Relative rebel strength and the onset and outcome of civil war mediation

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Abstract

To what extent does the relative strength of a rebel movement impact upon the likelihood of a peace settlement in civil conflict? This paper argues that relatively stronger rebels are more likely to overcome the strategic bargaining problems that can prevent the resolution of war. Relatively strong insurgents are better equipped to significantly challenge core government interests, and fundamentally threaten the survival a regime. The incumbent’s fear of future violence therefore makes mediation more likely to be undertaken in high-stakes conflicts between states and strong rebel groups. Relatively strong insurgencies are also those with the greatest leverage to negotiate enforcement mechanisms, and the best equipped to defend themselves in the event that the government reneges on an agreement. This reduces the scale of the commitment problem and increases the probability of relatively strong rebel groups agreeing to a settlement with an incumbent. This argument is tested using dyadic data that captures the relative position of insurgents in civil war from 1946 to 2004. This represents an important methodological shift within the mediation literature, which has in the past largely relied upon aggregate country-level data. The results suggest that relatively stronger insurgents are more likely to force the state to open a mediation process and eventually concede some form of settlement. This is further evidence of the need to capture the dyadic relations between actors with fine-grained disaggregated data.

Keywords: mediation, conflict management, civil war, conflict resolution, disaggregated data, rebel strength.


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Introduction

In 1994 a ceasefire was agreed between the defense force of the Nagorno-Karabakh Republic (NKR) and the Azerbaijani army. This agreement was the result of the tenth mediation process in the two-year episode of violence. In the same period Thailand failed in an attempt to mediate the conflict between the Karen National Union (KNU) and the Burmese military regime. Despite over five decades of fighting the creation of a constructive dialogue remained elusive.\(^1\) The rebels involved in these two conflicts held quite different levels of capacity. The NKR army is a well-equipped and professionally trained fighting unit, while the KNU are a weak lightly armed insurgent force. This paper investigates the extent to which this variance in belligerent capabilities effects mediation.

Studies of civil war mediation are yet to uncover a relationship between belligerent strength and conflict management outcomes (Svensson, 2009). Using state based indicators to account for the distribution of capabilities (e.g. per capita income), existing work has been guilty of an over-reliance upon aggregate data. When considering the impact of capabilities upon conflict dynamics, the dyadic relationship between the state and non-state group is of greater importance (Cunningham, Gleditsch & Salehyan, 2009). Building upon this assumption, this paper investigates the following question: to what extent does the strength of a rebel movement, relative to the state, impact upon the likelihood of a mediation process occurring and ultimately securing an agreement?

I argue that an unequal distribution of capabilities lowers the probability of (i) a mediation process being initiated, and (ii) a settlement being produced. The initiation of mediation provides legitimacy and recognition to a non-state force. A state is likely to resist intermediaries until the cost of mediation is outweighed by the anticipated price of continued conflict. I put forward that relatively strong rebel movements pose a more significant threat to

\(^1\) This is according to the civil war mediation data set (DeRouen, Bercovitch & Pospieszna, 2011).
state interests, and are therefore more likely to convince an incumbent that the costs of mediation are worth enduring. Mediation should then be less likely when a state is faced with a relatively weak rebel group. The outcome of a mediation process is largely dependent upon the belligerents overcoming the commitment problem. For this to be achieved incumbents must often make concessions on key issues of security. Paradoxically, the state is less likely to make these concessions to the weak rebel groups that most require guarantees against government defection. Settlements are therefore less likely in conflicts involving weak insurgent forces.

To examine these ideas empirically I use a Sartori selection model to analyze 319 civil conflicts drawn from the Civil War Mediation dataset (DeRouen, Bercovitch & Pospieszna, 2011). This data includes 1520 conflict years between 1946 and 2004, 236 of which involved a mediation event. Recently released dyadic data is used to capture the relative position of the rebels (Cunningham, Gleditsch & Salehyan, 2009). This data incorporates a variety of factors including military capacity, political leadership and territorial control. All analysis suggests that relatively stronger insurgents are more likely to enter into mediation and eventually force some form of settlement.

**Mediation onset**

The incentives for dialogue in civil war

Rebel groups have strong incentives to open any form of dialogue with the government (Greig & Regan, 2008; Melin & Svensson, 2009). One of the defining characteristics of civil conflict is the power asymmetry between disputants (Zartman, 1995). Insurgents are more likely to lack the military capabilities and political legitimacy held by the state. A dialogue process can help to overcome this asymmetry by raising the status of rebels. Gaining a seat at the negotiating table elevates actors from insurgents to political figures, a
difficult transition to achieve solely through military means. The onset of a dialogue process is also an important concession for the rebels to achieve, which moves them closer to their political demands and a peaceful conclusion to the conflict.

The government has far fewer incentives to enter into dialogue with insurgents. At the onset of a civil conflict the government should possess a larger army, more military allies, and greater access to resources than their non-state opponent (Gent, 2011). This structural advantage should lead the state to reject the legitimacy of the rebels and seek a military rather than diplomatic solution. Only when a rebel movement has proven its ability to challenge the state militarily will they be willing to enter negotiation.

This divergence in incentives is particular to civil war, for within inter-state conflict both belligerents are afforded international legitimacy as sovereign powers. Therefore while states engaged in inter-state violence can open dialogue without serious cost, within civil conflict incumbents will only enter into negotiation when the costs associated with a process are outweighed by potential benefits of conflict resolution (Melin & Svensson, 2009).

