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The Balance of Convertibility: Manipulating External Support in Civil War

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**THE BALANCE OF CONVERTIBILITY:
MANIPULATING EXTERNAL SUPPORT IN CIVIL WAR**

A thesis submitted in partial fulfillment
of the requirements for the degree of
Master of Arts

By

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WRIGHT STATE UNIVERSITY
GRADUATE SCHOOL

April 26, 2022

I HEREBY RECOMMEND THAT THE THESIS PREPARED UNDER MY SUPERVISION BY Kimberly L. Wolfe ENTITLED The Balance of Convertibility: Manipulating External Support in Civil War BE ACCEPTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF Master of Arts.

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ABSTRACT

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Despite the pervasive trend in civil war of multiple sponsors backing rebels or the government, there is surprisingly minimal analysis on how the *balance* of support influences conflict duration. Building on the research of Sawyer et al. (2017), who find that the “fungibility” of external support leads to longer civil war, this thesis contributes a new scoring method for analyzing the *balance* of “fungible” (hereafter “convertible”) support among combatants (rebels versus government), discovering that a balance of convertibility contributes to shorter conflict. Convertible resources are those that combatants manipulate to enhance their warfighting capacity, such as funding, while troops or territory are less convertible since combatants can only use them in a specific context. A balance of convertible forces likely contributes to shorter conflict because both sides recognize the reduced likelihood of victory. Policymakers should thus carefully evaluate the support given to the opposition of the recipient they are backing.

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I. INTRODUCTION

This research seeks to understand the variation in civil war duration in conflicts involving external support. Since the Cold War, intrastate conflict has become increasingly prevalent and generally “lasts over six times longer than the average international war” (Collier et al., 2004, p. 253). The latest Peace Research Institute Oslo (PRIO) report on *Trends in Armed Conflict, 1946-2020* observes that most civil wars today stem from thirty-year-old conflicts, such as those related to the collapse of the Soviet Union. In the last decade, the number of civil wars averaged around forty-five conflicts per year, with the year 2020 reaching a record level of fifty-six active conflicts. The report interestingly finds that “more people have been killed in the persistent wars that were active 30 years ago than all of the new conflicts erupting after 1991” (Hegre & Strand, 2021, p. 3). Understanding why conflicts endure will better inform policymakers.

Furthermore, much of the literature on civil war observes a relationship between external intervention and civil war duration, but few explain why conflict sometimes lasts longer and at other times ends sooner when external parties provide support. Some scholars find that third-party support to combatants tends to lengthen civil war because it brings more parties and preferences to the negotiating table (Regan, 2002; Salehyan et al., 2011), while others find that it shortens conflict because external parties can provide security guarantees (Walter, 1997). This thesis seeks to address this variation in civil war

duration to better inform U.S. foreign policymakers when deciding what kind of support to provide.

Both the unfolding Russian intervention in Ukraine since February 24, 2022 and the ongoing civil war in Syria since 2011 serve as relevant examples of the human costs of external intervention in conflict. Although many characterize the current Ukrainian crisis as an interstate war, much of the conflict stems from the enduring, violent civil war since 2014 between the North Atlantic Treaty Organization (NATO)-backed Ukrainian government and the Russian-backed separatists in the coal-rich Donbas region. The United Nations Office of the High Commissioner for Human Rights (OHCHR) Monitoring Mission in Ukraine reports approximately 51,000-54,000 casualties between April 2014 and December 2021 (Office of the High Commissioner for Human Rights, 2022, p. 3).

The civil war in the Donbas region of Ukraine stems from the ousting of the pro-Russian Ukrainian President Yanukovich in 2014 after he rejected a European Union deal promoting integration with Europe in favor of an irresistible deal from Russia. Peaceful Ukrainian demonstrations broke out and transformed into violent clashes with riot police, known as the Maidan Revolution. Yanukovich fled to Russia, prompting the uprising in Donbas and Russia's annexation of Crimea in 2014. Separatists in the predominately Russian-speaking provinces of Donetsk and Luhansk refused to recognize the new Ukrainian government, especially after the controversial language law which established Ukrainian as the national language and temporarily banned the Russian language (Chrzanowski, 2021).

Throughout the conflict, Russia has provided military support and troops, giving the separatists a significant military advantage. To this day, Ukraine does not have the strength to take the Donbas region back by force despite NATO support (Chrzanowski, 2021). Furthermore, attempts at a ceasefire have only failed. The 2014 and 2015 Minsk Agreements conveniently exclude Russia as a negotiating party, giving Russia leeway to intervene and back the separatists (Fischer, 2019).

The ongoing civil war in Syria since 2011 also reveals the complexity of foreign involvement in intrastate conflict, with major players like the United States, Saudi Arabia, Turkey, the United Kingdom, and France supporting the rebels while Russia and Iran back the Assad regime. Originally beginning as a domestic protest of the Syrian government, the conflict quickly protracted into civil war. Russia intervened with troops in 2015 to help Assad conquer the rebels. The U.S. provided about 2,000 troops to the Syrian rebels until it began withdrawing troops in 2019. Iran provided approximately \$19 billion to Assad's regime from 2011 to 2014 (Tan & Perudin, 2019). Despite this complex external intervention, neither side has made gains toward victory. In terms of the human costs, the Independent International Commission of Inquiry on the Syrian Arab Republic reports the displacement of 6.6 million and casualties of approximately 400,000 since the start of the war (Office of the High Commissioner for Human Rights, 2021).

The enduring conflicts in Syria and Ukraine's Donbas region demonstrate the importance of understanding how external support influences the length of a conflict. An emerging literature identifies a relationship between the *type* of external support and civil war duration. This research builds on a study from Sawyer et al. (2017) who find that more "fungible" forms of external support to rebels tend to prolong civil wars. Sawyer et

al. (2017) define fungible support as that which “can be easily diverted to nonwar aims or redirected back toward fighting capacity,” such as funding. Funding is highly fungible because it “can be used in diverse ways,” while arms transfers are less fungible because they are sellable or tradeable. Less fungible support is more difficult to exchange, such as intelligence (contextual), troops, and territory (p. 1183).

One limitation of the findings of Sawyer et al. (2017) is that they only examine fungible support given to the rebel side and ignore support given to the government. The authors justify this exclusion because the government usually already has a military advantage. However, 56.38% of their cases involve external support to the state rather than rebels (p. 1188). In a footnote and an appendix, they even identify a relationship between external support to government and prolonged civil war, but they do not analyze the role of fungible support. One would expect the logic of fungibility to apply regardless of whether the combatants receiving the support are rebels or the government.

Instead of focusing on the *fungibility* (hereafter *convertibility*) of external support, this study argues that the *balance of convertible support* impacts civil war duration. Since “fungibility” has an economic connotation, this study recoins the term as “convertibility” to more clearly demonstrate how some types of resources from external supporters are more manipulable than others in terms of their end-use. Convertibility is the degree to which combatants (rebels or government) can manipulate resources from third parties for alternate purposes and enhance their warfighting capacity.

