions and aggregate measures can give us some idea about the society, they have limited power in accounting for individual's beliefs, perceptions and their psychological states. Therefore, especially in order to test the utility of relative deprivation theory for which the individual-level psychological interpretations of reality carry a great deal of importance, we need to develop a model that encompasses not only objective conditions but also perceptual indicators of relative deprivation and subjective estimators of inequality at the individual level.² The difficulty of obtaining individual level data makes this theory resilient to empirical testing. Recall that just like others, given the data limitations, I chose to use objective indicators (Ellina and Moore 1990). However, I am fully aware of the fact that widening our perspective and conducting individual-level

² Sigelman and Simpson (1977) make the same suggestion.

investigations (like Inglehart [1997])³ will allow us to account for the differences between states, communal groups, and also individuals. As Rule (1998) points out, deprivation is about perceptions, expectations, evaluations, and temporal comparisons of individuals and it is fundamentally socio-psychological. Assuming that the mental process of various groups -like ethnic, racial, or religious- are the same and that they will react to inequality or discontent in the same way will seriously limit our studies (Davis 1969; Dudley and Miller 1998: 74; Rule 1988). Therefore, including individuals as the unit of analysis through surveys and measuring deprivation directly will increase our ability to assess their levels of deprivation and its contribution to predicting civil wars.

Furthermore, even when the data of some sort is available, different proxies and operationalizations are used to measure and test concepts. When the difference in the data coverage is added to this, it becomes very challenging to make robust, far reaching generalizations and conclusions with regard to the determinants of civil wars. However, the existence of different measurements, operationalizations, fragile measures, and contradictory and weak results should encourage, rather than discourage, researchers. Keeping in mind that there might be various theoretical mechanisms at work and that the underlying processes of civil wars are complex, we need to continue developing and sharpening our ideas and theoretical mechanisms and testing them with the best available data (Hafber-Burton 2005).

My study demonstrates the existence of direct unidirectional linkages between motivations, opportunities, and the emergence of civil wars, but it is incapable of exploring the interactive dynamics (like testing the effect of repression and grievances in

³ One of his purposes in this book is to use the World Values Survey to investigate the inclination of people to support and join protest movements. He finds that the change in people's values and behaviors is due to economic development and modernization.

activating mobilization and all of their collective impact on the emergence of domestic civil strife) and causal mechanism underlying the observed patterns. For example, based on empirical evidence we are almost sure that poverty and economic decline increase the risk of civil war. The significant coefficient of GDP per capita is useful in linking economic development to civil war; however, we do not really know *how* this happens exactly. Does poverty increase the risk of civil war because it significantly increases the grievances of disadvantaged or excluded groups in the society or is it because poverty decreases the opportunity cost of civil war for the potential rebels as Collier postulated? (Ballantine 2003). Similarly, we are far from achieving an understanding of the causal mechanisms behind negative sanctions and domestic violence. How does it affect the emergence of large scale collective violence? Through comparative case studies, process tracing, and multidirectional models, it might be possible to understand not only the particular causal mechanisms behind civil wars but also the interaction between various variables. “The empirical literature on political violence is sufficiently rich to enable us to begin to do case-specific time-series analyses, and test whether the results which have begun to converge in the cross-national studies help us explain the patterns of political violence in specific case contexts” (Ellina and Moore 1990: 275). This line of inquiry will definitely be useful in understanding existing wars and also in preventing future conflicts.⁴

In addition given the limited temporal domain, it is essential to be cautious about the generalizability of the findings in the dissertation. I believe that my arguments are grounded in a strong theoretical foundation. However, like all theories, it needs to be

⁴ For example Lindstrom and Moore (1995); Gurr and Moore (1997), Moore and Gurr (1998), and Saxton (2005) utilize multicausal, Gurr (1993a, 1993b, 2000), and Moore and Gurr (1998) utilize unicausal approaches.

tested using the best data available. Currently, there are no additional data on governance available that includes more countries and covers a longer time span. Future studies may extend this analysis by increasing its domain, and by incorporating better measures.

Last, but certainly not least, even though the underlying principles of democracy assume accountability, openness, transparency and equality, equal access to political process, and the fair application of laws, democracies are by no means immune to violence, corruption, or violations of the rule of law. Not all democracies provide the same levels of freedoms and participation. While Bolivia “performs remarkably well as far as elections and political rights are concerned” and “essential freedoms are respected to a quite satisfactory degree”, its Transparency International score is low indicating high levels of corruption (Hadenius and Teorell 2005: 87-106). Even though democracy “favors good governance” (Plattner 2004: 108); “many democracies fall short of many autocracies in the provision of public services or the protection of human and economic rights” (Keefer 2005: 2). Therefore, democratization should be encouraged, but it is important to keep in mind that is not a sufficient condition for preventing social conflicts.