The incentives for mediation in civil war

Mediation is a form of conflict management in which a third party controls some aspect(s) of the dialogue process. Mediation is always voluntary, and can only occur when both belligerents accept (or request) assistance from an intermediary. Mediation accentuates the costs associated with bilateral negotiation. The introduction of an intermediary confers a more significant level of domestic and international recognition upon the rebels. It also clearly signals that the government has lost the capacity required to effectively control its territory (Melin & Svensson, 2009). This demonstration of state weakness can harm the government’s reputation for resisting insurgent demands, resulting in both increased support for the rebel movement and motivation for other challengers to take up arms (Walter, 2006;
Toft, 2003). Unlike bilateral negotiation, the onset of mediation also signals a loss of decisional autonomy for the belligerents. This is particularly challenging for the incumbent who stands to give up political, economic or territorial control. In this way mediation increases the likelihood that the dialogue process will produce a suboptimal agreement for the state. These costs act as powerful incentives for the state to resist mediation.

What mediation can provide the government is a mechanism to escape from violent conflict. A large body of research has shown mediation to be very effective in fulfilling this role (Bercovitch & Gartner, 2006; Beardsley et al., 2006; Beardsley, 2011). When the costs associated with mediation are superseded by the desire to end violent conflict, mediation is more likely. The onset of mediation is therefore determined by the state’s desire for peace, weighed against the expected costs of accepting an intermediary. In this way it is the state’s preferences that define when and where mediation will occur. This often elevates the status of the incumbent to sole veto power in the initiation of civil war mediation.

**Relative rebel Strength**

Civil wars are extreme dyadic interactions between the state and a rebel movement. Capturing this dyadic component is necessary to accurately assess the dynamics underpinning civil war (Lujala, 2010; Buhaug et al., 2009; Cunningham, Gleditsch & Salehyan, 2009). This is of particular importance when studying the influence of relative power within conflict. The strength of belligerents is related to a wide variety of factors, including the size, equipment, location and leadership structure of an armed force (DeRouen & Sobek, 2004). However, the absolute strength of a belligerent is less important than their strength in relation to their opponent. For example, at present the Taliban are militarily weaker than the US-backed Afghan state. Yet when the coalition forces eventually withdraw from Afghanistan, the
Taliban, having remained constant, will quickly enjoy a more favorable distribution of power in relation to the incumbent.

Most rebel movements lack the mobilization capacity and technological development required to militarily match the state. For example, the KNU in Myanmar, and the Chechens in Russia, are always likely to remain relatively weak in relation to the incumbent. However, groups with significant mobilization potential and organized leadership structures can grow to the point that they match state forces (e.g. NKR force in Azerbaijan). On rare occasions, most commonly in the presence of a weak state, rebels can grow to the extent that their capacity supersedes the government. To achieve this groups must be able to amass significant military force, control significant portions of territory outside the capital, and often offer alternatives to current governance structures (e.g. NPFL in Liberia).

Existing studies of mediation have generally failed to capture the dyadic power relations within civil conflict, and have therefore been unsuccessful in attempts to uncover a relationship between belligerent strength and mediation (Svensson, 2009). This paper builds upon recent innovations in the civil war literature, developing a theoretical argument that is based upon the relative rather than absolute power of belligerents.

Relative rebel strength and the incentives for mediation

The relative strength of a rebel movement has a positive effect on the government’s willingness to allow mediation. When a state has a high probability of military victory there is little incentive for them to initiate dialogue. Given the opportunity to defeat a weaker opponent on the battlefield, most actors prefer some form of imposed rather than negotiated solution (Modelski, 1964). In situations of disparity the entrance of a mediator is particularly unlikely. Intermediaries constrain the incumbent, hindering attempts to comprehensively
defeat their opponent (Greig, 2001; Princen, 1992). As a result the demand for mediation should be low when an incumbent is faced with a relatively weak insurgent group.

If a rebel movement can overcome the collective action problem and survive the weaker more vulnerable phases of existence, the state’s probability of victory is reduced (Cunningham, Gleditsch & Salehyan, 2009). A rebel group is more challenging to defeat once they have mobilized a sizeable force and demonstrated their ability to endure the costs of conflict. The reduction in the likelihood of incumbent victory can often increase the probability of dialogue. However, insurgent durability is alone insufficient to trigger mediation. Incumbents will only accept an intermediary on those occasions in which the costs associated with mediation are outweighed by the price of continued conflict. Incumbents often prefer to endure the continuation of manageable conflict rather than suffer the negative implications of mediation (Walter, 1997; Buhaug, Gates & Lujala, 2009).

The incumbent’s conflict costs are closely associated with the relative strength of a rebel movement. Greater rebel strength implies greater conflict costs for the government (Cunningham, Gleditsch & Salehyan, 2009; DeRouen & Sobek, 2004; Gent, 2011). Relatively strong rebels are more likely to produce high intensity violence, significantly challenge core government interests, and fundamentally threaten the survival the regime. Conflicts involving relatively strong insurgents are therefore more ominous for incumbents, and likely to demand a more significant allocation of the states’ physical and financial resources. The increased costs an incumbent suffers when fighting strong rebels increases the incentives they have to accept mediation. As a result, the introduction of a mediator is less likely to be resisted when the state is faced with a relatively strong rebel group.

The response of the Liberian state to the rise of the National Patriotic Front of Liberia (NPFL) is an example of this process. The NPFL, with support from mercenaries and neighboring states, quickly posed a serious threat to state security. Suffering significantly as a
result of the NPFL’s military campaign, the Government quickly conceded and agreed to mediation. After only tens months of violence the NPFL were invited into dialogue with a number of actors including, the UN Secretary-General’s Special Representative (Wei, 2007). This state concession provided significant legitimacy to the NPFL and was no doubt a response to significant conflict costs that the government had suffered (Wei, 2007).

