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What's in It for Me? Strategic Calculations of NAGs in Civil  
Conflicts

By

IREEN LITVAK-ZUR  
DISSERTATION

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2022

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## **Abstract**

The dissertation sheds light on the strategic calculation driving Nonstate Armed Groups' (NAGs) behavior during and after civil conflicts. Scholars of conflict and peace research have studied mainly the relationships between governments and opposition, viewing the latter as a unitary actor. Since most civil conflicts include more than one NAG, many questions regarding civil conflict dynamics remain a puzzle. By disaggregating opposition groups in civil conflicts and considering the differences and similarities among NAGs, this project contributes to a more robust understanding of the nuances in civil conflict and post civil conflict dynamics.

I ask and propose answers to three main questions in this project. In the first chapter, I examine the determinants of conflict and cooperation between NAGs in a conflict. Which factors increase the likelihood of conflict between them? And under which conditions will they cooperate with each other? While current literature debates motivations for conflict and cooperation between NAGs separately from each other, I demonstrate that mutual identity and interests incentivize NAGs to interact with each other, regardless of the nature of the interactions. NAGs are more likely to cooperate if they share mutual interests, but also to fight each other under similar conditions. I argue that NAGs carefully choose their interaction partners to signal their preferences to domestic and external audiences and are indifferent between the type of interactions.

After discussing the determinants of relations between NAGs, in the second chapter I examine the effect of these relations on civil conflict duration. I argue that when the warring parties are able to signal to each other consistent behavior of conflict and cooperation, commitment problems are reduced and eventually result in shorter civil conflicts. The signal actors send to each other are captured by the concept of network balance. I demonstrate that when network balance increases, alongside rebel military capabilities, civil conflicts are more likely to terminate.

The third chapter examines NAGs' strategic behavior in post conflict settings. NAGs continue to receive support from external actors after conflict termination. I distinguish between the identity of the supporter and the types of received support, and show that when NAGs receive military types of external support civil conflicts are more likely to recur. The identity of the provider of the external support, on the other hand, does not have any effect on civil conflict recurrence.

The theoretical arguments and empirical analyses of this dissertation extend beyond the particular questions examined here. The disaggregated approach emphasizes the nuances between the different parts of the opposition in civil conflicts and furthers our understanding of civil and post civil conflict dynamics. It highlights the necessity to open the "black box" of opposition and treat NAGs as individual actors. Beyond extending our theoretical understanding of civil conflicts, this work provides essential tools for policymakers in deciding on efficient intervention methods in civil conflicts. Hopefully, the dissertation does not only explain armed groups' behavior in civil conflicts, but also sheds new light on how civil conflicts can be shortened and how peace can be sustained.

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## **Chapter 1: Introduction - Multiple Armed Groups Dynamics**

Civil conflicts are complicated. They erupt for various reasons such as grievances, stemming mostly from dire economic conditions and discriminatory government practices, and greed, stemming mostly from available lootable resources (See Collier and Hoeffler 2001; Fearon and Laitin 2003, among others), or different bargaining failures (Walter 2009). After they erupt, civil conflicts are long, violent, and costly. Even after conflict termination, conflicts are likely to recur (Walter 2004).

One of the factors that complicates civil conflicts further is the involvement of multiple actors. Since 1946, more than half of the civil conflicts involved more than one rebel group, and since the 1980's, 64 percent involved multiple opposition groups (Jones 2017; Walter 2019). The government and opposition groups are not the only actors involved in civil conflicts. Multiple Non-state Armed Groups (NAGs) (San-Akca 2009) receive support from external actors before, during, and after civil conflicts (San-Akca 2016).

In the past, the literature viewed civil conflicts as a dyadic interaction, with the government on one side and the opposition on the other. In recent years, there is a growing body of literature acknowledging the need to disaggregate the opposition when examining multiparty civil conflicts and treating each involved opposition group as a separate actor (See Cunningham et al. 2016; San-Akca 2009; 2016). A new array of questions arises when considering separate opposition groups, and I address some of them in this dissertation project. Each chapter is dedicated to a different question regarding the strategic behavior of NAGs during and after civil conflicts. Each chapter is designed to advance our knowledge of civil conflict and post civil conflict dynamics while considering the complex relations among NAGs and other actors in the conflict.



The main actors in this research are NAGs in civil conflicts, and their relations with others are the main form of dynamic examined in the dissertation. The first chapter examines their relationship among themselves, the second their relationships with themselves and the government, and the third chapter examines their relationships with their external supporters. Together, I present a story of the strategic decision-making process of NAGs during and after civil conflicts.

The first empirical chapter examines the relationships NAGs choose to have with other NAGs. This question is fundamental when unpacking the opposition “black box” as it explains the behavior of actors that were previously considered a unitary entity. Recent studies have found different incentives for NAGs to either fight or cooperate with each other (e.g. Fjelde and Nilsson 2012; Pischeda 2018; 2020). However, the findings do not always agree with each other. While shared ideology (Gade et al. 2019; Balcells et al. 2022) and religion (Blair et al. 2022) are found to increase cooperation among rebel groups, similar identity is also found to increase conflict (Pischeda 2020). In a similar vein, NAGs sharing external supporters are more likely to cooperate (Popovic 2017; 2018), but also fight over shared resources (Bakke et al. 2012).

In this chapter, I offer to reconcile the conflicting findings in the literature and argue that shared interests determine who NAGs choose to interact with, but not the nature of the interaction. I argue that NAGs care more about choosing their partners than about whether they fight or cooperate with them. I compile a Shared Interests Index (SII), which includes factors that contribute to NAGs’ incentive to interact with each other, including mutual identity, mutual external supporters, and power asymmetries. The index, I argue, indicates which NAGs are important to the focal NAG. The importance stems from the interests they take in the NAG. The higher the index values, the more likely NAGs are to interact with one another. I use Bayesian logit and Bayesian multinomial logit regression models to test the proposed theory. First I test the original theory, and examine the

effect of increase in SII on the likelihood of interactions between NAG dyads. Then, I test the effect of increase in SII on cooperation and conflict separately, to confirm that it has a substantial effect on each type of the interactions separately, rather than one type of interaction driving the results while the other is insignificant. In the separate effect models, I include a variable of past opposite interaction. If previous conflict between NAG dyads increases the likelihood of cooperation between the two, and if previous cooperation between NAGs increases the likelihood of conflict between them, it further supports my theory. The results support the proposed theory. I demonstrate that an increase in shared interests such as identity, mutual supporters, and relative power increase the likelihood of any type of interaction between NAG dyads.

The findings help us understand NAGs incentives for interactions with one another. Since any type of interaction entails costs, NAGs carefully choose the actors who are worth of their attention. It helps us understand the ever changing relations between Hamas and Fatah. The relations between them go from cooperation to conflict and back, sometimes even at the same time. Their shared identity, and domestic and external audiences, bring them close together and drive them to interact with each other, while the nature of the interaction is not constant. The theory advances our knowledge of conflict and cooperation among non-state actors in civil conflicts, and reconciles the conflicting findings in the literature. Furthermore, it helps us explain ties in past conflicts, and can help foresee potential ties between NAGs in future conflicts.

After determining the incentives to fight and cooperate with each other, the second empirical chapter examines the effect of these relations on civil conflict duration. The literature offers multiple factors explaining civil conflict duration (see Buhaug et al. 2009; and Collier et al. 2004, among others), but overlooks the effect of the dynamics among NAGs on civil conflict duration. The second empirical chapter of this dissertation project fills out this gap.

I examine the effect of rebel capabilities and consistent behavior of actors on civil conflict duration. To conceptualize the latter, I utilize network analysis, specifically the notion of network balance, to explain commitment problems that prolong civil conflicts. Balance theory assumes that actors maintain consistency in their social relations (Kinne and Maoz 2022), meaning that they cooperate and fight with each other based on their relationships with mutual friends and enemies. I argue that increase in rebel capabilities, alongside increase in network balance, reduces conflict duration and increases the likelihood of conflict termination, as actors in balanced networks display consistent behavior, making them easier to trust. Specifically in the context of civil conflict termination, balanced networks signaling trustworthiness reduce commitment problems, which in turn increases the likelihood of others to lay down their weapons and terminate the conflict. Using a series of Cox Proportional Hazard models, I find empirical support for the argument that consistent behavior reduces commitment problems.

The proposed theory and supporting evidence contribute both to the existing literature and to policymakers. Theoretically, the chapter provides a new variable explaining civil conflict duration and furthers our understanding of civil conflict complex dynamics. Practically, the theory provides tools for policymakers to understand when to expect civil conflict to end quickly and when to expect prolonged fighting periods, and respond accordingly.

The third empirical chapter examines NAGs' strategic behavior after civil conflict termination. Current literature provides evidence for the effect of external support to NAG before and during conflict termination only, yet multiple NAGs continue to receive support from external state and non-state actors after conflict termination as well (San-Akca 2016). As civil conflicts often recur (See Fortna 2004; and Walter 2004, among others), it is essential to understand which conditions

lead to peace failure and when post conflict societies will remain peaceful. After conflict termination, peace periods can be as short as a few days, or last for many years.

I theorize about the effect of external support on conflict recurrence and, using a series of Cox Proportional Hazard models, find that the identity of the external supporter (i.e. whether the external supporter is a state or non-state actor) does not have any significant effect on the likelihood of conflict recurrence, but the type of received support matters. Military types of support, such as troops and weapons, are threat-inducing, and increase the likelihood of conflict recurrence. Political types of support such as offices and safe haven for NAG members, on the other hand, are not threat-inducing and do not have a significant effect on civil conflict recurrence. Whether it is the government that chooses to return to fighting or the NAG that feels strong and supported enough to reinitiate their attacks against the government, the results support the argument that certain types of external support matter more than others when it comes to conflict recurrence.

As the previous empirical chapter, the theory and supporting findings in this chapter expand our theoretical knowledge of civil conflict recurrence and our understanding of strategic interactions between NAGs and their external supporters. In practice, the research helps to identify immediate red flags after civil conflict termination and possibly provides tools to identify and attend risk factors to peace.

Overall, the three empirical chapters of the dissertation advance the existing knowledge in the civil conflict research field. I develop three distinct theories about NAGs, their relations with one another and with external supporters, and the effect of these relations on civil conflict dynamics. I present a picture of the role of NAGs during and after civil conflicts, and propose innovative concepts and measurements to further our knowledge in the field.

The final chapter concludes the theories and empirical findings of the project. I discuss the different findings and their contribution to the existing literature and policymaking tools. I conclude with proposing a larger research agenda that builds on the current dissertation.

## Chapter 2: Determinants of Conflict and Cooperation Among NAGs

### Abstract

This chapter examines the conditions under which NAGs will choose to interact with each other. I argue that NAGs care more about the partners they choose to interact with than the actual nature of interaction. They have a set of shared interests, including identity, political goals, external supporters, and relative power. The chapter demonstrates that higher levels of NAGs' shared interests increase the likelihood of interactions between them, regardless of whether it is cooperative or conflictual interaction.

### *Introduction*

Current models of civil conflict often group all opposition parties as a single actor, despite the well-documented fact that most civil conflicts are much more complicated than the government-opposition two-actor model. Since 1946, more than half of the civil conflicts involved more than one rebel group, and since the 1980's, 64 percent involved multiple opposition groups (Jones 2017; Walter 2019). Furthermore, non-state actors are involved in both the opposition side of the conflict and the government side, in the form of pro-government armed groups (Carey and Mitchell 2017), which increases the number of Non-state Armed Groups (NAGs) in each conflict even more. Although one might expect NAGs to interact mainly with governments, they also maintain complex relationships of both conflict and cooperation among themselves. Current literature has suggested several explanations for both conflictual and cooperative relations among NAGs (e.g. Fjelde and Nilsson 2012; Pischedda 2018; 2020). However, an overarching explanation of NAGs' interactions had not been theorized, nor empirically tested. In this study, I bridge this gap in the literature by explaining the causes and consequences of studying conflict *and* cooperation among NAGs simultaneously.

One fundamental question that arises is why there are multiple NAGs in civil conflicts. Rebel groups often hold similar grievances and present similar demands to the ruling government. Given that rebels are almost always weaker than the government, one might expect that NAGs will join forces in civil conflicts. Nevertheless, the number of NAGs in civil conflicts is constantly increasing throughout the years (Walter 2019). NAGs in civil conflicts emerge through splintering or fractionalization (Asal et al. 2012; Christia 2012; Mosinger 2017; Seymour et al. 2016) or form independently (Shesterinina 2022; Walter 2019). Walter (2019) suggests that local demand for rebellion, including significant population size facing discrimination and a larger number of distinct ethnic or ethno-religious groups, will increase the number of rebel groups. She also demonstrates that stronger governments with more military personnel or larger internal police force were associated with smaller numbers of active rebel groups. However, the question of the dynamics among NAGs remains. Why do NAGs cooperate rather than unite? Why do NAGs fight each other when they should conserve their power to fight the government? Scholars have proposed different explanations for NAGs strategic calculations toward other NAGs.

NAGs hold different strategic considerations throughout civil conflicts, which may change with time. As opposition groups fight the government, they have numerous incentives to cooperate with each other in the face of a mutual enemy. Indeed, between 1946 and 2008, 181 out of 345 groups in civil wars “have initiated positive associations with each other while fighting with the government” (Akcinaroglu 2012, 890). The literature on cooperation among rebel groups focused on explaining *why* they cooperate, demonstrating that rebel groups mainly have their relative capabilities to those of the government in mind and coalesce when they wish to join forces and increase their resources (Lichbach 1998) and probability of achieving a military victory (Akcinaroglu 2012), or when they want to balance against rival warring groups (Christia 2012).

Other works have focused on the question of *with whom* NAGs are more likely to cooperate, finding that opposition groups are likely to cooperate against the government when they share ideology (Gade et al. 2019; Balcells et al. 2022), and especially religion (Blair et al. 2022), or when NAGs share external supporters (Popovic 2017; 2018). However, this is not always the case. Christia (2012) argues that there appears to be no such thing as an impossible alliance, that rebel coalitions are rarely homogenous, and they mostly follow the Minimum Winning Coalition (MWN) logic, in which rebel groups will form the smallest possible alliance sufficient to win the war.

Another strain of literature focuses on conflict among NAGs. Although NAGs have incentives to cooperate, civil conflicts often include divided rebel groups with multiple factions that fight not only the government but compete with each other over resources and leadership (Bakke et al. 2012). Opposition groups may fight among themselves due to commitment problems (Christia 2012); movement fragmentation (Bakke et al. 2012), which in turn intensifies commitment and information problems (Cunningham 2013); competition over shared resources, including access to supply routes, lootable resources such as natural resources, and control over civilian population (Fjelde and Nilsson 2012; Nygård and Weintraub 2015), power asymmetries, or ideological differences (Gade et al. 2019). A more dynamic argument was put forward by Pischedda (2020) and suggested that inter-rebel wars tend to break out when rebel groups face “windows of opportunity” and “windows of vulnerability”, both considering the specific power dynamics within co-ethnic rivals.

Due to the unique structure of civil conflicts, both cooperation and conflict among opposition groups are not obvious. Existing research has proposed explanations for both phenomena. However, current literature focuses on either conflict or cooperation, but overlooks almost



completely the complex relationships among NAGs, that often include both conflict and cooperation throughout the conflict, sometimes even at the same time. This variation occurs across both geography and time. NAGs can fight each other in one region of the conflict and cooperate in other regions, and their levels of cooperation may vary across time and across regions (Schricker 2017). NAGs have also been shown to switch sides throughout the conflict, based on strategic calculations such as their capacity to do so and the balance of power in the conflict (Otto 2018; Berti 2020).

Despite this important temporal and geographical variation, cooperation and conflict among NAGs have not been studied simultaneously. Often interactions between NAGs involve both cooperation and conflict simultaneously, thus both should be studied simultaneously as well. It is important to understand which factors affect the prospect of cooperation and conflict among actors and whether the factors that increase the likelihood of conflict are the same factors that decrease the likelihood of cooperation and vice versa.

The evidence that NAGs choose to fight or cooperate under similar circumstances remains a puzzle. Why NAGs' co-ethnicity is found to promote rivalry in one study, and cooperation in another? Why are power asymmetries associated with both conflict and cooperation among NAGs? The theoretical questions that arise from these gaps are yet to be answered. Why do NAGs with similar identities choose to cooperate rather than unite? Why do NAGs with incentives to fight also cooperate with each other? In this paper, I address this gap in the literature and demonstrate that NAGs with similar interests are more likely to both fight and cooperate with each other. The attributes and dynamics that drive NAGs to cooperate with each other are the same that drive them to fight each other. Once NAGs identify the relevant NAGs to interact with, they have incentives to do either or both. I propose a theory of conflict dynamics in which NAGs have a set

of strategic calculations they use to determine whether they choose to form relationships with other NAGs. They consider capabilities, external and internal support, and ideology. Weighting all these factors together helps them decide whether to engage in any form with another NAG and dictates conflict dynamics. I argue that the interests that increase their likelihood of cooperation, are the same interests that make them more likely to fight each other. I build on previous studies and develop an overarching theory of actors' strategic calculations in civil conflicts and uncover the complexity of relations among non-state actors in civil conflicts. While there is ample case study research on civil conflict dynamics (see for example Gade et al. 2019; Karell and Schutte 2018; Metternich et al. 2013; Metternich and Wucherpfennig 2019; Schricker 2017, among others), this study is, to the best of my knowledge, the first cross-national that aims to explain universal patterns of both conflict and cooperation among non-state actors in civil conflicts.

Using a set of Bayesian logit and multinomial logit regression estimations, I present supporting evidence of the proposed theory. The empirical evidence supports the argument that NAGs with a shared set of interests are more likely to interact with each other, while the nature of the interaction matters less than the interaction itself. In other words, shared interests between NAG dyads increase the likelihood of both types of interactions between them, although the increase in shared interests is more likely to increase the likelihood of conflict between NAG dyads rather than cooperation between any given dyad. NAG care more about choosing the partners with which they want to interact rather than specifying the interaction type.

## *Theory*

NAGs have incentives to interact with each other in civil conflicts. They may fight each other over available resources, cooperate to fight a mutual enemy, have changing relations throughout the conflict, or even mixed relations at the same time. I argue that NAGs choose other NAGs they wish to engage with based on the interests they share. These interests may lead NAGs to fight or cooperate with each other, as each shared interest presents an incentive to do both. Therefore, given an increase in NAG dyads' shared interests, NAGs will be more likely to engage with other NAGs. Current literature examines which aspects of shared interests lead to positive engagement (i.e. cooperation) or negative engagement (i.e. conflict). I, on the other hand, argue that shared interests prompt NAGs to choose the NAGs they wish to engage with, regardless of the form of the engagement. In other words, shared interests determine merely the existence of NAG dyads interactions, rather than the interaction of a specific nature.

NAGs both cooperate and engage in conflict with other NAGs, as they have incentives to do both. If they cooperate, they present a much stronger front against the government and increase their chances to gain significant leverage both on the battlefield and around the negotiation table (Gade et al. 2019). On the other hand, cooperation among NAGs entails sharing resources during and after the conflict, which they may not want, or can, share. When considering cooperation, NAGs are mostly interested in the combined capabilities the cooperation provides them against the government. Cooperation might be desired especially because NAGs are often much weaker than the government. Thus, every strategic decision that increases their strength when facing the government is desired. On the other hand, tactical cooperation or strategic alliances might come with a price, as NAGs that help each other may expect their allies to help them in return or share resources that they gain on the battlefield or after conflict termination. Additionally, rebel groups

may have historical, cultural, religious, and ethnic disputes, which increase their incentives to fight each other and prevent them from cooperating. Structural attributes such as ethnic and religious affiliation interact with strategic calculations and are translated into different types of relations. NAGs that see other NAGs as their perpetual enemies may not consider cooperating with them, even if it increases their capabilities against a common rival (mostly the government). NAGs may choose to put their rivalry aside for the time of the conflict if they do not have the resources or the immediate incentives to fight each other. Strategic considerations of external and internal support also affect cooperation and conflict patterns among NAGs. NAGs greatly depend on both external and internal support to survive, achieve their goals, and gain legitimacy. When considering cooperation or conflict with other NAGs, they calculate the effectiveness of such action, taking into account factors such as external support (existing and anticipated), internal support (existing and anticipated), and immediate and future strength following these relations. Following this calculus, NAGs choose to with other NAGs involved in the conflict.