Funding is highly convertible because combatants can theoretically weaponize money for any purpose, but territory is less convertible or manipulable because combatants cannot translate territory into an alternate warfighting capability, such as

weapons. This analysis expects that the balance of convertible external support between rebels and the government will impact civil war duration. This of course requires controlling for the preexisting balance of power among rebels and the government prior to the provision of external support. Understanding the impact of external support on conflict duration will better inform decision-makers when deciding what kind of support (if any) to provide in conflict.

To explore the impact of external support on civil war duration, this study first introduces the literature on civil war and how few scholars have carefully analyzed this relationship. The following section introduces a theory on how the balance of convertible forces influences conflict length. The expectation is that civil war will last longer when combatants receive an even balance of more convertible forms of support from external parties. The next section outlines the methodology and introduces a new scoring method for measuring the balance of convertibility. Next, the thesis presents the analysis findings which reveal that a balance of convertible support tends to shorten conflict, while a lack of balance (imbalance) contributes to longer war. The final section provides policy recommendations and suggestions for future research.

II. RECENT FINDINGS ON EXTERNAL SUPPORT AND CIVIL WAR

The latest literature continues to debate which factors influence the duration of civil war while others debate the effects of external involvement on civil war outcomes. However, there is surprisingly little exploration of the relationship between external support and civil war duration. Despite the increasing prevalence of civil war and the decline in interstate conflict since the Cold War, external actors continue to intervene in domestic matters and provide support to combatants to influence outcomes.

There is minimal analysis on how external support influences the length of civil war. An emerging literature observes that the *type* of external support can influence civil war outcomes but fails to address how the balance of support given to rebels and the government influences the length of a conflict. This study seeks to address that gap. Understanding exactly how external support influences the balance of power and length of civil war will give decision-makers better insight.

Sources of Civil War Duration

The literature highlights several factors that influence civil war duration, such as resources, the strength of combatants (primacy versus preponderance theories), type of civil war, extent of rebel fragmentation, ethnic fractionalization, external intervention, and timing of conflict resolution. Some argue that resources alone contribute to longer civil wars while others argue that the balance of capabilities and resources contribute to longer conflict. Specifically, Clayton (2016) finds that non-lootable resources like oil

tend to protract conflict and reduce the likelihood of negotiated settlement because warring parties cannot agree on how to manage those resources. Clayton argues that “oil wealth raises the relative capacity of the incumbent, making it more challenging for insurgents to force mediation and... resolve the problem of credible commitment” (p. 325). Lujala (2010) finds that the presence of oil and gas in a state tends to prolong conflict “regardless of whether there has been production or not” (p. 15).

Other research finds that it is not resources that contribute to longer conflict but rather the strength of combatants and the distribution of those resources. Primacy theorists focus more on the strength of a particular side, such as state strength or rebel strength, while preponderance theorists focus on the balance of combatant capabilities. There is ongoing division among primacy theorists regarding whether civil war duration is influenced primarily by the strength of the state or the strength of the rebels. Those who focus on state strength highlight the capacity of the state to fight but tend to ignore the strength of the rebels to resist. For example, Fearon and Laitin (2003) focus more on the government’s vulnerability and find that civil war lasts longer when the state faces “poverty... political instability, rough terrains, and large populations” (p. 75).

Cunningham et al. (2009) look beyond state-level variables and focus on the role of rebel strength. They find that civil wars are shorter “50% of the time” when rebels have a military advantage over the government (pp. 590-591). Similarly, Balcells and Kalyvas (2014) find that civil war lasts longer “when the government’s conventional military faces lightly armed rebels,” but that civil war is shorter when both the rebels and the state possess similar capabilities (p. 1391).

The mixed findings among primacy theorists appear to lend more credibility to preponderance theories, suggesting that a balance of power among combatants influences conflict duration rather than rebel advantage or government advantage. Preponderance theorists focus more on how the balance of forces impacts civil war duration, not the capabilities of one side. Balcells and Kalyvas (2014) categorize civil wars by the balance of rebel power in the face of state forces, or by the “technology of rebellion.” Irregular wars are those which are fought in “a guerrilla fashion, when the government’s conventional military faces lightly armed rebels,” while conventional warfare is when both rebels and the state have the capacity to fight each other. Finally, they consider “symmetric nonconventional” civil wars as those in which both government and rebels “are matched at a low level of military sophistication” (p. 1391). The authors’ findings indicate that irregular warfare is more likely to result in longer conflict than conventional warfare.

Others find that combatant military capabilities alone do not determine civil war length, but rather the level of unity among various rebel groups. Rudloff and Findley (2016) find that rebel fragmentation prolongs civil war because it introduces new rebel groups with conflicting preferences, thereby reducing the likelihood of war termination. Akcinaroglu (2012) further highlights the importance of analyzing the impact of rebel alliances on civil war termination, not just the primary rebel group fighting the government. The more that rebel groups align with one another, the more capable they are of defeating the opposition (government). However, Zeigler (2016) finds that “competitive alliances” among rebel groups can result in new civil war unless there is a third-party security guarantee to mitigate fragmentation.

Another significant body of literature argues that ethnic fractionalization plays a greater role in civil war duration than combatant capabilities or rebel fragmentation. DeRouen and Sobek (2004) find that ethnic conflicts usually last longer and are less likely to result in rebel victory. Wucherpfennig et al. (2012) focus more on the ethnopolitical context and observe how the design of state institutions affects the length of civil wars, finding a relationship between “policies of ethnonationalist exclusion” and enduring ethnic civil wars (p. 111). However, Fearon and Laitin (2003) find that ethnic fractionalization does not have a significant impact on civil war duration when compared to the strength of the state.

Other scholars focus more on how the involvement of external players influences intrastate conflict duration rather than the domestic factors outlined above. However, some argue that the presence of a third-party prolongs civil war (due to an overstayed welcome) while others claim it introduces stability because it strengthens the weaker side (effectively balancing power). Balch-Lindsay et al. (2008) observe that the time until negotiated settlement increases when both the rebels and the government are supported by an external party, but the time until one-sided victory decreases when only one side is supported (p. 345).

One of the most cited scholars on external intervention, Cunningham (2010), finds that third-party involvement reduces the chances of conflict termination due to competing goals between the external party and supported combatants. Conflict is more likely to protract when external interveners have goals or preferences *independent* of the supported combatants’ goals. Regan (2002) similarly finds that “unilateral interventions tend to lengthen the expected duration of a conflict but that biased interventions are

associated with shorter expected durations relative to neutral ones” (p. 56). Biased interventions involve an external party supporting either the government or rebels. Anderson (2019) finds that “competitive interventions” make bargaining in civil war more difficult, defining “competitive intervention” as “two-sided, [opposing] simultaneous military assistance from different third-party states to both government and rebel combatants” (p. 692).