However, there are two potential problems with this argument. Firstly, relatively strong insurgents are more likely to directly challenge the incumbent on the battlefield. This demonstration of military strength reduces the uncertainty that can prevent an agreement. The reduction in uncertainty might negate the need for mediators to alleviate information asymmetries, and increase the likelihood of the incumbent opting for less costly bilateral negotiations. Yet intelligence gained on the battlefield is unlikely to fully resolve the issue of asymmetric information.\(^2\) Even clear demonstrations of military strength rarely illuminate the full distribution of belligerent capabilities. Dividing utility in accordance with the capabilities of the actors therefore remains a challenging task that often requires the assistance of an intermediary. Moreover, relatively strong groups pose a greater threat to the population and property of a state. Having suffered the significant costs associated with fighting strong insurgents, and fearful that these costs will continue, the government is more likely to turn to mediation in the belief that it holds the greatest chance of resolving the conflict. Given that some difficulties associated with dividing utility in line with capabilities remain, the incumbent's fear of future violence therefore makes mediation more likely to be undertaken in high-stakes conflicts between states and strong rebels.

Secondly, when rebels have grown to the extent that they can challenge the state on a military basis, what incentive do they have to engage in dialogue? In the same way as we

\(^2\) It is also not clear that strong rebel groups are any more likely to reduce uncertainty. While strong groups can demonstrate their capabilities in battle, the inability of weak rebel groups to directly challenge the state also communicates their lack of strength. Therefore in principle the incumbent should be able to use the battlefield performance (or lack of it) to infer the strength of all rebel groups.
expect the state to be resistant to opening dialogue with weak rebels, strong rebels could adopt a similar stance when the government’s strength and resolve is in doubt. Yet this understanding ignores one of the key distinctions between government and rebel actors. While the state automatically enjoys the legitimacy associated with central control, rebel groups require both domestic and international recognition. Engaging in a mediation process provides both recognition and legitimacy, and elevates rebels’ status as a political actor. It is therefore very rare for a rebel movement to veto the initiation of mediation. For example, in the Liberian civil war (1989-1997) mentioned above, while Charles Taylor (the leader of the NPFL) held a military advantage over the state for a number of years, he often engaged in some form of mediation. Thus while a settlement eluded the actors, the leader of the strong non-state force was still willing to continue the dialogue process.

From the above discussion a first hypothesis can be derived.

Hypothesis 1: Mediation is more likely the stronger a rebel group is relative to the state.

**Mediation outcome**

Bargaining failure in civil war

In theory all belligerents should favor the peaceful resolution of violence. Conflict produces significant costs for all actors that would be prevented in the absence of war. Therefore were all belligerents to have full and accurate knowledge of their opponent, a settlement that divides the contended utility in line with the distribution of capabilities should be achievable (Kydd, 2003; Kydd, 2006; Rauchhaus, 2006).

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3 There have been occasions in which rebel groups have vetoed the onset of mediation (e.g. AFDL in Zaire). However this is an exceptionally rare event, as even the strongest rebels are almost always willing to enter dialogue with the incumbent.
However, parties within conflict often have incentives to misrepresent information (Filson & Werner, 2007; Fearon, 1995; Smith & Stam, 2004). For example, actors seeking to secure a more favorable arrangement might exaggerate their military strength and political resolve. This undermines the credibility of information that is provided, and often leads belligerents to question the point at which their opponent will be willing to resolve the war (Svensson, 2007).

The problem of asymmetric information is compounded by a climate of mutual mistrust. Belligerents can struggle to credibility communicate peaceful intentions, in particular regarding commitment to agreements (Fearon, 1995; Walter, 1997). When the incentives for cooperation are expected to change over time, it is challenging for the potential beneficiary to guarantee that they will not renege in the future (Beardsley, 2008). The incentives that each actor may have to later renege on any agreement can, in the same way as they can lead to the onset of conflict, also prevent the resolution of war (Beardsley et al., 2006; Wilkenfeld et al., 2005).

This problem is intensified within civil conflict, as unlike international war in which the opponents can retreat to their own territories, actors must live together in the wake of an agreement (Walter, 1997). Any form of disarmament will therefore involve a period of intense vulnerability for at least one actor.

Mediation in civil war

Mediation has proven an effective means through which disputants can resolve their incompatibilities (Beardsley et al., 2006; Wilkenfeld et al., 2005). The onset of a mediation process can often help belligerents to overcome the common bargaining challenges.

The introduction of a mediator who can obtain private information about the disputant’s capabilities or resolve (reservation point), can help overcome the problems
associated with asymmetric information and strategic interaction (Kydd, 2006; Kydd, 2003; Rauchhaus, 2006). By insuring a more credible flow of information the mediator can foster a more accurate conception of both parties’ positions, allowing them to set reservation points more in keeping with reality. In this sense a mediator can help to reveal information that might only otherwise become available on the battlefield.

Mediators can also help to overcome commitment problems. Third parties can provide economic and political incentives that deter parties from defection until the security situation has stabilized and actor vulnerability is reduced (Beardsley, 2011: 172). Having located a mutually acceptable agreement a mediator can provide positive inducements to sweeten a deal, counterbalancing future incentives for exploitation that might prevent the creation of an agreement. Mediation also increases the likelihood of third-party security guarantees (i.e. monitoring or enforcement), which can reduce the belligerent’s fears of exploitation (Lake & Rothchild, 1996). In this way mediators reduce the credible commitment problem by serving as trustees, or as Beardsley (2011: 172) has suggested, provide ‘bridges to more self-enforcing arrangements’.

