Damage over Outcome:
How Interstate Wars Affect Civil War Likelihood*

Soyoung Lee** · Taehee Whang***

Keywords: Civil War Onset, Interstate War, Insurgency, Conflict Intensity

| ABSTRACT |

What is the relationship between interstate wars and the probability of civil war onset? We argue that defeated interstate wars of higher conflict intensity are more likely to result in civil war onsets than victorious wars of lower intensity. Using the Doyle and Sambanis dataset (2000) for civil wars and the Correlates of War dataset (2010) for interstate wars, our logistic analyses yield evidence that interstate wars resulting in higher battle deaths are related to higher likelihood of civil war while war outcome is not as significant. Such results indicate that interstate war damage is more decisive in determining civil war onset than its outcome. The main significance of this research lies in that by analyzing interstate wars according to their different intensity levels and outcome, it offers a more thorough investigation into the external factors that affect civil war onset. Moreover, it casts doubt on previous rallying effect studies which generally see external conflicts as opportunities to consolidate state power and challenges conventional arguments regarding war outcome and leader tenure by implying that Pyrrhic victories do little to deter civil war outbreaks.

✣ 『국제관계연구』 (*Journal of International Politics*), Vol. 21, No. 2 (Winter 2016). http://dx.doi.org/10.18031/jip.2016.12.21.2.221

* We wish to thank Chaekwang You, Namkee Park, and three anonymous reviewers for their helpful comments and suggestions.

** Student, Department of Political Science and International Studies, Yonsei University.

*** Associate Professor, Department of Political Science and International Studies, Yonsei University.

I. Introduction

How do interstate wars affect the chances of civil war? Iraq consistently suffered challenges from the Kurds during and after the Iran-Iraq War, and many attribute the Uganda Bush War in 1981 to the interstate war between Uganda and Tanzania. The Israeli capture of the West Bank during the Six-Day War led to deteriorating relationships between Jordanians and Palestinians within Jordan, becoming the eventual foundation of the Black September War. Ethiopia and Eritrea, both unsatisfied with the interstate war results in 1998, have also been accused of supporting rebel groups within each other's territory. As these civil war cases illustrate, interstate wars can often promote civil war onset within a country.

Yet former literature on civil war primarily focuses on the role of domestic conditions when determining civil war onset. Prior studies analyze the consequences of economic factors such as poverty and inequality, cultural factors such as ethnoreligious fragmentation and polarization, institutional factors such as regime type and political stability, and environmental factors such as resource availability and terrain.[1)]

1) James Fearon and David Laitin, "Ethnicity, Insurgency and Civil War," *American Political Science Review*, Vol. 97, No. 1 (2003); Gudrun Østby, "Polarization, Horizontal Inequalities and Violent Civil Conflict," *Journal of Peace Research*, Vol. 45, No. 2 (2008); Carles Boix, "Economic Roots of Civil Wars and Revolutions in the Contemporary World," *World Politics*, Vol. 60, No. 3 (2008); Edward Miguel, Shanker Satyanath and Ernest Sergenti, "Economic Shocks and Civil Conflict: An Instrumental Variables Approach," *Journal of Political Economy*, Vol. 112, No. 4 (2004); Christopher Blattman and Edward Miguel, "Civil War," *Journal of Economic Literature*, Vol. 48, No. 1 (2010); Havard Hegre, Tanja Ellingsen, Scott Gates and Nils Petter Gleditsch, "Toward a Democratic Civil Peace? Democracy, Political Change, and Civil War, 1816-1992," *American Political Science Review*, Vol. 95, No. 1 (2001); Ibrahim Elbadawi and Nicholas Sambanis, "Why Are There So Many Civil Wars in Africa? Understanding and Preventing Violent Conflict," *Journal of African Economies*, Vol. 9, No. 3 (2000); Cameron Thies, "Of Rulers, Rebels and Revenue: State Capacity, Civil War Onset, and Primary Commodities," *Journal of Peace Research*, Vol. 47, No. 3 (2010); Paul Collier and Anke Hoeffler, "Greed and Grievance in Civil War," *Oxford Economic Papers*, Vol. 56 (2004); Michael Ross, "What Do We Know About Natural Resources and Civil War?" *Journal of Peace Research*, Vol. 41, No. 3 (2004).

Meanwhile, existing literature on external conditions either concentrates on the impact of unstable neighborhoods, international systems, and third-party interventions,[2] or strongly emphasizes the rallying effect of interstate conflicts that lead to decreased civil war onset.[3]

This paper aims to contribute to existing civil war research by analyzing the impact of interstate wars on civil war according to their conflict intensity and outcome. After briefly going over existing literature on interstate conflicts and civil wars, we develop our theoretical argument on how the varying conflict intensity and outcome of an interstate war influence differently the motivation and opportunity of potential rebels. More specifically, we argue that defeated interstate wars of higher intensity are more likely to result in civil war outbreaks than victorious wars of lower intensity. Using primarily the Doyle and Sambanis dataset[4] for civil wars and the Correlates of War dataset[5] for interstate wars, we use logistic regressions to estimate the impacts of conflict intensity and outcome on civil war onset within three, five, and ten years after an interstate war. The analyses yield evidence that interstate wars of higher intensity result in a higher likelihood of civil war while interstate war outcome is not as significant. Finally, we conclude by suggesting improvements for further research.

---

2) Nicholas Sambanis, "Do Ethnic and Non-Ethnic Civil Wars Have the Same Causes?" *Journal of Conflict Resolution*, Vol. 45, No. 3 (2001); Stathis Kalyvas and Laia Balcells, "International System and Technologies of Rebellion: How the End of the Cold War Shaped International Conflict," *American Political Science Review*, Vol. 104, No. 3 (2010); Barbara Walter and Jack Snyder, *Civil Wars, Insecurity and Intervention* (New York: Columbia University Press, 1999).

3) Douglas Gibler and Steven Miller, "External Territorial Threat, State Capacity and Civil War," *Journal of Peace Research*, Vol. 51, No. 5 (2014).

