

THE PENNSYLVANIA STATE UNIVERSITY  
SCHREYER HONORS COLLEGE

DEPARTMENT OF POLITICAL SCIENCE

CIVIL WARS THAT CARE

ELIZABETH ALIEH MASGARHA  
FALL 2012

A thesis  
submitted in partial fulfillment  
of the requirements  
for a baccalaureate degree  
in Political Science  
with honors in Political Science

Reviewed and approved\* by the following:

Douglas Lemke  
Associate Professor  
Thesis Supervisor

Gretchen Casper  
Associate Professor  
Honors Adviser

\* Signatures are on file in the Schreyer Honors College.

## ABSTRACT

The consequences of intra-state war have both short and long-term effects, affecting the region before, during, and after the fighting ends. The immediate devastation caused by the hostilities tends to overshadow post-war recovery, as the state is unable wash away the lingering taste of violence. This study examines 103 civil wars cases, extending from 1901 to 2002, to see if the consequences produced vary based on the outcome. The review recognizes the negative impact caused by intra-state war, but suggests that positive consequences could also grow from war. The regression results suggest there is no significant relationship between civil war outcome and consequence. The majority of correlations were unable to establish a positive *or* negative relationship, implying that civil wars are neither good nor bad.

## TABLE OF CONTENTS

List of Figures .....	iii
List of Tables .....	iv
Acknowledgements.....	v
Chapter 1 Introduction .....	1
Chapter 2 Literature on the Consequences of Civil War .....	2
Social Welfare.....	2
Economic Interests.....	4
Political Climate.....	5
Where That Leaves Research Now .....	6
Chapter 3 Theory .....	7
Opposition Victory.....	8
Government Victory .....	10
Negotiated Settlement .....	11
External Guarantor .....	12
Chapter 4 Research Design.....	13
Independent Variables.....	14
Dependent Variables .....	17
Chapter 5 Findings.....	19
CINC Score .....	19
Infant Mortality .....	21
Polity .....	23
War Recurrence.....	24
Chapter 6 Conclusion.....	25
REFERENCES.....	26

## LIST OF TABLES

Table 3-1: Civil War Consequences: Opposition Victory Outcome.....	8
Table 3-2: Civil War Consequences: Opposition Victory Outcome.....	10
Table 3-3: Civil War Consequences: Negotiated Settlement Outcome.....	11
Table 3-4: Civil War Consequences: External Guarantor Outcome.....	12
Table 5-1: Civil War Outcome and CINC Score.....	19
Table 5-2: Civil War Outcome and the Rate of Infant Mortality.....	21
Table 5-3: Civil War Outcome and Polity.....	23
Table 5-4: Civil War Outcome and War Recurrence.....	24

## ACKNOWLEDGEMENTS

You were my introduction to Political Science when I started at Penn State. Your patience carried me the past four years, teaching me how to provoke questions and tease conclusions. When I was late, you were on time. When I was unsure, you were convinced. And when I did not know where to go, you sighed quietly, and showed me where to put my feet. Not everyone is used to having someone do those things for them.

I cannot express how much I appreciate you Dr. Lemke, but I will always try.

## **Chapter 1**

### **Introduction**

Over the years, civil war literature has moved from describing what causes civil wars, to what prolongs civil wars, to what ends civil wars. One focus of intra-state war is geared towards understanding the relationship between conflict and the consequences they generate. There is an overwhelming amount of evidence illustrating the negative economic, social, and political destruction caused by the occurrence of war, but nothing to hint that the opposite might be true.

It is clear that civil wars do lead to negative consequences; however, there is reason to investigate whether the outcome of every civil war results in the same destructive ends. I believe that consequences are a function of outcome and that certain outcomes can produce positive results for areas affected by civil war. The purpose of this thesis is to see if specific civil war outcomes yield specific consequences. The first chapter discusses past and present literature on outcome, before moving to the theory and research design sections, which introduce a classification system used to separate four types of civil war outcome. I run a series of regressions using a dataset I created, so that I could isolate the effect of each outcome separate from one another. While my results did not support my initial predictions, they do provide information I had not considered before, leaving me with more questions than I started with and a number of adjustments to improve my research.

## Chapter 2

### Literature on the Consequences of Civil War

#### Social Welfare

I begin my analysis with the literature detailing the social costs of intra-state war. At the heart of examining the social consequences, is the desire to illustrate how the population within the state is effected from this particular category of war. The Correlates of War Intra-State War Codebook sets a threshold for the total number of fatalities that must be reached, in order for the conflict to be considered an intra-state war:

In order to be classified as a civil war, the central government should be actively involved in military action with effective resistance for both sides, and there should be at least 1000 battle related deaths during the civil war... both sides must have been initially organized for violent conflict, or the weaker side must be able to inflict upon the stronger opponents at least five percent of the number of fatalities it sustains. (Sarkees, 2012: pp. 2-3).

The total number of fatalities measures conflict severity by relaying an aspect of violence caused by the fighting. This became a common measurement used to evaluate the impact a civil war had on a population, as no two wars take the same number of lives. However, this variable provides a crude understanding of the social repercussions a state endures and fails to provide specific details about the war about, apart from the number of people killed. We risk misinterpreting the impact of a civil war because one with 600,000 fatalities, like the United States Civil War of 1861, does not compare to a war with almost 1 million fatalities, like the Rwanda Civil War of 1994 (Civil War Trust, 2012; GlobalSecurity.org, 2012).