**Relative rebel strength and the problem of credible commitment**

The relative strength of a rebel group strongly influences the mediator’s ability to overcome the problem of commitment. Strong rebel groups, those whose military capacity is comparable with the state, are the best equipped to defend themselves in the aftermath of an agreement. As a result relatively strong insurgents are less fearful of government defection. Conversely, weak rebel groups, those that have previously survived on account of their clandestine nature, are the most vulnerable in post-settlement period. Weak insurgents are therefore unlikely to agree to a settlement without strong security guarantees to protect against government defection.
Yet paradoxically weak rebel groups are the least likely to force concessions on issues such as third party monitoring, security sector reform and territorial autonomy, which are often required to overcome the problem of credible commitment (Gent, 2011). Weak insurgencies are generally focused upon inflicting accumulated costs that undermine the level of popular support in the government, and force the state to the negotiating table (DeRouen & Sobek, 2004; Collier et al., 2004). Once within mediation weak insurgents have few additional chips to trade for commitment-enhancing concessions. For the disparity in capabilities means they cannot credibly threaten to abandon the peace process, or significantly escalate the violence. Hence weak rebel groups, those with the greatest need for mechanisms to overcome commitment problems, are also those with the least bargaining leverage to force enforcement mechanisms within mediation.

Conversely, relatively strong rebels, those with the greatest capacity to protect themselves from government defection, also have the greatest leverage to negotiate enforcement mechanisms. Strong groups can credibly threaten to abandon a mediation process and continue a conflict that is presumably hurting the state. The mediator can exploit this bargaining position to generate time pressure and the perception of an imminent catastrophe for both disputants (Ott, 1972; Touval & Zartman, 1985; Zartman 1985). With more leverage, a mediator should be better equipped to stretch the evenly matched actors to their reservation points, increasing the probability of settlement.

One example of this process is the continuing conflict in the Middle East. The Palestinian insurgents have certainly demonstrated their ability to continue their resistance in the face of the strongest forms of Israeli repression. This commitment to their struggle eventually forced Israel to open meaningful dialogue with the Palestinians. Mediation has now become a relatively common feature within the conflict. However, as the Palestinians lack the ability to seriously escalate the status quo costs, they cannot provide powerful
enough incentives for Israel to concede ground in negotiations. This significantly lowers the likelihood of a positive outcome.

On the other hand, the agreement signed in 1999 between President Kabbah of Sierra Leone and the Revolutionary United Front (RUF) shows the impact of rebel strength. The deal was made possible by the RUF’s continued siege of Freetown, which eventually wore down Kabbah’s resolve and resulted in concessions. The relative strength of the rebels provided bargaining leverage that ensured the agreement offered by the incumbent satisfied the insurgent’s demands.

From the preceding discussion a second hypothesis can be derived.
Hypothesis 2: A mediation is more likely to be successful the stronger a rebel group is relative to the state.

Method

Data

In order to test the hypotheses, I analyze the Civil War Mediation (CWM) dataset (DeRouen, Bercovitch & Pospieszna, 2011). Building on Uppsala’s Armed Conflict Termination data (ACT) (Kreutz, 2010), the CWM dataset includes information on all 317 civil war episodes that meet the UCDP/PRIIO definition of civil war (UCDP, 2011). The temporal span is 1946 to 2003.

The CWM dataset defines mediation as

...a process of conflict management where disputants seek the assistance of, or accept an offer of help from, an individual, group, state, or

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4 A conflict episode is a continuous period of active conflict-years. An episode starts when a conflict becomes active according to the UCDP-PRIIO definition. An episode ends when an active year is followed by a year in which there are fewer than 25 battle-related deaths. (Kreutz, 2010).
organization, to settle their conflict or resolve their differences without resorting to physical force or invoking the authority of law (Bercovitch et al., 1991).

To better account for multiple mediation attempts over a conflict’s life span, I separate the conflict episodes into individual years. An individual observation is created for each year that a conflict produced more than 25 battlefield deaths. This results in a population of 1520 observations (conflict years). This data specification corrects for a bias common within previous studies of mediation, in which the presence or absence of mediation has been coded in relation to the whole conflict, with no consideration taken for the conflict duration.5

Model

The factors that shape the initiation of mediation are also likely to be the causal forces that shape the outcome of the process (Svensson, 2007; Greig & Regan, 2008). Belligerents’ decision to accept (or reject) mediation should be closely connected to their behavior once mediation has begun. Mediation might then only take place when actors are predisposed towards a certain outcome. When the two phases (initiation and outcome) are modeled independently this important selection effect is omitted.

Previous studies have used the Heckman selection model to capture this effect. But the Heckman model is only appropriate when at least one ‘extra’ explanatory factor influences the selection but not the outcome. This ‘exclusion restriction’ helps the model to differentiate the impact of explanatory variables on the two phases. In the case of mediation, an appropriate exclusion would be a variable that is correlated with the initiation of the process, but not with the outcome. It is hard to locate any distinct predictors for the selection

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5 For example the Iraqi state’s dispute with its Kurdish population is generally coded as including mediation, despite the fact that only a single mediation event occurred within the conflicts thirty-two year history.
of mediation.\textsuperscript{6} This largely undermines the accuracy of results generated using the Heckman model (Sartori, 2003).