4) Michael Doyle and Nicholas Sambanis, "International Peacebuilding: A Theoretical and Quantitative Analysis," *American Political Science Review*, Vol. 94, No. 4 (2000).

5) Meredith Sarkees and Frank Wayman, *Resort to War: 1816-2007* (Washington D.C.: CQ Press, 2010).

II. Previous Studies on Rally Effects of Interstate Conflicts

In this section, we examine former literature in comparative politics regarding the effect of external enemies on domestic cohesion. Traditional and contemporary studies alike in general argue that interstate conflicts lead to increased state power and state unification. Tilly famously notes that wars make it easier for states to extract resources from the public under the rhetoric of offering protection against external enemies.[6] He contends that war-making is connected with the process of state-making and eliminating rivals within the territory, as well as constructing a society where the probabilities of voice and exit are minimized.[7] Likewise, De Figueiredo and Weingast maintain that threats from other ethnic groups exacerbate the self-help security dilemma, making fearful citizens more likely to support the incumbents even when they are extremely aggressive and lack competence.[8] In the same vein, Mueller suggests that the public tend to overcome split loyalties and rally around the president in dramatic international conflicts concerning the whole nation.[9]

More recently, Gibler, Hutchison and Miller note that external conflicts urge individuals to identify themselves as citizens of their country, making them more willing to put aside personal misgivings with intrastate rivals and become loyal to the state.[10] Gibler and Miller also show

---

6) Charles Tilly, *From Mobilization to Revolution* (Boston: Addison-Wesley Publishing Company, 1978).

7) Charles Tilly, "War Making and State Making as Organized Crime," in Peter Evans, Dietrich Rueschemeyer and Theda Skocpol (eds.), *Bringing the State Back In* (Cambridge: Cambridge University Press, 1985).

8) Rui J. P. De Figueiredo Jr. and Barry R. Weingast, "The Rationality of Fear: Political Opportunism and Ethnic Conflict," in Barbara Walter and Jack Snyder (eds.), *Civil Wars, Insecurity and Intervention* (New York: Columbia University Press, 1999).

9) John Mueller, "Presidential Popularity from Truman to Johnson," *American Political Science Review*, Vol. 64, No. 1 (1970), p. 21.

10) Douglas Gibler, Marc Hutchison and Steven Miller, "Individual Identity Attachments and

that increase in state capacity acquired through rallying effects can continue even after the immediate threat passes. They argue that territorial claims from neighboring states give leaders the legitimacy to field a larger military and extract more resources from the public, resulting in a statistically significant absence of civil war onsets up to thirty years after a territorial claim.[11)]

While previous studies have conceptually and empirically analyzed the general effects of external enemies on social cohesion, a potential problem is that they do not consider the variation within interstate conflicts. After all, not all interstate conflicts are the same. Nor would they have the same consequences. A full-blown war with ten thousand battle casualties would naturally have different impacts on a state compared to a minor military clash on the border, and a victorious war would also have different consequences from a defeated war. Therefore, we argue that interstate wars should be investigated more deeply according to their respective characteristics. In the next section, we will analyze the impact of interstate war on civil war onset by its level of intensity and outcome — more specifically, we argue that interstate war consequences will depend on whether the war is of major or minor intensity and on whether the war results in a victory or a defeat.

III. Theory and Hypotheses

As Collier and Hoeffler have phrased it, a rebellion needs both motive and opportunity.[12)] People would need to have sufficient amount of grievances to risk revolt against the state, and the state would also have

---

International Conflict: The Importance of Territorial Threat," *Comparative Political Studies*, Vol. 45, No. 12 (2012), p. 1657.

11) Gibler and Miller (2014), p. 643.

12) Collier and Hoeffler (2004), p. 563.

to be weak enough for the rebels to successfully mobilize supporters and pose considerable challenge. Thus it has been widely accepted that weak and unpopular states are more vulnerable to civil wars.[13] Building on this framework, we investigate how interstate wars affect the motive and opportunity of dissenters by looking into their impact on state capacity and public loyalty.[14] We first offer a brief explanation of state capacity and public loyalty, and then go on to elaborate on our two main hypotheses.

State capacity is usually defined as the material capability of the state to identify potential rebels and apply coercion — more specifically, its "overall military, financial and administrative capabilities to police all parts of its territory."[15] Skocpol and Tilly have long emphasized the importance of a state's material strength in deterring rebel mobilization and maintaining internal order.[16] Fearon and Laitin have also found that state capacity greatly affects the opportunity of rebels since a weak government would be less capable to crush insurgencies.[17] State capacity is also related to providing rebels with the motivation to challenge the state, since dissenters are more likely to rebel when they believe that they have a chance of winning than when they are sure that the state is powerful enough to repress any kind of challenges.[18] Snyder and Jervis also note that when the state is deemed incapable of enforcing law and order, it produces security dilemmas among rival groups

13) Gibler and Miller (2014), p. 637.

14) A similar study on external threats and civil war by Gibler and Miller (2014) has also assessed a state's vulnerability to civil war by using similar factors: "state connectedness" and "state repressive strength" that focus on public loyalty and a state's material capability to crush rebellions.

15) Cullen Hendrix, "Measuring State Capacity: Theoretical and Empirical Implications for the Study of Civil Conflict," *Journal of Peace Research*, Vol. 47, No. 3 (2010), p. 274; Fearon and Laitin (2003), p. 80.

16) Theda Skocpol, *States and Social Revolutions: A Comparative Analysis of France, Russia & China* (Cambridge: Cambridge University Press, 1979); Tilly (1978).

17) Fearon and Laitin (2003).

18) Ted Gurr, *Why Men Rebel* (Princeton: Princeton University Press, 1970), p. 234.

that often lead to violence.[19]

Public loyalty, or the general attitude of the population regarding the legitimacy of the state, is also related to the motive and opportunity of potential insurgents. Not only does higher public loyalty mean that people are generally less motivated to rebel against the government, it also means that people are more likely to support the incumbent government during civil conflicts, making it costlier for dissidents to rebel.[20] Popular support for the government would also make early identification of insurgents by the state easier.[21] Conversely, when the average level of loyalty is low, people would have more motivation to join rebellions and hamper rebel detection, ultimately increasing civil war likelihood.