Literature evolved substantially using evidence to link certain civil war consequences to certain outcomes, particularly the likelihood of war recurrence. Holbrooke (1998) advocated third-party intervention could result in an increased likelihood of cessation of hostilities. Walter

(2002) expanded upon this idea and drew a distinction between civil war outcome by classifying types of negotiated settlements. She found 100 percent of negotiated settlements with the presence of a third-party guarantor, from 1940 to 1990, were successful in preventing later civil wars from ensuing. Moreover, even when the guarantor withdrew, settlements were still able to maintain the peace (Walter, 2002). We see from these two studies how the outcome of a civil war can have the potential to reduce the total social cost of war.

Divisions in types of civil war outcome continued when *Draining the Sea: Mass Killing and Guerilla Warfare*, provided an important separation in the types of deaths that occur as a result of civil war, such that there is now a specific definition for mass killings versus genocide (Valentino, Huth, and Balch-Lindsay 2004). Yet the division mentioned in the data, describes these types of death to stem from a difference in military strategy, rather than a specific consequence of how the war ended.

A new direction emerged as political scientists began observing how civil wars influenced human health and security, by measuring the: ability of the state to provide medical infrastructure, availability of basic services, level of monetary diversion from the public health sector, ability to control disease, and destruction done to the environment (Iqbal 2006). Consideration of these variables permits a more thoughtful assessment of the consequences produced by intra-state war and examines the quality, not quantity, of life. Iqbal (2006) found that the duration of a civil war substantially impacted health levels and this devastation increased with time. In this case, outcomes with a higher probability of maintain peace like those with an external guarantor would reduce the overall impact of war on the health sector.



## Economic Interests

Two schools of thought grapple with the economic aftermath of intra-state wars. According to the *War Ruin* theory, the economic climate of a state is affected like smallpox, leaving an unwanted impression. Collier (1999) describes the negative effects a civil war has on the state by means of “destroying, disrupting, diverting, and depleting national resources.” In a later study, Collier (2003) estimates a state faces a 15 percent loss in GDP had the conflict never taken place. Damage to the state’s infrastructure disables: medical and governmental facilities, communications, roads, and increases the penalties of war as both sides experience a loss in revenue rather than just fail to make profit (Stewart, Huang, Wang, 2001). This comparison is done with data reported over a time span of 5-10 years before the civil war occurs and then immediately after the war is terminated. As a result, the correlations being drawn to describe *post-war* consequences use *pre-war* information, without incorporating post-war recovery in the data. The effects of civil war move outside the state as bilateral trade has been shown to suffer among trade partners. Foreign direct investment and high levels of capital mobility are usually the first to leave the country as the symptoms of conflict begin to surface (Stewart, Huang, Wang, 2001). Business expenses grow because violence increases instability, which increases the cost of security, transportation, and communication (Olson, 1993). The outbreak of a civil war also taints the future reputation of the state’s credibility, as the potential for war recurrence increases dramatically after the first one (Fearon and Laitin, 2003).

Opposite to the *War Ruin* model, the *War Renewal* theory views civil war as a chance for the state to redefine itself after the conflict has subsided. Organski and Kugler (1977) describe a phoenix effect, where countries devastated by one or more major international wars, were able to rebuild their economies and grow faster than what might have been expected given prewar growth rates. The reconstruction of infrastructure creates new industrial plants, factories, and

buildings reflective of modern technology and facilitates a more efficient economic environment (Olson, 1982). The phoenix effect has been associated with interstate wars, but there is little research suggesting intra-state wars witness the same effect.

### **Political Climate**

Most would assume that democracies are far less likely to have civil wars, in addition to other violent acts, such as genocide or mass killings. Holbrooke (1998) explains that a successful democracy depends on the government being accessible and accountable to the population it serves. Countries where government power is gained through military force or corruption, lack legitimacy and become very susceptible to rent-seeking officials who consolidate power among a select few. Additionally, these bureaucrats purge the country of its resources and leave the majority of the population well below the poverty line. The most prevalent example was in the late 1960s, the Nigerian-Biafran War, in which tensions between the regional provinces initiated by the Igbos in control of the southeast territories, produced war with the central government. This clan had already exploited their own political structure to amass all of the wealth accumulated from oil in their area and sought to control all of Nigeria. The effects of the civil war has left the country war-torn and in continued political fractionalization (WorldSecurity.org, 2012). Coupling Holbrooke's explanation with Nigeria's current political instability, we see how essential it is for government to establish transparent procedures that guarantee peaceful transitions of power, accessibility, and accountability. Despite a legitimate attempts to make the government accountable to the population, only 9% of the civil wars in the COW Intra-State Dataset result in oppositional victories. Of those, only a handful of these new governments are successful in reforming former policy to initiate a greater respect for rule of law, political participation and checks and balances (Kang and Meernik, 2004). Governments that are able to

make the transition, provide a more secure and profitable environment for investment, entrepreneurship, and capital formation through the implementation of these policies.

### **Where That Leaves Research Now**

I have cited an array of studies that document the different costs of civil war. The purpose in describing such a vast culmination of literature is to provide the necessary background and explain where my hypothesis stems from. I hope to have adequately detailed the potential outcome has as a causality influencing the consequences of civil war; and while research has yet to specifically cite such a correlation, the possibility has been presented on numerous occasions.

## Chapter 3

### Theory

I theorize that post-civil war countries have the potential to experience positive consequences from civil wars depending on how the war ended. I separate outcome into four categories: (i) if the war resulted in an opposition victory, (ii) if the war resulted in a government victory, (iii) if the war resulted in a negotiated settlement (iv) if the civil war ended in a negotiated settlement with an external guarantor. I present a table describing each outcome and their correlation to four traditional measures of intra-state consequence: National Materials Capability score (CINC)<sup>1</sup>, Polity<sup>2</sup>, War Recurrence, and the Rate of Infant Mortality. The variables measuring consequence are hypothesized to improve (↑), worsen (↓) or (→), measured immediately after the war ends, 5-years following, and 10-years following.