NAGs hold different preferences over their partners of choice. They also carefully choose to maintain cooperative relations over merging with ally NAGs, or choose to fight with NAGs and spend precious resources instead of focusing on fighting the government. I argue that their choice of interacting with each other stems from the tension between their shared interests and their competition over domestic and external resources. While it is not always clear to NAGs who they should prefer as their foe and who as their friend, shared interests reveal who is important enough to interact with.

First, I consider the issue of cooperation. NAGs have several incentives to cooperate with each other. Cooperation increases their military power against the government or other mutual enemies. By working together, they appeal to domestic audiences and present themselves as organizations

that are able to compromise with others and join forces for a greater good. Cooperation may attract potential external supporters and signal to other NAGs their goals and preferences. Fatah and Hamas, for example, have promoted several reconciliation deals in the past decade, in an attempt to present a more unified front to Palestinian domestic audiences, existing and potential external supporters, and to the Israeli government.

While these incentives are enough to promote cooperation, they are not enough for NAGs to merge into one organization. Similar interests are not sufficient for NAGs integration for two main reasons. First, despite their similar interests, NAGs may have differences that distinguish them from each other both in the eyes of domestic and external supporters. These may be differences in preferred future policies or minor differences in world views. Second, NAGs may want to distinguish themselves in the eyes of the government they are fighting to maintain their own dynamics with it, as merging may lead to additional costs imposed by the government.

Differences such as preferred policies and demands from the government, may be fundamental for both NAGs and their supporters. Two NAGs may have secessionist aspirations but disagree on the terms they will be willing to accept in the future. NAGs can be close enough to cooperate, but still hold distinguished positions on the demands they present to the government. They may both cater to the same ethnic, nationalist, and religious groups, but have slightly different views on the identity, and on inclusions and exclusion criteria of the group. While those NAGs may not be opposed to cooperating, they are not similar enough to merge. NAGs are also concerned with, first and foremost, their relationship with the government. While all NAGs are fighting the government during civil conflicts, the relationships between the government and a focal NAG differ. Some NAGs may be negotiating with the government, or even cooperating with it on certain issues, while others are bitter enemies and do not consider any negotiation process. As the scope of rivalry

between a NAG and a government is wide, NAGs may want to maintain independence and determine their own relations with the government. Cooperation rather than merging maximizes the benefits of joining forces while minimizing the costs of losing autonomy.

Take the Israeli-Palestinian conflict, for example. Some of the most notable actors are Fatah, Hamas, the Popular Front for the Liberation of Palestine (PFLP), and the Palestinian Islamic Jihad (PIJ). The groups share very similar identities. All four define themselves as Palestinian Arabs, ethno-nationalist groups. They all demand secession or autonomy, and they are all Muslim. The groups' cultural identities and ideologies are aligned with one another. All groups are also significantly weaker than the Israeli government, and share external supporters. All four of them are supported by Syria, Hamas, PFLP, and PIJ are supported by Egypt, and Hamas and PIJ are supported by Iran as well (San-Akca 2016). Given the noticeable similarities, one might wonder why these groups cooperate but do not merge.

Applying the proposed theory, I argue that all four groups have an interest to maintain independence in the eyes of their domestic and external supporters, and in the eyes of the Israeli government. Fatah and Hamas, the two largest Palestinian groups, have significant differences within their larger doctrine and they are competing over the support of the Palestinian public, the power of the Palestinian National Authority, and external support. Both have secessionist demands from the Israeli government, but Fatah is more open to (open and official) negotiations with Israel. Additionally, Hamas (as well as PIJ) do not entertain the possibility of a two-state solution (Bloom 2004; Jaeger and Paserman 2006). This difference in policy stances toward the Israeli government is enough not only to prevent the two groups from merging, but also to promote rivalry between the two. But even groups such as Hamas and PIJ, who do not hold these different views, are not likely to merge. This is because they do not only consider their domestic and international

supporters, but also the Israeli government. As the Israeli government responds differently to attacks depending on the attacking faction (Jaeger and Paserman 2006), NAGs will prefer to remain independent than to incur the costs of the Israeli government's response to another NAG.

After reviewing the incentives for cooperation over merging, I consider the issue of conflict. Given NAGs shared interests, the benefits of cooperation, and the high costs of fighting, why would NAGs choose to fight each other? Pischeda (2020) argues that rebel groups tend to fight co-ethnic groups when they are markedly more powerful than their rivals and there is a specific balance of power between the NAG dyad and the government. Under these conditions, the stronger rebel groups "will be tempted to launch a "hegemonic bid" to lock in its advantageous position" (Pischeda 2020, 7). This argument can be extended to the theory presented here. When NAGs share mutual interests, they will try to fight each other to establish dominance. This dominance is projected not only to one another, but also to their domestic audience, to external supporters who they hope to garner more support from, and to the government who they fight. An image of a stronger NAG is beneficial on several fronts, and NAGs will try to establish this dominance when the potential benefits from fighting outweigh the costs of diverting resources from their main target, the government.

This argument can also be demonstrated with the inter-rebel rivalry in the Israeli-Palestinian conflict. Hamas and Fatah, due to their shared interests, are likely to try and outbid each other in the eyes of both domestic and external audiences. Hamas, in the first place, posited itself as an alternative to the Fatah that was the predominant Palestinian NAG until the 1990s (UCDP). While the two factions have incentives to cooperate, as explained earlier, they also have incentives to fight each other, as they fight for the hearts and souls of the same domestic groups, and over the resources of similar external supporters. Indeed, phases of not only coexistence but also

cooperation among rival insurgent groups preceded violent conflict (Pischeda 2020). The evidence of cooperative relations that alternate with conflictual relations further supports the argument that shared interests lead to interactions between related NAGs, but the nature of these interactions changes over time.

NAGs with shared interests are likely to notice each other and interact with each other. It might be through conflict, cooperation, or both. There is a specific set of attributes and dynamics that are translated into strategic calculations and determine whether NAG dyads will choose to interact with each other. These attributes include: (1) mutual external supporters; (2) common ideology; (3) cultural affinity; and (4) relative capabilities. These attributes have been previously shown to affect either conflict or cooperation. I combine these attributes into the Shared Interests Index (SII) and argue that increase in SII values will result in an increase in the likelihood of relations between NAGs, as all attributes provide incentives to both cooperate and fight with each other, which results in NAGs choosing to maintain some form of relations.

#### *Mutual External Supporters*

First, I consider the external support NAGs receive or expect to receive. Non-state actors will rarely be as strong as governments, especially without foreign support. Therefore, they are frequently dependent on foreign states for different types of support, including but not limited to, financial support, safe haven for the NAG's members or leaders, weapons and logistic aid, troops, and training (San-Akca 2009; 2015; 2016). This provides the external supporter, at least to some extent, a voice in the decision-making process of the supported NAG. The external supporter, in turn, has an independent set of interests in the conflict. It is through the support of NAGs the external supporter is acting to achieve those interests. The target of the external supporter's interests may be the government, other NAGs involved in the conflict, or other supporting states.



Thus, the NAG's relationship with other NAGs will be a function of the interests of its external supporter(s).

At the same time, NAGs are also likely to fight each other in presence or anticipation of a common supporter. That is because common external supporters provide important resources. As NAGs fight over domestic and natural resources, they may also fight each other to demonstrate superiority and gain more support from external actors. This logic builds on a similar idea of outbidding (Bloom 2004; 2005), where insurgent groups resort to terrorism to increase popular support. In the context of inter-NAG relations, NAGs will resort to violence against each other as a means to gain external support or ensure a continuous or increased external support.

NAGs can either show patterns of conflict and cooperation with other NAGs because they follow the preferences of their external supporter, or because they anticipate such support and signal to a potential supporter that their preferences are aligned. Similar to decisions on violent or non-violent uprising (Jackson et al. 2020), NAGs decide to cooperate or fight with each other based on such strategic calculations. Jackson et al. (2020) argue that NAGs conduct risk assessments when deciding on a violent or a non-violent uprising and calculate the potential gains and losses from each action. Applying this argument to relations among NAGs, NAGs also calculate potential gains and losses from different interactions with each other. While existing external supporters are observable, expected external supporters may not be obvious. I follow Jackson et al.'s (2020) approach and utilize the politically relevant international environment (PRIIE) (Maoz 1996) concept to determine the possible NAG supporters. A PRIIE of a given NAG dyad consists of external actors with an interest in and impact on the conflict in question: (1) States that share territorial or maritime contiguity with the state of the conflict; (2) Regional powers with regional

reach capacity; (3) Global powers with global reach capacity (Jackson et al. 2020); (4) Former colonial powers, and; (5) Culturally related states.

### *NAGs' Identity*

Second, I consider NAGs' identity, which is a function of cultural affinity and common ideology. Since interacting with actors other than the government is costly for NAGs, they carefully consider their allies and rivals. Importantly, they consider who to interact with, regardless of the type of interaction. NAGs with common ideologies will tend to take advantage of their compatible political aspirations and cooperate to increase power and pool resources, while minimizing the costs that come with sharing resources with another actor (Balcells et al. 2022). A common ideology increases the likelihood that two groups will agree on a certain course of action and cater to their domestic and external supporters. While it is possible, and very likely, that NAGs with a common ideology will still have their differences, differences within a common ideology are easier to put aside to promote mutual goals. Cultural affinity, on the other hand, may both promote and inhibit cooperation.

While shared religion has been shown to promote cooperation (Blair et al. 2022), it is not always the case with shared ethnicity. On the contrary, two NAGs with shared ethnicity may be more likely to fight each other as they compete over similar resources and constituencies. Therefore, cultural affinity, unlike common ideology, may promote both cooperative and conflictual relations. As co-ethnic NAGs tend to form informal alliances (Balcells et al. 2022), but also fight under specific power dynamics (Pischeda 2020), I argue that there are theoretical reasons to believe that cultural affinity promotes both cooperation and conflict between NAGs. As part of an overarching strategy, cultural affinity and common ideology will be as likely to promote both cooperation and conflict.

### *Relative Power*

Finally, NAGs will consider their relative power when deciding whether to cooperate or fight with another NAG. Cooperation always increases their power in the short-term simply because they pool their resources, while conflict weakens NAGs, as they allocate resources away from fighting the government alone. Knowing that, NAGs choose to form minimum winning coalitions, big enough to gain victory in their fight against the government, or at least to survive, but small enough not to share resources they do not have to share (Christia 2012). The same logic can be applied to NAGs' decision to fight or cooperate with each other. Power asymmetries will increase the likelihood of a conflict between NAG dyads. Very weak NAGs will be more likely to cooperate with each other, but only until they reach sufficient combined strength, while very strong NAGs will be less likely to cooperate with other NAGs overall and more likely to fight with significantly weaker NAGs.

### *A Combined Index*

Combining these four components of NAGs' grand strategy, it is easy to see how NAGs consider specific NAGs to interact with, but do not have a strong preference for either fighting or cooperating with their NAGs of interest. Put simply, NAGs identify other NAGs that "worth their attention". Within that frame, they sometimes fight and sometimes cooperate with each other, as they have strong incentives to do both. A NAG's choice to cooperate and/or fight other groups signals its external and internal supporters, first and foremost, who are the relevant actors to the focal NAG. These are NAGs that they feel strongly about, see as important and relevant actors, and have incentives to interact with, that stem from their shared interests.

Following the presented logic, I propose the Shared Interests Index (SII), consisting of these criteria to determine the strategic calculus of a NAG considering conflict, cooperation, or neither, with another NAG:

- (1) Common ideology: if both NAGs share common ideologies (e.g. communism), they will be more likely to interact with each other, by either cooperating or fighting. If two NAGs do not share a common ideology, they are less likely to conduct any type of relations.
- (2) Cultural affinity: if both NAGs share a common ethnic, religious, and linguistic identity, they will be more likely to interact with each other.
- (3) Common external supporters: if both NAGs share, or expect to share, external supporters, they will be more likely to cooperate when they wish to signal mutual goals or fight each other if they wish to signal military superiority and receive increased or exclusive external support.
- (4) Relative power: NAGs will be more likely to interact with each other if they are relatively weak compared to other NAGs in the conflict or to the government. They may choose to cooperate if they believe it will increase their combined capabilities vis-à-vis the government. On the other hand, the stronger NAG may choose to see the opportunity and establish dominance.

The SII is considered by each NAG in each dyad and determines the value of forming relations. Higher SII values, which signify that NAGs share enough interests, they will choose to interact with each other. If NAGs do not share interests and have no incentives neither to cooperate nor to fight each other, they will not engage with each other. Combining all strategic considerations can predict the likelihood of interactions of any nature, and of conflict and cooperation separately, between two NAGs in a civil conflict. Two hypotheses follow:

*H<sub>1</sub>: Increase in SII increases the likelihood of interactions between NAG dyads.*

*H<sub>2a</sub>: Increase in SII increases the likelihood of cooperation between NAG dyads.*

*H<sub>2b</sub>: Increase in SII increases the likelihood of conflict between NAG dyads.*

## *Research design*

### Data

The unit of analysis is NAGs dyad – year. I use the Uppsala Conflict Data Program (UCDP) armed conflict dataset with information on armed conflicts where at least one warring party is the government of a state. The dataset includes interstate, intrastate, non-state, and internationalized intrastate conflicts. I focus specifically on internal conflicts. I combine these data with several other datasets. First, I utilize the NAGs dataset (San-Akca 2016), a triadic level (including the NAG receiving the support, the external supporter, and the target state) time series dataset on state support of NAGs and on NAGs characteristics, to determine NAGs external supporters and ideational characteristics. Second, I utilize the Non-State Actors in Armed Conflict (NSA) dataset (Cunningham et al 2013) to evaluate NAGs' strength, as the dataset includes data on NAGs' relative to the government capabilities. It includes both accurate and estimated military capabilities.

To code relations patterns among NAGs I collected original data from three main sources: Big Allied and Dangerous (BAAD) Dataset (Asal and Rethemeyer 2015); Mapping Militant Organizations (Stanford University); and the Uppsala Conflict Data Program (UCDP). Each of the data sources includes indications on relations among NAGs. BAAD, for example, maps conflictual

and cooperative relations among terrorist organizations. Since multiple NAGs are also terrorist organizations, I extracted the relevant actors and the relations among them from the dataset. Mapping Militant Organizations and UCDP datasets include narratives on NAGs relations with one another, which I coded to binary variables of conflict and cooperation. I collected additional information on missing years or warring parties using news sources and official reports in a similar manner. Any reports of fighting or cooperating in the news were coded as either conflict or cooperation.

NSA data provides an ordinal 5-point measurement of the NAGs' relative to the government strength, ranging from much weaker to much stronger. The measurement is imperfect since it does not capture a precise relative power, but more precise data are unavailable given the informal nature of most NAGs. Based on these resources and data collected, the dataset used in this paper includes all civil conflicts between 1966-2012.

In the analyses presented below the dependent variable is Conflict and Cooperation between NAG dyads. I construct three separate variables to capture these relations. One is a dummy variable for cooperation. The second is a dummy variable of conflict. A final third variable is a categorical variable combining both conflict and cooperation. In the combined variable, A value of -1 represents conflictual relationship between NAGs, 0 represents no relationship between NAGs, and 1 represents cooperative relationship between NAGs. NAG dyads are considered to have a conflict in a given year if there are reported clashes or battles between them. NAG dyads are considered cooperative in a given year if there are formal or reported alliances on the battlefield between them, or if they are considered allies or suspected allies in official reports. If there is evidence of both types of relations within a given year, NAGs get a value of 1 if the relationship

is mostly cooperative, and a value of -1 if the relationship is mostly conflictual.<sup>1</sup> As both cooperation and conflict are dummy variables, this work does not consider variation in levels of conflict and cooperation. NAG dyads are considered cooperative or conflictual in a given year if they had at least one cooperative or conflictual interaction during any given calendar year.<sup>2</sup>

The main independent variable is the Shared Interests Index (SII) I discussed in the theory section above. As explained, there are 4 parameters included in NAGs' strategic considerations: (1) common ideology: If NAGs share an ideology, they get a value of 1. If not, they get a value of 0; (2) cultural affinity: If NAGs share similar cultural identities, they get a value of 1. Otherwise, they get a value of 0; (3) Common external supporters: for every shared, or expected to be shared,<sup>3</sup> external supporter NAGs share, they get 1 point (i.e. for 2 shared external supporters and 1 expected shared external supporter a NAGs dyad will receive 3 points)<sup>4</sup>; (4) relative power: Stronger than the government NAGs get -1 point and much weaker than the government NAGs get 1 point. Additionally, for every existing non-state rival a NAG had in the previous year, it gets -1 point. For every NAG ally a NAG had in a previous year, it gets 1 point. Since NAGs' power can only be estimated, and the estimations are often inaccurate, I utilize a dummy of whether a NAG is able to control a territory and whether it has a legal political wing (Cunningham et al.

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<sup>1</sup> If NAGs usually cooperate but have sporadic skirmishes in a given year, they will be coded as cooperating. If, on the other hand, NAGs are rivals but have a few tactical cooperation episodes in a given year, they will be coded as rivals.

<sup>2</sup> Note that for the most part, NAGs do not have only one or a few interactions per year. Most interaction between NAGs are continuous and spread over significant periods of time (Phillips 2022).

<sup>3</sup> Expected to be shared external supporters are calculated as explained in the theoretical section, following Jackson et al. (2020).

<sup>4</sup> The index assumes additive proportional effect rather than increasing or decreasing marginal effects. Although this may not always reflect accurately the actual effect of each additional external supporter, it is very difficult to generalize the overall effect of each additional external supporter. Support from a superpower such as the US or China may have an increasing marginal effect, while external support from smaller states (or, in a different example, when the additional external supporter is the 20<sup>th</sup> supporter of the NAG) may have a decreasing marginal effect. Therefore, I believe an additive proportional effect can be a better representation on average.

2009), which is interpreted as a proxy for public support and political power (Metternich and Wucherpfenig 2020).

I include several control variables, known in the literature to be correlated both with my main independent variable and outcome variable. The first one is *GDP per capita*, which denotes the government's ability to control its territory (Popovic 2017). As state capacity is an important factor in determining government's behavior, it is expected to affect NAGs' behavior as well. GDP per capita is widely accepted variable in the existing literature when estimating relations among NAGs (Balcells et al. 2022; Blair et al. 2022). Another proxy for government ability to respond to NAGs and affect their behavior is its *military expenditure* (SIPRI) due to its direct effect of NAGs' relative to government capabilities.

To test the proposed theory, I utilize a series of Bayesian Logit and multinomial Logit regression models. These are used to substitute the Stochastic Actor Oriented Model (SAOM), which theoretically fits best to test the theoretical arguments described above, as it treats time as a continuous variable, thus enabling identification of the causal direction (Block et al. 2018; Karell and Freedman 2020). SAOM is crucial since NAGs do not operate in a vacuum and their actions and decisions depend on the actions of other NAGs, the government, their external supporters, as well as exogenous factors such as the Shared Interest Index (SII). Because SAOMs operate on binary networks, I construct two models; one where the outcome variable is cooperation, and a second where the outcome variable is conflict. Each model includes the same independent variables and explains how likely conflict/cooperation is to occur under the specified conditions. In addition to the exogenous variables, I include two structural effects of network dynamics, a 2-star effect and the transitive ties effect.