While previous literature has mostly argued that external enemies strengthen public loyalty and state capacity, it would be an over-simplification to think that all interstate wars do so. First of all, an interstate war of higher conflict intensity will be associated with a decline in both state capacity and public loyalty. A major war involving many casualties means that the state is suffering from a loss of military personnel, along with plausible losses in economic and administrative capability. Furthermore, based on a reasonable assumption that a state's foremost concern is survival,[22] a major war would cause a state to devote much of its military, financial and administrative resources to the interstate war than to policing its inner territory. For instance, although the Marsh Arabs were never on good terms with the Baathist government, widespread organized rebellion only became possible after the crushing defeat of the Iraqi army in 1991.[23] Even when the war

19) Jack Snyder and Robert Jervis, "Civil War and the Security Dilemma," in Barbara Walter and Jack Snyder (eds.), *Civil Wars, Insecurity and Intervention* (New York: Columbia University Press, 1999), p. 17.

20) Gibler and Miller (2014), p. 637.

21) Fearon and Laitin (2003), p. 80.

22) Kenneth Waltz, *Theory of International Politics* (Long Grove: Waveland Press, 2010), p. 91.

is not directly related to state survival, it is likely that the state would also concentrate most of its capacities on managing the interstate war since major wars usually have higher political and economic stakes. Such decline in state capacity, or at least its preoccupation with foreign enemies, would provide dissenters with a better chance to rebel against the state.

The conflict intensity of interstate war is also expected to influence public loyalty. As mentioned earlier, interstate disputes may generally help states gain more support from the people by bringing forth nationalistic sentiments. However, a nationalistic response does not necessarily mean that there would be an increase in public loyalty. After all, the state and the nation are two different entities;[24] if the death toll escalates and the public begins to feel that the incumbent government is incapable of managing the nation, it can bring about a decline in public loyalty. In fact, former studies have shown that a president's mishandling of militarized interstate disputes leads to a popular perception of government incompetency, which in turn leads to lower public support for the government.[25] High overall battle deaths in interstate conflicts have also been associated with a decrease in the leader's tenure in office.[26] Thus we come up with our first hypothesis:

H1: *The conflict intensity of an interstate war will affect the likelihood of civil war. A state that experienced an interstate war of higher conflict intensity will have increased chances of civil war onset*

---

23) Peter Malanczuk, "The Kurdish Crisis and Allied Intervention in the Aftermath of the Second Gulf War," *European Journal of International Law*, Vol. 2, No. 2 (1991), p. 114.

24) Walker Connor, "A Nation is a Nation, is a State, is an Ethnic Group, is a …," *Ethnic and Racial Studies*, Vol. 1, No. 4 (1978).

25) Christopher Gelpi and Joseph M. Grieco, "Competency Costs in Foreign Affairs: Presidential Performance in International Conflicts and Domestic Legislative Success, 1953-2001," *American Journal of Political Science*, Vol. 59, No. 2 (2015).

26) Bruce Bueno de Mesquita and Randolph M. Siverson. "War and the Survival of Political Leaders: A Comparative Study of Regime Types and Political Accountability," *American Political Science Review*, Vol. 89, No. 4 (1995).

than a state that experienced a war of lower conflict intensity.

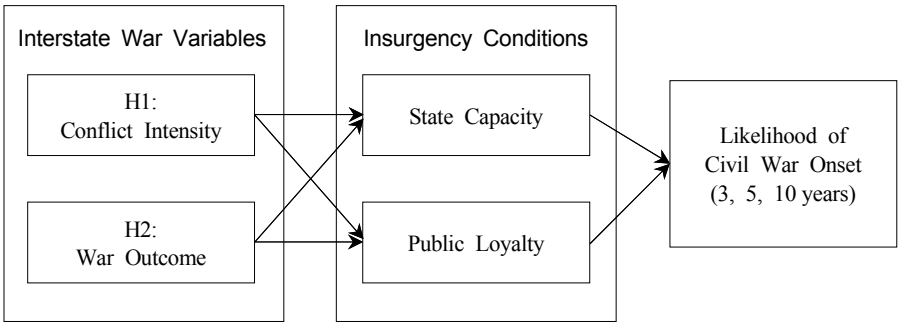
Building on the first hypothesis, the outcome of an interstate war is also expected to impact the risk of civil war. In terms of capacity, the victorious side is expected to have suffered less battle related damages and casualties than the defeated side. The victorious state also usually receives some kind of benefit that would not have been otherwise possible,[27] such as economic compensation or cessation of territory from the defeated party that can contribute to strengthening its material capacity. In terms of loyalty, states that win interstate wars will be able to gain more legitimacy and popularity through their effective management of foreign crises, either as successful defenders of the nation or as successful conquerors. For example, Germany was able to solidify its unification following the victory of the Franco-Prussian War in 1871, in stark contrast with the defeated French government who belabored to suppress the Paris Commune and other challenges to its legitimacy. Chiozza and Goemans also show that victory in interstate wars considerably decreases a leader's possibility of losing office in all regime types.[28] Such boost in state capacity and affiliation would make a systematic challenge to the incumbent authority much more difficult.

On the other hand, states that lose an interstate war are expected to first, suffer more in terms of material capacity since defeat is expected to be highly correlated with a loss of military personnel along with territorial and economic losses. The defeated state is also expected to lose legitimacy and popularity as war defeat can be interpreted as a sign of incompetency of the state by the public — Bueno de Mesquita and Siverson argue that interstate war defeat almost always reduces the

27) Bruce Bueno de Mesquita, Randolph M. Siverson and Gary Woller, "War and the Fate of Regimes: A Comparative Analysis," *American Political Science Review*, Vol. 86, No. 3 (1992), p. 640.

28) Giacomo Chiozza and H.E. Goemans, "Peace through Insecurity: Tenure and International Conflict," *Journal of Conflict Resolution*, Vol. 47, No. 4 (2003), p. 457.