Finally, others find that it is not merely the presence of external involvement that determines civil war length, but rather the *timing* of an external party’s intervention in conflict resolution. Zartman’s theory of “ripeness” suggests that there is a particular moment optimal for third-party involvement in conflict resolution in which both sides of combatants are ready to end the conflict (Zartman, 2000). This ripeness depends on “the parties’ perception of a mutually hurting stale-mate (MHS), ...when the parties find themselves locked in a conflict from which they cannot escalate to victory and this deadlock is painful to both of them...” (p. 228). All combatants according to this theory conduct cost-benefit analysis regarding whether negotiating conflict is better than continuing to fight.

Effects of External Support

While much of the literature recognizes the role of external support on civil war outcomes, few analyze how it influences the duration of conflict. Most scholars focus on the impact of external support on the likelihood of recurrence, conflict intensity, propensity of rebels to use violence against the state, type of termination, incitement of ethnic conflict, or the extent of rebel fragmentation. Those who do analyze the impact of external support on conflict duration tend to focus on support given to one side rather

than to both rebels and the government. This perspective overlooks how the balance of support provided to combatants can influence the duration of civil war.

First, much of the literature on external support focuses on its relationship with the likelihood of civil war recurrence. Karlén (2017) finds that civil war is more likely to recur in the short term when third-party support is given to rebels, while third-party support to the state does not have a significant impact on the likelihood of recurrence. However, Karlén does not analyze the impact of external support on civil war duration. He also finds that the duration of sponsorship in the first conflict matters more than the number of sponsors in the recurred conflict.

The literature also highlights how external support to combatants in civil war influences the degree of conflict intensity. For instance, Petrova (2019) finds a relationship between external non-state support provided to rebels and the propensity for rebels to use violent tactics against the state. Non-state support is more likely to garner less violent strategies while state sponsors incite more violence. This is because non-state actors are more likely to have similar interests to the rebels and thus have an incentive to end civil war.

Others focus on how third-party intervention influences the type of civil war termination outcome (rebel victory, government victory, negotiated settlement, or stalemate/ceasefire) and post-conflict stability. Walter (1997) finds that the presence of a third-party security guarantee increases the chances of successful negotiations to terminate civil war. This is because security guarantees resolve the “commitment problem” between warring groups and enforce agreements between warring groups. A third-party’s commitment is viewed as credible when they are militarily capable, “self-

interested,” and “backed by a promise to use force” (signal of resolve) (pp. 340-341, 361). However, Toft (2010) finds that third-party security guarantees do not contribute to post-conflict stability because security sector reform is likely to be neglected after the third-party departs.

More conditionally, Sullivan and Karreth (2015) observe that military interventions on behalf of the government usually result in government victory only “when the fighting capacity of rebel forces matches or exceeds that of the state” (p. 269). While negotiated settlements are unlikely to occur when the government receives support, agreements become more likely as the conflict endures (p. 281). However, Jones (2017) argues that the timing of intervention matters and that “direct military assistance for the government increases the odds of a government victory only once a civil war becomes protracted...” while “[t]hird-party [indirect] support for rebel organizations is most [likely to result in a negotiated settlement] during a critical window early in a civil war” (p. 52)

External support may also incite ethnic conflict or rebel fragmentation. First, Sambanis et al. (2020) argue that ethnic conflict is not just “internally produced” within the state, but “foreign patrons” also shape ethnic identities and “embolden[]” rebels “to pursue their objectives violently” (p. 2155). The authors find that the combination of external intervention and ethnic fractionalization influences civil war onset more than the presence of ethnic fractionalization alone. External support can also cause rebels to fragment. Mosinger (2018) highlights how “[r]esources from external state sponsors can also lower the initial costs and raise the expected benefits of rebellion,” thereby reducing incentives to rely on other rebel groups to fight the state (p. 71). However, Olson

Lounsbury (2016) finds that third-party interventions on behalf of rebels result in rebel unity and support to the government does not impact “rebel group splintering” (p. 134).

Puzzle: Balance of Convertibility & Conflict Duration

Much of the literature highlights the relationship between external support to combatants in civil war and the length of a conflict, but only recently have scholars carefully analyzed how the type of external support can influence the balance of power and civil war length. Jones (2017) observes how the type of support can influence the type of conflict termination but does not explicitly analyze its impact on conflict length, nor does he analyze the impact of third-party financial support. Sawyer et al. (2017) provide the most current analysis on how the type of external support can influence civil war duration by arguing that when rebels receive more fungible (or manipulable), civil war lasts longer because “fungibility” generates uncertainty about rebel intentions and capability. However, they do not look at the balance of this type of support between rebels and the government.

The logic of “fungibility” should apply not only when an external party provides *convertible* support to rebels, but also to the government. However, Sawyer et al. (2017) only break down the type of external support provided to rebels. They do not indicate the type of support given to the government and only report whether an external party provided support to the government as a dichotomous variable. This thesis attempts to fill this gap by determining how the *balance* of convertible external support to *both* sides (rebels and government) in civil war influences conflict duration.

III. BALANCE OF CONVERTIBILITY THEORY

This research seeks to address two questions: 1) Does the balance of externally provided convertible resources among combatants (rebels and government) matter, and if so, 2) what effect does that balance have on civil war duration? Does the balance of convertibility shorten or lengthen civil war? This thesis expects that a balance of convertibility will lead to *shorter* conflict due to the lack of guaranteed victory facing an opposition receiving similar convertible capabilities. For hypothesis testing, this chapter also addresses theoretical arguments for the alternative, which argue that a balance will lead to *longer* conflict. Understanding the effect of the balance of convertibility will better inform decision-makers when considering providing support in civil war and will hopefully reduce the human costs of war.

Before delving into the hypotheses, it is essential to understand the concept of the balance of convertibility. Again, *convertibility* is the extent to which combatants (rebels or government) can manipulate resources from third parties for alternate purposes and diversify their military capabilities. The *balance of convertibility* is the extent to which one side (rebels or government) receives more (or less) externally provided convertible resources vis-à-vis the opposition. In other words, a balance of convertibility is the degree to which there is a power gap between combatants in terms of convertible resources given from external parties. A balance exists when both sides receive a similar amount of convertible support from an external party, while a lack of balance occurs

when one side receives more convertible support than the opposition (giving one side greater ability to manipulate resources).

An external party providing convertible resources, such as money, threatens the opposition because the receiving party has the advantage to diversify its warfighting assets or manipulate its capabilities. For example, funds can buy more weapons, but less convertible resources like weapons or territory are contextual and cannot buy or translate into more weapons. When one side has greater flexibility to weaponize (hereafter called the “convertible advantage”), the other side faces greater opposition.