The purpose of drawing a distinction between outcomes (i) and (ii) is to examine if a civil war that ends in a decisive military victory produces different consequences based on who the winning party is. Table 3-1 proposes a series of positive consequences to follow when the Opposition is victorious, while Table 3-2 identifies a number of negative consequences resulting when the Government wins. Outcomes (iii) and (iv) serve to attribute separate civil war consequences depending on the parties involved in the settlement. Table 3-3 anticipates negative consequences to occur when there is no external guarantor present and positive consequences to occur if one is, in Table 3-4.

<sup>1</sup> The Correlates of War Project (COW) combines these six indicators: total population, urban population, iron and steel production, energy consumption, military personnel, and military expenditure. From these values, an annual score is generated for each state using the Composite Index of National Capability (CINC) from 1816-2007. Data can be accessed at: <http://www.correlatesofwar.org>

<sup>2</sup>Using a 21-point scale, a country receives an annual Polity score ranging between -10— +10. Scores are based on the democratic and autocratic qualities exemplified by the central governing institution; -10 describes a fully autocratic regime and a +10 represents a free democracy. Data can be accessed at: <http://www.systemicpeace.org/polity/polity4.htm>

### Opposition Victory

Table 3-1: Civil War Consequences: Opposition Victory Outcome

Variables	Immediately After	5 Years After	10 Years After
CINC Score	↓	↑	↑
Polity	↑	↑	↑
Infant Mortality	↑	↓	↓
War Recurrence	↓	↓	↓

It is widely recognized that the presence of a civil war indicates a level of instability within a country. Licklider (1995) provides empirical evidence to suggest a decrease in the probability of war recurrence when the outcome results in a decisive victory over a negotiated settlement. Peace is expected to be more stable in states where a decisive victory occurred, as tools used to prevent war recurrence such as U.N. peacekeepers, were sent to wars that ended in a stalemate rather than those with a clear winner (Fortna, 2004). The War Recurrence variable is predicted to decrease specifically for an Opposition decisive victory, because it is more likely the new government will be far removed from the old one. Whereas a Government Victory could mean the annihilation of the rebels with no effort to address the underlying causes of the war (DeRouen and Sobek, 2004).

The Polity Score is predicted to rise, reflecting a more democratic government if the opposition is able to capture the state. The implication of Olson's (1982) argument can be extended to propose that the new leadership will be much more inclined to reinvent itself through fair and efficient legislative policy, as a way to assert legitimacy. An Opposition Victory gives the state the opportunity to diffuse the concentration of power and reduce common practices of the old regime, such as rent-seeking and unfair resource distribution (Olson, 1982). Eager to bolster confidence with the international community and attract foreign investors, the government

created after an Opposition Victory might implement pro-democratic policies to demonstrate its sincerity (Kang and Meernik, 2004).

Table 3-1 suggests the CINC score will decline immediately after the war ends because resources are being diverted towards the reconstruction of the state and away from production (Collier, 1999). CINC score is used instead of Gross Domestic Product because this figure did not exist before World War II, and the first case described in the dataset begins in 1901. The COW Project and numerous other studies, confirm a very high correlation rate between GDP and CINC, as this variable was designed to be an economic indicator (Singer, Bremer, Stuckey, 1972). Organski and Kugler (1972) found evidence suggesting countries devastated by major international wars were able to rebuild their economies and grow faster than might be expected given prewar growth rates, known as the “Phoenix Factor.” Opportunities for innovation increase during reconstruction because the destruction of old industrial plants and infrastructure during the war, allow for modern facilities to be built, increasing the amount of revenue for the state (Olson, 1982). Therefore, CINC measured at 5 and 10-years out is hypothesized to increase.

Infant Mortality increases right after the civil war ends because violent conflict simultaneously creates casualties of war and reduces the capability of states to provide adequate healthcare. Destruction to the state’s infrastructure, refugee flows, and inadequate healthcare services, handicaps the level of health experienced by a population (Iqbal 2006). When measured at 5 and at 10-years after the war, the rate of Infant Mortality is predicted to decrease, as Iqbal (2006) found that states with higher GDPs have higher levels of public health. The presence of war reduces a population’s overall level of health, as each additional conflict took seven months off a state’s HALE.<sup>3</sup> For civil wars that end in Opposition Victory, Table 3-1 predicts CINC and War Recurrence to decrease like Infant Mortality, in support of Iqbal’s findings.

<sup>3</sup>Health Adjusted Life Expectancy (HALE) is a variable that represents deviations from life expectancy at birth. Iqbal uses this variable to determine life expectancy rather than traditional mortality rates.

### Government Victory

Table 3-2: Civil War Consequences: Opposition Victory Outcome

Variables	Immediately After	5 Years After	10 Years After
CINC Score	↓	↓	↓
Polity Score	↓	↓	↓
Infant Mortality	↑	↑	↑
War Recurrence	↑	↑	↑

Contrary to the hypotheses for Opposition Victory, the post-war environment for the outcome Government Victory is much more volatile because the risk of war recurrence increases substantially after the first civil war (Collier, 1999). The presence of war demonstrates the state's inability to control its territory and the government's failure to address internal concerns (Stewart, Huang, Wang, 2001). The government is reluctant to address the problems that initiated the conflict, because the government can annihilate the opposition and retain the convenience of only answering to the interests of those in power. This may prompt rebels to pursue strategies that would pause the conflict rather than to give up entirely, such as diffusing themselves among the civilian population until they are able rearm and renew the conflict (Walter, 1997). In that regard, the probability of War Recurrence is predicted to remain high, as rebels believe victory is essential if they are achieve their goal. Factors contributing to the instability within the state reduce the Polity and CINC score at all three time intervals, while the continued violence keeps the Rate of Infant Mortality at higher levels across the table.