Along similar lines, Brown (2001: 8) and Reynal-Querol (2002a, b) argue that the prospects for conflict in a country is influenced by not only the type of the regime but also the stability, fairness, and inclusiveness of its political system. Even in democratic regimes the existence of inadequately represented groups can cause resentment and bring the system’s legitimacy under scrutiny (Harff and Gurr 2004). Responsive and more highly inclusive systems such as proportional systems are found to be less conducive to civil unrest (Cohen 1997; Saideman et al. 2002; Reynal-Querol 2005; Powell 1982). Political institutions “lay out who is eligible to make decisions in some arena, what

actions are allowed or constrained, what aggregation rules will be used, what procedures must be followed, what information must or must not be provided, and what payoffs will be assigned to individuals dependent on their actions” (Ostrom 1990: 51). Therefore, institutions including the electoral system, voting thresholds, related choices with regard to the aggregation of votes, representation of minority interests, checks and balances will have strong influence on the way citizens and various groups perceive the existing system (credible, legitimate etc.) and their preference in choosing the appropriate channels for the resolution of their grievances. As Lijphart (1977, 2004) and Horowitz (1985) indicate the purpose of institutional design is to minimize power competition between groups and facilitate political reconciliation, elite bargaining, and moderation. Therefore there appears to be a direct link between institutions and civil war incidence, but “empirical work on the importance of political system in explaining civil wars is scarce” (Reynol-Querol 2002: 36). The effects of institutions on civil war will be the focus of my post-dissertation research agenda.

Lastly, this research is exclusively about the violent domestic conflict in the form of civil wars. It is well known that the mechanisms behind protest (non-violent) and civil strife (violent) are different (e.g. Regan and Norton 2005). Therefore, the basic dynamics that are found to affect the likelihood of violence are not expected to affect non-violent domestic conflict in a similar fashion. Understanding the causes of violence can be useful for leaders so that they can try to prevent the emergence of conditions that are likely to result in violent collective action.

In sum, my research shows that despite all the impressive research that has been carried out, there remains an obvious need in the literature for rigorous studies that link various individual and aggregate conditions to the emergence of civil wars.

6.2. Policy Implications

By definition, civil wars are extreme forms of political violence. They are a complex amalgam of motivations, interests, and opportunities. Therefore, finding an effective strategy and “the right mix and balance of policy responses remains an abiding challenge for those who seek the resolution and prevention of armed violence” (Ballentine 2003: 280). Finding the causes of civil wars will be an important step in preventing these destructive conflicts from occurring or in controlling its scope after it emerges.

My empirical analysis leads me to argue that the best strategy to reduce the risk of civil wars is a *multifaceted* one. In other words, it should be based on multiple pillars: economic development, alleviation of real or perceived grievances, and political liberalization.

Given the importance of economic conditions and poverty on the incidence of civil war, policy makers should focus on devising ways to stimulate economic development and reduce poverty so as to prevent conflicts from occurring. As economic conditions improve in a country, the state gets stronger and the opportunity cost of rebellion becomes correspondingly higher. This implies a significant decrease in the supply of potential rebels. Even though scholars fail to agree on a common set of factors and causal model, there is consensus on the importance of economic development.

Similarly, repression, discrimination and ethnic dominance are all significant in affecting the likelihood of civil wars. When some group feels discriminated or oppressed by the majority, their grievances will accumulate and they will be more likely to rebel. Therefore, governments should guarantee political equality to their citizens, refrain from suppressive acts, and treat all citizens with respect and fairness. Murshed (2005: 14) states that “post war allocations need to be envy-free in order them to endure”.

Also donor countries and international financial organizations should base their aid and loans on the condition that political reforms- ensuring political equality, effective government and ‘good governance’ - are undertaken in order to avoid fueling civil conflicts in needy recipient countries. Specific steps should be taken to reduce corruption, improve fiscal accountability and implement merit-based recruitment and promotion in the civil service. The existence of official legitimate institutions can accommodate the demands of diverse publics, promote the interests of minorities, channel more extreme forms of dissent into peaceful mechanisms, confer legitimacy on the government and its actions, improve the human rights situation, and limit the extent of political repression.

This dissertation ends with an old and familiar refrain. There remains much to be done to prevent future conflicts and I am fully aware that broaching solutions is much easier than attempting to implement solutions under real world crisis conditions. Preventing future conflicts will definitely continue to be a real challenge for policy makers.

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