The balance of convertibility theory builds from the traditional balance of power theory in international relations. Realism assumes that the current international system is anarchic, therefore states seek power to survive by balancing against more powerful players. A balance of power in the international system tends to be more stable because of the shared uncertainty of winning the war (Waltz, 1964). The same logic should apply in terms of the balance of convertible resources among combatants in civil war.

However, existing literature on the balance of power appears to conflict over whether a balance contributes to shorter versus longer conflict (Reference Table 1 for a summary of theoretical expectations). Theories in favor of the former, that a balance leads to shorter war, tend to make arguments about the role of perception and cost-benefit analysis (the primary expectation of this research). Theories arguing the latter, that a balance leads to longer war, tend to take a “survival of the fittest approach” (the alternative hypothesis). The following two sections outline both hypotheses, building from the existing theories on the balance of power.

Primary Hypothesis: Balance Leading to Shorter War

Assuming that the balance of convertibility indeed affects the duration of civil war, this research expects shorter civil war when there is a balance of externally provided convertible resources among combatants (rebels and government). A balance of convertibility leads combatants to decide it is too risky to continue fighting due to the uncertainty of victory. Those who take a “survival of the fittest” approach may find this hypothesis counterintuitive because they assume that a balance of power will end in longer conflict when neither side can defeat the other, while a lack of balance will result in a swift and decisive victory for the strongest (or “fittest”). However, power is not the only factor that determines civil war outcomes. Combatants also perceive the strength of the opposition and make assessments of the likelihood of victory.

This hypothesis builds from the traditional balance of power theory. Realists generally argue that a balance of power is more “peaceful” because neither side is guaranteed victory if they attempt to gain superiority over the other. Waltz (1964) suggests that a bipolar world is more stable than a multipolar or unipolar one for the same reason. The end of the Cold War marked a shift from a bipolar system to a unipolar system dominated by U.S. hegemony, leading to a lack of balance in the international system and increased civil war. The traditional balance of power logic should also apply when there is a balance of externally provided convertible resources between the rebels and the government.

Similarly, when one side (rebels or government) receives external support, the other side makes assessments on their ability to face the opposition based on the other party’s externally provided convertible resources. An even distribution of convertible

forces should serve as a mutual deterrent. Similar to Zartman's concept of the "mutually hurting stalemate," wherein both sides recognize the uncertainty of the outcome when facing an opposition of equal strength, combatants become ripe for resolution due to the lack of guaranteed victory. Zartman describes the external supporting party as a "manipulator" who "either increases the size of the stakes, attracting the parties to share in a pot that otherwise would have been too small, or limits the actions of the parties in conflict, providing objective elements for the stalemate" (Zartman, 2000, p. 224).

Balch-Lindsay et al. (2008) also build from Zartman's theory and argue that "negotiated settlements should occur more rapidly under conditions of balanced... or evenly distributed, third-party intervention, because this equilibrium signals an increased degree of conflict 'ripeness' in terms of the combatants' willingness to pursue a negotiated conclusion to a civil war" (p. 350). Similarly, a balance of convertible forces should reduce the incentives for combatants to resist due to the uncertainty of how the civil war will end. Like the game of chicken, combatants might perceive the outcome as ambiguous or uncertain and decide it is not worth the risk of fighting.

Other scholars focus more on how a balance can contribute to shorter civil war because it increases the bargaining power of the formerly inferior side (usually the rebels). Hultquist (2013) argues that civil war should end sooner as rebels achieve parity (or balance) with the government in terms of military capabilities. This is because "parity exposes information about how long each side can hold out while escalating the costs of war, giving each side a greater incentive to negotiate and eventually seek a ceasefire or peace agreement" (Hultquist, 2013, p. 623). Clayton (2013) similarly argues that civil

wars are more likely to end negotiated settlements when rebels begin to rival the state because they can “threaten the survival of a regime” (p. 609).

The inverse of this hypothesis is obviously that a *lack of* balance (or imbalance) should lead to longer civil war. Conflict should last longer when the weaker side receiving less (or zero) convertible support recognizes the certainty of losing to the opposition with the convertible advantage, but the weaker side views the conflict as existential. Combatants may view the conflict as a zero-sum game, or an existential fight for control of the state. For example, if the government receives more convertible resources than the rebels, the rebels will seek methods to extend the conflict, such as disguising themselves and engaging in acts of terrorism (Hultquist, 2013).

In summary, the primary hypothesis is as follows:

***H1:** A balance of externally provided convertible support between combatants (government and rebels) in civil war will shorten the conflict.*

Rival Hypothesis: Balance Leading to Longer War

To determine the effect of the balance of convertibility among combatants, this analysis considers the alternative argument that a balance of convertible forces will contribute to longer conflict. Those who take this position tend to make “survival of the fittest” arguments. The “fittest” combatants are more likely to survive and win decisively, while an equilibrium of strength among combatants contributes to longer conflict due to the inability to defeat the other side. However, this theory fails to explain why the “fittest” combatants do not always survive, or why strong governments collapse to desperate rebel forces who view the conflict as a zero-sum game.

In terms of interstate conflict, Bennett and Stam (1996) observe that war lasts longer when combatants have a balance of capabilities “because neither side is likely to collapse quickly.” Conversely, they argue that the conflict should end quickly when one side has the advantage because “the opponent may be quickly overwhelmed” and “recognizes the probability of winning the ongoing conflict is small” (pp. 241-242). Zartman (2000) might argue that a balance of power contributes to longer conflict when combatants are not ripe for resolution and ongoing fighting is not painful.

Jervis (1978) highlights the cost-benefit calculations that combatants make. An imbalance of capabilities will contribute to shorter conflict because it reduces the costs for the more powerful side, and the benefits of winning increase. Conversely, the weaker side will recognize that the risks are too high when the opposition possesses a military advantage. Nilsson (2012) argues that a balance of power may contribute to longer war because combatants rationally determine the need to increase their capabilities before the other side increases their military power.

Building from these arguments, a balance of externally provided convertible support among rebels and the government could lead to longer conflict because of the time it takes for combatants to defeat an opponent that also has flexibility in terms of tactics and enhancing their warfighting capacity. A lack of balance between rebels and the government in terms of convertible forces would lead to shorter war because the side receiving the most convertible support possesses sufficient advantage to eliminate the opposition that receives less convertible support. The side receiving the most convertible support also has more effective bargaining power in negotiated settlements.

In summary, the rival hypothesis is as follows:

H2: A balance of externally provided convertible support between combatants (government and rebels) in civil war will lengthen the conflict.