### Negotiated Settlement

Table 3-3: Civil War Consequences: Negotiated Settlement Outcome

Variables	Immediately After	5 Years After	10 Years After
CINC Score	↓	↓	↓
Polity Score	↓	↓	↓
Infant Mortality	↑	↑	↑
War Recurrence	↑	↑	↑

Although the opposing sides demonstrate a desire to cooperate when civil wars end via negotiations, the majority of compromises are never signed, or they break down shortly after being reached (Walter, 2002). The parties involved know they will benefit by cooperating, but each group stands to gain more by cheating, especially if their opponent continues to abide by the agreement. The breaking point for most negotiations occurs when rivals dismantle their military and integrate forces. Combatants become extremely vulnerable as their former opponents have the option to renege and launch an attack. This makes compromise too risky to follow through with for on both sides and the settlement eventually collapses (Walter, 1997). Unable to overcome the security dilemma described by the credible commitment problem, I hypothesize the Negotiated Settlement outcome to have the same relationship with Polity, Infant Mortality, CINC score, and War Recurrence as the Government Victory outcome.



### External Guarantor

Table 3-4: Civil War Consequences: External Guarantor Outcome

Variables	Immediately After	5 Years After	10 Years After
CINC Score	↓	↑	↑
Polity	↑	↑	↑
Infant Mortality	↑	↓	↓
War Recurrence	↓	↓	↓

The probability of War Recurrence is hypothesized to stay at lower levels, given the presence of an external guarantor. Walter (2002) found settlements with third-party intervention to be more successful at preventing war recurrence than are other type of settlement. An outside monitoring force ensures that participants will uphold their side of the agreement, allowing rivals to overcome the credible commitment problem. Polity remains at high at each time measurement, because the treaty should establish a set of rules and regulations. This details how the new government is supposed to function and increases the transparency of the state (Walter, 1997).

The only variables predicted to suffer are CINC and Infant Mortality. This takes place immediately after the civil war ends due to the spillover effects caused by the initial conflict (Collier, 2003; Iqbal, 2006). 5 and 10-years following the war's end, these variables are hypothesized to improve, based on the stability provided by the external guarantor.

## Chapter 4

### Research Design

The aim of this thesis is to present and test the theory that specific civil war outcomes yield different consequences. The analysis includes civil wars from Barbara Walters' Civil War Resolution dataset and from the 4.0 Correlates of Intra-State War dataset, starting in 1901 going up until 2002. I stop at 2002 because I intend to measure each of variable 10-years after the civil war ends. I will be excluding all wars that are currently ongoing, because each civil war case must have a recognizable outcome in order to be divided into one of the outcome categories.

A civil war will be coded using the Correlates of War Intra-State war definition. Each case must have at least 1,000-battle deaths within a given year. Both sides must have been initially organized for violent conflict, with the weaker side able to inflict at least five percent of the total number of fatalities, ruling out a one-sided massacre.

The consequences associated with each civil war outcome will be measured immediately after the civil war ends, 5-years after, and 10-years after. Every civil war case will have an outcome that falls into one of these four categories: (i) if the war resulted in an opposition victory, (ii) if the war resulted in a government victory, (iii) if the war resulted in a negotiated settlement, (iv) if the civil war ended in a negotiated settlement with an external guarantee. These war-ending types will be the independent variables in the study.

Outcomes (i) and (ii) are subsets of the civil war outcome of decisive military victory, while outcomes (iii) and (iv) are divisions of the civil war outcome known as negotiated settlement. Using Walter's definition, a decisive military victory is only valid if one side is successful in convincing the opposition to cease-fire without demanding any major concessions in

return, and in that event control of the state's resources is given to only the winning side (Walter 1997). Concessions made from either side would denote levels of compromise and the outcome would become a negotiated settlement rather than decisive victory. Outcomes (i) and (ii) are divided based on who wins the war, to examine if positive consequences can be linked to Opposition Victory and negative consequences to Government Victory. A civil war that results in a Negotiated Settlement requires the challenging group to maintain a seat at the bargaining table at all times, indicating that some element of power-sharing exists between both sides (Walter, 1997). Outcomes (iii) and (iv) are separated based on the parties involved, to observe if negative consequences are related to the Negotiated Settlement outcome or positive consequences connected to agreements with an External Guarantor. I constitute an external guarantee using the same requirements set by Walter in the Civil Wars Resolution Dataset. An external guarantee must:

First, the outside state must have a self-interest in upholding its promise...Second, the guarantor must be willing to use force if necessary, and its military capabilities must be sufficient to punish whichever side violates the treaty... Third, the intervening state should be able to signal resolve (Walters, 1997).

### **Independent Variables**

Each civil war outcome is coded as a dummy variable, 1= if the war resulted in the outcome and 0= if the war had a different outcome. From the COW Intra-State War dataset, I identify which civil war cases resulted in an Opposition or Government victory using the information provided by the variable, Outcome. For the civil wars that do not end in either of those outcomes, I use Walter's Civil War Resolution Dataset to determine if they resulted in a negotiated settlement with or without an external guarantee.

Each civil war is coded for one of the four outcomes, provided that they fulfill the requirements used to define each one. Opposition and Government Victory must have a decisive victory, identifying one clear winner. Opposition Victory will require the total capture of the former government by a new party, because if the state belongs to the rebel group, they will have total control to monopolize all of the resources belonging to the old regime. The victory of the rebellion is demonstrated by the overthrow of the government and the power to rule is now in the hands of a new political entity. Government Victory will be coded if the rebels are eliminated as a military and political force. The initial regime must also remain in power for a consecutive five-year period. The administration in power that began the war must stay in control; otherwise the outcome fails to be a Government Victory and becomes more of an internal political struggle. The time frame of five years is a standard used to stay consistent with the structure used by Walters (2002). The need for consecutive control is to account for cases when multiple rebel groups threaten the government. Even if separate entities express their dissatisfaction with the state for entirely different reasons, the presence of war itself demonstrates the state's inability to command its territory effectively (Collier 2002). For that reason, if a civil war that has multiple factions challenging the government, it will be coded as one conflict and not two.