〈Figure 1〉 Effect of Interstate War on Civil War Onset



leader's sovereignty and autonomy over foreign policies, giving domestic challengers both the motive and opportunity to replace the leader.[29] Therefore, we come up with the second hypothesis:

H2: *The outcome of an interstate war will impact the likelihood of civil war. A victorious state will be less likely to suffer from civil war outbreak than a defeated state.*

IV. Research Methods and Data

We use logistic regressions to estimate the impact of interstate war intensity and outcome on the probability of civil war onset. The unit of analysis is a country that is a war participant of an interstate war spanning over the time period of 1948-2003. The dependent variable is the occurrence of civil wars in each country within three, five and ten years after the end of an interstate conflict, and the independent variables are interstate war intensity measured in battle deaths (logged)

29) Bueno de Mesquita and Siverson (1995).

and outcome type classified into win/lose/draw. As for the control variables, we have controlled for some conventional variables such as ongoing civil wars, GDP per capita, polity scores, ethnic fractionalization and total population.[30)]

1. Dependent Variables

While the definition of civil wars is much disputed and incidences of civil war vary by dataset, for this paper, we use the definition of civil war from the Doyle and Sambanis dataset, which classifies civil war as an armed conflict that: "a) has caused more than one thousand battle deaths; b) represented a challenge to the sovereignty of an internationally recognized state; c) occurred within the recognized boundary of that state; d) involved the state as one of the principal combatants; e) the rebels were able to mount an organized military opposition to the state and to inflict significant casualties on the state."[31)] Using this definition, the dataset records onsets of civil war from 1944 to 1999, and to code civil war cases after that period we use the Correlates of War (COW) intrastate conflict dataset.[32)]

In this paper we measure onsets of civil war within three, five and ten years of interstate war, each referred to as "Civ3", "Civ5" and "Civ10". We test our hypotheses over three different time standards in order to avoid possible sensitivity problems to year selection when only one time standard is used. While a similar study has measured the effect of terri-

30) Fearon and Laitin (2003); Sambanis (2004); Hegre et al. (2001).

31) Doyle and Sambanis (2000).

32) The two cases taken from the COW dataset are the civil wars in Ethiopia and Pakistan. While taken from a different dataset, COW similarly defines civil war as an armed conflict that involves (1) military action internal to the metropole of the state system member; (2) the active participation of the national government; (3) effective resistance by both sides; and (4) a total of at least 1,000 battle-deaths during each year of the war" (Sarkees and Wayman, 2010).

torial claims on civil wars using the standard of fifteen and thirty years,[33] those standards may be too distant to capture the direct effects of external threats on civil war onset. Therefore, taking into consideration the possible diminishing impacts of interstate wars on state capacity and public loyalty, we test the consistency of our results against three relatively shorter time periods with the longest one being ten years.

Civil war onset within three years of interstate war termination is coded as "1" for all "Civ3", "Civ5", "Civ10" variables. If a civil war happened four years after the end of an interstate war, it is coded as "0" for "Civ3" and "1" for "Civ5" and "Civ10." Civil wars that took place before the end of the interstate war are classified as a civil war that happened within three years. Ongoing civil wars are not counted as new incidents of civil war—that is, even if civil wars persisted after the experience of interstate conflict, if the start date of the civil war was recorded to be before the outbreak of interstate war, it is coded as "0" for all three standards. For example, although Chad continuously suffered from civil war after the War over the Aouzou Strip of 1986-87, no new onset of civil war was coded since the civil war had already been ongoing from 1980. In other words, "0" signifies a case of interstate war that is not followed by any civil war outbreaks while "1" denotes an interstate war episode that is succeeded by civil war onset within three, five or ten years of its termination.

2. Independent Variables

The interstate war variable is drawn from the COW interstate conflict dataset.[34] The dataset defines an interstate war as an armed conflict that "involves sustained combat, organized armed forces and results in

33) Gibler and Miller (2014).

34) Sarkees and Wayman (2010).

a minimum of 1,000 battle-related combatant fatalities within a twelve month period, and is conducted between or among members of the interstate system." A state is regarded as a war participant if it has committed more than 1,000 troops to the war or has suffered more than one hundred battle-related deaths.

We employ battle deaths to measure the intensity of the conflict as do other datasets. However, unlike the Uppsala Conflict Data Program which classifies war intensity into categorical variables, we use the battle death count itself to measure war intensity. This is because first, a war with a thousand deaths would naturally have different consequences from a war that results in over ten thousand deaths, and it would be unfair to classify both wars as major intensity wars simply because both exceed the thousand death threshold. Second, the number of battle deaths per war participant is a better indicator of how the war would have affected that country rather than a simple intensity classification based on total war casualties. For example, it would be unfitting to say that Canada, whose death count is zero during the Gulf War, had experienced a war of the same intensity as Iraq who had suffered 40,000 casualties simply because the war itself is classified as a major one.

It should also be noted that while we follow the dataset's classification of interstate wars on the whole, we exclude interstate wars that were coded to have been transformed from intrastate wars. Excluded interstate wars according to this criterion include the Korean War, Vietnam War, Second Laotian War, War over Angola, Azeri-Armenian War, War of Communist Coalition, the Kashmir Wars and the Second Ogadian War. Similarly, independence wars such as the Bosnian independence from Yugoslavia were left out from interstate war episodes.

The coding of interstate war outcome also borrows heavily from the COW dataset but for one exception: while COW classifies "Compromised", "Transferred to Another War" and "Stalemate" as different types of outcome, we merge the three categories together into a single

"Draw" category because of they all lack a decisive victorious party. Thus, in the outcome variable, the victorious party is coded as "1" and the defeated party as "3," while parties classified as "Draw" are coded as "2."

3. Control Variables

First, we control for ongoing civil wars. States that already have ongoing civil wars during interstate wars are coded as "1" in the "Ongoing" dummy variable. We control for the variable because it would be unfair to equate countries suffering from existing civil wars with countries that did not suffer from civil wars at all simply because there were no new outbreaks—ongoing civil wars may influence new dissenters to join existing rebels rather than to initiate a different war against the government. The ongoing civil war variable will also control for the possible effects of an existing civil war on the results of the interstate war, addressing endogeneity problems that can arise from having both civil wars and interstate wars at the same time.