Instead I opt for Sartori’s selection estimator, based upon the identifying assumption that the error term for an observation is the same in the two equations. This model is appropriate when there are good theoretical reasons to believe that the sign of the unmeasured factors influencing both selection and outcome would be the same. I have argued that the costs imposed on a state when accepting mediation provide a strong incentive for the incumbent to resist mediation. Only when the resolve of the state is diminished (i.e. reduction in probability of victory / increase in conflict cost) will mediation occur. This reduction in the unobservable ‘resolve’ is also likely to be strongly correlated with an increase in the probability of settlement. This suggests that the Sartori model is an appropriate choice, as the unmeasured/unobserved variables that encourage states to accept mediation also increase the likelihood of success.

Dependent variables

The dependent variable for the selection analysis is a dichotomous variable coding whether mediation occurred in each conflict year. Following literature based upon conflict onset, if a mediation process continues into the following calendar year mediation onset is coded as missing to prevent the same mediation being counted for subsequent years. Despite being the most common form of intra-state conflict management, mediation is still a relatively rare event. Of the 1520 conflict years included in the dataset, only 236 witnessed the onset of mediation (15\%). The Israeli-Palestinian conflict had the highest number of years involving the initiation of mediation (22).

\textsuperscript{6} For a different method of overcoming this challenge see, Beber (2011).
The dependent variable in the outcome analysis draws upon the CWM data’s coding of a mediation process as either unsuccessful, a ceasefire, process settlement, partial settlement or full settlement. From this I construct a binary success measure based on whether mediation is classified as achieving a partial or a full settlement. This method does not provide a comprehensive evaluation as to the effectiveness of mediation. Agreements do not always bring an end to the violence, nor guarantee that the conflict will not recur. However, given the inherent difficulties in locating terminal points in dynamic processes, the signing of a political agreement represents an important first step in the search for a comprehensive resolution of the conflict (DeRouen, Bercovitch & Pospieszna, 2011: 666; Touval & Zartman, 1985). In this way both partial and more complete agreements are breakthroughs that signify a noteworthy achievement for the mediator (DeRouen, Bercovitch & Pospieszna, 2011; Jackson 2000). Therefore despite the limitations, the likelihood of a settlement does represent a valid indicator of one important element of mediator effectiveness (Bercovitch, 2007).

Of the 180 conflict years in which mediation was initiated, 78 produced some notable form of agreement (43%). The Sudanese civil war enjoyed the highest number of successful events, while the conflicts within India (Nagaland) and Indonesia (East Timor) suffered the most failures. This reflects of the main argument of this paper, that weak rebels are less likely to produce successful conflict management outcomes.

Independent variables

Relative rebel strength is assessed using three sources of data that capture the dyadic relations between disputants. From the non-state actor dataset (NSA) I adopt an ordinal variable that measures the relative strength of the rebels in relation to the state (Cunningham, 7

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7 In those years in which more than one process occurred the most successful outcome is selected.
Gleditsch & Salehyan, 2009). Based on a three-point scale this measure codes the existence of weaker, evenly matched or stronger rebel movements. I also adopt a dichotomous measure coded 1 if a rebel movement was at least in parity with the state. The NSA dataset was created using qualitative assessments of a number of key areas in which the rebel’s strength could be weighed against the state. These included the rebels command structure, mobilization capacity, ability to procure arms, fighting capacity and level of territorial control. This is the most comprehensive measure of relative rebel capacity currently available.

In addition to the NSA data I draw upon a measure of relative rebel capacity taken from the UCDP database (UCDP, 2011). The variable is constructed by calculating the scaled value of the state forces divided by the number of troops in a rebel movement. This approach accounts for multiple insurgencies within the same state, which we would expect to require a division of government forces (Wood, 2010). The scaled value of the state force is calculated by multiplying the total number of government forces by the proportion of troops. As the UCDP data focuses solely upon troop numbers, it fails to capture a number of important elements of fighting capacity (e.g. artillery and aircraft) (Wood, 2010). It also has temporal restrictions in that it only covers the period from 1989 to 2002. Therefore the analysis of the UCDP data will utilize a smaller subset of the CWM dataset that focuses solely on the post-Cold War era.

In addition to the direct measures of relative rebel strength, I also include a measure of a conflict’s location. This indicator records the distance from the state’s capital city to the

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8 The original measure within the NSA dataset is a five point ordinal measure. However when combined with the CWM data there are a very small number of observations involving rebels classed at the top of the scale. Also given the qualitative decision making process used to code the original measure the distinction between 1-2 and 4-5 is not always clear. Simplifying the measure reduces the measurement error associated with the variable. As an additional robustness check all results were run with the original measure, no inconsistencies were discovered.

9 It is obviously challenging to collect data on the number of rebel forces therefore measurement error should be expected.
first recorded site of violence (Buhaug, 2010). Distances from the capital range from 0 km (normally coup d’état) to 3360 km (the separatist conflict in Indonesian West Papua). Incumbent’s power is generally centered in the capital city, if the government is forced to fight over long distances its strength and strategic advantage is mitigated (Boulding, 1963; Buhaug et al., 2009). Relatively weak rebels are therefore more likely to be based in the periphery of the state, in a location that limits the ability of the government to project its force effectively (Buhaug, 2010; Buhaug et al., 2009; DeRouen & Sobek, 2004). Whereas relatively strong rebels are more likely to be located close to the capital, in an area that facilitates an attack on the center of government power.\(^{10}\)

All three data sources highlight the prevalence of weak rebel movements. Only 13% of conflict years involved rebels that were at least in parity with the state; over 50% of conflicts were fought more than 300kms for the capital; and the average rebel force has a capacity of only 0.37 of the state army. These findings are in keeping with the argument that strong rebels should be more capable of forcing concessions and securing a quicker conclusion to the violence.