Table 1

Summary of Balance of Forces Literature

Hypothesis	Underlying Assumptions	Theorist
H1 (Primary) Balance of forces leads to <i>shorter</i> civil war	Mutual deterrence Bargaining Power Hurting stalemate	Waltz (1964) Hultquist (2013), Clayton (2013) Zartman (2000)
H2 (Alternative) Balance of forces leads to <i>longer</i> civil war	Survival of the fittest Rationality Ripeness for resolution	Bennett and Stam (1996) Jervis (1978), Nilsson (2012) Zartman (2000)

How the Balance of Forces Influences Civil War Outcomes

IV. DESIGN AND FINDINGS

Methodology

This analysis uses a Cox hazard model (also known as a survival model) to test the hypotheses and determine if the balance of convertibility influences the duration of civil war, and if so, whether it contributes to shorter or longer conflict. The primary expectation is that a balance of convertible resources among combatants will lead to shorter civil war. This is a large-N study covering 114 civil wars over thirty-four years from 1975 to 2009, with the civil war as the unit of analysis. Initial data collection covered 135 civil wars involving external support, but 21 observations required elimination due to missing information. Furthermore, the analysis is constrained to the years 1975-2009 because this is the only timeframe with the most thorough data available on various types of external support in intrastate conflict (Högbladh et al., 2011).

This chapter outlines variable measurements and definitions, providing definitions for civil war (the unit of analysis), civil war duration (the dependent variable), the balance of convertibility (independent variable), and various controls. This research presents a novel but simple scoring method for calculating the balance of convertibility (that is, the distribution of externally provided convertible resources between rebels and the government). The final section outlines the results, policy recommendations, and suggestions for future research to improve research on the role of convertibility.

Measuring Civil War Duration

The unit of analysis, civil war (or “armed conflict”), is defined according to the Uppsala Conflict Data Program (UCDP) as “a contested incompatibility that concerns government and/or territory where the use of armed force between two parties, of which at least one is the government of a state, results in at least 25 battle-related deaths in a year” (Sawyer et al., 2017; *UCDP Definitions*, n.d.). The UCDP dataset identifies conflict termination as occurring when “an armed conflict (state-based) ceases to reach the... 25 battle-related deaths threshold” (*UCDP Definitions*, n.d.). The dependent variable, civil war duration, is a hazard year count, bound on the left by zero and discrete. Termination data comes from the UCDP-PRIO Armed Conflict Dataset (ACD) 4-2010 variable *EpEnd*, “a dummy variable that codes whether the conflict is inactive the following year and an episode of the conflict thus ends. If the conflict is inactive the following year(s), this variable is coded as 1. If not, a 0 is coded” (Gleditsch et al., 2002, p. 11).

Measuring the Balance of Convertibility

What makes this research unique from the Sawyer et al. (2017) study on the “fungibility” (essentially the same as “convertibility”) of external support is that this thesis contributes a new yet fairly simple method for analyzing the distribution of externally provided convertible resources between rebels and the government. This *balance of convertibility* is calculated by the difference between the *convertibility score* for each side. When measuring convertibility, Sawyer et al. (2017) do not appear to create cumulative convertibility scores (accounting for multiple external actors providing support), but rather they simply analyze each type of support as dichotomous variables

(e.g., whether or not a certain type of fungible support is given), regardless of how many sponsors contributed.

The *convertibility score* captures the degree to which combatants (rebels or government) can manipulate resources from third parties for alternate purposes. This score is an ordinal variable ranked according to the supported side's flexibility to manipulate resources. The variables *Rebels_Cscore* and *Gov_Cscore* respectively indicate the convertibility score for each side. The scale runs from 0-3, wherein 0 indicates "no support" or missing data (no known external resources to manipulate), 1 indicates least convertible resources (e.g., territory, troops, training, and military infrastructure), 2 represents moderate convertibility (e.g., logistics, weapons, and intelligence), and 3 denotes support with the highest degree of convertibility (currency). Data on various types of external support come from the UCDP External Support Project Primary Warring Party Dataset Codebook (Högbladh et al., 2011).

Next are the definitions for each type of support on the scale of convertibility, which come from the UCDP codebook (letters and symbols denote UCDP coding; numbers denote this analysis's coding for the convertibility score). First, for least "convertible sources" (1), *access to territory* (L), occurs when an external state allows "a warring party to set bases on the territory it controls, permits sanctuary or cross-border military action for the supported warring party or... concedes its full sovereignty in favor of a supported party." Territory is least convertible because it is immovable, context-specific, and cannot be traded for another good to advance warfighting capability. *Troops* (X), or "secondary warring party" are given when "a state [sends] combat troops to fight alongside a primary warring party secondary warring support." Finally, *training* (T)

entails any foreign military advice or training within either the country engaged in civil war or the sponsor's country (Högbladh et al., 2011, pp. 8, 16-18). Troops and training are moveable, but they are least flexible because the sponsor has control of these.

For “moderately convertible” resources (2), *logistics* (M) include “vehicles, uniforms, tents, field hospitals” and technology such as “radars, night vision technology, construction bulldozers etc.” *Intelligence* (I) support includes “maps... cryptographic codes and keys, satellite imagery, signals intelligence... troop capability.” Access to *Military/intelligence infrastructure* (Y) “includes bases, intelligence gathering stations etc.” *Weapons* (W) support encompasses “donations, transfers, supplies or loans of weapons or ammunition of any kind,” including “[s]ales on conciliatory terms” (Högbladh et al., 2011, pp. 8, 16-18).

These three moderate types of support are more convertible than troops, territory, and training because combatants can trade or sell these for alternate purposes that improve their warfighting capability. For example, troops are less convertible because the sponsor usually has control over where they go and what they do, but intelligence and training are slightly more convertible and increase the warfighting tactics of the recipient. Although intelligence is highly contextual, it strengthens readiness by informing combatants on when to hold back or press forward in conflict. Combatants can also sell or exchange intelligence for something else that can increase their chances of victory.

Finally, for external support with the “greatest convertibility” (3), *economic* (\$) support includes “military loans, military grants, and military/defense to be used towards improving the capabilities of the military” (Högbladh et al., 2011, pp. 8, 16-18). Money is the most convertible form of support because it is more fluid and combatants can use it to

purchase weapons, intelligence, or any other resource that increases their chances of winning war. Table 2 provides a summary of these definitions and the scale of convertibility.

This research proposes that the balance of convertible external support given to combatants from external parties impacts civil war duration because it shifts the existing balance of power between rebels and the state. This study calculates this imbalance by the absolute difference between the convertibility score of both sides (rebels and government). This requires tallying the convertibility score for each side from all sponsors per year in each civil war. For instance, if *rebels* receive weapons once (2), logistics once (2), and funding twice (3 + 3) in the year 2007, it has a convertibility score of 10 (2 + 2 + 3 + 3). If the *government* receives just funding once (3) in 2007, it has a score of 3. Thus, the government and rebels in this civil war have an imbalance score of 7 (10 - 3). The higher the score, the greater the imbalance. A score of 0 indicates no imbalance for that year (e.g., if both sides receive only funding once in 2008 (3 - 3 = 0)).