Civil wars are coded for the outcome Negotiated Settlement, if there is a signed bargain by all of the parties actively involved in the war. The agreement must include a plan to facilitate peace that includes a political and military solution to the conflict. The contents of a treaty must meet these standards, signaling a credible attempt from all sides to end the violence and resolve the underlying problems that initiated the war (Walter, 2012). If combatants walk up to the table with no real incentive to compromise, negotiations become a form of strategy to benefit from, as groups are able to gain time and information against their opponents. When the country of Sudan tried to broker peace talks between the Ugandan Government and the Lord's Resistance Army (LRA), rather than reach an agreement, the event allowed for the Ugandan Government to launch

a major attack on the LRA. Ugandan officials were even quoted saying: “the agreement gave them...the chance to eliminate the LRA” (Globalsecurity.org, 2012). As strategy, parties may present a false desire for peace in order to gain time and strength. All parties must be included in the final settlement because if one actor is excluded, the treaty fails to be a long-term mean to end the violence because preferences are still being ignored. If these conditions are met and the treaty is ratified, the agreement is an incentive for the participants to try to reconcile their issues and cooperate, rather than trying to cheat each other.

Negotiated Settlement differs from the External Guarantor outcome, because the latter has a security safety net. This guarantee must be visible in terms of an explicit commitment by an outside party (usually a state, but potentially an IGO such as the UN) to intervene militarily, should one or the other side reneges on the agreement. The guarantor must be willing to impose some sanction against the violators of the treaty, regardless of how strong the commitment is. This will incorporate third-party guarantors with a wide range of strength; such as the simple verbal commitment offered by the Ethiopian Emperor Haile Selassie towards ensuring the safety of Sudanese Rebels under Anya Nya in 1972; to more rigorous commitments like the military assurance of 14,000 troops stationed in Lebanon by the United States in 1958. By broadcasting their willingness to intervene, the External Guarantor ties their hands, giving them the incentive to uphold their promise for fear of having scrutiny brought upon them if they fail to act. An example of such negative consequences of breaking international commitments is provided by the formal apology from President Clinton, who, even though leading a country that has signed the United Nations Human Rights Charter, failed to take action to stop the Rwandan Genocide of 1994 (Globalsecurity.org, 2012).

## **Dependent Variables**

I use the variables CINC, Polity Score, War Recurrence, and the Infant Mortality Rate to measure post-war consequences. I suspect that these variables will react either positively or negatively, depending on the outcome of the civil war. Each dependent variable is measured immediately after the civil war ends, 5 years out, and 10 years out, producing three regressions per variable for a total of 12 separate models. The purpose of measuring each variable at three different times is to differentiate between short and long-term consequences influenced by civil war outcome.

The COW Project Datasets will provide the CINC and Infant Mortality figures for each of the civil war cases being studied. The Center for Systemic Peace will provide the Polity Scores for each country, and Walter's dataset codes for civil war cases that result in repeated conflict after a settlement is reached, providing the data with which to measure the War Recurrence variable. Polity will be measured with the traditional scale of -10 to +10 (democracy minus autocracy) and the War Recurrence variable will be coded dichotomously (1= continued peace measured 5-years after and at 10 years after, 0= war recurrence within the time frame). Infant Mortality and CINC help describe the social welfare of a population and individual consequences that result because of civil war outcome.

CINC score is an evaluation of a state's national capabilities, strongly correlated to how GDP functions as an economic variable (Singer, Bremer, Stuckey, 1972). CINC should react similar to GDP and have the ability to exhibit the phoenix factor, described by Kugler and Organski (1977). If there is a variation in the amount of time needed to regain former levels of economic activity depending on which outcome is being considered, that would suggest that civil war outcome yields different economic consequences.

The Polity Score represents whether the government democratized after the civil war. If I discover a trend in the pattern of institutions becoming more authoritative or democratic based on outcome type, that would signal which civil war outcomes are more likely to result in states either transitioning into democracies, continuing as dictatorships, or situating themselves somewhere in between. The War Recurrence variable is straight forward and will measure if conflict renews immediately after the war ends or within 5 or 10-years after.

## Chapter 5

### Findings

The first three tables show the results of ordinary least squares (OLS) regressions between civil war outcomes and the variables: CINC score, Rate of Infant Mortality and Polity. Table 4 shows the results for civil war outcome and War Recurrence, but uses a probit regression to account for the binary coding of this variable. Each table is divided into three rows which separate the regression results for each time interval measured, moving chronologically from immediately after the war ended, to 5-years out, to 10-years out.

### CINC Score

Table 5-1: Civil War Outcome and CINC Score

<b>CINC Score</b>	Coef.	Std. Err.	t	P> t	95% Conf. Interval	
Government	-.0008094	.0263256	-0.09	0.976	-.0529071	.0512882
Opposition	.0018467	.0275265	0.07	0.947	-.0526274	.0563209
Negotiated	.004313	.0285665	0.15	0.880	-.0522193	.0608453
External	-.0150266	.0254565	-0.59	0.556	-.0654044	.0353511
<b>CowPower5</b>						
Government	-.0008184	.0236339	-0.08	0.972	-.0475892	.0459524
Opposition	9.02e-06	.024712	0.09	1.000	-.0488953	.0489133
Negotiated	.0081621	.0256456	0.32	0.751	-.0425899	.058914
External	-.0138079	.0228537	-0.60	0.547	-.0590346	.0314189
<b>CowPower10</b>						
Government	-.0009368	.0251706	-0.07	0.970	-.0507486	.0488751
Opposition	-.0007687	.0263188	-0.12	0.977	-.0528528	.0513154
Negotiated	.009595	.0273131	0.35	0.726	-.0444569	.063647
External	-.0146363	.0243396	-0.60	0.549	-.0628037	.0335311

Note: The data describes a total of 131 observations. There are no missing observations from this table.