We also control for a war participant's GDP per capita (logged). GDP per capita is often associated with the cost of forgoing daily economic life,[35] and a state's overall capability to penetrate its administration into rural areas.[36] In fact, GDP per capita is one the most significant indicators in predicting civil war prevalence regardless of which civil war dataset one uses.[37] Data on GDP per capita are taken from the Maddison Project (2013), chosen primarily for its historical coverage of GDP.[38]

---

35) Collier and Hoeffler (2004), p. 588.

36) Fearon and Laitin (2003).

37) Nicholas Sambanis, "What is Civil War? Conceptual and Empirical Complexities of an Operational Definition," *Journal of Conflict Resolution*, Vol. 48, No. 6 (2004).

38) The Maddison Project (2013), http://www.ggdc.net/maddison/maddison-project/home.htm

Other conventional variables such as democracy, ethnic fractionalization and total population are also controlled for.[39] As anocracies are generally regarded to be more susceptible to civil wars than full democracies or autocracies,[40] its impacts are controlled for in the subsequent analyses. The democracy level is taken from the revised combined polity score in Polity IV project.[41] Furthermore, keeping in mind studies that have shown significant relationships between total population and civil war, we control for total population (logged) as well using the data from the Maddison Project. Finally, although the impacts of ethnic fractionalization are disputed, we control for its possible consequences using the ethnic fractionalization score from the Fearon and Laitin replication dataset.[42] The two tables below each represent the summary statistics and correlation test among variables.

〈Table 1〉 Summary Statistics of Variables

Variables	N	Mean	Std. Dev.	Min	Max
log (battle death)	78	6.131419	3.027445	0	13.52783
Outcome	78	1.948718	0.8663618	1	3
log (GDPpc)	71	8.09929	1.097198	6.144281	10.2613

(accessed on May 30, 2016); For the two cases of Ethiopia and Eritrea, we use the GDP data from World Bank. We could not use the GDP data from the Maddison Project as the project only records the total GDP of Ethiopia and Eritrea together. While it is true that such substitution is not very desirable, the substitution is not expected to considerably disrupt the dataset since there is very little difference between the GDP of Ethiopia and Eritrea recorded on the Maddison Project and the sum of Ethiopia and Eritrea GDP recorded on the World Bank dataset.

39) We do not control for the relative CINC scores of the participants since defeat in wars against rivals will have negative consequences on the capacity and legitimacy of a state regardless of the power difference (Almost all defeats incur costs for the leader: see for example, Bueno de Mesquita and Siverson, 1995).

40) Hegre et al. (2001).

41) Monty Marshall, Ted Gurr and Keith Jaggers, *Polity IV Project: Political Regime Characteristics and Transitions, 1800-2015* (2015).

42) Fearon and Laitin (2003).

Ongoing Civil War	78	0.1282051	0.336482	0	1
Polity Score	75	-1.493333	7.841975	-10	10
Ethnic Fractionalization	77	0.4324136	0.2211865	0.0396	0.952575
log (population)	71	9.980275	1.776995	6.133652	13.8962
Civil War in 3y	78	0.1153846	0.3215534	0	1
Civil War in 5y	78	0.1538462	0.3631365	0	1
Civil War in 10y	78	0.2179487	0.4155246	0	1

〈Table 2〉 Correlation among Independent Variables

	log (battle death)	Outcome	log (GDPpc)	Ongoing	Polity Score	Ethnic Fractionali-zation	log (popula-tion)
log (battle death)	1.0000						
Outcome	0.4523	1.0000					
log (GDPpc)	-0.3641	-0.2040	1.0000				
Ongoing Civil War	0.1033	-0.0483	-0.0053	1.0000			
Polity Score	-0.3283	-0.3927	0.4236	0.2222	1.0000		
Ethnic Fractionalization	0.1159	-0.0352	-0.0365	0.2604	0.0383	1.0000	
log (population)	0.0175	-0.2278	-0.0437	-0.3384	0.1351	-0.1968	1.0000

V. Data Analysis

The results for our central hypotheses are shown in the subsequent three tables. Table 3, 4, 5 each show results of civil war likelihood within three, five, ten years of interstate war termination. Model 1 examines the effect of conflict intensity measured by battle deaths, while Model 2 shows the impact of outcome on civil war onset. The final model (Model 3) tests the effects of both conflict intensity and outcome. Each cell represents the logistic analysis coefficient between the dependent

〈Table 3〉 Civil War Onset within 3 Years of Interstate War

DV= Civil War Onset	Model 1	Model 2	Model 3
log (battle death)	1.807 (0.46)***		1.779 (0.67)***
Outcome		1.147 (0.54)**	1.571 (0.79)**
log (GDPpc)	-2.841 (0.93)***	-0.431 (0.70)	-3.010 (1.93)
Ongoing Civil War	0.708 (1.73)	0.113 (1.23)	0.956 (1.39)
Polity score	0.106 (0.19)	-0.038 (0.07)	0.112 (0.22)
Ethnic Fractionalization	4.354 (3.59)	5.484 (2.96)*	5.300 (3.80)
log (population)	0.357 (0.79)	0.289 (0.30)	0.095 (1.11)
Constant	-1.989 (14.12)	-7.089 (10.25)	-2.144 (22.43)
N	67	67	67
Log-likelihood	-7.393461	-15.718531	-6.3282674

*** p-value <0.01, ** p-value <0.05, * p-value <0.1
Methods: Logit analysis

〈Table 4〉 Civil War Onset within 5 Years of Interstate War

DV= Civil War Onset	Model 1	Model 2	Model 3
log (battle death)	0.782 (0.25)***		0.770 (0.21)***
Outcome		1.176 (0.50)**	1.158 (0.74)
log (GDPpc)	-1.052 (0.59)*	-0.671 (0.51)	-1.190 (0.63)*
Ongoing Civil War	-0.380 (1.33)	-0.342 (1.15)	-0.203 (1.02)
Polity Score	-0.056 (0.10)	-0.105 (0.08)	-0.120 (0.13)
Ethnic Fractionalization	3.481 (1.84)*	4.801 (2.06)**	4.745 (2.57)*
log (population)	0.309 (0.36)	0.460 (0.32)	0.566 (0.51)
Constant	-4.873 (5.59)	-6.411 (7.26)	-10.024 (9.57)
N	67	67	67
Log-likelihood	-15.74195	-15.718531	-14.240982