Table 2*Scale of Convertibility*

Convertibility	Support Type	Definitions
0 = None	No Support/Other (O or U)	No external support/missing data
1 = Low	Territory (L)	When an external state allows “a warring party to set bases on the territory it controls, permits sanctuary or cross-border military action for the supported warring party or... concedes its full sovereignty in favor of a supported party”
	Troops (X)	When troops, or “secondary warring party” are given; when “a state [sends] combat troops to fight alongside a primary warring party as secondary warring support”
	Training (T)	Foreign military advice or training in either the country engaged in civil war or the sponsor’s country
2 = Moderate	Intelligence (I)	Includes “maps... cryptographic codes and keys, satellite imagery, signals intelligence... troop capability”
	Military/Intelligence Infrastructure (Y)	Access to bases, intelligence gathering stations
	Logistics (M)	“Vehicles, uniforms, tents, field hospitals” and technology such as “Radars, night vision technology, construction bulldozers etc.”
	Weapons (W)	“Donations, transfers, supplies or loans of weapons or ammunition of any kind”
3 = High	Funding (\$)	“[M]ilitary loans, military grants, and military/defense to be used towards improving the capabilities of the military”

Letters/symbols denote UCDP coding (Högbladh et al., 2011).

It is necessary to recognize the data limitations of this study. There is natural inflation due to minimal data available on the quantity of support given because both sponsors and recipients have little incentive to publicize this information for security reasons. The latest literature on the type of external support suffers from this issue of no data on quantity (Jones, 2017; Sawyer et al., 2017). However, besides financial support, quantifying various types of support becomes rather convoluted. How should one determine the measurement for training or intelligence? For example, would one count the number of training hours, the file size, or the length of an intelligence report? Not only does quantity matter, but the quality of that training or intelligence report could make the difference between a resource that advances warfighting capability and a resource with limited impact.

This analysis initially attempted to capture the amount of funding using the notes column of the UCDP External Support dataset, which provides an estimated dollar amount for financial assistance each year from each external sponsor. However, after creating two separate columns in the dataset to separately denote the amount of financial aid given to the government and to rebels, there was not enough data to analyze without excluding numerous instances of civil war. Continuing in the tradition of the latest literature on types of external support, this analysis does not account for quantities of support. Analyzing existing data can still generate insight for foreign policy regarding the impact of certain forms of support in civil war (Jones, 2017; Sawyer et al., 2017).

Controls

This analysis uses many of the same controls as Sawyer et al. (2017) because they follow a similar research path. What distinguishes this research from theirs is that they

only look at the impact of convertible support given to the rebels and neglect to provide a thorough analysis of convertible support given to the government. This thesis resolves this gap by addressing the balance of convertible support given to both sides. Several of the control variables that the literature identifies as having an impact on civil war duration were excluded due to lack of statistical significance and are thus not discussed in detail here.¹

To accurately assess the effect of the balance of convertible external support on civil war duration, it is necessary to first control for the balance of power between rebels and the government prior to the provision of convertible support. This analysis measures the balance of power prior to support as the difference between the troop size of the rebels and the troop size of the government. For consistency with the literature and to ensure the data demonstrates the balance of power prior to external support, this analysis creates the variable *TroopDiff* from the Sawyer et al. (2017) replication dataset. The control variable *TroopDiff* comes from the absolute difference between the variables *TroopSize_State* and *TroopSize_Rebels* in the replication dataset after converting log data to exponential values.

This analysis also controls for whether or not the state was an oil producer since the literature reveals that civil war tends to last longer in oil-producing states (Clayton, 2016). The binary variable *OilProducer* comes from the Sawyer et al. (2017) replication dataset. A value of 1 indicates that the state was an oil producer at the time of the conflict

¹ Among the variables excluded due to lack of significance include whether the sponsor party had independent preferences from the combatants, donor GDP, number of rebel groups involved, whether the rebels had a legal political wing, the type of incompatibility (whether the conflict was over territory and/or government), if the state was a democracy, and the log GDP per capita and population of the state.

while a 0 indicates no oil production. Finally, the model controls for ethnic conflict because there is a significant body of literature that finds that ethnic wars tend to protract (DeRouen & Sobek, 2004; Wucherpfennig et al., 2012). The binary variable *EthnicConflict* in this model comes from the Ethnic War Dataset variable, *ETHNOWAR*, where 0 indicates no ethnic conflict and 1 indicates ethnic conflict. The authors define ethnic wars as “those fought by armed organizations that recruit fighters predominantly among their own ethnic group and who forge alliances on the basis of ethnic affiliation” (Cederman et al., 2010, p. 1).

Analysis and Results

To revisit, this research expects civil war to be shorter when rebels and the government receive a similar amount of convertible support from an external party, or a balance of convertibility. This is because a balance of convertible forces between combatants decreases the likelihood of winning civil war for both sides. When one side of combatants receives more convertible forms of support (e.g., funds) from an external party, the recipient has more choices for spending to expand their warfighting capability. This flexibility is threatening to the other side (the opposition) because it reduces their chances of victory. It also introduces risk because recipients may use these resources contrary to the external sponsor’s original purpose, prolonging conflict due to an inability to agree on how to execute resources.

To analyze whether the balance of convertibility contributes to shorter or longer civil war, this research uses the Cox hazard model because it best fits the data. The Cox hazard model (or survival model) is a study of time that estimates the relationship between the independent variable (balance of convertibility) and the probability of a

conflict ending sooner. More technically, it calculates the effect of the independent variables on the hazard rate. It estimates the survivability of the hazard (the end of the conflict) to see how long until a conflict terminates, given the *average* balance of convertibility score over the entire lifespan of each civil war. In other words, the model analyzes the impact of the average balance on the probability of the conflict ending early.

In alignment with the original expectations, the model reveals that a balance of convertibility contributes to shorter war. More technically, the model shows that a *lack* of balance (imbalance) reduces the chances of civil war terminating early. Conversely, the less balance, the greater the chances that the war will last longer. This is because when combatants (rebels and government) receive an even distribution of convertible support, they decide ongoing fighting is not worth the risk due to the lack of guaranteed victory.

The analysis eliminated several control variables from the model due to lack of statistical significance, such as whether the rebels had a legal political wing, if the government was a democracy, and GDP per capita (reference the footnote in the controls section for more details). The final model includes the balance of convertibility (primary independent variable), the difference between the rebel and governments' troop size, whether the state in which the conflict occurs is an oil producer, and if the conflict was over ethnic differences (controls). Reference Tables 3 and 4 for the Cox hazard model results. Table 3 reveals a statistically significant relationship between an imbalance of convertible support among combatants and longer civil war because the p-value, .00703, falls below the .05 significance threshold.