First, I include a 2-star effect, which accounts for the tendency of actors to form ties with each other depending on other ties those actors have formed within a network (Harris 2013; Robins et al. 2007). A 2-star effect measures the dependence of an interaction between two NAGs on the interactions of those two NAGs with other NAGs in the network. The 2-star effect is measured one time in the cooperation network and one time in the conflict network.

Second, I include in the models a transitive ties effect, which accounts for the tendency of actors to close triads, *i.e.* the tendency of actors to become friends with mutual friends (Newman 2003). As previously, this is calculated separately for the cooperation and the conflict networks. Here, transitive ties effects are different for cooperation and conflict networks. Transitive ties effects in a cooperation network mean that cooperative relations between two NAGs are dependent on cooperative relations between each of those two NAGs with a third NAG. In other words, if NAG *j* cooperates with NAG *k*, and NAG *k* cooperates with NAG *i*, NAG *j* is more likely to cooperate with NAG *i*. This is a logical explanation, following the friend-of-my-friend-is-my-friend property. However, transitive ties in a conflict network do not follow a similar property, as it is not likely that an enemy of my enemy is my enemy. While this effect might be significant when considering a cooperation network, I do not expect it to have an effect on conflictual relations, and therefore on overall interactions between NAG dyads.

There are three considerable issues with SAOM. One is that it, similar to other network models, requires complete  $N \times N$  matrices and does not allow missing values (Ripley et al. 2020), which excludes large parts of the existing data. Second, SAOMs require at least three time points (in this case, years) to estimate changes in network structure. Similar to the previous issue, it excludes conflicts that lasted two years and limits the available data. Finally, SAOMs do not allow changes

in the matrix size. This is a crucial issue as the number of NAGs changes significantly both throughout conflicts and between conflicts.

To overcome these obstacles, I estimate Bayesian logit and Bayesian multinomial logit regression models and include the above network statistics in the model, which capture heterogeneities by learning from model priors and updating probabilities. Bayesian model approach is dynamic, and accounts for the divergence of dynamic processes of the treated and control units across the data (Johnson et al. 2022). Thus, I can relax the assumption of constant behavior, features, and relationships. Including network statistics allows me to imitate SAOMs while allowing for changing the number of involved actors, and smaller network size.

The data present an additional limitation as the SII is a relatively stable measure and does not change often over time. Common ideology and cultural affinity are both constant, and relative power and external support, although not constant, do not change frequently. Therefore, the SII measure is stable across NAG dyads and there is limited variation across years and conflicts. To address this issue, I grouped observations of NAG-dyads by their SII score in a conflict. For example, if a NAG dyad had an SII score of 3 for five years in the same conflict, all five observations would be grouped into one observation. The original dataset included 10,524 dyad-year observations, which were reduced to 1,005 NAG dyad – SII – conflict observations. If a NAG-dyad had the same SII score across two separate conflicts, those were considered two separate observations.

## Results

The models I estimate are based on 1,005 dyad-SII-conflict observations. These observations include 20 unique conflict episodes in 13 countries, ranging between 1966 and 2012. The episodes range between 2 and 24 years. The number of rebel groups involved in the conflicts at any given year range between 3 and 19. NAGs often do not interact with each other, which inflates the number of zeros in the matrices. There are 153 instances of interactions between NAG-dyads, which account for 15 percent of all interactions. Looking at specific types of interactions, there are 129 observations with cooperative relations between NAG dyads (12.8 percent of all interactions) and 43 observations with conflictual relations between NAG dyads (4.3 percent of all interactions). My main independent variable, SII, ranges between -1 and 7, with an average value of 0.83. The summary statistics of the independent variables, including the variables which construct the SII and are included in subsequent models, are presented in Table 1.

Variable	Min	Max	Mean	St. Dev.
SII	-1	7	0.83	1.34
Shared Ideology	0	2	0.93	0.97
Cultural Affinity	0	1	0.05	0.21
Shared External Supporter	0	4	0.08	0.43
Relative Power	-1	1	-0.22	0.97
Transitivity (cooperation)	0	126	14.87	18.49
Transitivity (conflict)	0	57	3.72	8.98
2-stars (cooperation)	0	55	4.2	6.46
2-stars (conflict)	0	36	1.38	3.65
GDP (logged)	20.17	28.15	24.5	2.37
Military Expenditure (logged)	4.13	10.74	8.63	1.67

First, I estimate a set of Bayesian logit regression models. I estimate the main model to predict interactions between NAG dyads. I test whether the likelihood of an interaction increases with the increase of SII, based on prior estimations. Since the parameters can take any value in the real line,

the model assumes normal priors and independence among them (Johnson et al. 2022). Additionally, I estimate the likelihood of conflict and cooperation separately as robustness checks, to demonstrate that an increase in SII increases each of the interactions separately.

I include SII as the sole predictor of interactions. Before examining the predictions of the Bayesian model, I examine the correlation between SII and interactions to gain prior knowledge of the effect of increase in SII values on the likelihood of interactions between NAGs. The correlation is 0.09. An increase in SII values is associated with some increase in the likelihood of NAG interactions but this effect is fairly small. This information contributes to our prior knowledge of the effect of SII on interactions and establishes a baseline for the Bayesian logit model.

Figure 1 presents the results of 100 simulations from prior models of the Bayesian model. The left-hand side of Figure 1 presents 100 datasets simulated from prior models. The right-hand side presents the proportion of predicted interaction occurrences. Both representations of the simulation point to a positive relationship between increase in SII values and increase in the probability of interactions between NAGs, which matches our prior understanding of the relationship between the two based on the data. The percent of interactions ranges from as low as less than 8 percent in one simulated dataset to as high as more than 35 percent in another dataset. A one unit increase in SII increases the probability of interactions between NAGs up to almost 100 percent.

Figure 1: 100 Datasets Simulated from Prior models of Interactions

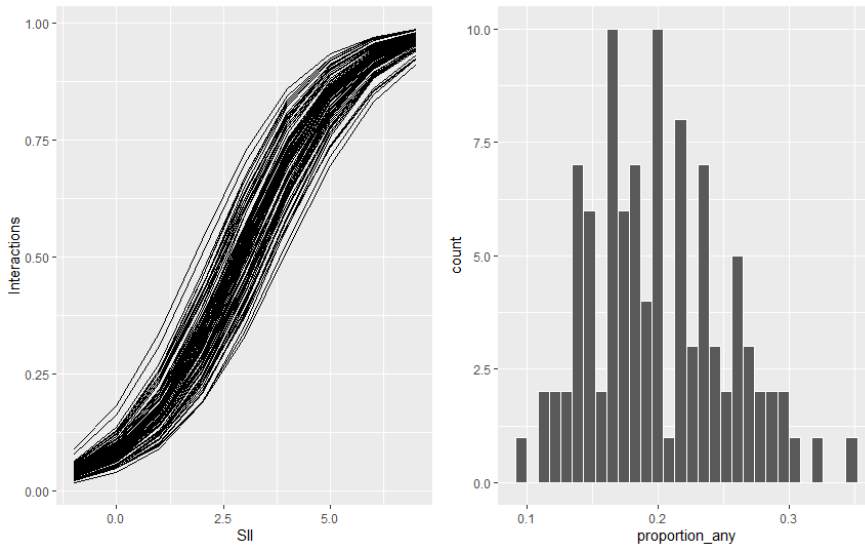


Figure 1. The left-hand panel presents 100 dataset simulating the effect of SII of the likelihood of interactions between NAGs. The right-hand side panel presents the proportion of predicted interactions between NAGs in 100 simulations. The probability of interactions between NAG dyads increases with the increase of SII values.

Considering the data, a positive and strong relationship between SII values and NAG interactions is apparent. Figure 2 presents interaction rates as a function of SII values. While the relationship is not entirely linear, higher levels of SII are associated with considerably higher rates of interactions compared to lower values of SII.

Figure 2: Interaction Outcomes vs. SII Levels

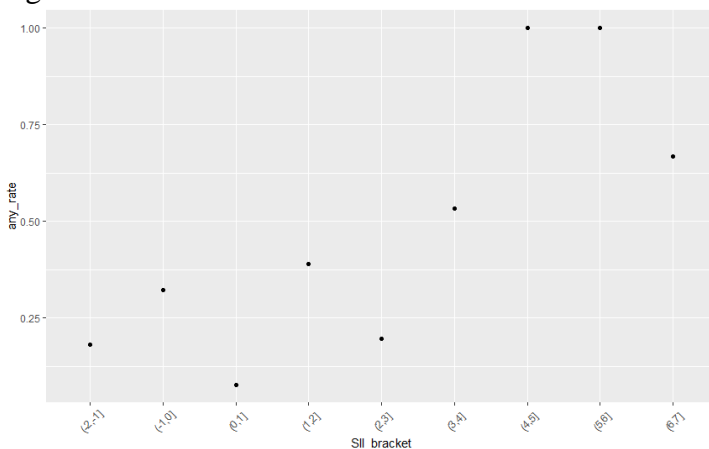


Figure 2. The rate of interactions between NAG dyads for every value of SII.

Figure 3 simulates 100 posterior plausible models. This simulation, as it considers the data, is less variable than Figure 1, and the relationship appears stronger. The probability of interactions between NAGs increases with increase in SII values, with the lowest levels of SII associated with about 5 percent probability of interactions, while the highest levels of SII in the data are associated with a probability of about 95 percent of interactions between NAG dyads. Table 3 presents more precise estimates. For every one percentage point increase in SII, the odds of interactions increase by somewhere between 82.1 percent and 99.5 percent. This range of the rate of increase is more than the 82 percent prior mean of  $\beta$ . Therefore, the chance of interactions between NAG dyads significantly increases with increase in the shared interest index, more than anticipated.

Figure 3: 100 Posterior Plausible Models for the Probability of Interactions vs. SII

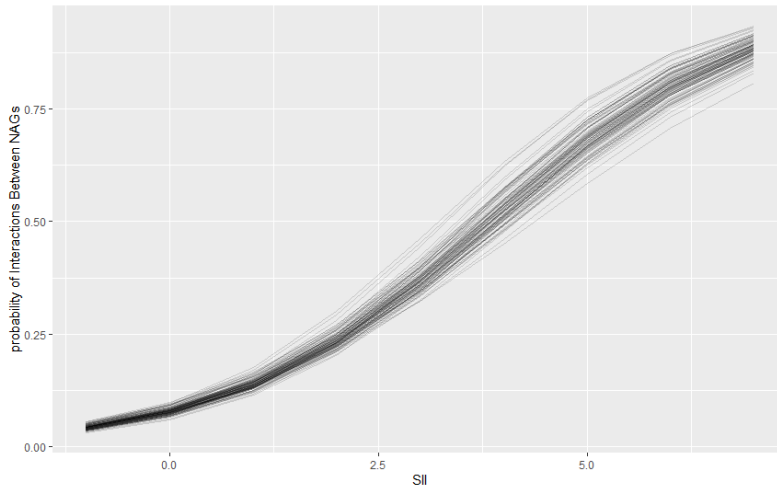


Figure 3. 100 posterior models. The probability of interactions between NAG dyads increases up to over 80 percent with the increase of SII values.

Table 3: Posterior Summaries of Interactions vs. SII (in odds)		
	10%	90%
(Intercept)	0.075	0.097
SII	1.821	1.995

I repeat the same process with the interactions between NAGs separated to cooperation and conflict and estimate the effect of SII on each of them separately, in order to rule out the possibility that an increase in SII has an opposite effect on each of the interactions that is not detected in the overall model. The correlation between SII and cooperation is 0.05 and the correlation between SII and conflict is 0.1. An increase in SII values is associated with an increase in both the likelihood of cooperation and conflict. Note that there is a greater correlation between increase in SII and conflict than cooperation. In other words, an increase in the values of SII is associated with more conflictual than cooperative interactions. As previously, I compare this information to the datasets simulated from prior knowledge of the distribution of each of SII on cooperation and conflict.

Figure 4 presents the results of 100 simulations from prior models of the Bayesian models. The left-hand side of Figure 4 presents 100 datasets simulated from prior models. The right-hand side presents the proportion of predicted cooperation and conflict occurrences. All four representations of the simulations point to a positive relationship between increase in SII values and increase in the probability both cooperation and conflict between NAGs. The effect of increase in SII is larger for cooperation than for conflict. The percent of cooperative relations ranges between 8 percent in one simulated dataset and over 30 percent in another dataset. The range of conflictual relations is significantly smaller, and ranges between 4 percent in one simulated dataset and 11 percent in another dataset. An increase in SII increases the probability of both cooperation and conflict according to prior data simulations and is reflected in the simulated datasets. Furthermore, increase in SII values can increase the probability of cooperation between NAGs to almost 100 percent, while an increase in SII values can increase the probability of conflict between NAGs up to less than 90 percent.

Figure 4: 100 Datasets Simulated from Prior models of Cooperation and Conflict

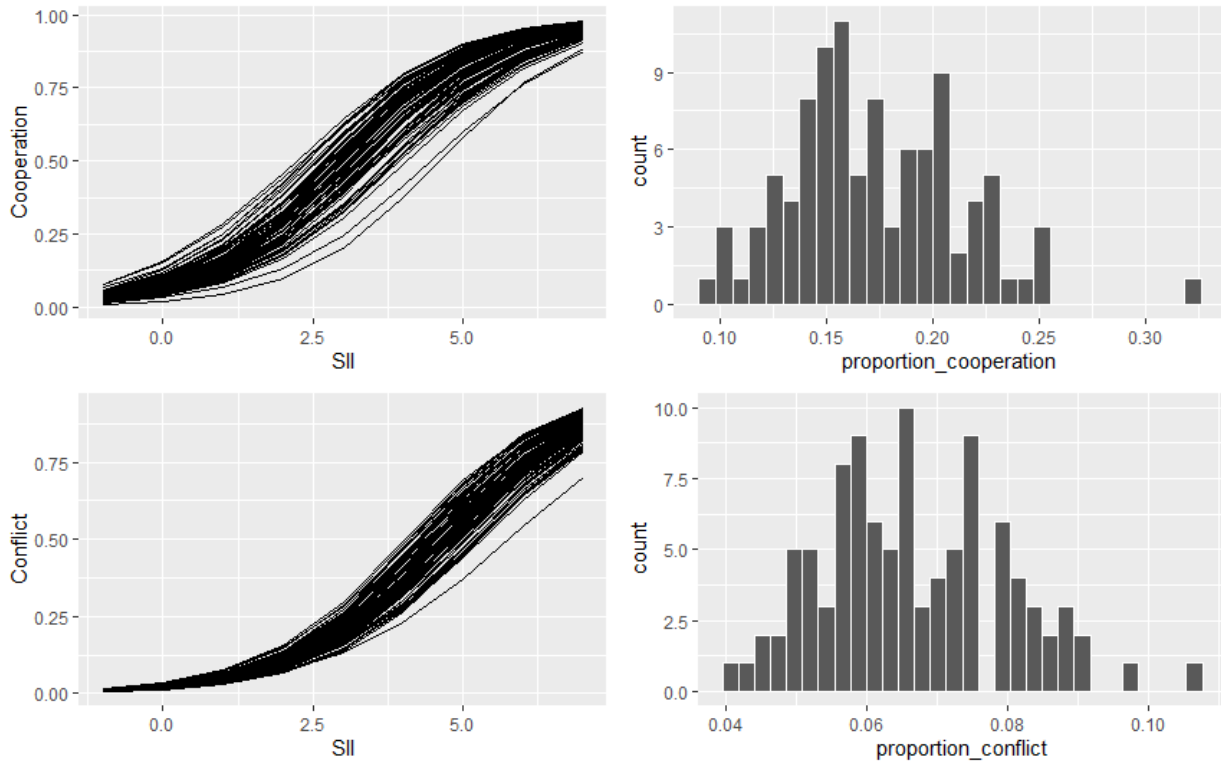


Figure 4. Upper panel: The left-hand presents 100 dataset simulating the effect of SII of the likelihood of cooperation between NAGs. The right-hand side presents the proportion of predicted cooperative interactions between NAGs in 100 simulations. The probability of cooperative interactions between NAG dyads increases with the increase of SII values. Lower panel: The left-hand presents 100 dataset simulating the effect of SII of the likelihood of conflict between NAGs. The right-hand side presents the proportion of predicted conflictual interactions between NAGs in 100 simulations. The probability of conflictual interactions between NAG dyads increases with the increase of SII values, although at a different rate than the probability of cooperation.

Figure 5 considers the data. On the left-hand side of the figure, the relationship between SII values and cooperation and conflict are not linear. However, it is noticeable that higher values of SII are associated with both cooperation and conflict. The right-hand side of Figure 5 presents simulations of 100 posterior plausible models. These simulations, as they consider the data, are less variable than the simulations in Figure 4. The posterior simulations suggest that the probability of cooperation between NAGs increases with increase in SII values, with the lowest values of SII associated with about 5 percent probability of cooperation, and the highest values of SII associated



with a probability of over 90 percent of cooperation between NAGs. The simulations of conflict present a similar trend. The posterior simulations suggest that the probability of conflict between NAGs increases with increase in SII values, with the lowest values of SII associated with less than 5 percent probability of conflict, and the highest values of SII associated with a probability of over 80 percent of conflict between NAGs.

Table 4 presents more precise estimates. For every one percentage point increase in SII, the odds of cooperation increase by a range of 80.1 percent to 98.2 percent, and the odds of conflict increase by a range of 100 percent and 102 percent. These ranges, and importantly, trends of increase rates confirm the previous finding that increase in SII is associated with increased likelihood of interactions, regardless of the type of interaction.

Figure 5: Probability of Cooperation and Conflict vs. SII

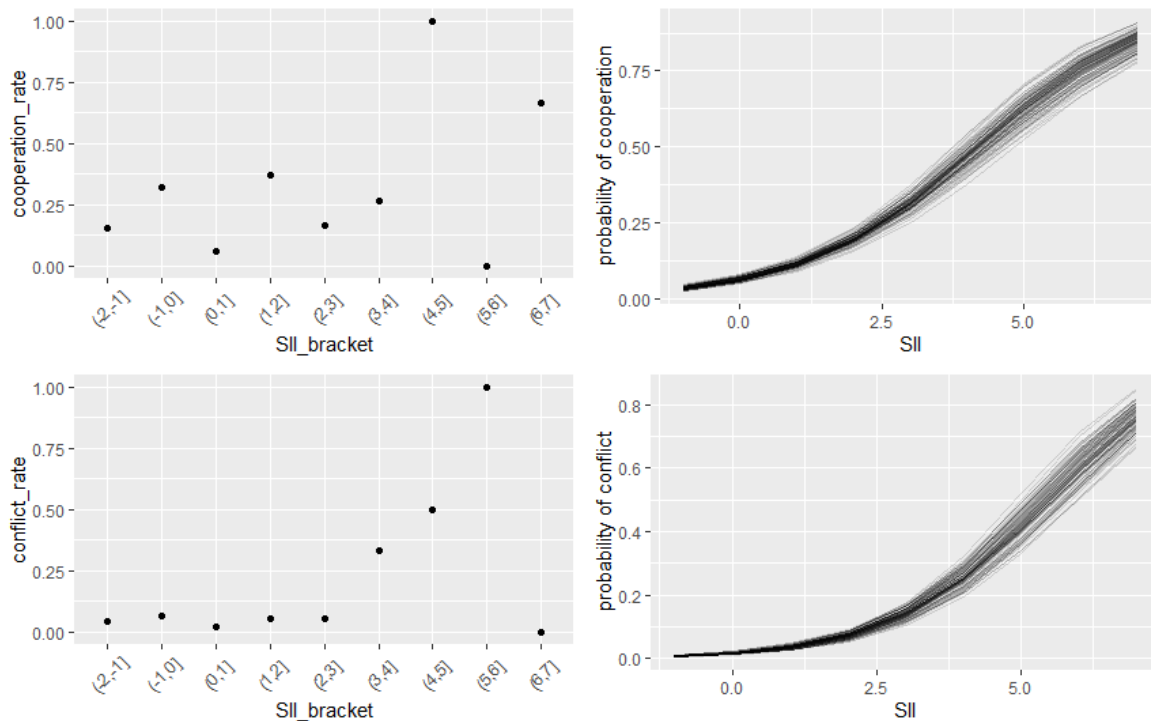


Figure 5. Upper panel: the left-hand side presents the cooperation rate for every value of SII. The right-hand side presents 100 posterior models. The probability of cooperation between NAG dyads increases up to over 80 percent with the increase of SII values.