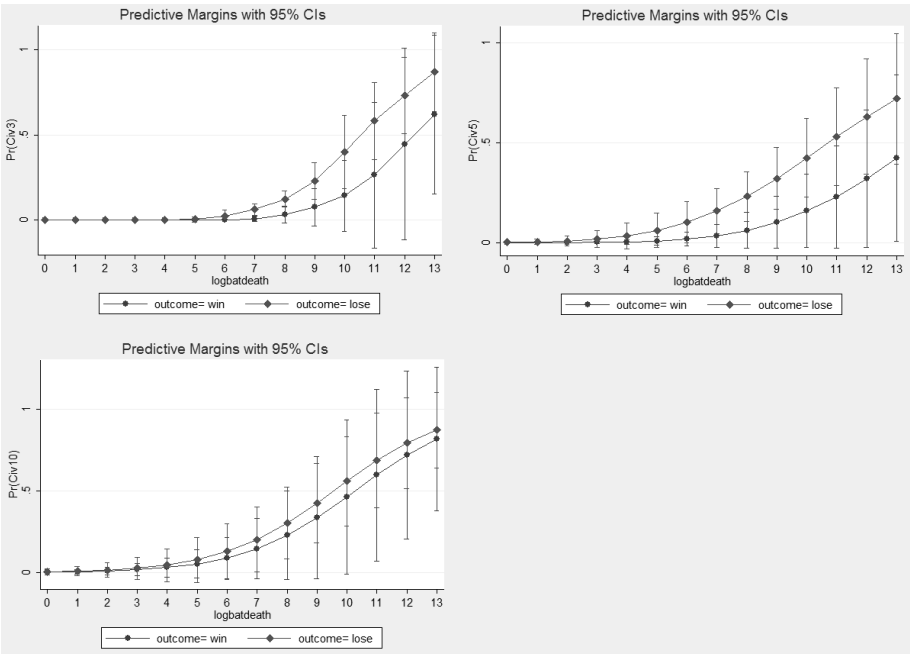
*** p-value <0.01, ** p-value <0.05, * p-value <0.1
Methods: Logit analysis

〈Table 5〉 Civil War Onset within 10 Years of Interstate War

DV= Civil War Onset	Model 1	Model 2	Model 3
log (battle death)	0.641 (0.24)***		0.624 (0.24)***
Outcome		0.595 (0.45)	0.225 (0.66)
log (GDPpc)	-0.751 (0.39)*	-0.647 (0.33)**	-0.749 (0.39)*
Ongoing Civil War	-0.308 (1.39)	-0.105 (1.14)	-0.205 (1.51)
Polity Score	0.048 (0.09)	-0.007 (0.06)	0.053 (0.08)
Ethnic Fractionalization	1.933 (1.57)	2.764 (1.59)*	1.971 (1.64)
log (population)	-0.052 (0.25)	0.064 (0.25)	-0.023 (0.30)
Constant	-0.357 (4.35)	0.663 (5.34)	-1.024 (5.92)
N	67	67	67
Log-likelihood	-23.084693	-28.805871	-22.989854

*** p-value <0.01, ** p-value <0.05, * p-value <0.1
Methods: Logit analysis

〈Figure 2〉 Predictive Margins of Civil War within 3, 5, and 10 Years by Intensity



variable (civil war onset) and the independent variables. Robust standard errors are shown in parentheses and those with statistical significance are marked with stars.

1. Interstate War Conflict Intensity and Civil War Onset

The findings suggest strong support for the first hypothesis that a war participant who suffers higher levels of battle deaths will have increased chances of experiencing civil war outbreak than a participant with lower levels of battle deaths. The coefficients for battle deaths are positive and significant at the 99% confidence level both when tested alone (Model 1) and with war outcome (Model 3). The results also remain robust across all time standards of three, five, ten years (Table 3, 4, 5), lending more confidence to the significance of conflict intensity on civil war outbreak.

The results also demonstrate the considerable substantive effect of conflict intensity on civil war onset as well. Figure 2 displays the predictive margins of civil war onsets by battle deaths within three, five, ten years of interstate war termination based on the full model (Model 3). It shows that holding other variables at means, civil war likelihood within ten years after experiencing a five-hundred-death interstate war is expected to be around 6% while the probability escalates to 17% with 3,000 deaths and 26% with 8,000 deaths. Although the likelihood of civil war itself is not very high especially considering the fact that 80% of war participants in the dataset suffer less than 3,000 battle deaths in one interstate war episode, the chances of civil war at 3,000 deaths is still three times higher than at five hundred deaths.

The predictive margins of the most advantageous and disadvantageous cases further illustrate the various impacts of interstate wars according to their conflict intensity levels. In the most disadvantageous case, as in the case of Iraq after the Gulf War (Battle deaths: forty

thousand; Outcome: defeat), the probability of experiencing civil war within ten years of the interstate conflict is 63% (p=0.000). Conversely, the possibility of France experiencing a civil war within ten years after the same Gulf War (Battle death: two; Outcome: victory) is less than 0.04% (p=0.542).

GDP per capita (logged) is also significant in all cases except for Model 3 in Table 3, the coefficient being in the expected negative direction. Such constant significance of one of the strongest predictors of civil war onset further provides support for the results reported above. Rather unexpectedly however, the control variables of total population (logged), polity scores and ongoing civil wars were not very significant, with their coefficients even changing signs occasionally.

2. Interstate War Outcome and Civil War Onset

Outcome shows statistical significance when assessing its impact on civil war onset within three years of interstate war (Table 3). According to Table 3, the loser has nearly three times the risk (14%) of experiencing a civil war compared to the winner (5%) within three years of an interstate war. Ethnic fractionalization also showed a mildly significant positive sign throughout all three time standards when tested with outcome (Model 2).