Controls

I control for a number of factors previously shown to affect the onset and outcome of mediation. Recent work highlighted an adverse selection effect, in which a number of features shown to increase the probability of mediation occurring also reduce the likelihood of a successful outcome.\(^{11}\) To account for this I include a measure of incompatibility type, conflict intensity and conflict duration. The incompatibility variable is coded 1 if a conflict is

\(^{10}\) Relatively strong rebel groups on average initiate civil conflicts 416kms closer to the capital than relatively weak rebel groups.

\(^{11}\) This does not undermine the plausibility of the Sartori estimator as long as the factors that drive this adverse selection effect are observable.
fought over territorial issues (UCDP, 2011). The intensity variable is also a dummy variable coded 1 if a conflict crosses the 1000 deaths per year threshold (Lacina & Gleditsch, 2005). The duration variable records the years since conflict onset. I also include a duration-squared variable to account for the diminishing effect of duration over time.

Parallel conflicts within a state are likely to require a division of state forces that might improve the relative position of the rebel forces. However, the recognition costs associated with agreeing to mediation in a multi-conflict context may reduce the likelihood of mediation. To account for both occurrences I include a variable recording the presence of another ongoing conflict within a state.

Finally I include a variable that records if mediation occurred the previous year and an indicator if the process was successful. Having opened a dialogue process with insurgents the state is more likely to agree to future mediation attempts. Having suffered the recognition costs associated with opening a dialogue process the costs associated with entering subsequent mediations should be reduced.\(^{12}\)

Full descriptive details of all variables are included in appendix A. The next section will present and discuss the statistical results.

## Results

The statistical results are reported in table I. Model 1 tests the effect of the three-point ordinal measure of rebel strength on the onset and outcome of mediation. Model 2 replaces the ordinal measure of relative rebel strength with the dichotomous indicator recording if

\(^{12}\) Mediation episodes extending for more than one year are excluded, so previous mediation does not simply predict the same mediation effort. Further in the event that a mediation process crosses into the next calendar year I also code the previous conflict management outcome as missing. This is necessary, as the eventual outcome of the process might not be known until a number of years after the event begun.
rebels were at least in parity with the state. Model 3 draws on the UCDP rebel capacity data, using only observations for the post-Cold War period. Finally model 4 tests the impact of a conflict’s location. In each case the selection (mediation onset) results are displayed in the left-hand column, and the outcome results in the right-hand column.

Mediation onset

The first hypothesis predicted a higher likelihood of mediation when states are faced with relatively strong rebels. This was built on the theory that strong rebel forces are better equipped to communicate the scale and immediacy of the threat against the state. The descriptive statistics support this position. Only 13% of conflict years involving weak rebels witnessed a mediation process. In comparison, mediation was observed within 31% of conflict years involving evenly matched rebels, and 43% of years involving rebels who were stronger than the state.

This descriptive finding is supported in the statistical analysis. The ordinal measure of relative rebel strength produces a positive and highly significant effect on mediation onset (model 1). This result is replicated in model 2 using the dichotomous strength variable. Both variables are significant at the p<0.01 level. However, in its raw form the coefficient of a selection model cannot be directly interpreted.

Insert Table I around here

Therefore, in addition to the standard model, the marginal effects of the relative strength measures were also calculated. Marginal effects measure the expected change in the
dependent variable, as a function of a change in the independent variable (holding all other covariates constant).

The marginal effects show stronger rebel movements to be four times more likely to initiate a dialogue process than a group that is weaker than the state. Relatively weak rebels have only a 3% probability of entering mediation, while insurgents that match state capacity have a 12% chance of initiating mediation.

The effect is most clearly visible in relation to specific cases. In 1992 the Bosnian Serb irregulars were at a military advantage in relation to Bosnian forces. Given this strong rebel position the model predicted a 55% probability of mediation occurring. Mediation did occur, in fact a prolonged period of international mediation took place. However, had the Serbian irregulars been weaker than the Bosnian military the probability of mediation occurring would have been reduced to 31%.

To check the robustness of these findings model 3 replaces the NSA measure of rebel strength with the UCDP measure of relative capacity, and model 4 includes the conflict-capital distance measure. Recall that the UCDP measure of strength is based solely upon numbers of armed belligerents. Higher numbers denote relatively stronger rebel forces. The distance variable records the number of kilometers from the location of conflict onset to the capital. Stronger rebel movements are more likely to be located closer to the capital. Therefore according to hypothesis one the UCDP strength variable should produce a positive effect, while the distance measure should show a negative sign.

Like the NSA data, both indicators produce effects in the hypothesized direction. A closer match between state and rebel forces increases the probability of mediation, and conflicts located further from the capital (in the periphery) are less likely to be mediated.
However unlike the NSA data both variables fail to find significance at the conventional levels, producing results within the margin of error.\textsuperscript{13}

One plausible explanation for this finding relates to the elements of rebel strength captured within the different variables. The UCDP data looks only at active forces involved in a conflict, while the distance variable more generally captures the military threat and ambition of the rebels. In comparison the NSA data takes account of a comprehensive range of factors, perhaps most notably the rebels’ leadership structure and political development. This suggests that while the relative military strength of the rebels is an important driver of mediation onset (the effect was positive in all models), other elements of rebel strength are also important in bringing about mediation. For example a hierarchical leadership structure and developed political wing should improve the ability of rebels to initiate and undertake negotiations.