I proposed the possibility for a positive relationship between CINC score and civil war outcome: Opposition Victory and External Guarantor, with a negative relationship for Government Victory and Negotiated Settlement. The results described in Table 5-1 shows very little promise, as they do not support a single relationship between civil war outcome and the CINC variable at any time interval. Caprioli (2003) examined a state's CINC scores over the duration of a civil war and her findings did not establish a relationship between civil war and CINC either. The total lack of significance outcome appears to have on this variable lends additional support for Caprioli; although, the lack of negative significance is very puzzling. Collier (2003) found that not only is GDP growth for a state stunted during times of conflict, but also the monetary costs associated with a civil war have a permanent impact of 15% over the course of seven years. However, based on the overwhelming evidence in support of a negative correlation between GDP and civil war, it is strange that CINC loses significance once outcome is factored into the data. This makes Caprioli's (2003) results even more interesting because in the exact same study, Caprioli could not identify an effect of CINC score that functioned independently of GDP. If CINC score is as highly correlated to GDP as his research suggests, there should be no reason a negative relationship would exist for one variable and not the other; yet, it appears CINC is nonsignificant and GDP is significant when applied to civil wars in general. The results conflict with this understanding because Collier's relationship does not hold up when outcome is accounted for, yet Caprioli's findings stay the same.

### Infant Mortality

Table 5-2: Civil War Outcome and the Rate of Infant Mortality

<b>InfantMort</b>	Coef.	Std. Err.	t	P> t	95% Conf. Interval	
Government	-60.723	44.81889	-1.35	0.178	-149.5618	28.11582
Opposition	-50.33096	47.2932	-1.06	0.290	-144.0743	43.41237
Negotiated	-104.9823	49.35443	-2.13	0.036*	-202.8114	-7.153277
External	-70.58932	43.45139	-1.62	0.107	-156.7175	15.53888
<b>InfantMort5</b>						
Government	-58.23	39.95356	-1.46	0.148	-137.4418	20.98182
Opposition	-59.65248	42.17973	-1.41	0.160	-143.2779	23.97294
Negotiated	-94.4093	44.01635	-2.14	0.034*	-181.676	-7.142604
External	-64.2393	38.75678	-1.66	0.100	-141.0784	12.59979
<b>InfantMort10</b>						
Government	-52.47	38.90988	-1.35	0.180	-129.6126	24.67262
Opposition	-50.1632	41.06776	-1.22	0.225	-131.584	31.25763
Negotiated	-90.69138	43.21219	-2.10	0.038*	-176.3637	-5.01902
External	-60.82138	37.73333	-1.61	0.110	-135.6314	13.98862

Note: The data describes a total of 131 observations. There are no missing observations from this table.

The negative coefficients in Table 5-2 suggest that the Rate of Infant Mortality will decrease regardless of civil war outcome or time. The inverse relationship between the Rate of Infant Mortality and civil war outcome could be the effect of combatants disarming and removing the immediate threat of violence from the area. We would assume every country to have some measure calculating Infant Mortality, as it would be highly unfeasible for even the most developed nation to be able to report a rate of 0. Therefore fighting of any kind would automatically cause an increase in the total number of infant deaths, and in the same effect, decrease once the fighting stopped. With the exception of Opposition Victory, the magnitude of the coefficient for each civil war outcome depreciates with time. This would imply that as the duration of peace increases, we would expect to see the Rate of Infant Mortality stabilize at some level. However, I would approach this analysis with extreme caution because the regression results for Government Victory, Opposition Victory and the External Guarantor outcome are nonsignificant. Negotiated Settlement is the only exception, as the Rate of Infant Mortality decreases at all three-time intervals in the event of this outcome. Contrary to the expectations discussed in the Theory section, it appears the potential instability of a post-war environment may

not affect this variable as previously thought. Compared to pre-war levels, states experiencing a civil war witnessed a 13% increase in infant mortality and continued to experience a consistent 11% increase for up to five years after the conflict ended (Hoeffler and Reynal-Querol, 2003). My research does not support this finding for any of the outcomes I mention, including the significant Negotiated Settlement, as all of them are observed to have a negative correlation to the Rate of Infant Mortality. This could be the result of coding discrepancies since I do not compare post-war infant mortality rates to those reported before the war. This could be a future improvement in my dataset to better analyze infant mortality rates immediately after the war, but it is not necessary for the figures reported 5 and 10-years out, because I compare infant mortality against outcome when the war ends and not before. Information before the war only adds to the confusion produced by the regression results in Table 2, so perhaps we can gain a better understanding from what occurs during the war. Walters (1997) found a higher success rate for negotiated settlements if the number of battle deaths surpassed the median during the conflict.<sup>1</sup> Her findings suggest that high death rates could be the means to an end for a civil war, because rivals may view this consequence as an incentive to initial a compromise. What is troubling about this explanation is that every single negotiated settlement with an external guarantor was also successful. Therefore, my findings should have established a significant negative correlation for the External Guarantor outcome, but this is not the case.