Lower panel: the left-hand side presents the conflict rate for every value of SII. The right-hand side presents 100 posterior models. The probability of conflict between NAG dyads increases up to over 80 percent with the increase of SII values.

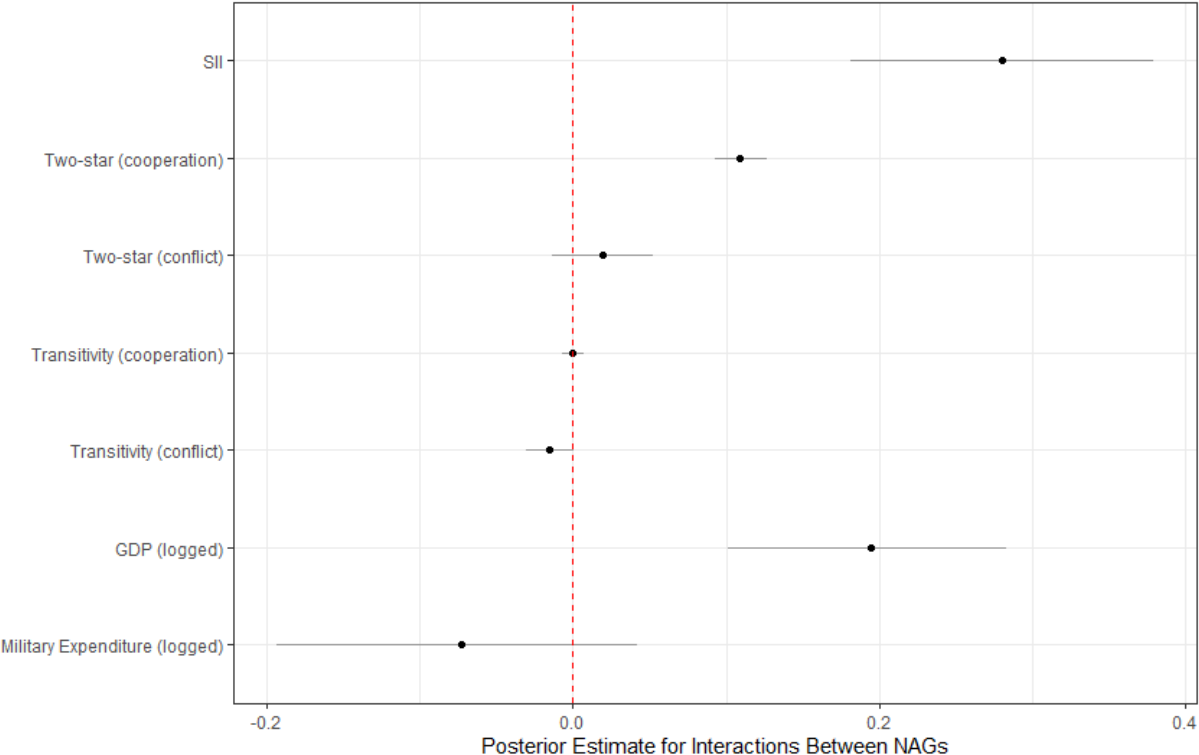
		10%	90%
Cooperation	(Intercept)	0.060	0.080
	SII	1.806	1.982
Conflict	(Intercept)	0.015	0.021
	SII	2.004	2.209

Combining the three models, the results support my hypotheses. Increase in SII values increases the likelihood of interactions between NAGs. When the interactions are divided into cooperation and conflict, shared interests appear to increase the likelihood of each separately as well. After investigating the effect of SII on NAG interactions in depth, I expand the models and estimate a set of logit and multinomial logit Bayesian models. Given the rare occurrence of interactions between NAGs, I use the UPG R package, which allows to estimate both Bayesian logit and multinomial logit models and implements algorithms that offer a high level of efficiency for imbalanced datasets (Zens et al. 2021).

Figure 6 presents the point estimates and credible intervals for the coefficients in the Bayesian logit model estimating the probability of interactions between NAG dyads. The estimates are presented for 0.1 and 0.9 quantiles, for credible comparison to the previous set of estimations. The analysis is based on 1000 iterations of MCMC sampling. Accounting for all controls, including 2-star and dyadic transitivity, increase in the shared interests of NAG dyads are *ceteris paribus* more likely to interact with each other compared to dyads without shared interests. This is aligned with  $H_1$  and supports the proposed theory.

The 2-star network statistic of cooperation significantly increases the probability of interaction between NAGs. This finding points to network dependency effects and demonstrates that NAGs that maintain interactions with other NAGs are more likely to form new interactions. Increase in logged GDP is also likely to significantly increase the likelihood of interactions between NAG dyads. This finding is partially aligned with current literature. Rebel groups are more likely to form cooperative relations when facing a strong government (Akcinaroglu 2012; Lichbach 1998), but there is no evidence of powerful governments leading to increase in other types of interactions. However, the alternative proxy measurement of government power, military expenditure, does not support this proposition.

Figure 6: Bayesian Logit Model Coefficients of NAG Interactions

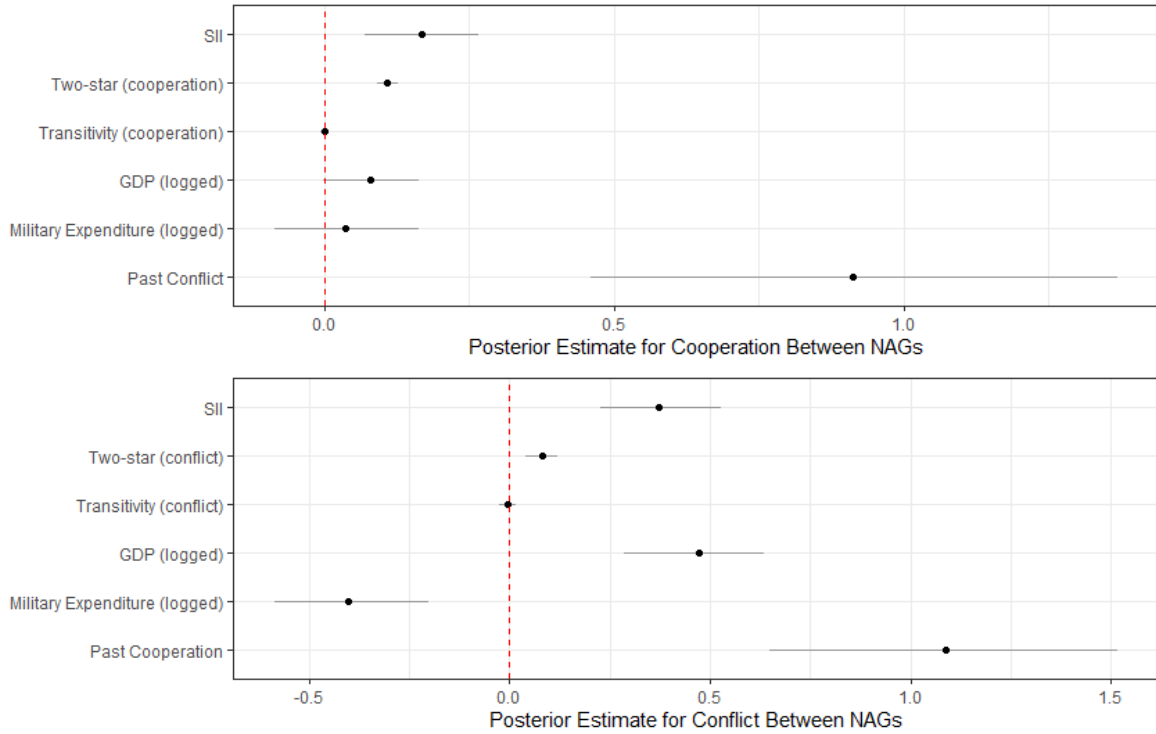


As previously, I estimate two separate models for cooperation and conflict. These models include additional control variables of the opposite lagged interactions. The conflict model includes a binary variable of former cooperation between the focal NAG dyad, which takes a value of 1 if the NAG dyad had cooperated in the year prior to the observation; and the cooperation model includes a binary variable of former conflict between the focal NAG dyad, which takes a value of 1 if the NAG dyad had fought in the year prior to the observation. If my hypotheses are correct, former opposite interactions should increase the likelihood of current interactions, even if they are opposite to each other, as the interaction itself is the main goal of NAGs.

Estimating two separate models for cooperation and conflict present similar results, which are presented in Figure 7. Confirming  $H_{2a}$  and  $H_{2b}$  the models demonstrate that an increase in SII increases the likelihood of both cooperation and conflict between NAG dyads, even when past opposite interactions are introduced into the models. The disaggregated models present a few peculiarities. First, it appears that an increase in the two-star effect increases the likelihood of both cooperation and conflict, while the current literature does not explain the positive association between increase in the two-stars effect and increased likelihood of conflict. This result might point to the sheer strength of some NAGs, who can allow themselves to choose both their allies and enemies among the NAGs in the conflict. The second peculiarity is statistically significant positive effect of GDP on conflict between NAGs, and the statistically significant negative effect of military expenditure on conflict between NAGs, as both measures are proxies for government strength and are expected to have similar effects on relations between NAGs. Decrease in military expenditure can explain increase in the likelihood of conflict between NAG dyads, as weaker governments allow NAGs to divert resources to fight other groups they could not previously.

However, it is not clear why an increase in GDP might have a significant effect on the likelihood of conflict between NAGs.

Figure 7: Bayesian Logit Model Coefficients of Cooperation and Conflict Between NAG Dyads



Overall, the estimated models support the proposed theory. During civil conflicts, NAGs calculate the benefits and costs of both cooperating and fighting other NAGs. The theory posits that NAGs have incentive both to cooperate and to fight each other given shared interests. Therefore, shared interests do not have different effects on one or the other. Rather, the interests NAGs hold determine who they want to interact with. I demonstrate that shared interests determine the partners NAGs will choose to have, rather than the nature of the interactions they will choose to have.

## *Conclusion*

In this chapter, I proposed a combined index of strategic considerations of NAGs. I outlined the different components of the index and tested the effect of the index on interactions between NAG dyads. I test the ability of this index to predict relations between NAG dyads. I argued that NAGs have a larger strategic overview of their interactions with other NAGs and that they consider the benefits and costs of each interaction. Due to their limited resources, it is costly to interact with other NAGs, whether this is a cooperative or a conflictual interaction. Therefore, NAGs carefully choose the conditions under which they interact with each other. Since relationships between different opposition groups in civil conflicts are complex and interdependent and thus highly endogenous, I combined dynamic approaches to examine my theory. I utilized network statistics that account for changes in relationships between NAGs that depend on other relationships of NAGs with each other within the same network. Then, I estimated a series of Bayesian logit models, which estimate the outcome rates based on previous and updating distributions. I estimated the effect of the Shared Interests Index on interactions between NAGs, and more specifically on conflict and cooperation between them.

The results support my proposed theory. An increase in NAGs shared interests is indeed associated with a greater likelihood to interact with each other. Estimating separate models for conflict and cooperation, I demonstrated that NAGs with shared interests are more likely to both cooperate and fight with each other. Furthermore, the results confirm and reconcile the different, and sometimes conflicting findings in the literature. The results support existing findings that NAGs with shared ideologies (Gade et al. 2019; Balcells et al. 2022), identity (Blair et al. 2022), and shared external supporters (Popovic 2017; 2018) are likely to cooperate with each other. At the same time, the findings also support Pischedda's (2020) argument about how conflict erupts between co-ethnic

groups and Fjelde and Nilsson's (2012) findings that NAGs fight over control over local population. While these findings may seem contradictory, I propose a theory that reconciles them and provides an overarching explanation of NAGs strategic calculations and interactions in civil conflicts.

The findings in this study have important theoretical and practical implications. Theoretically, I propose to look at NAGs' choice of partners rather than NAGs' choice of partners for specific interactions. This is a different approach than the existing approaches in the literature, and it sees both conflict and cooperation as costly for weak organizations such as NAGs. While conflict is obviously more costly and less beneficial than cooperation, cooperation between NAGs also bears costs and conflict between NAGs has its own benefits. Combining these calculations, I demonstrate why and how NAGs decide on their partners.

The findings presented in this paper have additional implications for policymakers, as it adds to their understanding of what to expect when considering any external intervention or when evaluating the trajectories of civil conflicts. Understanding the importance of interactions for NAGs over the nature of those interactions provides crucial information for potential external supporters if and when they consider providing support to NAGs. Furthermore, external intervenors such as mediators or peacekeepers may reconsider their approach and identify key actors if they can observe the NAGs other NAGs find important in the conflict. The analysis above hopefully moves the study of NAGs in civil conflict forward and provides empirical evidence and practical tools to understand and manage civil conflicts better.

### **Chapter 3: Networks of NAGs and Civil Conflict Duration**

#### *Abstract*

The chapter examines the effect of relations of the warring parties on civil conflict duration. The participants of each conflict are viewed as a network, where actors can maintain either cooperative or conflictual relations with one another. I utilize the notion of network balance, which captures the extent to which actors fight with their expected enemies and cooperate with their expected allies. I demonstrate that this type of consistent behavior, along with increase in rebels' capabilities, is associated with shorter conflicts. When actors can easily predict each other's behavior, commitment problems are reduced, and civil conflicts become shorter.

#### *Introduction*

The question of civil conflict duration has been central in the civil conflict literature. The duration of civil conflicts varies significantly across countries, and ranges from a few days to many years (Gleditsch et al. 2002; Pettersson and Öberg 2020). It is important to study this variation because it affects many other aspects of civil conflicts such as severity, civilian targeting, and post-conflict peace building, as well as direct and indirect implications to the international arena. Furthermore, research on civil conflict duration has significant policy implications. Understanding the determinants of civil conflict duration helps formulate policies that reduce conflict duration and their devastating effects.

Existing literature has found both structural and dynamic explanations of civil conflict duration. Structural factors such as low per capita income, high inequality, and a moderate degree of ethnic division were associated with longer civil conflicts (Collier et al. 2004). Wucherpfennig et al. (2012) propose a more nuanced explanation and demonstrate that ethnicity per se does not affect civil conflict duration. Rather it interacts with political institutions, and states that politicize ethnic relations face longer civil conflicts than those that do not. Other works focus on rebel capabilities



and their interactions with other factors and point to the power balance between the government and rebel groups as a key explanation for civil conflict duration. Scholars agree that increase in rebel capabilities has been shown to reduce civil conflict duration. Cunningham et al. (2009) demonstrate that strong rebels and reliable alternative political means to violence shorten civil conflicts, as well as decline in the prices of primary export commodities and external military intervention on the side of the rebels (Collier et al. 2004) which increases rebel capabilities against the government. Rebels' increased fighting capabilities have been shown to shorten civil conflicts, especially when interacting with geographic factors such as location, terrain, and natural resources (Buhaug et al. 2009).

Other explanations of civil conflict duration focus on external factors. Overall, third-party interventions were found to prolong civil conflicts (Regan 2002). Focusing on specific types of interventions, indirect interventions such as sanctions, tend to shorten civil conflicts (Escribà-Folch 2010). Others have proposed to distinguish different types of external rebel support. Sawyer et al. (2015) found that fungible external support to rebels prolongs civil conflicts more than non-fungible forms of external support. Another type of external intervention are peacekeeping missions (PKOs), that are often sent during the conflict itself in order to reduce hostilities. Kathman and Benson (2019) find that PKOs with larger troop deployments are better suited to reduce conflict duration.

While the existing literature provides both systemic and dyadic explanations for civil conflict duration, it rarely accounts for relations among NAGs. While Cunningham et al. (2009) propose military intervention on the side of the rebels and conduct dyadic analysis, they focus on the relationships between government and rebel groups and overlook the relationships among the rebel groups themselves and the relationship among all warring parties. Investigating the relations

among rebel groups in civil conflicts is a crucial piece of the puzzle, as dyadic government-rebel relations are interdependent. Governments and opposition groups obtain information about each other by observing their behavior toward others. Furthermore, the government faces all active rebel groups simultaneously, thus their combined capabilities should be considered when utilizing a conflict-level analysis. Current literature focuses mostly on explaining relations among NAGs (see Berti 2020; Blair et al. 2022; and Balcells et al. 2022, among others), but does not consider the effect of these relations on different aspects of civil conflicts.

For civil conflicts to be shorter, not only rebels need to have external military intervention and have high capabilities, but there also must be few veto players.<sup>5</sup> Cunningham (2006) explains that the more veto players there are, the harder it is to reach an acceptable agreement, therefore prolonging the conflict. Pro-Government Militias (PGMs) are an additional type of non-state actors that prolongs civil conflict duration. They may spoil peace processes in an attempt to maintain their relevance (Aliyev 2017). Based on these findings, I argue that a broader view of non-state actors in civil conflicts is crucial for understanding conflict duration. Networks of NAGs, rather than dichotomous government-rebel dyads, provide important information about the type of information actors receive about other actors in the conflict. This information, hand in hand with combined rebel capabilities, can explain civil conflict duration. Specifically, I argue that network balance, a term that defines relationships between friends and enemies, provides information about all involved actors. Information about network balance, in turn, decreases commitment problems and thus shortens civil conflicts.

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<sup>5</sup> Veto players are actors who have the power to stop or keep the fighting going (see Tsebelis 1995; 2011 for foundational work and Cunningham 2006; 2013 for a discussion of veto players in the context of civil conflict).

The existing explanations of civil conflict duration are either on a state level, which are mostly not dynamic in nature, or on a dyadic level, considering the government on one side and the opposition on the other. While the current research proposes state level explanations for conflict duration, I theorize and examine empirically network relations among government and opposition groups, while accounting for the dynamic nature of these relations. I disaggregate the opposition side of the conflict, consider conflict and cooperation patterns among rebel groups, and present a dynamic conflict-level factor that affects civil conflict duration and contributes to our understanding of civil conflicts.

Theoretically, I argue that there is a link between network balance, rebel groups' combined capabilities, and civil conflict duration. Specifically, an increase in network balance and in rebel capabilities decreases civil conflict duration. Empirically, I collect data on relations among NAGs and use the UCDP conflict termination data (Kreutz 2010) to determine civil conflict episode duration. The estimated Cox proportional hazard models present mixed results and partially support my theory. I demonstrate that independently, increase in network balance and in rebel capabilities decrease civil conflict duration according to the proposed theory. However, an interaction between the two does not decrease civil conflicts, rather it increases conflict duration. This finding does not support the proposed theory and is discussed further. Importantly, the analysis demonstrates the need for a broader and more systematic data collection process on relations among NAGs. This study adds a new explanation for civil conflict duration and captures dynamic relations on a conflict level. It has additional important policy implications, as it highlights the complex relations within a conflict and expands the tools policymakers have to shorten civil conflicts and decide on possible intervention strategies.