Table 3*Cox Hazard Model Results*

Variable	coef	exp(coef)	se(coef)	z	Pr(> z)
meanBal	-9.060e-02	9.134e-01	3.361e-02	2.696	0.00703 **
TroopDiff	2.600e-07	1.000e+00	2.870e-07	-0.906	0.36487
OilProducer	1.403e-01	1.151e+00	3.012e-01	0.466	0.64125
EthnicConflict	-5.323e-02	9.482e-01	2.059e-01	-0.259	0.79598

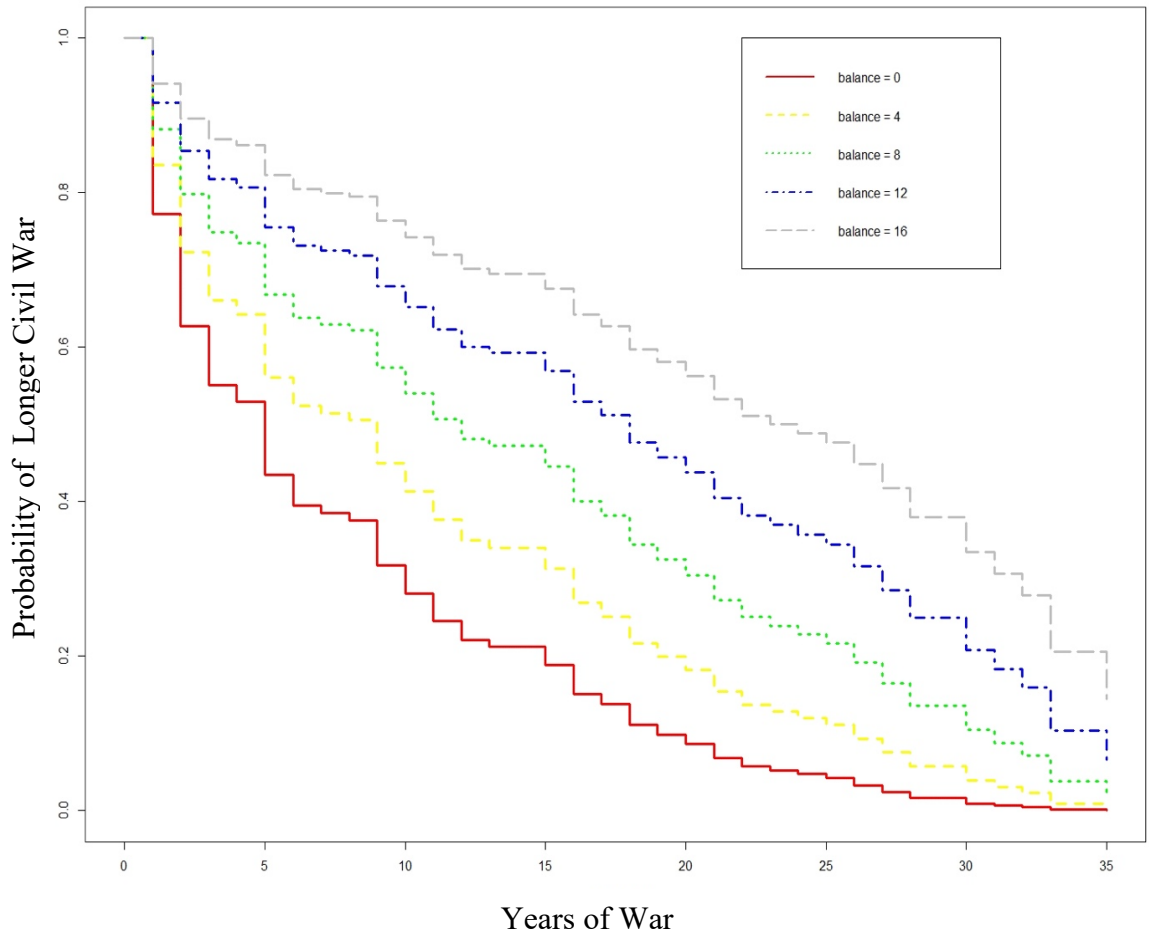
Table 4*Cox Hazard Model Results*

Variable	exp(coef)	exp(-coef)	Lower .95	Upper .95
meanBal	0.9134	1.0948	0.8552	0.9756
TroopDiff	1.0000	1.0000	1.0000	1.0000
OilProducer	1.1507	0.8691	0.6376	2.0765
EthnicConflict	0.9482	1.0547	0.6333	1.4195

Figure 1 further demonstrates this relationship by showing the survival curves for different levels of imbalance of convertible external support and the probability of longer civil war over the lifespan of a civil war. It is important to compare the balance scores with each other (the colored lines) rather than the downward direction of the individual scores. While the graph appears to show a downward trend, all conflicts end at some point in time, regardless of the curve. Vertically observing the graph (comparing the changes in the balance of convertibility scores) reveals that as the convertible forces become less balanced, the greater is the likelihood the war will continue.

Figure 1

Survival Curves for Different Levels of Convertible Balance



The graph shows the average balance value (or balance of convertibility score) for each conflict year. A value of zero indicates perfect balance while a higher score demonstrates a lack of balance. For example, a shift from a balance of convertibility score equivalent to 0 (indicating no imbalance in terms of externally provided convertible support among rebels and the government) to a score of 4 (indicating an increase in convertible imbalance) reduces the likelihood of civil war ending earlier, or in other words, increases the likelihood of the hazard surviving.

Table 3 reveals that the control variables are not statistically significant. Two of the controls are resource related (*OilProducer* and *TroopDiff*), further strengthening the relationship between the balance of convertibility and civil war duration because it shows that the pre-existing resources (prior to external provision of convertible support to combatants) have no statistically significant impact on the duration of civil war. The model confirms the primary hypothesis that a balance of externally provided external support contributes to shorter conflict, or that a lack of balance leads to longer war.

Much of the literature highlights how oil-producing states tend to have more oppression. Ross (2001) notes that “many of the poorest and most troubled states in the developing world have, paradoxically, high levels of natural resource wealth” (p. 328). Ross also observes a significant relationship between oil-producing states and antidemocratic tendencies in those regimes. While oil-producing states are less likely to become democratic, the Cox hazard model shows that the presence of oil does not influence civil war duration compared to the impact of the balance of externally provided convertible resources.

Furthermore, even when there are large differences in the balance of rebel troops versus government troops prior to provision of external convertible support, these have no impact on the duration of civil war since the *TroopDiff* variable shows no statistical significance. Much of the literature also highlights the relationship between ethnic conflicts and longer civil war, but the model reveals no statistically significant relationship compared to the balance of convertibility.