## Polity

Table 5-3: Civil War Outcome and Polity

<b>Polity</b>	Coef.	Std. Err.	t	P> t	95% Conf. Interval	
Government	-6.1	3.738768	-1.63	0.105	-13.49891	1.298912
Opposition	-6.821693	3.909318	-1.74	0.083	-14.55812	.9147318
Negotiated	-6.997619	4.057018	-1.72	0.087	-15.02634	1.031101
External	4.314286	3.615342	-1.19	0.235	-11.46894	2.84037
<b>Polity5</b>						
Government	-7.9	3.662469	-2.16	0.033*	-15.14792	-.652081
Opposition	-7.607937	3.829539	-1.99	0.049*	-15.18648	-.029392
Negotiated	-7.885714	3.974225	-1.98	0.049*	-15.75059	-.0208399
External	-3.485714	3.541562	-0.98	0.327	-10.49436	3.522933
<b>Polity10</b>						
Government	-8.15	4.065612	-2.00	0.047*	-16.19573	-.1042731
Opposition	-7.999735	4.251072	-1.88	0.062	-16.41248	.4130103
Negotiated	-7.657143	4.411684	-1.74	0.085	-16.38774	1.07345
External	-4.257143	3.931396	-1.08	0.281	-12.03726	3.522975

Note: The data describes a total of 131 observations. There are no missing observations from this table.

The results between civil war outcome and Polity are the most robust of any of the dependent variables. We cannot examine the data measuring Polity immediately after the war's conclusion because the Polity of the state before the war is not included in the study. As a result, there is no baseline to compare the political changes the state experienced right after the war. It appears the External Guarantor outcome is the only one that fails to hold significance at all times. This is a noteworthy observation because prior evidence only suggests that outside guarantors are successful in maintaining peace and the agreements settled upon during negotiations, not that a state would necessarily become more democratic. Looking 5-years after the war's end, the civil war outcomes: Government Victory, Opposition Victory, and Negotiated Settlement all have an inverse relationship with Polity. This would suggest a state's tendency to become less democratic is not in response to how the war ended, but a reaction to the presence of war itself. These three outcomes reinforce the evidence found by Fearon and Laitin (2003) describing the instability political regimes of less than three years face. In an attempt to exert authority and remain in power, officials are more likely to respond to civil war outbreak by suppressing democracy rather than address grievances. If the internal problems plaguing a country are left to fester, the

government risks repeated attacks from other rebel groups due to their lack of accountability (Olson, 1982).

### War Recurrence

Table 5-4: Civil War Outcome and War Recurrence

<b>WarRecurrence</b>	Coef.	Std. Err.	t	P> t	95% Conf. Interval	
Government	3.820194	263.8252	0.01	0.988	-513.2677	520.9081
Opposition	4.507601	263.8253	0.02	0.986	-512.5804	521.5956
Negotiated						
External						
<b>WarRecurrence5</b>						
Government	.3853205	.931831	0.41	0.679	-1.441035	2.211676
Opposition	.7440383	.981372	0.76	0.448	-1.179416	2.667492
Negotiated	1.279121	1.014586	1.26	0.207	-.7094304	3.267673
External	.8938006	.9030911	0.99	0.322	-.8762254	2.663827
<b>WarRecurrence10</b>						
Government	-4.176489	437.4622	-0.01	0.992	-861.5866	853.2337
Opposition	-4.390941	437.4624	-0.01	0.992	-861.8014	853.0195
Negotiated	-3.170374	437.4624	-0.01	0.994	-860.5809	854.2402
External	-4.206657	437.4621	-0.01	0.992	-861.6166	853.2033

Note: The data omits 10 cases, describing a total of 121 observations.

Similar to the results describing outcome and the CINC variable, it appears the conclusion of a civil war does not influence war recurrence. Observations describing Negotiated Settlement and External Guarantor measured immediately after the war ends, are excluded from the table because wars ending in either of these outcomes did not recur within the first year for any of the cases. Very little information can be extracted from Table 4 because all of the correlations lack significance to propose a relationship moving in any direction. Suggestions to improve this variable are discussed further in the conclusion.

## Chapter 6

### Conclusion

Overall, the results do not establish a correlation between outcome and consequence. This topic provokes further investigation because while the data does not suggest civil wars lead to positive consequences, it also does not provide support in favor of civil wars leading to negative ones. Ironically, the lack of significance outcome has on consequence is the most significant piece of information conveyed by the regression results.

A number of adjustments can be made to improve this study, beginning with the inclusion of pre-war data. 10 years may not be enough time for a state to experience a change drastic enough to suggest a causal relationship between the variables. Incorporating a pre-war baseline in the dataset would enhance the changes states experience when recovering from a civil war. Adding more cases to the study would also help provided the dependent variables have not been tampered with too much. Often the figures used to convey economic, political, and social information are inflated and interpolated because records dating that far back in time are difficult to locate. The Correlates of War Project created the CINC score, yet their literature identifies the interpolation of this variable creates noticeable problems when analyzed with other data (Singer, Bremer, Stuckey, 1972).

Ultimately, the findings have unveiled little to further our understanding of outcome and its influence (if any) over the consequences that result when a civil war occurs. This topic provokes the credibility of our current information regarding civil war consequences and demands further investigation. Future examination of outcome and should incorporate additional cases and examine the reasons why outcome classification appears to handicap the impacts of civil war.