Taken together the results therefore support the mechanism represented in hypothesis one, but raise questions regarding the most important elements of rebel capacity. We will return to this point in the conclusion.

Mediation outcome

The second hypothesis suggested that conflicts involving relatively stronger rebels have a higher probability of resulting in a mediated settlement. I argued that weak rebels are less likely to extract the concessions required to overcome the problem of credible commitment. The descriptive statistics support this argument. 70% of mediation episodes involving relatively strong rebels produced an agreement. By contrast, when the rebels were weaker than the state only 50% of cases resulted in a positive outcome. The right-hand

\textsuperscript{13} One possible cause of this finding is the more limited temporal focus of the UCDP data (1989-2003). To test for this I reran the NSA data using only data from 1989 to 2003. The NSA variables remained positive and statistically significant
columns of model 1 and 2 present the results of the outcome analysis using the NSA dataset. In both models the relative strength of the rebel movement produces a positive and significant effect on the likelihood of settlement. The marginal effects show that rebel groups who are at least in parity with the state have more than double the likelihood of reaching an agreement. Relatively weak rebel movements have only an 18% probability of achieving a settlement though mediation, but when an insurgent movement matches the state this is increased to 44%.

The influence of rebel strength on mediation outcomes is also observable when the UCDP (model 3) and distance measures (model 4) are assessed. In both cases the influence is in the hypothesized direction and statistically significant. The marginal effects suggest that an increase of one standard deviation from the mean in relative rebel capacity (0.37 to 1.19) increases the probability of a mediated settlement by 34%. Similarly an increase of one standard deviation (538kms) from the mean conflict distance (530 kms), decreased the probability of a mediated settlement by 25%. This is strong evidence that relative rebel strength plays an important role in the outcome of mediation.

To illustrate this effect we can consider the conflict in Sierra Leone. In 1999 the RUF and government officials signed the Lomé Peace Accord. The model suggests that the strong position of the RUF in relation to the state was a crucial factor in the creation of this agreement. Given the dominant position that the RUF held at this time, the model forecasts a 79% percent chance of mediation bringing about a settlement. However, had the RUF’s capacity only matched the state, the model suggests a notable reduction in the likelihood of a settlement (-17%). Further had the RUF been in a position of inferiority (as they were earlier in the conflict) the probability of the Lomé agreement occurring would have dropped to 45%.

These results provide strong support for the second hypothesis. Mediators seem far better-equipped to overcome issues of bargaining failure when the rebels pose a more
significant threat to the state. The results also suggest that the impact of rebel strength is more prominent upon the outcome rather than the onset of mediation. This finding is logical if we consider the more devious incentives that can drive mediation onset. For agreeing to a peaceful termination to violence is not always the intention of the belligerents entering mediation. Instead actors might agree to mediation in an attempt to rearm, regroup or appease political opponents (Richmond, 1998). The non-binding nature of mediation dictates that the actors are under no obligation to agree to a settlement, and thus once a more favorable distribution of power occurs the state can return to violence. A settlement represents a more notable commitment by the state. Therefore while on rare occasions weaker groups might force the onset of mediation, as long as they remain in a position of disparity the likelihood of settlement remains low.

Additional findings

The control variables uncover additional findings that broadly support the rebel strength argument. In each of the four models the measure of conflict intensity produces a positive coefficient. As predicted, an increase in conflict costs reduces the incumbent’s resistance to mediation/settlement. Strong insurgencies are more likely to engage the state in traditional forms of conflict, while weaker groups more commonly adopt less costly terrorist-style tactics. Therefore stronger insurgents are more likely to have the capacity to sustain high intensity civil war that increases the demand for mediation and settlement. However, while the effect of conflict intensity is consistently positive, in models 1, 2 and 4 the effect is not significant.

As predicted, longer conflicts are less likely to be mediated. Previous research has shown the relationship between weak rebel movements and increased conflict duration (Collier et al., 2004; Cunningham, Gleditsch & Salehyan, 2009). In keeping with the rebel
strength argument, the long intractable conflicts involving small weak insurgencies seem responsible for the negative impact of duration.  

Previous mediation attempts increase the probability of future mediation onset. Having suffered the costs associated with opening mediation, subsequent efforts should be less costly for the state. Interestingly previous mediation attempts do not in and of themselves raise the probability of a settlement. Only if a process results in a successful outcome are subsequent efforts more likely to succeed. It therefore seems that mediation attempts build upon previous achievements, with success more likely to breed future success.

The presence of a parallel conflict seriously decreases the likelihood of mediation and settlement. The presence of multiple challengers increases the costs of mediation. Rewarding one insurgency is likely to motivate other challengers to intensify their efforts. This increases the costs associated with mediation and make states more hesitant to provide concessions to the rebels.

Finally the analysis suggests that territorial incompatibilities are both more likely to be mediated and to produce some form of agreement. Territorial conflicts contain a disproportionately high number of weak rebel movements, in fact governmental incompatibilities are three times more likely to involve a rebel group that matches the state. On this basis the result seems surprising, as all other evidence suggests that weaker rebel movements should have a reduced likelihood of entering mediation. However, territorial conflicts are a particular form of civil conflict in which the non-state group only needs to challenge the state in one particular area. While a group might hold a position of severe inferiority when compared to the state’s complete force, in some peripheral area the state might be unable to project this force efficiently against the rebels. Therefore within territorial

\[\text{\footnotesize{\textsuperscript{14}} A small curvilinear effect is uncovered, suggesting that the probability of mediation occurring declines to a certain point at which point the conflict becomes protracted and the probability again rises. However the very small effect size reduces the relevance of this finding.}}\]
conflicts weaker rebel movements seem to hold a greater probability of overcoming their inferiority. This is an interesting avenue for future research.