V. DISCUSSION AND RECOMMENDATIONS

This research finds a significant relationship between a balance of externally provided convertible resources to combatants and shorter civil war, or that a lack of balance (imbalance) contributes to longer war. This finding lends new insight to foreign policymakers when considering how to resolve conflict. Depending on the goal, policymakers may either prefer to shorten or lengthen conflict. If the sponsor prefers shorter conflict, the findings of this research suggest that the external party should attempt to match the convertible support that the opposition receives. However, if the sponsor is better off by prolonging the conflict, then the sponsor should attempt to create an imbalance of convertible support by providing dissimilar levels of convertible support compared to that given to the opposition.

When the objective is to have shorter conflict, those who take a “survival of the fittest” approach may find it counterintuitive that the sponsor should attempt to level the playing field because those who take this approach tend to assume it should take longer for combatants of equal strength to defeat one another. However, providing matching support (or creating a balance of convertibility) may make combatants more willing to negotiate because both sides recognize the reduced likelihood of victory if they attempt to continue fighting an opposition receiving a similar level of convertible resources. The matching support does not necessarily have to be the exact type as that given to the opposition, such as matching troops for troops. Rather, the support type should possess a

similar level of convertibility such as training. However, attempts to outrival the opponent by giving one side more convertible support such as funding (creating imbalance) may only exacerbate conflict when combatants view the conflict as a zero-sum game.

On the other hand, if it is in the interest of the sponsor to prolong the conflict, the sponsor should attempt to provide dissimilar levels of convertible support compared to that given to the opposition to generate an imbalance of convertible forces between the rebels and the government. For example, NATO might benefit more from a prolonged conflict between Russia and Ukraine than a shorter one because Russian troops may weaken as the war drags on. Thus, if the separatists in Donbas receive troops (a low convertible form of support) from Russia, then the U.S. and NATO should back the Ukrainian government with more convertible forms of support, such as funding (highly convertible) or weapons (moderately convertible) to keep the conflict going.

However, sponsors should also carefully consider the consequences of providing highly convertible forms of support. Giving highly convertible support to the government may increase the nonconventional tactics from the opposition if the rebels view the conflict as a zero-sum game. While Ukraine may have greater flexibility to manipulate funding, this may inadvertently threaten the rebels and motivate them to increase resistance or even resort to terrorism. Another possible consequence is that the recipient may use funding or weapons contrary to the original intentions of the sponsor. External sponsors tend to have less control over resources that are more convertible, such as funding. Misappropriation and corruption are not uncommon in Ukraine. For example, during the presidency Poroshenko, the Defense Ministry spent “\$5.6 million to buy

17,080 pieces of low-quality body armor.” Often soldiers would have to pay a bribe to receive NATO-donated weapons rather than receiving them free of charge through the military (Lapko, 2014).

The conclusion that decision-makers should attempt to match the level of convertible support given to the opposition (when the goal is to shorten conflict) or generate an imbalance (when the goal is to prolong conflict) is not too far from Zartman’s (2000) concept of the “mutually hurting stalemate,” wherein both sides become ripe when they recognize that ongoing fighting is painful and not worth the risk. The external party providing support can potentially reduce the length of a conflict by ensuring it matches the convertible support given to the opposition so that both sides recognize they cannot defeat each other with the same flexibility in terms of tactics. On the other hand, the external party can lengthen conflict by creating an imbalance of convertible forces.

To better understand the role of the balance of convertibility, future research will need to enhance the theory, gather more data, and analyze other possible impacts of externally provided convertible support to combatants. First, future scholarship should attempt to reconcile the conflicting theories on the balance of power and its effect on civil war duration. Perhaps these theories do not necessarily conflict and can contribute to an overarching explanation for why a balance of convertibility may lead to shorter versus longer war. The literature should develop with a theory like that of Zartman's (2000) ripeness theory that can explain why sometimes perception and motivation cause balanced conflicts to end quickly while at other times rationality and physical strength cause balanced conflicts to end later.

Furthermore, future research needs to collect more data on the quantity of convertible support to better capture its empirical effects on civil war outcomes. This will prove challenging for two reasons. First, external sponsors often give support in secret to prevent the exposure of the sponsor's lack of neutrality and to prevent the opposition from knowing the other side's capability and tactics. While research cannot overcome the nature of secrecy, scholars can still learn from publicized support. Focusing more on overt rather than secret support also reinforces the theory of the mutually hurting stalemate because it assumes that combatants publicly know when a sponsor is providing convertible support.

Another reason data collection may prove challenging to analysts is that they may find it cumbersome to gather information on the amount of convertible support given. For example, how should research capture the amount of intelligence or training given to combatants? What features make it more or less convertible? Nonetheless, any attempt to create a more rigorous and consistent metric to capture the amount of publicly convertible support will significantly improve the literature's understanding of how the balance of convertibility influences civil war.

Finally, future research should further explore the relationship between the balance of convertibility and the type of conflict termination. This will give policymakers more insight as to how conflicts tend to end when more convertible forms of support are given. Another interesting avenue to investigate is whether the balance of convertible support has any effect on the likelihood of states to democratize. These insights will improve policymakers' understanding of the implications of providing convertible support.

VI. CONCLUSION

This research contributed a new finding to the literature on convertible resources by creating a new but simple method to calculate the *balance* of those convertible resources distributed to rebels and the government in civil war. Taking the difference between convertible support given to both sides, this research found that a balance of convertible forces leads to shorter civil war. This is because convertibility creates uncertainty and combatants are more likely to negotiate sooner when victory appears unlikely. When both rebels and government receive a similar amount of convertible support, they both have similar capabilities to manipulate their resources and enhance their warfighting capacity.

In terms of policy implications, these findings suggest that external sponsors should attempt to level the playing field by backing their recipients with a similar level of convertible support as that given to the opposition from other sponsors, assuming the goal is shorter conflict. However, shorter war is not always in the sponsor's interest. It may be more in NATO's interest to extend the conflict in Ukraine for as long as possible because the longer the conflict endures, the more Russia's military will degrade, and the more likely NATO can achieve its goals. NATO would risk nothing by prolonging the war since they would not lose troops. In that case, the U.S. and NATO should attempt to create an *imbalance* of convertibility between the rebels and the government by providing

dissimilar levels of convertible support to Ukraine compared to that given to Russian forces and rebels in Donbas.

The findings suggest that if the sponsor prefers longer conflict, the sponsor should attempt to surpass the opposition in terms of convertible support. This will contribute to longer conflict when both sides (the rebels and the government) recognize the certainty of victory but the stakes to control the state are too high. However, if the goal is to have shorter conflict, the sponsor should attempt to match the convertible support given to the opposition. This balance will contribute to shorter conflict because both sides will find it too painful and not worth the risk to continue fighting. Of course, future research will need to further explore the relationship between civil war outcomes and the balance of externally provided convertible resources among combatants to better understand the implications of the balance of convertibility on conflict resolution.

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