## REFERENCES

- Caprioli, Mary. (2003) Gender Equality and Civil Wars. *CPR Working Paper No. 8*. Washington, DC: World Bank.
- Caprioli, Mary. (2005) Primed for Violence: The Role of Gender Inequality in Predicting Internal Conflict. *International Studies Quarterly* 49(2): pp. 161–178.
- Civil War Trust. “Civil War Facts.” Education and History: Answers to Your Civil War Questions. *The History Channel*. Web. Nov. 26, 2012. <http://www.civilwar.org/education/history/faq>
- Collier, P. and A. Hoeffler. 2002a. “Aid, Policy, and Growth in Post-Conflict Societies.” Policy Research Working Paper No. 2902. World Bank, Washington, D.C.
- Collier, Paul. 2002b. “Aid, Policy, and Peace: Reducing the Risks of Civil Conflict.” *Defense and Peace Economics*, Vol. 13(6): pp. 435-50.
- Collier, Paul. 2002c. “Greed and Grievance in Civil Wars.” Working Paper Series 2002–01. Centre for the Study of African Economies, Oxford, U.K. Available on: <http://www.csae.ox.ac.uk>.
- Collier, Paul. 1999. “On the Economic Consequences of Civil War.” *Oxford Economic Papers*, Vol. 51: pp. 168–83.
- Collier, Paul., Elliott, Lani., Hegre, Havard., Hoeffler, Anke., Reynal-Querol, Marta., Sambanis, Nicholas. 2003. “Breaking the Conflict Trap: Civil War and Development Policy.” Washington, DC: World Bank and Oxford University Press.
- DeRouen, Karl R. and Sobek, David. 2004. “The Dynamics of Civil War Duration and Outcome.” *Journal of Peace Research*, Vol. 41(3): pp. 303-320.
- Fearon, J.D. and Laitin, D. 2003. “Ethnicity, Insurgency, and Civil War.” *American Political Science Review*, Vol. 97(1):pp. 75-90.
- Fortna, Virginia P. 2004. “Does Peacekeeping Keep Peace? International Intervention and the Duration of Peace after Civil War.” *International Studies Quarterly*, Vol. 48(2): pp. 269-292.
- GlobalSecurity.org. 2012. “First Sudanese Civil War.” *Military:World:War: Introduction*. Web. March 18, 2012.
- GlobalSecurity.org. 2012. “Nigerian Igbo-Biafran Civil War.” *Military:World:War: Introduction*. Web. March 18, 2012.
- GlobalSecurity.org. 2012. “Rwanda Civil War.” *Military:World:War: Introduction*. Web. March 18, 2012.
- Holbrooke, Richard. 1998. “To End A War.” New York: Random House. pp. 68-72.
- Iqbal, Zaryeb. 2006. “The Public Health Impact of Violent Conflict.” *International Studies Quarterly*, Vol. 3 (43): pp. 631-649.

- Licklider, Roy. 1995. "The Consequences of Negotiated Settlements in Civil Wars, 1945-1993." *The American Political Science Review*, Vol. 89(3): pp. 681-690.
- Olson, Mancur. 1982. "The Rise and Decline of Nations." New Haven: Yale University Press.
- Organski, A. F.K., and Jacek Kugler. 1980. "The War Ledger." Chicago: University of Chicago Press.
- Singer, J. David, Stuart Bremer, and John Stuckey. 1972. "Capability Distribution, Uncertainty, and Major Power War, 1820-1965." in Bruce Russett (ed) *Peace, War, and Numbers*, Beverly Hills: Sage, 19-48.
- Stewart, F., C. Huang, and M. Wang. 2001. "Internal Wars in Developing Countries: An Empirical Overview of Economic and Social Consequences." In F. Stewart, V. Fitzgerald, and Associates, eds., *War and Underdevelopment*, Vol. 1. Oxford, U.K.: Oxford University Press.
- Walter, Barbara F. 2002. "The Critical Barrier to Civil War Settlement." *International Organization*, Vol. 51(3): pp. 335-364.
- Walter, Barbara F. 2004. "Does Conflict Beget Conflict? Explaining Recurring Civil War," *Journal of Conflict Resolution*, Vol. 41(3): pp. 371-388.



## **ACADEMIC VITA**

Elizabeth Masgarha

309 West Beaver Ave No.1

State College, Pa 16801

eam5330@psu.edu

---

### **Education**

B.A., Political Science, Fall 2012, Pennsylvania State University, University Park, Pa

M.S., English, Fall 2012, Pennsylvania State University, University Park, Pa

### **Honors and Awards**

- 2012 Liberal Arts Enrichment Scholarship Pennsylvania State University

### **Association Memberships/Activities**

- Member, Political Science Honors Society Pi Sigma Alpha 2011
- Member, Adult Literacy and Tutoring Core (ALTC)

### **Professional Experience**

Uloop.com Sales Representative: January 2010 to March 2010

- Designed and implemented sales pitches to sell advertising space
- Conducting sales calls, creating new contacts, following up with previous initiatives, tracking sales and prospective businesses on an Excel spreadsheet were regular weekly responsibilities

Nordstrom Sales Associate and Intern: May 2010 to August 2010

- Developed familiarity with sales protocol, customer service, and selling merchandise in a commission environment
- Submitted weekly revenue reports to Nordstrom Merchandisers, which balanced the amount of incoming inventory to reflect current consumer-purchasing scales

Congressman Joe Sestak Intern: August 2010 to November 2010

- Served 15-20 hours a week as Assistant Intern Coordinator while maintaining status as a full-time student
- Participated in daily voter outreach efforts of the field office including: making phone calls to constituents, passing out literature, and registering voters in Centre County
- Utilized social media throughout the campaign to publicize three separate events in State College, where Congressman Sestak delivered a speech to his constituency.

Certified Literacy Core Tutor: January 2011 to December 2011

- Trained to be a certified Literacy Core Tutor in Centre County, volunteering 6 hours a week while maintaining status as a full-time student.
- Generated weekly tutoring classes that taught students high-school level grammar, reading comprehension, mathematics, and chemistry.
- Monitored and tracked the progress of five separate students, over the course of 16 weeks, to ensure an on-time graduation.

Director of Marketing and Sales Intern: August 2012 to Current

- Weekly promotion of concert events through the Faculty Management Office at the Bryce Jordan Center.
- Design and implement advertisement campaigns to increase ticket sales and expand
- Conduct fiscal analysis of event attendance and revenue