## *Theory*

The duration of a civil conflict is a function of the information the actors have about the behavior, credibility, and relative capabilities of other actors. Fearon's (1995) rationalist approach can be applied to civil conflicts (Walter 2002). Therefore, as long as the information is insufficient and NAGs' capabilities do not make fighting extremely costly, fighting will continue. When attempting to end a civil conflict, all domestic actors need to have as much information as possible. This includes, but not limited to, information about the other actors' intentions, credibility, capabilities, commitment to the agreement, and willingness to lay down their weapons. However, information alone is insufficient to end a conflict, as even with complete information, the warring parties still face commitment issues (Walter 1997; 2002; 2009). In what follows I first examine the idea of information and what information actors need to terminate a civil conflict. Then I introduce the notion of network balance and explain which information is provided to actors when the network is balanced. Finally, I explain the role of rebels' capabilities in terminating the conflict.

Actors' behavior and decision-making process, specifically their decision to terminate the conflict and lay down their arms or continue fighting, depends on many factors. Rebel groups may fight only the government, or they may manage additional conflicts with other rebel groups; they may have external support or operate on their own and have limited resources; rebel groups may cooperate with other rebels against the government, against other rebels, or simply co-exist in the conflict without interacting in a meaningful manner. Governments can also display different behaviors. They may have external or internal supporters such as militias, they may have cease-fires with some groups while still fighting others, they can be much stronger than the rebel groups they fight or fight multiple strong groups at once. Each of these behavior patterns and conditions affects differently the dynamics of the conflict and thus the civil conflict duration. These dynamics

are captured here in networks, where the actors are the government and the different opposition groups, and the relationships among them are neutral, cooperative, conflictual, or mixed. These relationships construct the network balance, a concept that measures to what extent actors cooperate and fight their expected friends and enemies. Then, the rebel capabilities, based on both their estimated military capabilities and capabilities that stem from conflict dynamics, are considered.

### Information, credibility, and commitment problems

Civil conflicts are uncertain in many aspects. There is uncertainty about actors' capabilities, resolve, outcomes, duration, and many more. Here, I focus on the uncertainty actors have regarding the behavior of other actors in civil conflicts. First, information is missing, and actors can rarely trust each other. There is a general agreement in the literature that this uncertainty is not only the cause of conflict onset (Fearon 1995) but also an important factor preventing civil conflict termination (Walter 2009). Second, commitment problems are closely related to the notion of uncertainty, which is especially noticeable in civil conflicts. When actors agree to lay down their weapons, they are left defenseless against armed actors (like the government or rebel groups who were not part of the agreement) and need to trust the latter to uphold their commitment to maintain peace or to not attack the former. If the armed adversary reneges on the deal, the committed group can be easily exploited or even wiped out (Walter 2009; Kirschner 2010). This is especially dangerous for weak NAGs, since strong NAGs pose a bigger threat to the government and are more likely to have external supporters (Salehyan et al. 2011). Thus, they are more likely to regain power quickly if and when necessary. While information is insufficient for a civil conflict to end because of these commitment problems, it is a necessary condition for the warring parties to end the fighting. To reduce commitment problems, the actors look for a certain type of information.

Actors need to know how likely the agreement is to hold, how likely other actors to uphold their commitments, and what are the major threats to such agreement. They also need to know who they can trust and who is likely to have an unpredictable behavior. Before accepting an agreement and laying down their arms, the actors need to know how likely all the other actors to accept an agreement and lay down their arms as well. Even without an agreement, for the fighting to be over, the actors need to know how likely their adversaries are to start fighting again in the future. If their behavior is predictable and they have enough information, they will be willing to lay down their weapons, with or without an agreement, and whether or not they can accomplish their goals. Increasing the predictability of a conflict allows actors to consider alternative options and do not resort to fighting. Since fighting is always costly, information allows the warring parties to try and reach their goals without fighting. Therefore, as long as there is sufficient information about the behavior of each actor, fighting becomes redundant and actors are willing to lay down their weapons. Most importantly, the actors need to know that they can trust the behavior of other actors. When this is the case, commitment problems may be reduced through this type of information. The more uncertain actors are about the behavior of other actors, the less likely they are to stop fighting. The more predictable the actors' behavior is, the more likely they are to trust each other and stop fighting. Commitment problems, similar to information issues, are independent of the outcomes or possible outcomes of the conflict. Once the actors find a way to sufficiently reduce their commitment problems, they will stop fighting to cut their losses.<sup>6</sup>

Information is an essential part to end a conflict and is even more important in civil conflicts. Walter (2009) expands Fearon's (1995) explanations of bargaining failures to civil conflicts and

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<sup>6</sup> This argument does not imply that conflict will not resume, as conflict recurrence is closely related to the conflict outcomes. However, this extension is beyond the scope of this paper. The argument here focuses on the ability to stop fighting when information about actors' behavior is available.

shows that information and commitment problems are more acute in civil conflicts because the parties who agree to stop fighting continue to live next to each other in the same country, share the same pool of domestic resources, and abide by the same rules. This is especially difficult when rebel groups transform into political parties, which creates a situation where former victims are under the rule of their former perpetrators. Actors in civil conflicts will agree to stop fighting when they can trust the other actors to cooperate with them and to follow the agreement or to refrain from fighting in the future. Therefore, the actors need as much information on all the warring parties as they can learn. The structure of the network, which consists of the identity of the actors and the type of ties between them, not only provides information, but also mitigates commitment problems. Actors that learn from the network structure about consistent behavior of other actors will be more likely to trust these actors, because the latter already demonstrated predictable behavior. What provides this information, I argue, is the balance of the civil conflict participants' network.

#### Network Balance and Rebels Capabilities

The notion of balance in a network relies on the concepts of enmity and friendship. Similarly to the international arena, where states expect hostility from enemies or support from friends (Maoz et al. 2007), non-state actors in a civil conflict can expect hostility from their enemies and support from their friends, with one important difference. In contrast to the international system, where enemies and friends can choose to get involved in an ongoing conflict or abstain from it, the involved parties have greater incentives to interact with each other in civil conflicts since they are fighting the same government and over the same, or at least overlapping, resources. Understanding the balance in the actors' networks has crucial effect on civil conflict resolution. Network balance creates two large groups of actors, with high levels of cooperation within each group and high

levels of conflict between the groups. When these relationships are not consistent, network balance decreases, thus increasing uncertainty for the actors in the network.

Network balance contributes to conflict termination parallel to rebels' capabilities. A rebel group that fights not only the government, but also other rebel groups will have to redistribute its resources among several fronts and will be weaker against the government. Similarly, a government that faces multiple groups will be relatively weaker against each of the groups separately (Akcinaroglu 2012), especially if these groups cooperate among themselves. Increase in rebel military capacity shortens civil conflict duration (Buhaug et al. 2009; Cunningham et al. 2009), as the conflict becomes increasingly costly for the government and the stronger armed groups have more influence on government decisions and calculations. Network balance, along with relative capabilities, can predict the conditions under which a civil conflict will end and when it will continue.

A balanced network signals clear, consistent, and non-ambiguous behavior of all of the actors. It allows actors to determine the preferences of other actors in the network and makes their behavior more predictable. Kinne and Maoz (2022) argue that structural imbalance in political systems generates uncertainty regarding the alignment of key actors and actors' future behavior. A balanced network is the other side of the same coin. It increases predictability and reduces uncertainty. There are many forms of uncertainties when it comes to predicting actors' behavior in civil conflicts, including but not limited to, capabilities, resolve, and acceptable bargaining range. Here I follow Kinne and Maoz's (2022) approach and focus on the uncertainty that is produced by unexpected relations among actors. In a balanced network, a friend of my friend is my friend, a friend of my enemy is my enemy, an enemy of my friend is my enemy, and the enemy of my enemy is my friend. Neutral relationships are also possible, if both actors do not fight each



other, but also do not fight alongside each other. When the network is balanced, it provides extensive information both to the government and to the non-state armed groups. Groups that know who their friends are, see them as more trustworthy and are more willing to sit at the negotiation table with them. When allocating resources, they will be more willing to share resources with them than with enemies. However, knowing who your friends are is not the only benefit. If an actor knows who its rivals are<sup>7</sup>, they will be more willing to negotiate with them if they see them as trustworthy and believe they will uphold the agreement. The most important piece of information that balanced networks provide is information about expected and reliable behavior. If commitment problems are a product of actors not being able to trust each other after they lay down their weapons, then a perception of consistent and trustworthy behavior will reduce those commitment problems.

The concept of balance can be demonstrated through the conflict in Iraq. The civil war in Iraq started in 2004, shortly after the interstate war in Iraq and Saddam Hussein's ouster in 2003. The ouster of Saddam Hussein was initially supported by the formerly repressed Shiite population in Iraq, but opposition quickly grew as political discontent increased and in light of foreign forces remaining in Iraq. One of the most vocal opponents of the new Iraqi government was the al-Mahdi Army. As violence increased, different Al-Qaeda related groups joined the fight. Ansar Al-Islam, and later the Islamic State in Iraq (ISI) and Reformation and Jihad Front (RJF). SCIRI, The Supreme Council of the Islamic Revolution in Iraq, which was established in 1982 and fought the Iraqi government in a previous civil war, was also part of the opposition group. Examining the relationship among all groups reveals that opposition groups do not only fight the government, but also have complex relationships with each other. Figure 1 presents a snapshot of the network

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<sup>7</sup> Meaning, the enemies of their friends or the friends of their enemies.

structure in Iraq in 2007. The red edges represent conflictual relations between the nodes and the green arrows represent cooperative relations. All NAGs operating in Iraq were fighting the Iraqi government, as expected in a civil conflict. However, we can also see that SCIRI is fighting al-Mahdi Army, and that Ansar al-Islam and ISI have mixed relations. In other words, they were both fighting and cooperating in 2007 in Iraq. In a balanced network, actors with mutual enemies are expected to cooperate with each other, as “the enemy of my enemy is my friend”. At least, the enemies of my enemy are not expected to fight each other as this is counterproductive. Therefore, it also prolongs the conflict. Indeed, in 2007, the network balance level in Iraq was 0.57.

**Figure 1: Iraq's Conflict-Cooperation Network, 2007**

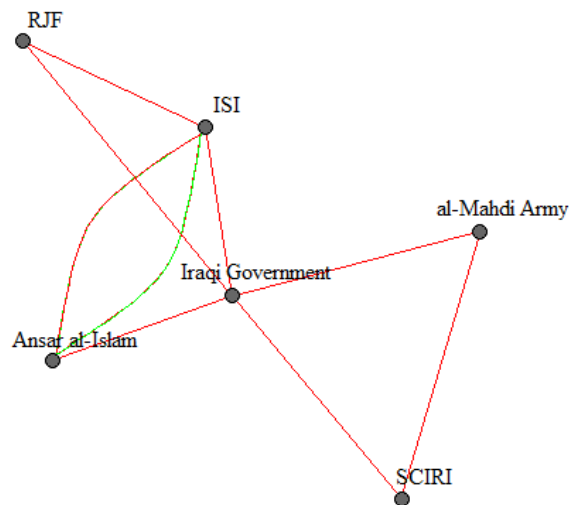
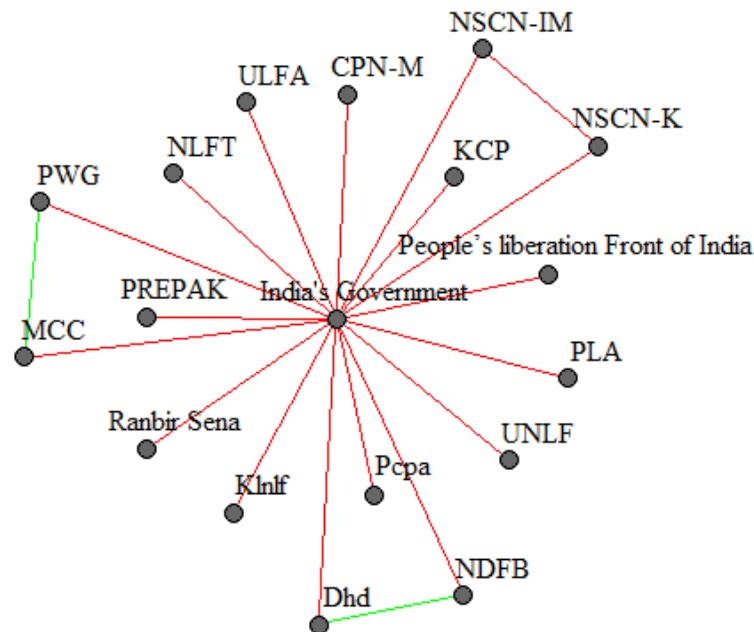


Figure 2 is an example of a more balanced network. It presents a snapshot of the relationship among warring parties in India in 2002. India has a long history of recurring civil conflicts since independence in 1947. The conflict episode in question began in 1994 between the government of

India, leftist rebel groups, and ethnic groups. The conflict was frozen in 2010 as levels of violence between warring parties reduced.

Although the network contains more actors, and therefore has more opportunities for emerging imbalances, it is more balanced than the Iraq network example above. Three types of relations (or the lack thereof) increase network balance in the India network snapshot from 2002. First, it includes two dyads of NAGs (MCC and PWG; and Dhd and NDFB) that cooperate with each other against a common enemy. Second, the network has only one dyad of NAGs (NSCN-IM and NSCN-K) that fight each other when, as expected in a balanced network, they should be cooperating. Finally, the network does not include any dyads with mixed relations, that decrease network balance. These types of relations translate into a network balance level of 0.99.

**Figure 2: India's Conflict-Cooperation Network, 2002**



The other crucial component determining civil conflict duration is rebels' capabilities. Stronger rebels pose a greater challenge and impose greater costs on governments. Increased capabilities allow them to gain more concessions when negotiations occur and return to fighting faster if necessary if the conflict in cases of frozen conflicts or peace failures. Both rebel groups relative strength and network balance increase conflict duration independently. However, they also have an interactive effect. Increase in NAGs' capabilities has been known to increase the likelihood of reaching power-sharing agreements (Gent 2011), a specific form of conflict termination. Along with the findings that increase in rebel capabilities increases civil conflict duration more generally (Buhaug et al. 2009; Cunningham et al. 2009), I extend these arguments to a conflict level analysis, and argue that increase in network balance, when combined with an increase in rebels' combined capabilities, increases the bargaining range of all the involved parties, thus decreasing conflict duration more than each of them separately.

Actors in balanced networks signal consistent and reliable behavior, thus reducing commitment problems which prolong the conflict. The more the network balance increases, the more likely the conflict to end, especially when NAGs combined capabilities are relatively high. Regardless of the conflict outcome, balanced networks and strong NAGs will mitigate commitment problems and uncertainty, thus decreasing the duration of the conflict. If incomplete information and commitment problems can explain conflicts, then balanced networks, which reduce both uncertainty and commitment problems, will shorten the conflict.

*H<sub>1a</sub>: Increase (decrease) in network balance decreases (increases) civil conflict duration.*

*H<sub>1b</sub>: Increase (decrease) in NAGs' combined capabilities decreases (increases) civil conflict duration.*

*H<sub>2</sub>: Decrease (increase) in network balance and decrease (increase) in NAGs' combined capabilities increases (decreases) civil conflict duration.*

### *Data and Research Design*

To test my hypotheses, I use a proportional hazard Cox model with both time-varying and time-unvarying covariates, which estimates conflict duration under the proposed explanatory variables. My unit of analysis is conflict-year, and the dependent variable is *civil conflict duration*, measured in years. Figure 3 presents the Kaplan-Meier survival rate estimate of conflict duration (in years) in the dataset. Each step of the function represents the percentage of conflicts in the data surviving each year. For example, half of the conflicts in the dataset last longer than 12 years. The start date of the conflicts follows the UCDP conflict termination data (Kreutz 2010). Some conflicts are clustered together due to my variable of interest. If one conflict in the UCDP data has ended after another conflict has begun (in the same state), I consider both conflicts as a single conflict. Although some of the actors in the conflict have changed, I consider the civil conflict an ongoing one, as long as there is continuous fighting in the focal state. For example, in India, one conflict episode started in 1994, and another ended in 1998. Because the two episodes overlap, they are combined into a single observation. This allows me to avoid counting the same observation twice *and* observe variations in network balance throughout the conflict. Importantly, I assume that both (or more) conflict episodes are connected because all fighting actors have at least one mutual enemy, the government. This assumption is supported by data. For example, the long-lasting civil conflict in the Philippines is considered as two separate conflicts, the communist and the Moro fronts. In most commonly used datasets, including the one used in this paper (Kreutz 2010), these are two separate conflicts. However, various reports present evidence that the Moro Islamic

Liberation Front (MILF), a leading rebel group on the Moro front, occasionally cooperates with NDFP, the armed wing of the New People’s Army (NPA), a leading NAG on the communist front (Santos et al. 2010). According to the proposed theory, a mutual enemy in a balanced network will lead to cooperation of its enemies, and conflict among those enemies increases network imbalance. Therefore, any ongoing fighting against the government is part of the same fighting network, which can choose to cooperate or fight in order to affect the conflict termination.

Figure 3: Kaplan-Meier Estimation of Civil Conflict Years

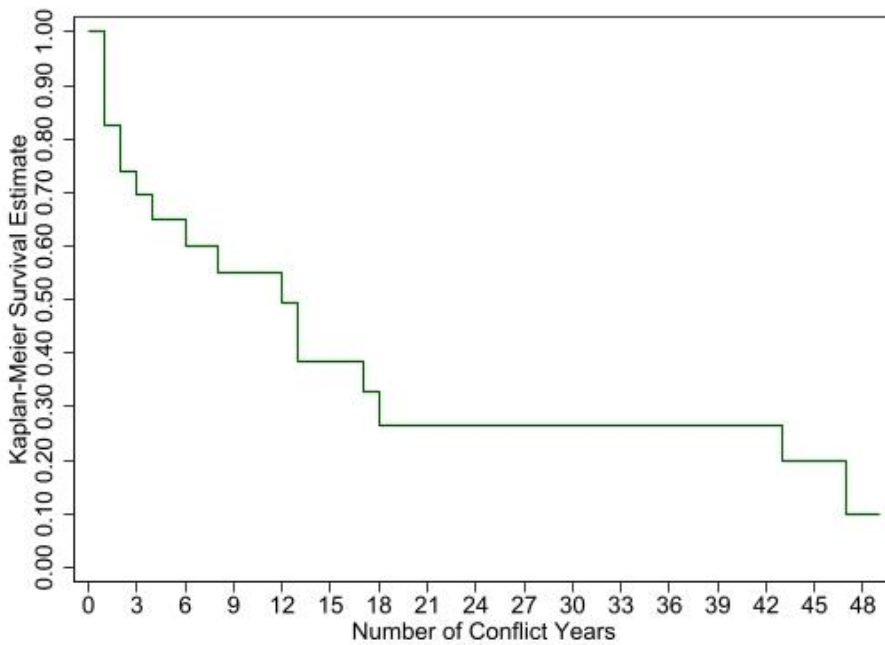


Figure 3: Conflict years in the dataset range between 1 and 49 years. 50 percent of conflicts last more than 12 years.