However, contrary to what we expected, outcome gradually loses its significance in other time standards. In civil war onsets within five years, outcome is only significant in Model 2 and loses its significance after controlling for battle deaths (Model 3). When tested against the ten year time standard, it loses its significance in both models. Although such results may simply demonstrate the diminishing impact of interstate war outcome as time goes by, it also indicates that war outcome is not a very decisive civil war determinant compared to conflict intensity.

Based on these findings, we conduct an additional analysis using

〈Table 6〉 State Capacity Change according to Intensity and Outcome

DV = GDP per capita change	
log (battle death)	-1.949 (0.58)***
Outcome	1.170 (2.13)
log (GDPpc)	-3.213 (1.54)**
Ongoing Civil War	-1.428 (5.01)
Polity Score	0.304 (0.23)
Ethnic Fractionalization	-14.175 (6.91)**
log (population)	-0.257 (0.99)
Constant	44.043 (18.96)**
N	67
Adjusted R2	0.2045

*** p-value <0.01, ** p-value <0.05, * p-value <0.1
Methods: Linear regression

linear regressions to see how war intensity and outcome affect the state capacity (GDP per capita)[43] of a war participant. The GDP per capita change is measured by the percent change between the GDP per capita of a state one year before the interstate war initiation and the GDP per capita of the state at the year of the war termination. As can be seen in Table 6, conflict intensity is highly related to a negative change in state capacity while war outcome is not. The fact that war outcome itself does not lead to a decline in state capacity provides a possible explanation for why war outcome is less significant in determining civil war onset than previously expected.

The weak significance of outcome raises questions on former studies such as that of Bueno de Mesquita et al. and Goemans, which emphasize the importance of war performance over battle deaths in assessing the risk of violent regime change.[44] We believe that such discrepancy in

43) We employ the conventional method of using GDP per capita as a proxy for state capacity. See for example, Fearon and Laitin (2003).

results could owe to the different necessary conditions of violent regime changes and civil wars. Since leadership turnover generally consists of small scale replacements of one elite by another,[45] regime changes can happen without a drastic decline in a state's material capacity. They many only require a justification on the part of rival elites, which is provided when a leader loses an interstate war. Yet for civil wars, or widespread rebellions involving more than a thousand deaths to take place, it would need more than a simple justification. A steeper decline in state capacity that opens the door of opportunity to rebel groups will be more imperative in determining civil war onset than in cases of violent regime changes.

VI. Conclusion

Overall, we have argued that different interstate wars affect differently the chances of civil war onset. Empirical findings suggest support for our first hypothesis that higher conflict intensity would lead to higher likelihood of civil war. Yet outcome itself is not as decisive as expected; interstate war outcome is only partially supported in its relationship with civil war onset. Additional analysis on the impacts of interstate war intensity and outcome on state capacity provides a possible explanation for such results, as intensity is significantly related to decline in state capacity while outcome is not. Thus our results indicate that war damage is more decisive when it comes to determining civil war onset than war outcome.

The main significance of this research lies in that by assessing inter-

44) Bueno de Mesquita, Siverson and Woller (1992), p. 641; H. E. Goemans, "Fighting for Survival: The Fate of Leaders and the Duration of War," *Journal of Conflict Resolution*, Vol. 44, No. 5 (2000).

45) Bueno de Mesquita, Siverson and Woller (1992), p. 641.

state wars according to their different intensity levels and outcome, it offers a more thorough investigation into the external conditions that influence civil war onset. This paper also casts doubt on previous rallying effect literature which generally sees external conflicts as opportunities to consolidate state power. Moreover, this research implies that Pyrrhic victories do little to deter civil war outbreak, challenging conventional arguments on war outcome and leader tenure.

Nevertheless, further research on the relationship between interstate wars and civil wars would be welcome. One limit of this study is that it compares the effects of war intensity and outcome only among states that have interstate war experience. A comparison of civil war likelihood with states that did not have interstate war experience at all would be needed to more accurately gauge the impact of interstate wars on civil war onset. It would also be interesting to see if the results hold or vary when tested with other control variables and datasets, and perhaps to extend the scope of analysis from interstate wars to all levels of militarized interstate disputes as well.

[References]

Blattman, Christopher, and Edward Miguel. “Civil War.” *Journal of Economic Literature*, Vol. 48, No. 1 (2010).

Boix, Carles. “Economic Roots of Civil Wars and Revolutions in the Contemporary World.” *World Politics*, Vol. 60, No. 3 (2008).

Bueno de Mesquita, Bruce, Randolph M. Siverson, and Gary Woller. “War and the Fate of Regimes: A Comparative Analysis.” *American Political Science Review*, Vol. 86, No. 3 (1992).

Bueno de Mesquita, Bruce, and Randolph M. Siverson. “War and the Survival of Political Leaders: A Comparative Study of Regime Types and Political Accountability.” *American Political Science Review*, Vol. 89, No. 4 (1995).

Chiozza, Giacomo, and H.E. Goemans. “Peace through Insecurity: Tenure and International Conflict.” *Journal of Conflict Resolution*, Vol. 47, No. 4 (2003).

Collier, Paul, and Anke Hoeffler. “Greed and Grievance in Civil War.” *Oxford Economic Papers*, Vol. 56 (2004).

Connor, Walker. “A Nation is a Nation, is a State, is an Ethnic Group, is a ….” *Ethnic and Racial Studies*, Vol. 1, No. 4 (1978).

De Figueiredo Jr., Rui J. P., and Barry R. Weingast. “The Rationality of Fear: Political Opportunism and Ethnic Conflict.” In Barbara F. Walter and Jack Snyder (eds.). *Civil Wars, Insecurity and Intervention* (New York: Columbia University Press, 1999).

Doyle, Michael W., and Nicholas Sambanis. “International Peacebuilding: A Theoretical and Quantitative Analysis.” *American Political Science Review*, Vol. 94, No. 4 (2000).

Elbadawi, Ibrahim, and Nicholas Sambanis. “Why Are There So Many Civil Wars in Africa? Understanding and Preventing Violent Conflict.” *Journal of African Economies*, Vol. 9, No. 3 (2000).