My main independent variables are *network balance* and *rebels’ combined capabilities* relative to the government. Network balance is a property of signed networks, where a relationship between any two nodes can be defined as positive (friendly) or negative (rival). Structural theory was formulated by Heider (1946) and later on generalized by Cartwright and Harary (1956), where triples of actors A, B, and C, have 8 possible combinations of relations among them, as seen in

Figure 4. The triples can all be friends (have positive relations), all be enemies (have negative relations), or any combination of the two types of relations. The sign of a triple is a product of the signs of edges in the triple. A positive product denotes a balanced triple, and a negative product denotes an imbalanced triple. This simple measure extends to the entire network. A network is considered to be completely balanced if and only if all the triples in the network are balanced, and any deviation of that increases network imbalance, or reduces network balance. Network balance, then, is measured as the proportion of balanced triples in the network (Burghardt and Maoz 2020; Doreian and Mrvar 2019). I use Maoz Network Program (MaozNet), a Social Network Analysis (SNA) package that measures and analyzes network metrics (version 3.76; Maoz), to calculate network balance from dyads of warring parties in a conflict. For each dyad, the nature of their relationship in a given year is determined (either conflict, cooperation, mixed relations, or no relations). A score of 0 is assigned to dyads with no edges (i.e. with no relations between them) and to vacuous triangles. This is important due to the high proximity of the warring parties. Since all warring parties continue to live side by side and under the same rule during and after the conflict, it is important to consider actors' choice to not interact with each other when evaluating the overall network balance. Continuing the examples presented in figures 1 and 2, the network balance presented in Figure 1 is 0.57 which implies the conflict in Iraq (as observed in 2007) was moderately balanced, and the network balance presented in Figure 2 is 0.99, implying that the conflict in India (as observed in 2002) was highly balanced. The data is collected using three main sources: Big Allied and Dangerous Dataset (Asal and Rethemeyer 2015); Mapping Militant Organizations (Stanford University); and the Uppsala Conflict Data Program (UCDP). Additional information on missing years or warring parties is collected using news sources and official reports.

Figure 4: The Eight Triples Configurations of Heider's Structural Balance

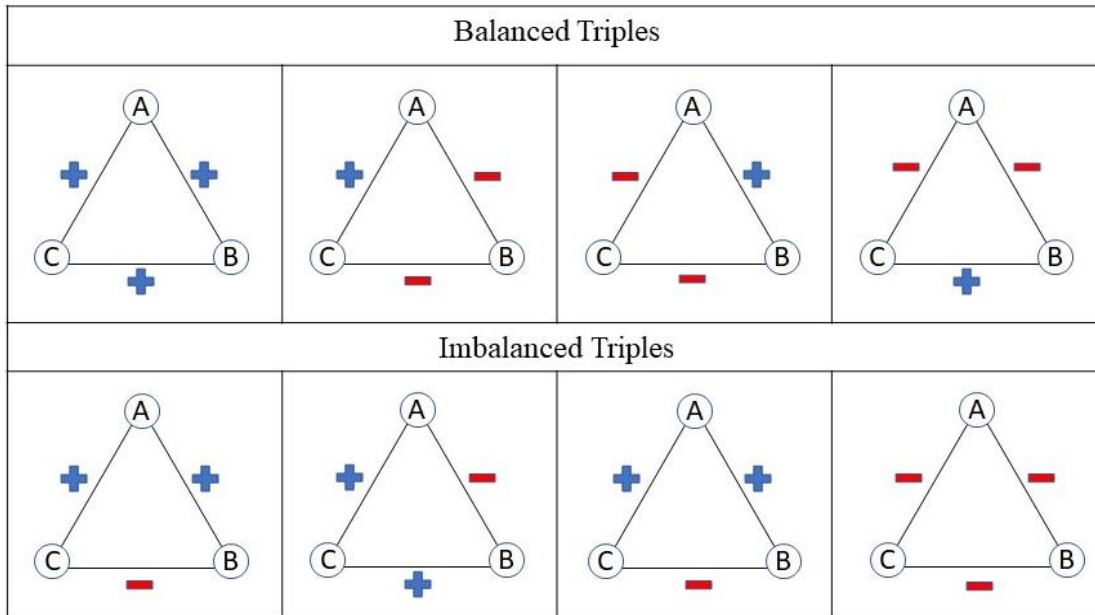


Figure 4: The upper panel represents balanced triples, where the product of the edges is positive. The lower panel represents imbalanced triples, where the product of the edges is negative.

The types of actors are divided into two main groups: one group that includes all warring parties (all opposition groups and the government), and another that includes opposition groups only. Two balance scores are calculated here. First, I calculate network balance which includes all actors in the network. In a completely balanced network, all actors should cooperate with their friends, with the friends of their friends, and with the enemies of their enemies. The actors should also fight with their enemies, the enemies of their friends, and the friends of their enemies. The actors have dyadic interactions that are coded as binary. Actors can have a value of 0 or 1 for cooperation, and a value of 0 or -1 for conflict. These dyadic relationships are transformed into a weighted signed matrices form and their network balance scores are calculated. Second, I calculate balances among opposition groups only to grasp the information actors obtain on the potential threat to the government. Both balance measures provide a comprehensive picture of the relations among NAGs in a conflict.



My second independent variable is *rebels' relative capabilities* (Cunningham et al. 2013). The capabilities are scaled from 1 (much weaker relative to the government) to 5 (much stronger relative to the government). Rebels' capabilities relative to the government are aggregated on a conflict-year level. Additionally, an interaction term of the two main independent variables is included in the model.

The models include four control variables that are known in the literature to affect both independent and dependent variables. The first is the *number of actors* in the conflict episode which prolongs civil conflicts (Cunningham 2013; San Akca 2016), calculated from the UCDP/PRIO Armed Conflict Dataset (Pettersson and Eck 2018) per conflict-year. The second control variable is a binary variable of *external support on the side of the rebels* which is known to affect conflict duration (Collier et al. 2004; Cunningham 2010), using the NAGs dataset (San-Akca 2016). The variable takes a value of 1 if at least one of the rebel groups involved in the conflict in a given year has at least one external supporter. Finally, I include a *region* categorical variable and an *ethnic conflict* binary variable, as conflicts in Africa, as well as ethnic conflicts, were found to prolong civil conflicts (de Rouen and Sobek 2004).

To test my hypothesis, I estimate a set of cox proportional hazard models, where I calculate civil conflict episode duration as a function of network balance and rebel capabilities, with clustering on countries in order to account for the lack of independence between conflict episodes within one country. Cox proportional hazard models allow me to not make any assumptions about the distributional form of the baseline hazard rate (Box-Steffensmeier and Jones 2004; Mills 2010).

The models I estimate are based on 211 conflict-year observations. These observations include 23 unique conflict episodes in 13 countries in 4 different regions, ranging between 1955-2012.<sup>8</sup> The episodes range between 1 and 49 years with an average length of 18 years of conflict (including right-censored conflicts). 5 of the conflicts are right-censored. It is important to note that conflicts with multiple rebel groups are longer than civil conflicts with one rebel group (e.g. Cunningham 2013), as noticeable in the current dataset. Additionally, conflict episodes in this study appear longer since some of them are joined together, as explained earlier. Therefore, the sample in this study has longer conflict durations than studies that account for all civil conflicts.

The conflict level network balance is a continuous variable between 0 and 1. Most observations have relatively high network balance, and the median network balance is 0.98. Rebel network balance is similarly a continuous variable with a median of 1 and a mean of 0.8. Rebel capabilities in the dataset range between 1 and 4, with most combined opposition cluster capabilities being much weaker than the government.

Due to low levels of variation of network balance and rebels' combined capabilities in the collected data, I recode the main independent variables into binary variables. First, I transform network balance into low and high levels. Since the median network balance is 0.98, I recode everything below this level as 0 and everything equal to or above 0.98 as 1. The new variable is named *network balance level*. Second, I aggregate rebel capabilities. Within the dataset, most conflict-year observations are either 1 (much weaker relative to government) or 2 (weaker relative to government). Eight conflict-year observations have a value of 3 (parity), and one conflict-year observation has a value of 4 (stronger relative to government). I recode this variable to two levels

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<sup>8</sup> Note that most observations are between 1998-2010 due to data availability.

only: weaker rebel clusters (coded as 1), and stronger rebel clusters (coded as 2). All rebel capabilities coded as 1 remain as 1, and every rebel capability coded as 2 or higher is recoded to 2 (a total of 9 changes in the dataset). The new variable is named *rebel capabilities level*. This manipulation allows me to include an interaction term between the two variables. As interaction models require multiple cross-categories and given the small sample, binarization of these two variables allows me to estimate a model with an interaction term without encountering the empty cell problem. Since this manipulation may bias the results, I use the aggregated variable of *rebel capabilities level* in Model 1 only, where an interaction term is included. In Models 2-5, I use the full range of rebel capabilities for a more accurate estimation.

Most conflicts in the dataset (186 observations) are ethnic, and only 25 belong to non-ethnic civil conflicts. A similar distribution is found in external support for rebels. Rebel groups receive some form of external support in 162 conflict-year observations, and do not receive any form of support in 42 conflict-year observations. Both skewed distributions are expected. Ethnic conflicts tend to have more actors involved, and as the number of actors increase, it is more likely that at least one of them will receive support in any given year. Finally, the number of actors in a conflict varies significantly, ranging between 3-19 actors, including the government. The median number of actors in the dataset is 8. The summary statistics of the independent variables are presented in Table 1.

Table 1: Summary Statistics of the Independent Variables

Variable	Min	Max	Mean	St. Dev.
Network Balance	0	1	0.91	0.18
Network Balance Level	0	1	0.54	0.5
Rebel Network Balance	0	1	0.8	0.4
Rebel Capabilities	1	4	1.5	0.6
Rebel Capabilities Level	1	2	1.46	0.5
Region	2	5	3.32	1.13
Number of Actors	3	19	9.94	5.39
Ethnic Conflict	0	1	0.88	0.32
External Support for Rebels	0	1	0.8	0.4

### Results

This section presents the results of the estimated models. I find robust empirical support for  $H_{1a}$  and  $H_{1b}$ , network balance and rebel groups' capabilities shorten conflict duration independently, but do not find support for the argument that an interaction between the two shortens civil conflicts. On the contrary, the results suggest that an interaction between the two prolongs civil conflicts. Table 2 presents the results of four Cox Proportional Hazard models. Model (1) tests the effect of the interaction between increase in network balance level and increase in rebel capabilities level. Model (2) tests the effect of the two independently, while using the complete range of rebel capabilities. Model (3) tests the role of rebel network balance, and model (4) includes both network balance measures. All models are clustered at the country level.

The results are presented in hazard ratios, reflecting the effect of each variable on the hazard rate of conflict termination. The coefficients reflect the calculated estimated impact of each of them on the likelihood of conflict termination at any given time. Values above 1 indicate that a variable increases the risk of civil conflict termination and decreases conflict duration while a value

between 0 and 1 indicates a decrease in the risk of conflict termination and increase in conflict duration. Coefficients greater than 1 imply increased hazard of conflict termination, and coefficients between 0 and 1 imply decreases hazard of conflict termination. This language might be confusing as normatively we prefer conflict termination over conflict continuation, but the duration models view the end of an event duration as failure (in this case, conflict termination is defined as a failure) and describe the likelihood of a failure at any point in time as hazard. This terminology is acceptable and when utilizing duration models in conflict studies, peace is frequently referred to as failure (see, for example, Collier et al. 2004). To simplify the discussion in this section, I will be referring to increased hazard of conflict termination (coefficient values above 1) as shortening civil conflicts, and to decreased hazard of conflict termination (coefficients between 0 and 1) as prolonging civil conflicts.

Looking at the results, it is noticeable that all variables of interest except the interaction term in model (1) shorten conflict duration, in accordance with  $H_{1a}$  and  $H_{1b}$ . While not all results are statistically significant, the direction of the effect is clear and consistent. The interaction term in model (1) contradicts  $H_2$ . According to the model, an increase in both network balance level and in rebels' combined capabilities level, prolongs civil conflicts rather than shorten them by 54 percent. I return to this issue later in the discussion.

According to model (2), the hazard ratio of higher levels of network balance is 1.140. The hazard of conflict termination for conflicts with higher levels of network balance is 114 percent of the hazard of conflicts with lower levels of network balance. In other words, conflicts with higher levels of network balance experience shorter civil conflicts than conflicts with lower levels of network balance. The result is statistically significant at the  $p < 0.05$  level. The model also demonstrates that the hazard ratio of higher levels of rebel capabilities is 1.106. The hazard of

conflict termination for conflicts with higher levels of rebel capabilities is 110 percent of the hazard of conflicts with lower levels of rebel capabilities. In other words, conflicts with stronger rebels experience shorter civil conflicts than conflicts with weaker rebels. The result is also statistically significant at the  $p < 0.05$  level.

Table 2: Network Effects on Civil Conflict Duration

	(1)	(2)	(3)	(4)
Network Balance Level	1.381 (1.34)	<b>1.140*</b> <b>(2.09)</b>		1.082 (0.07)
Rebel Capabilities Level	1.381 (1.32)			
Higher rebel capabilities Level * Higher Network Balance Level	<b>0.458*</b> <b>(-2.16)</b>			
Rebel Network Balance			<b>1.171*</b> <b>(0.09)</b>	1.129 (0.11)
Rebel Capabilities		<b>1.106*</b> <b>(2.08)</b>	1.192 (1.78)	1.18 (0.11)
Number of Actors	0.851 (-0.44)	0.984 (-0.04)	0.955 (-0.20)	1.066 (0.38)
Asia	2.939 (0.36)	0.660 (-0.14)	0.795 (-0.14)	0.279 (0.78)
Africa	4.700 (1.75)	0.962 (-0.03)	0.690 (-0.46)	0.604 (0.51)
Americas	1.207 (0.16)	0.855 (-0.11)	0.663 (-0.34)	0.774 (1.15)
Ethnic Conflict	0.355 (-0.78)	0.350 (-0.76)	0.857 (-0.08)	0.514 (0.786)
External Support for Rebels	1.007 (0.20)	0.994 (-0.19)	0.961 (-0.76)	0.977 (0.04)
Observations	211	208	205	205

Examining specifically rebels only network balance, similar results appear. According to model (3), The hazard of conflict termination for conflicts with higher rebel network balance is 117 percent of the hazard of conflicts with no rebel network balance. In other words, conflicts where

rebels maintain balanced relations among themselves experience shorter civil conflicts than conflicts where rebels present inconsistent behavior. The result is also statistically significant at the  $p < 0.05$  level.

Although the results support some parts of my theory, the contradictory result in Model 1 deserves further discussion. If balanced networks and strong rebel groups shorten civil conflicts, why does the interaction between the two appear to prolong conflicts? One possible explanation can be that when information levels stemming from high levels of network balance increase and at the same time rebel groups have substantial power, the opposition is able to cooperate more and increase its demands against the government. As increased demands shrink the bargaining range, the result is a prolonged civil conflict relative to a weak and imbalanced opposition. I would also suggest interpreting the results in Model 1 with some caution. As explained earlier, to be able to include an interaction model, different levels of rebel strength had to be aggregated. This created a category of rebel groups that includes groups that are weaker than the government, groups with similar capabilities to those of the government, and groups that are stronger than the government. Since the data in this study is limited, it might be sensitive to single observations. As data becomes available and the number of observations increase, this study should be repeated and include an interaction term of all levels of rebel capabilities. Since Models 2 and 3 include the complete range of rebel capabilities, I view the results of these two models as more reliable than the results of Model 1. Model 4, which combines all network estimates, does not present any statistically significant results. However, the direction of the estimates is in line with the proposed hypothesis. Combining all four models, I find support for  $H_{1a}$  and  $H_{1b}$ , but the evidence contradicts  $H_2$ .

## *Conclusion*

In this chapter, I propose theoretical explanations and empirically examine civil conflicts from a new perspective. While country-level explanations of civil conflicts are mostly constant, or changing at a slow rate, and dyadic-level explanations of civil conflicts overlook the complete structure of relationships in a civil conflict, a network analysis approach allows to combine the two. Looking at network structures of actors in civil conflicts provides a macro look at the conflict, while considering the dynamic nature of ever evolving relations among different actors in the conflict. I theorized that at the sub-state level two factors shorten conflict duration – network balance and rebels’ combined capabilities.

Network balance captures the information actors obtain on one another during the conflict and affect their perception of trustworthiness. Therefore, a high network balance can alleviate some commitment problems that are associated with civil conflicts and thus shorten conflict duration. The empirical analysis provides strong support for this argument, showing that conflicts with more balanced networks are shorter than those with low levels of network balance.

The second part of the theory is the role of rebels’ combined capabilities compared to those of the government. While it is known from the literature most rebels are weaker than the state they fight, little is known about the effect of the capabilities of *all* rebel groups combined. Stronger rebels, I argue, increase the cost of fighting and have a stronger negotiation power, thus increase in rebels’ combined capabilities will shorten civil conflict duration.

Using various existing datasets and collected data, I compiled an original dataset, constructing networks in 23 unique conflict episodes in 13 countries, ranging between 1955 and 2012. Using a series of Cox proportional Hazard models, I find support for the proposed theory, although some



results are contradictory and call for further investigation. The findings are in line with several other studies (Buhaug et al. 2009; Collier et al. 2004; Cunningham et al. 2009), confirming that rebels' capabilities shorten civil conflicts. While these studies consider dyadic relations and demonstrate the effect of individual rebel groups' capabilities, I expand this idea and demonstrate that combined opposition capabilities have a similar effect on civil conflict duration.

The main contribution of this paper to the literature is the concept of network balance in civil conflicts. As current literature discusses the important role of information and reduced commitment problems (Walter 2009) in civil conflict termination, I offer a way to gauge one type of information that reduces commitment problems. Network balance captures *how* and *which* information is perceived by the warring parties which reduces commitment problems and increases the likelihood of conflict termination.

Given the limited time and resources, the data collected is also limited. I propose to view this work as a pilot study. It demonstrates the importance of collecting refined data on conflict and cooperation among both state and non-state actors in civil conflicts. While the findings support my theory, they also open numerous new research avenues that should be developed in future research.

## Chapter 4: External Support of NAGs and Civil Conflict Recurrence

Empirical evidence suggests that external support to opposition groups has a significant effect on civil conflict duration and outcomes, but their role in conflict recurrence is not clear, although a significant number of NAGs continue to receive external support after conflict termination. The chapter demonstrates that overall external support to NAGs after civil conflict termination increases the likelihood of civil conflict recurrence. However, the type of support matters more than the source of support. The chapter suggests that military types of support increase the likelihood of civil conflict recurrence, but active or de facto forms of support do not have a significant effect on civil conflict recurrence.

### *Introduction*

Post-civil conflict states are prone to recurring conflicts (Bara et al. 2021; Quinn et al. 2007; Walter 2015), especially when conflicts end in a negotiated settlement (Licklider 1995; Walter 2004). The factors affecting civil conflict recurrence vary. Conflicts may recur due to Non-state Armed Groups' (NAGs) exclusion from a negotiated settlement (Call 2012; Nillson 2008), increased fragmentation within and among rebel groups that foster new grievances and opposition (Rudloff and Findley 2016), new grievances that arise from the post-conflict political environment and new resource distribution (Call 2012), actors such as Pro-Government Militias (PGMs) that become irrelevant and try to survive by reigniting the conflict (Steinert et al. 2019) or generally unsuccessful post-war civil-military integrations (Berg 2020).

The threat to peace stability does not necessarily come from non-state actors. Other factors, both domestic and international, may threaten the fragile peace. These factors include state capacity and economic conditions (Fearon and Laitin 2003; Walter 2004), elections proximity to conflict termination (Flores and Nooruddin 2012), and different attributes of the recently terminated conflict, including its duration, intensity, combatants' goals and recruitment strategies (Doyle and

Sambanis 2000; Sambanis 2000; Fortna 2004; Walter 2004; Quinn, Mason and Gurses 2007; Kreutz 2010).

The literature has also focused on the conditions under which peace is more likely to endure. Scholars proposed various explanations, both dyadic and systemic. Civil wars are less likely to recur following rebel victories (Toft 2010), peace agreements supported by third party intervention and commitment to peace (Walter 2002) and specifically by peacekeeping forces (Quinn et al. 2007). Third party interventions in the form of mediations also have a favorable record of prolonging peace when they have historical and cultural ties to the state and the warring parties (Reid 2017). Literature focusing on international factors points out the role of both UN (Fortna 2004; Walter et al. 2020) and non-UN (Bara and Hultman 2020) interventions, alongside various efforts of peacebuilding by the international community, although peacekeeping remains the main the most affective for prolonging post-conflict peace (Mross et al. 2022). The literature provides ample evidence of the contribution third parties have on stabilizing peace after a civil conflict. This is no surprise since third party intervention aims to reduce commitment problems, which are higher in intrastate conflicts than in interstate conflicts and hinder the peace process (Walter 2002).

Domestic favorable factors also include women participation in the peace building process (Cohen and Karim 2021; Demeritt, Nichols, and Kelly 2015), and negotiated agreements that include electoral participation (Matanock 2017) or power-sharing provisions (Hartzell and Hoddie 2003), that seem to prolong and consolidate peace after civil conflict termination. Note that this literature is focused on one specific type of civil conflict termination, which accounts for less than half of civil conflict terminations. Since this paper focuses on all types of conflict episode terminations, the discussion of peace agreement merits is outside of the scope of this research.

While the literature presents a wide range of factors affecting civil conflict recurrence, it overlooks the issue of external support to NAGs. During civil conflicts, external state supporters play a significant role before and during conflicts. Anticipation of external support can lead NAGs to instigate violence (Gleditsch 2007; Kuperman and Crawford 2006), and civil wars that involve NAGs tend to last longer (Cunningham et al. 2009; Sawyer et al. 2015). Furthermore, conflicts involving external supporters on the rebel side *during the previous conflict* are more likely to recur. Karlén (2017) examines the effect of external intervention on civil conflict recurrence, defining external support as “unilateral intervention by a third-party state in an internal armed conflict in favor of either the government or the opposition movement involved in that conflict” (Karlén 2017, 500). He argues that rebel groups who received external support during the conflict years are more likely to re-instigate violence as it is easier to remobilize given previous support, and because rebel groups anticipate the renewal of this support when the conflict resumes.

After conflict termination, multiple NAGs continue to receive external support (San-Akca 2016), but the effect of this support draws little attention in the literature. In this chapter, I focus on the support NAGs receive *after* conflict termination, and on the support received by NAGs only, rather than overall external intervention. This distinction is important, as external support to the opposition has a different role during civil conflicts than external support to the government, or more general third-party intervention.

This paper connects external and domestic actors and examines foreign support of local NAGs and their effect on peace duration. NAGs receive different types of foreign support throughout their lifetime – before, during and after conflict termination. I focus on the support NAGs receive after conflict termination and examine how this support, on its different forms, affects civil conflict recurrence. I argue that foreign actors’ involvement can both hinder and promote the peace process,

depending on the signals the different types of support send to the government and the NAGs themselves. The results are mixed, but they provide interesting insights into post-civil conflict dynamics and raise important questions that should be further explored.

The chapter proceeds as follows: In the next part, I present my theory of the different signals that external actors can send to the government and their supported NAGs. The third part of the chapter presents the research design and data that I am using to test my theory. The fourth part analyzes the results of the estimated models, discusses the meaning of the mixed results, and provides further analysis. The sixth and final part concludes the research and proposes future research avenues.

#### *Post-Conflict NAGs External Support*

While foreign support of NAGs is widely examined in the literature as affecting both civil conflict onset and the course of fighting (see Salehyan 2010; Salehyan et al. 2014; San-Akca 2016, among others), they are mostly overlooked in the post-conflict context. However, many NAGs continue to receive support from external actors after victories, ceasefires, peace agreements, and after the levels of violence simply reduce and the conflict fizzles out (San-Akca 2016). The mere receipt of the support, and more specifically, the type of the received support, signal different messages to the government and the NAGs that have been involved in the conflict. Since the post-conflict relations are fragile by nature, every piece of information is crucial to both the government and the opposition and can re-instigate the violence between the two. The type of signal can either endanger the peace and increase the likelihood of peace duration or to support non-violence and extend peace duration.

When NAGs receive external support from states, the two parties (the supporting and supported actors) reach some, either written or oral, understanding regarding their mutual interests and goals. External actors have some incentives to support NAGs, which in turn have their own strategic considerations to receive the said support. NAGs may receive support because of historical, cultural, and religious ties between the supporting state or large ethnic and religious groups within those states (Ives 2019a; 2019b; Salehyan 2010; San-Akca 2016), and states may implement their regional strategic interests through NAGs, fight common enemies or cooperate with common allies (Karlén 2019; Krieg 2016; Salehyan et al. 2011; San-Akca 2016).

This support explains civil war onset (Thyne 2009; Toukan 2019), war duration (Salehyan et al. 2011), and war outcomes (Akcinaroglu 2012; Jones 2017; Sawyer et al. 2017). Yet, external support for NAGs does not end when the fighting stops or when levels of violence reduce. How does this external support affect peace sustainability in post-conflict states? I argue that, as other forms of foreign interventions, external support of NAGs can both hinder and promote peace, depending on the type of support and the existing conditions in the post-conflict state. NAGs may receive *de facto* or active support from external supporters (San-Akca 2016), each affects the likelihood of conflict recurrence and peace duration differently. While *de facto* support of external state actors will threaten peace process due to its illegality and international illegitimacy, active support of state actors will promote more durable peace.

NAGs receive different types of support from external state actors, which can be viewed as peace-promoting or peace-hindering types of support. San-Akca (2016) lists 9 types of support: (1) safe haven for members of a NAG; (2) safe haven for the leaders of a NAG; (3) headquarters for nonviolent propaganda and fundraising; (4) training camps; (5) training; (6) weapons and logistics aid; (7) financial aid; (8) transportation of military equipment, military advice; and (9) troops.

These types of external support appear in two forms: active and de facto support; and in two types: political and military. Active support refers to cases with clear evidence of government support of a NAG. De facto support, on the other hand, is a less formal form of support, where NAGs are able to garner support and resources from actors within the territories of the state, but with no official support from the government. Additionally, the type of support can be categorized into different types of support, each sends a different signal and thus affects peace duration and conflict recurrence differently. I define two categories within the active/de facto dichotomy of external support: political and military. The former is a form of support that is more likely to contribute to NAGs' political power, and the latter is more likely to increase NAGs' military strength. Each of the four categories creates a unique relationship within the post-conflict environment, which affects the prospects of peace and conflict recurrence differently.

### *Two Forms of External Support*

The difference between de facto and active support can be also explained in terms of legitimacy. While active support is an open and formal support by sovereign states and therefore may be perceived as more legitimate and justified, de facto support is garnered from non-state actors and may be seen as illegal and illegitimate in the eyes of domestic and international audiences. These types of support send different signals to the government and the international community and affect the way NAGs are perceived. If NAGs are able and willing to receive an illegitimate (i.e. de facto) support, then they signal that they are also willing to resort to other illegitimate actions, such as resuming the conflict. Therefore, a de facto external support increases commitment problems and shortens peace duration. An active external support is perceived as more legitimate, more

transparent, and more acceptable. Therefore, an active external support will increase peace duration.

An important factor to consider is the effect of external support before, during, and after the conflict, as the presence of external supporters in different conflict stages impact the peace process differently. The difference between pre- and during-conflict and post-conflict NAGs behavior is the expected level of violence, and therefore the expected external state support. In the pre-conflict state NAGs emerge out of either grievances they have toward the government, such as high inequality, discrimination, or other grievances; or greed, where NAGs are motivated by profitable opportunities (Collier and Hoeffler 2004). Both can, and indeed attract external state support. States support NAGs out of sympathy and solidarity with their grievances, or out of greed and the will to share lootable resources. This is also true for the course of the conflict. Both greed and grievance are expected to be accompanied by at least some levels of violence, thus external support in different forms such as military or training aid is also expected. Looking at these relationships from a principal-agent perspective as suggested by Salehyan et al. (2011), both the supply and demand sides are clear. NAGs, mostly being considerably weaker than the government, are happy to receive material and moral support. States, in turn, are happy to increase their influence in the state in which the NAG operates, and to promote their preferred outcomes through the supported NAG.

This situation changes after the end of the conflict. If the government and a NAG have reached an agreement in the form of a ceasefire or a peace agreement, the NAG is expected to stop using force. In the case of a peace agreement, the expectation is even greater as the NAG is expected to disarm completely. But even when an agreement is not reached and the conflict ends in a military victory or in a stalemate, the reduced levels of violence make further military external support



redundant. If there is no more, or very limited, fighting, and both NAGs and their supporting states are happy with the outcome, NAGs do not seek to increase their power and their external supporters do not seek to support NAGs since they are happy with the conflict outcome. If NAGs continue to receive support from external state actors, it comes in the form of either active or de facto support, where active support, by being formal and comes from a state, is more legitimate simply by being provided in times of peace. Active support to NAGs in post-conflict states may be to strengthen their political power (in contrast to military power) and increase legitimacy. De facto support from external state actors, on the other hand, signals the opposite. De facto support signals resort to illegality and possibly an attempt to increase military power and to resume conflict. In other words, a continuous de facto support after the end of a conflict signals that a NAG is interested in regaining its power, regrouping, and renewing the conflict, and it is able to “extract human and material resources within the borders of other countries, without the intentional sponsorship of these countries’ states and/or governments” (San-Akca 2016, 4). It is important to note that both active and de facto external support signal the willingness and ability of NAGs to regain power and mobilize international support, so while NAGs remain active after conflict termination, and especially when they continue to receive any form of external support, the likelihood of conflict recurrence should increase. If this is true, the following hypothesis can be tested:

*H<sub>1</sub>: Any form of external state support after civil conflict termination shortens dyadic peace duration.*

However, there is a difference between the different types of support within this range. While active support signals political support that may prolong peace, de facto signals the NAG’s ability to regroup and resume the conflict, even without formal state support. Therefore, while active

support may be associated with longer peace, de facto support after conflict termination jeopardizes peace. I now turn to discussing each of the different mechanisms behind the different types of support.

### *Active Support as a Signal of Political Support*

Active external support, as I discussed earlier, is a support provided openly and sometimes formally by states. The active support Hizb-i Wahdat had received from Iran when operating in Afghanistan is one example. The NAG had received various types of active support, including safe haven for its leaders, training, weapons, and financial aid. This support continued for 6 peaceful years while Hizb-i Wahdat had signed a cease fire with the Afghani government. After that, the NAG had stopped its activity. Another example following the same pattern is the active support Armenia had provided to the Republic of Nagorno-Karabakh after a cease fire between the NAG and the Azerbaijani government. The active support, which included all types of support (safe haven for members and leaders, offices, training and training camps, weapons, financial aid, transportation, and troops), lasted for 6 peaceful years before the conflict recurred (San-Akca 2016; UCDP).

Nagorno-Karabakh is an Azerbaijani region populated mainly by Armenians, who declared themselves as “The Republic of Nagorno-Karabakh” had secessionist aspirations, after the borders of Azerbaijan and Armenia shifted in the 1920’s and the issue remained suppressed during the Soviet era. The conflict reemerged at the end of the 1980’s. After a long and intense conflict, a cease fire was signed in 1999. Despite sporadic clashes between the warring parties, the cease fire agreement held for 6 years until fighting broke out again. Throughout this time Armenia continued to actively support the NAG, while the US was involved in mediation efforts (San-Akca 2016; UCDP).

Armenia's active support, I argue, allowed for a more durable peace period, although it may have also increased the likelihood of conflict recurrence. On the one hand, any support of NAGs is a strong signal to both the NAG and the target government. To the NAG, Armenia signals that it openly supports it and is likely to continue to support it if and when it is ready to go back to fighting. To the Azerbaijani government, active support signals that the NAG has the ability and support to return to fighting. However, there is another logical path to be followed here. Active type of support also signals political support, which is more legitimate and internationally accepted, as it comes from a sovereign state. When Armenia actively supports the Republic of Nagorno-Karabakh, it signals to Azerbaijan, the US, neighboring states, and the international community, that the NAG is a legitimate power, and will have Armenia's support if and when it receives independence, or any other agreement on the table. Active support signals that the state (Armenia in this example) is a "guarantor" for the NAG and can help it to incorporate in a future agreement, support it politically, and legitimize the group. Through this path, active support can prolong peace duration as its support is a signal of a more legitimate, legal and politically acceptable NAG. If this logic holds, and keeping all other factors constant, the following hypothesis can be tested:

*H<sub>2</sub>: External active state support after civil conflict termination prolongs dyadic peace duration.*

### *De Facto Support as a Resort to Illegality*

While active support can send some mixed signals, de facto support will always shorten peace duration and increase the likelihood of conflict recurrence. Examples of de facto external support that are associated with short peace episodes can be seen in Burundi, where Frolina had received

de facto support (including safe haven, training camps, and weapons) from Tanzania during a peace episode that lasted for three years before civil conflict had recurred; and the de facto support Oromo Liberation Front (OLF) had received from Kenya and Somalia (providing safe haven and training camps) against the Ethiopian government during a few short one-year peace episodes.

OLF launched its armed struggle in 1974 against the Ethiopian government. The first reduced violence episode started in 1979 but only lasted one year before the parties increased their aggression toward one another. Another one-year peace episode occurred in 1982. During the 1990's Ethiopia went through significant political reforms, with a new ratified constitution that established an ethnically based federalism. Although the OLF argued that these changes are merely cosmetic and do not include any true power-sharing mechanisms, the levels of violence were reduced. The period of low activity lasted only for two years before the OLF resumed their attacks on the Ethiopian government (San-Akca 2016; UCDP).

As the OLF continued to receive de facto support from two external supporters, the support signaled specific messages. The OLF received a message of support from non-state actors in Kenya and Somalia. They were expecting this support to continue if and when they resume fighting, which had increased their confidence and assumed resources. Furthermore, the non-state support signals the power that the external supporters have over the Kenyan and Somalian governments. The signal sent to the Ethiopian government is of power – the de facto support OLF receives signals that they have the resources to garner foreign support and are not only willing, but also can resort to illegality. This power of non-state actors over their government signals the NAGs' willingness and ability to resume fighting. If this logic holds, and keeping all other factors at their means, the following hypothesis can be tested:

*H<sub>3</sub>: De facto external state support after civil conflict termination shortens dyadic peace duration.*

### *Different Types of Support Signal Different Intentions*

I have discussed the role of each form of support, but the types of support differ significantly. The various types also provide different types of information. Here I discuss military types of support, which I define as threat-inducing; and political types of support, which are not, or at least less, threat-inducing. Military types of support include: training; weapons and their transport; financial aid; and troops (available only as active form of support). These types of support signal a clear preference of the NAG, and especially their external supporters, to remobilize. It receives support that enhances its military abilities or allows the NAG to enhance its military abilities (in case of received financial support). During civil conflicts, rebels receive different types of support. When the support they receive is fungible (namely, financial aid or weapons), the support generates uncertainty for the government, which leads to decreased likelihood of conflict termination (Sawyer et al. 2015). However, in peaceful times non-fungible resources can also increase rebel war-making capacity and lead to peace failure. When training is provided, it clearly increases rebel war-making capacity. Importantly, it signals that the external supporter is interested in training and increasing the NAGs's military abilities. Whether training is made available for NAGs due to the NAGs request, or due to expectation of the external supporters, it is a clear signal of NAGs' regrouping and remobilization. Troops sent by an external supporter, following the same logic, clearly signal the NAGs ability and will to return to conflict and terminate peace. Military types of support, if so, are threat-inducing. NAGs who receive these types of support are seen as a threat to the government, thus increasing the likelihood of conflict recurrence. These signals are stronger when the external support is de facto, as the theory suggests that de facto support is overall riskier for peace.

Political types of support, on the other hand, do not send clear threat-inducing signals. These types of support include: safe haven for NAG members and leaders, training camps, and headquarter offices (for propaganda purposes). These types are not necessarily threat-inducing as they can be provided for the purpose of strengthening the group politically. While it can be argued that training camps might be threatening, the mere presence of training camps does not signal immediate actual training. Importantly, it does not provide any information that the NAG is remobilizing and increasing its war-making capacity, nor that its external supporters expect it to do so. When political types of support are provided by non-governmental actors (i.e. de facto support), they may be more threatening than active political external support, by the virtue of being de facto and resorting to illegality. However, they are less threatening than more straightforward military types of support.

External support to NAGs can be categorized as active or de facto, or as military or political. While the former focuses on the identity of the external supporter, the latter focuses on the resources provided by the external supporter. The resources provided by the supporter may be a clearer signal than the identity, therefore increasing the risk of conflict recurrence. Providing threat-inducing resources signals the ability and willingness to remobilize, not only of the NAG's but also of its external supporters. On the other side of the scale is active political support. It is the least alarming, and while it can signal NAG remobilization, it can also signal that NAGs' external supporters promote the legitimization of the NAG and peace consolidation, therefore it does not pose a clear threat to peace nor prolongs it.

*H4: Military external state support after civil conflict termination shortens dyadic peace duration.*

## *Research Design*

To test the proposed theory, I estimate a set of Cox proportional hazard models, where I calculate peace episode duration as a function of NAGs external support, with clustering on dyads in order to account for the lack of independence between peace episodes attributed to the same dyads. Cox proportional hazard models allow me to not make any assumptions about the distributional form of the baseline hazard rate (Box-Steffensmeier and Jones 2004; Mills 2010). My unit of analysis is dyad-year, and the dependent variable is *peace episode duration*, measured in years. Figure 1 presents the Kaplan-Meier survival rate estimate of peace duration (in years) in the dataset. Each step of the function represents the percentage of peace episodes in the data surviving each year. For example, half of the peace episodes in the dataset fail after 6 years or less. The start and failure dates of the peace episodes follow the UCDP armed conflict dataset (Gleditsch et al. 2002; Pettersson et al. 2020).

I look at the NAGs dataset (San-Akca 2016) for data on the type of support provided by external state actors. Additionally, I utilize the Civil Wars Mediation (CWM) Dataset (DeRouen et al. 2011), the Peacekeeping and the Peacekept (Fortna 2008) data, and the Third-Party Interventions (Regan 2002) dataset, and the Diplomatic Interventions in Civil War (Regan et al. 2009) dataset to determine the external actors involved in the peacekeeping process. Finally, I utilize the UCDP External Support dataset (Högbladh, Stina, Therése Pettersson, and Lotta Themnér 2011) to determine the external support received by the government.

Figure 1: Kaplan-Meier Estimation of Peace Episode Years

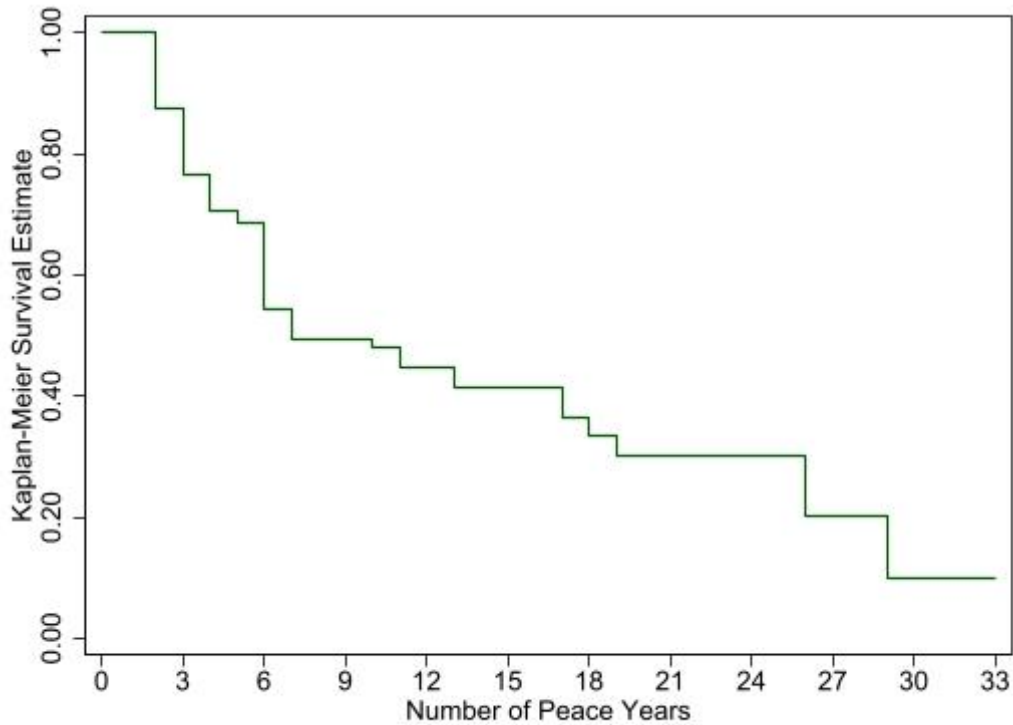


Figure 1: Peace episode years in the dataset range between 1 and 33 years. 50 percent of peace episodes fail after 6 years or earlier.