Fearon, James D., David D. Laitin. “Ethnicity, Insurgency and Civil War.” *American Political Science Review*, Vol. 97, No. 1 (2003).

Gelpi, Christopher, and Joseph M. Grieco. “Competency Costs in Foreign Affairs: Presidential Performance in International Conflicts and Domestic Legislative Success, 1953-2001.” *American Journal of Political Science*, Vol. 59, No. 2 (2015).

Gibler, Douglas M., Marc L. Hutchison, and Steven V. Miller. “Individual Identity

Attachments and International Conflict: The Importance of Territorial Threat." *Comparative Political Studies*, Vol. 45, No. 12 (2012).

Gibler, Douglas M., and Steven V. Miller. "External Territorial Threat, State Capacity and Civil War." *Journal of Peace Research*, Vol. 51, No. 5 (2014).

Goemans, H.E. "Fighting for Survival: The Fate of Leaders and the Duration of War." *Journal of Conflict Resolution*, Vol. 44, No. 5 (2000).

Gurr, Ted R. *Why Men Rebel* (Princeton: Princeton University Press, 1970).

Hegre, Havard, Tanja Ellingsen, Scott Gates, and Nils Petter Gleditsch. "Toward a Democratic Civil Peace? Democracy, Political Change, and Civil War, 1816-1992." *American Political Science Review*, Vol. 95, No. 1 (2001).

Hendrix, Cullen S. "Measuring State Capacity: Theoretical and Empirical Implications for the Study of Civil Conflict." *Journal of Peace Research*, Vol. 47, No. 3 (2010).

Kalyvas, Stathis N., and Laia Balcells. "International System and Technologies of Rebellion: How the End of the Cold War Shaped International Conflict." *American Political Science Review*, Vol. 104, No. 3 (2010).

Malanczuk, Peter. "The Kurdish Crisis and Allied Intervention in the Aftermath of the Second Gulf War." *European Journal of International Law*, Vol. 2, No. 2 (1991).

Marshall, Monty G., Ted R. Gurr, and Keith Jaggers. *Polity IV Project: Political Regime Characteristics and Transitions, 1800-2015* (2015).

Miguel, Edward, Shanker Satyanath, and Ernest Sergenti. "Economic Shocks and Civil Conflict: An Instrumental Variables Approach." *Journal of Political Economy*, Vol. 112, No. 4 (2004).

Mueller, John E. "Presidential Popularity from Truman to Johnson." *American Political Science Review*, Vol. 64, No. 1 (1970).

Østby, Gudrun. "Polarization, Horizontal Inequalities and Violent Civil Conflict." *Journal of Peace Research*, Vol. 45, No. 2 (2008).

Ross, Michael L. "What Do We Know About Natural Resources and Civil War?" *Journal of Peace Research*, Vol. 41, No. 3 (2004).

Sambanis, Nicholas. "Do Ethnic and Non-Ethnic Civil Wars Have the Same Causes?" *Journal of Conflict Resolution*, Vol. 45, No. 3 (2001).

_____. "What is Civil War? Conceptual and Empirical Complexities of an Operational Definition." *Journal of Conflict Resolution*, Vol. 48, No. 6 (2004).

Sarkees, Meredith R., and Frank Wayman. *Resort to War: 1816-2007* (Washington D.C.: CQ Press, 2010).

Skocpol, Theda. *States and Social Revolutions: A Comparative Analysis of France, Russia & China* (Cambridge: Cambridge University Press, 1979).

Snyder, Jack, and Robert Jervis. "Civil War and the Security Dilemma." In Barbara F. Walter and Jack Snyder (eds.). *Civil Wars, Insecurity and Intervention* (New York: Columbia University Press, 1999).

Thies, Cameron G. "Of Rulers, Rebels and Revenue: State Capacity, Civil War Onset, and Primary Commodities." *Journal of Peace Research*, Vol. 47, No. 3 (2010).

Tilly, Charles. *From Mobilization to Revolution* (Boston: Addison-Wesley Publishing Company, 1978).

_____. "War Making and State Making as Organized Crime." In Peter Evans, Dietrich Rueschemeyer, and Theda Skocpol. *Bringing the State Back In* (Cambridge: Cambridge University Press, 1985).

Walter, Barbara F., and Jack Snyder. *Civil Wars, Insecurity and Intervention* (New York: Columbia University Press, 1999).

Waltz, Kenneth N. *Theory of International Politics* (Long Grove: Waveland Press, 2010).

The Maddison Project (2013). http://www.ggdc.net/maddison/maddison-project/home.htm (accessed on May 30, 2016).

The World Bank. *World Development Indicators* (2016). http://data.worldbank.org/data-catalog/world-development-indicators (accessed on May 30, 2016).

[초 록]

국가 간 전쟁이 내전의 발생에 미치는 영향에 관한 연구

이소영 · 황태희 | 연세대학교

국가 간 전쟁은 내전의 발생 확률에 어떠한 영향을 미칠까? 본 연구는 국제전의 강도와 결과에 따라 국제전 참여자가 내전을 경험할 확률이 어떻게 다를지 분석하였다. 높은 분쟁 강도의 국제전을 겪었을 경우 낮은 분쟁 강도의 국제전을 겪었을 때보다, 국제전에서 패배했을 경우 승리했을 때보다 내전 발생 확률이 높을 것이라고 예측하였다. 1948년부터 2003년까지의 국제전 에피소드를 바탕으로 한 회귀분석에 의하면 고강도의 국제전을 경험할수록 내전 발생의 확률이 증가하였다. 반면에 국제전의 결과 자체는 분쟁강도와 비교하였을 때 내전 발생 확률과의 유의미성이 감소하였다. 본 연구는 내전의 발생 확률에 있어서 전쟁의 실질적 피해가 결정적인 영향을 미친다는 것을 보이며 외부적 요인이 내전 발생에 미치는 영향에 대해 심화된 분석을 했다는 점에서 의의가 있다.

주제어: 내전 발생, 국제전, 반란 단체, 분쟁 강도

투고일: 2016년 10월 6일, 심사일: 2016년 10월 28일, 게재확정일: 2016년 11월 23일