### Variables

My dependent variable is *post-conflict dyadic peace duration*, measured as the number of years that peace lasts after the termination of a civil conflict episode between a dyad of government-NAG. The peace fails when the hostilities between the focal dyad renew and rise above 25 casualties per year, following the widely accepted UCDP threshold. Some studies define peace only when there are no parallel ongoing civil conflicts within the state. These scholars count peace duration starting from a time when there is no ongoing conflict between any dyad that involves the government of that state (see for example Doyle and Sambanis 2000, 2006; Hartzell and Hoddie



2003, 2007; Mason et al. 2011, among others). This study considers dyadic peace for several reasons. First, my main concern is with a recurrence of a specific dyad, since the issue I am examining is the external support of a specific NAG. Therefore, I am interested in examining the relations of a specific NAG with the government. Second, many conflicts involve more than one actor, and in some cases, there are several independent civil conflicts in one state. Finally, the dyadic approach, while different from the systemic peace approach, is widely accepted in the literature and has been employed by Walter (2004), Fortna (2004), Cunningham (2006), and many others. I rely on the UCDP armed conflict dataset (Gleditsch et al. 2002; Pettersson et al. 2020) to determine the start and end date of conflicts. Peace episode duration is calculated as the time between the first year after dyadic conflict episode termination and either: 1) the first year of the subsequent conflict episode between the focal government-NAG dyad; 2) the last year of the NAGs' existence, or; 3) 2010, the exit year in the dataset. The latter two cases are right censored as only civil conflict recurrence is considered a failure in the model.

One crucial reason for empirical difficulties to measure the impact of external support of NAGs on peace duration is the varying definitions of success in the literature. In other words, there is not a consensus on how many years of peace are defined as a successful conflict termination. Furthermore, the data is naturally skewed. While the number of dyadic peace episode years ranges from 1 to 32 (see Table 1 for statistical description of all variables), the mean number of peace years is only 5.87 and the median is four years of peace. I estimate additional models without extreme values to account for these issues.

The second issue that must be addressed is the issue of possible endogeneity. As with most phenomena in political science, and specifically in international relations, the issue of endogeneity persists. It is possible, and at times even expected, that conflicts are anticipated and behaviors of

all involved parties are adjusted and observed before the conflict had recurred. External support occurs before, during, and after different conflict episodes, and it is difficult to determine that it was the external support that affected peace duration and not that the anticipated peace failure increased support levels or draw new supporters. I partially address this issue by lagging external support variables by one year.

Finally, an issue that should be considered is the measurement of each type of external support. Existing data provides information on the presence of any type of support, but not the magnitude of the focal type of support. For example, the Movement for the Liberation of Congo (MLC) in the Democratic Republic of Congo received active financial aid from one external supporter in 2001. The Front for the Liberation of the Enclave of Cabinda (FLEC-FAC) in Angola received active financial aid from two external supporters in 1995. The former has received a value of 1 and the latter received a value of 2, but this is not an indication of the amount of financial support each received, but the number of external supporters who provided that specific type of support. Continuing this argument, when measuring the sum of active and de facto supports, the numbers represent the variety of types of support and the number of external supporters. Therefore, the amount of the support cannot be determined with current data. To address this issue, I transform the raw numbers of support for each of the variables and use a modified version of them. I calculate the sum of all types of support and divide it by the number of potential external actors.<sup>9</sup> This calculation allows me to obtain a more refined representation of the received support as it considers the overall pool of supporters. All forms and types of support in the analysis are calculated

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<sup>9</sup> Potential external actors are all the external supporters who provided support to the focal NAG at any time in the dataset.

I include several main explanatory variables. First, I include *any external state support of NAGs*, a dyad-year variable for every peace year until conflict resumes or until the dyad is right censored. To test the next two hypotheses, I split the overall support to active and de facto support. I include two variables, one for *de facto external support* and one for *active external support*, following the Dangerous Companions dataset coding (San-Akca 2015). To test the final hypothesis, I include political and military types of support, each split into active and de facto forms of support. This creates four distinct variables: *political active external support*; *political de facto external support*; *military active external support*, and; *military de facto external support*. I also include all types of third-party peacekeeping interventions, including *mediation* between the government and the focal NAG, and *UN peacekeeping* (Kreutz 2010), if the mission was sent to oversee the area affected by the dyadic conflict, which has been shown to have significant effects on peace duration after conflict termination. Other variables that can affect both the independent and dependent variables and I include in the models are *intensity level* of the dyadic conflict episode, *incompatibility* type of the dyad, and *dyadic conflict episode years*. I additionally control for *conflict episode outcome type*, as it may affect both the support NAGs receive and the prospects of peace. Finally, I include a dichotomous variable indicating any external support that governments received during the peace episodes. Although there is no empirical evidence of government external support *during* a civil conflict increases the likelihood of civil conflict recurrence (Karlén 2017), there are theoretical reasons to believe it may be possible. Therefore, I include a variable of government external support to examine its possible effect on conflict recurrence. All variable statistics are presented in Table 1.

## *Results*

My initial models are based on 1195 peaceful dyad-year observations. These observations include 262 peace episodes, 162 dyads in 87 unique conflicts. 895 of the dyad-year observations include NAGs that received any external support, 721 observations where NAGs received de facto external support, and 532 observations where NAGs have received active external support. Considering the types of support, 757 of the dyad-year observations include NAGs that received political types of support, and 740 include NAGs that received military type of support. Only 79 observations included UN peacekeeping missions, and 197 had some form of mediation throughout the conflict. The external support governments receive during peacetime is extremely rare. Only 9 dyad-year observations include governments that receive external support.<sup>10</sup> Over 75% of the conflict episodes preceding the peace episodes were low intensity conflicts. 682 of the observations were disputes over territory and 513 were over government. Most of the observations, 669, have not officially terminated but ended with lowered levels of violence and are defined here as “frozen conflicts”. 127 peace years followed a peace agreement, and 176 peace years followed a ceasefire. 197 observations followed government victory and 20 observations followed NAG victory. The summary statistics of the independent variables are presented in Table 1.

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<sup>10</sup> This is expected, as governments rarely receive external support outside of conflicts. When they do, it appears in forms of PKOs and forms of foreign aid that are directed to the country as a whole and not distinctly to the government. The results of the models do not change significantly when this variable is omitted.

Variable	Min	Max	Mean	St. Dev.
Any External Support (lagged)	0	11.5	1.49	1.74
Active External Support (lagged)	0	10	0.62	1.15
De Facto External Support (lagged)	0	8	0.87	0.21
Political External Support (lagged)	0	5.5	0.9	0.99
Military External Support (lagged)	0	6	0.55	0.95
Government External Support (lagged)	0	1	0.01	0.09
UN Peacekeeping	0	1	0.07	0.25
Mediation	0	1	0.16	0.37
Conflict Intensity Level	1	2	1.13	0.3
Incompatibility	1	2	1.43	0.5
Conflict Episode Years	1	32	3.64	5.3
Outcome	1	5	3.78	1.5

Table 2 presents four Cox Proportional Hazard models. Model 1 tests the effect of any type of support on peace episode duration. Model 2 presents the effect of active external support on peace duration, Model 3 presents the effect of de facto external support on peace duration, Model 4 presents the effect of political external support on peace duration, and Model 5 presents the support of military external support on peace duration. The results are presented in hazard ratios, reflecting the effect of each variable on the hazard rate of a recurring conflict. Values above 1 indicate that a variable increases the risk of a recurring conflict and reduces peace episode duration while a value between 0 and 1 indicates a decrease in the risk of conflict recurrence.

Table 2: Effect of External Support on Peace Episode Duration

	(1)	(2)	(3)	(4)	(5)
Any External Support (lagged)	<b>1.097*</b> <b>(2.17)</b>				
UN Peacekeeping	1.153 (0.48)	1.023 (0.07)	1.338 (1.00)	1.180 (0.59)	1.145 (0.44)
Mediation	1.010 (0.03)	1.013 (0.04)	1.046 (0.15)	1.036 (0.11)	0.992 (-0.03)
Conflict Intensity Level	1.395 (1.02)	1.459 (1.12)	1.424 (1.10)	1.404 (1.03)	1.419 (1.07)
Incompatibility	0.801 (-0.85)	0.767 (-1.04)	0.779 (-0.98)	0.798 (-0.86)	0.780 (-0.98)
Conflict Episode Years	0.996 (-0.23)	0.993 (-0.36)	0.994 (-0.35)	0.996 (-0.22)	0.994 (-0.36)
Ceasefire	1.352 (0.76)	1.293 (0.61)	1.410 (0.87)	1.412 (0.85)	1.278 (0.61)
Government Victory	0.803 (-0.57)	0.822 (-0.50)	0.789 (-0.61)	0.812 (-0.53)	0.784 (-0.65)
NAG Victory	1.356 (0.57)	1.242 (0.40)	1.451 (0.66)	1.428 (0.64)	1.289 (0.48)
Frozen Conflict	1.833 (1.95)	1.862* (1.98)	1.834* (1.97)	1.824 (1.89)	1.843* (2.02)
Government External Support (lagged)	1.382 (0.55)	1.249 (0.38)	1.515 (0.69)	1.354 (0.53)	1.440 (0.61)
Active External Support (lagged)		1.133 (1.72)			
De Facto External Support (lagged)			1.116 (1.74)		
Political External Support (lagged)				1.169 (1.79)	
Military External Support (lagged)					<b>1.184*</b> <b>(2.32)</b>
Observations	1173	1173	1173	1173	1173

Exponentiated coefficients; *t* statistics in parentheses

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

The models presented in Table 2 suggest that overall, external support to NAGs during peace episodes increases the risk of peace failure and conflict recurrence. This indicates that some of the stipulated hypotheses cannot be confirmed and should be reevaluated, while others are supported by these models.

Model 1 estimates the effect of any type of support on post-conflict peace episodes duration. The results are in line with  $H_1$ , suggesting that any type of support increases the hazard of peace failure and conflict recurrence. According to Model 1, The hazard of conflict recurrence for peace episodes with any NAGs external support is 109 percent of the hazard of peace episodes without any external support. The result is statistically significant at the  $p < 0.05$  level. The remaining models disaggregate external support by form and type to test  $H_2$ - $H_4$ .

Models 2 and 3 examine the effect of active and de facto types of support on post-conflict peace duration. These results are not significant and cannot support neither  $H_2$  nor  $H_3$ . Furthermore, the hazard ratio of active external support is greater than 1, suggesting that active external support does not legitimize NAGs and does not decrease the hazard of peace failure. This may be explained by the higher ability of state supporters to provide resources to NAGs. In other words, when governments support states they have much more resources to do so and therefore can have a more substantial effect on the NAG's ability to resume fighting than de facto external supporters, as non-state actors usually have less available resources than state actors and are weaker. Another possibility is that resource type has a more significant effect on conflict recurrence than the identity of the supporter, as examined in the subsequent models. This assumption also leads to the understanding that there is no positive external support that can promote peace, and any external support after conflict termination is potentially dangerous to peace sustainability. The results in the subsequent models support this statement.

Models 4 and 5 examine the effect of types of provided resources on peace episode duration. The results support  $H_4$ , demonstrating that an increase in military types of support increases the likelihood of conflict recurrence. According to Model 5, The hazard of conflict recurrence for peace episodes with NAGs receiving military types of external support is 118 percent of the hazard

of peace episodes without NAGs receiving military types of external support. The result is statistically significant at the  $p < 0.05$  level. Political types of support appear to increase the likelihood of conflict recurrence, although the result is not statistically significant.

The mixed results, along with the null results, paint an interesting and significant picture altogether. First, any external support seems to endanger post-conflict peace. However, when delving into the different forms and types of support, not all of them have the same effect. External support provided by more legitimate actors is not different from support provided by non-state actors, and each of them has no significant effect on conflict recurrence. However, when looking at the type of provided support, threat-inducing types of support are associated with shorter peace duration and increased likelihood of civil conflict recurrence.

These findings are significant to four actors involved in civil conflicts and in peacebuilding efforts. First, governments that are part of a recently terminated conflict dyads should pay attention to any external support provided to NAGs after conflict termination. Whether the conflict episode had terminated with an agreement, a military victory, or the levels of violence have simply reduced, any type of external support to the NAG has a significant effect on the likelihood of conflict recurrence. Furthermore, the research provides a more accurate list of resources that should be flagged by governments. Second, for both the NAG receiving any type of external support and the external supporters providing NAGs with a military type of support, this finding is important. The decision to provide and accept external support is a significant part of any actor's strategic calculations. Both the receivers and the providers of external support should reevaluate their preferences and the decision to interact with one another during peaceful episodes, given their goals. If, for example, NAGs wish to strengthen their fighting abilities to protect themselves from possible government aggressions, they should focus on garnering political types of support over



military. Finally, if external support overall has a significant effect on civil conflict recurrence, then third parties that are involved in peacebuilding efforts should recalculate the costs of missions and assistance for post-conflict states, given the new information regarding civil conflict recurrence.

### *Conclusion*

How does external support after conflict termination affect peace duration and the risk of conflict recurrence? This paper attempts to investigate this question. I find this question crucial to post-conflict peacebuilding efforts, as external support of NAGs may, at first look, exacerbate commitment problems and endangers the fragile peace between the recently former combatants.

The findings presented in this chapter partially support the proposed theory. The findings demonstrate that any type of external support decreases post-conflict peace duration and increases the likelihood of conflict recurrence. It adds to existing research on post-conflict peace sustainability and complements Karlén's (2017) finding that external support of NAGs during civil conflicts increases the risk of conflict recurrence. This study demonstrates that this risk is not limited to support during civil conflict but extends to non-violent times. It also speaks to Sawyer et al.'s (2015) argument. While only fungible types of support, such as financial aid and weapons, prolong conflict duration, the peace period following the conflict is much more fragile. All threat-inducing types of support increase the likelihood of conflict recurrence, including financial aid and weapons, as suggested by Sayer et al. (2015), but also training, troops, and weapon transportation. The findings shed light not only on the overall effect of external support of NAGs, but on specific types of support. In terms of policy recommendations, the study suggests that a presence of

external support of NAGs in post-conflict settings may put peacebuilding efforts at risk and missions sent to states with operating and externally supported NAGs should account for this added risk. The research design, as mentioned before, suffers from some endogeneity issues. Although the support is lagged to address the issue, there is still a factor of anticipation of support, where external supporters anticipating conflict recurrence provide the said support. Lagging alone does not establish a strong causal relationship between external support and civil conflict recurrence. Nevertheless it provides insights into NAGs' strategic plans in post-conflict environments.

The null results of some of the models presented in this study suggest further investigation. What is the strategic incentive driving political types of support? If NAGs are not counting on political types of external support to resume fighting nor to increase their legitimacy, then why are they accepting this support when it is no longer needed? And what are the incentives of external supporters to keep providing political types of support and spending valuable resources when it does not promote their strategic interests, whether they are to promote peace or to re-instigate the conflict? This research is the first, to the best of my knowledge, to examine the role of post-conflict external support to NAGs. It presents an important distinction between different types of support and their effect on civil conflict recurrence. Future research should further investigate the role of active NAGs and the role of their external supporters in post-conflict settings.

## Chapter 5: Conclusions

This project sheds light on the complex strategic behaviors of NAGs during and after civil conflicts. Scholars have provided ample theoretical explanations of strategic behaviors of oppositions in civil conflicts as a whole, but until recently overlooked the complex relations within the opposition and the nuances between each opposition group. The theories proposed in this dissertation and the supporting findings unpack opposition groups to individual NAGs and contribute to our understanding of NAGs relations with one another, with the government, and with their external supporters.

The first chapter asks when and with whom NAGs will choose to interact. I demonstrate that NAGs carefully choose the partners with whom they interact, rather than the nature of the interaction. Both cooperating and fighting with other NAGs impose costs, but also send signals to NAGs' domestic and external supporters regarding their preferences. Therefore, NAGs will choose to interact with each other when they share interests. The Shared Interests Index (SII) I compose represents the sum of NAGs' strategic interests. When those strategic interests align, NAG dyads interact with each other. I demonstrate that increase in SII not only increases the likelihood of interactions between NAG dyads, but it increases the likelihood of both conflict and cooperation separately. The findings reconcile conflicting arguments in the literature that examine conflict and cooperation separately and provide valuable theoretical and practical knowledge.

The second chapter examines the effect of the sum of the conflict-cooperation relations on the battlefield on civil conflict duration. The network analysis approach accounts for interdependencies among the warring parties that are present in civil conflicts. I demonstrate that increase in network balance, which gauges the predictable behavior of the warring parties, reduces commitment problems, alongside increase in rebels' capabilities, decreases civil conflict duration

and increases the likelihood of civil conflict termination. The findings provide a conflict-level explanation while accounting for complex dyadic relations.

The third chapter examines the effect of post-conflict external support to NAGs on civil conflict recurrence. The findings suggest that overall external support of NAGs increases the likelihood of civil conflict recurrence. Specifically, when threat-inducing types of support are provided, the likelihood of conflict recurrence increases. However, the identity of the external supporter (*i.e.* whether the external supporter is a state or a non-state actor) does not have a significant effect on conflict recurrence.

Theoretically, the findings expand our understanding of relations among NAGs, between NAGs and governments, and between NAGs and their external supporters. This dissertation project highlights the incentives that drive NAGs' strategic decisions during civil conflicts and after conflict termination. Practically, the project provides a tool to predict behavior in civil conflicts and to prepare appropriate conflict management, reconciliation, and peacebuilding strategies.

Importantly, this project lays out a wider research agenda. The first research venue should delve further into relations among NAGs and their effect on civil conflict dynamics. Are there levels of hostility and cooperation between NAGs? When do NAGs choose to move from cooperation to conflict with another NAG and vice versa? How do these relations affect NAGs dynamics with the government itself? These are only some of the questions that arise regarding micro conflict dynamics. The second research venue should explore NAGs behavior after conflict termination. If some types of support do not affect conflict recurrence, what is their purpose? What are the interests of NAGs receiving external support if the conflict recurs and what are their interests if peace sustains? Are compound types of support from external supporters matter or is the significance limited to the type of provided support? Does the identity of the external supporter

matter (if the supporter is a major power, democracy, or former colonizer)? These questions are crucial as NAGs do not disappear after conflict termination. They may not be active, they may disarm, and they may transform into political parties. In either case, they maintain domestic and external constituencies with different demands, agendas, and preferences. Post conflict dynamics may overlook these preferences, but their effect on peacebuilding, state-building, and democratization, should be further explored.

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