Robustness checks

In order to ensure the robustness of my findings I changed a variety of model specifications and reran the estimators. First, the inclusion of control variables can on occasions increase the bias within a model (Clark, 2005). Therefore I rerun the models excluding all controls. All indicators of relative rebel strength retain strong and significant coefficients. Secondly, by translating the conflict episodes into conflict years there is an increased potential for a small selection of rebel groups to bias the results. To protect against this issue I first excluded all observations involving the relatively strongest rebel groups (individually and collectively).\textsuperscript{15} As expected this reduces the size of the strength coefficient. Yet even when all of the strongest rebel groups are excluded the results remain robust. As an additional check I excluded the ten conflicts that produced the highest frequency of conflict years (individually and collectively). These were the conflicts involving some of the weakest rebel movements.\textsuperscript{16} Once again the results remained strong and significant. Thirdly, the use of partial and full settlements as an indicator of mediation success might be considered too high or low a threshold. I therefore reran the analysis using only full settlement as the dependent variable, and then subsequently including ceasefire and/or process settlement. In each case the results remained consistent. Finally, I reran the analysis using the Heckman selection model.\textsuperscript{17} The model produces a positive sign for rho, indicating that the assumption

\textsuperscript{15} States that included the strongest rebels were Liberia, Lebanon, Croatia, Bosnia, Guinea-Bissau, Iran, Iraq, Ghana, Yemen, Dominican Republic, Costa Rica, Paraguay, Chile, Argentina, Romania, Azerbaijan, Equatorial Guiana, Sierra Leone, Nigeria, Congo, Uganda, Rwanda, Comoros, Syria, Afghanistan.

\textsuperscript{16} The states included most frequently were Myanmar, India, Ethiopia, Chad, Philippines, Israel, Iraq, Indonesia, Columbia and Somalia.
upon which I selected the Sartori model is valid. There are a few minor changes in the control variables, which are likely to be caused by the inappropriateness of the estimator in this context. However, once again, relative strength is shown to produce a strong positive effect in both sides of the model. The consistency of the results across a variety of model specification increases confidence in the validity of the results.

**Conclusions**

This paper contributes to the growing body of mediation literature centered on civil war. Robust evidence has been produced in support of both hypotheses. Relatively stronger rebels are more likely to enter into mediation and eventually agree to some form of settlement. This finding supports previous work that has linked the dyadic relations between actors to a variety of aspects of civil conflict (Cunningham, Gleditsch & Salehyan, 2009; Gent, 2011). The study also complements previous research on the mediation of inter-state conflict, which has shown mediation to be more effective when belligerents have similar capabilities (Young, 1967; Deutsch, 1973; Touval & Zartman, 1985; Ott, 1972; Dixon, 1996).

The results also have important policy relevance. The timing of a diplomatic intervention is often a key determinant of its success (Greig, 2001). If a mediation process occurs when the conflict is lacking ‘ripeness’ the probability of resolution is reduced (Zartman, 1985). The relative strength of insurgents appears to be an important indicator of ‘ripeness’. When insurgents’ capacity meets (or exceeds) the capacity of the incumbent, there is a greater likelihood of resolution. Yet unlike other subjective indicators of ripeness, the relative strength of rebels can be observed and affected by outside actors. Think for example of the Yugoslavian conflict in which throughout the war the relative distribution of belligerent power was widely understood and shaped by third parties. In this way it appears

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17 In line with previous studies I use the duration of the conflict and presence of a mediation process in previous years to identify the model.
that the support and development of rebel forces is a viable approach to speed the resolution of civil war. This might not always be feasible, or indeed desirable, but the results suggest it would be effective. External support does not necessarily mean military assistance, for rebel capacity can be improved through a variety of non-military approaches (e.g. the development of a political wing).

Gaining a fuller understanding of the determinants of rebel strength is one important avenue for future research. It is not simply the number of rebel troops that shapes their capacity. The level of political development, territorial control, access to natural resources and links with foreign allies, all contribute to the relative position of a rebel movement. By further disaggregating the component parts of rebel strength a better comprehension of the relationship between mediation and relative capacity would be produced.

More generally the effect of shifts in the relative power balance is another area that requires greater attention. In this study the indicators used to measure capacity were static and failed to capture the speed and direction of changes in power. In reality the timing and scale of power shifts are likely to be of importance and should therefore be empirically assessed. Finally our understanding of the long-term impact of relative rebel strength is an area that requires development. While strong rebel groups are most likely to produce an agreement, they are also perhaps those with the greatest incentives to renege. Assessing the impact of relative capacity upon the stability of peace settlements is an important question that this paper does not address.

Given the prominent place that mediation has now assumed in the toolbox of conflict managers, generating a more complete understanding of the dynamics shaping the process is of real importance. This study has provided more evidence of the need to capture the dyadic relations between actors with fine-grained disaggregated data. This represents an important methodological shift within the mediation literature, which has previously mostly relied upon
aggregate country level data. In this way the study represents an attempt to forge a better connection between recent innovations in the study of civil war and existing literature on mediation. This is a productive approach that future research would do well to continue.

Bibliography


Lake, David A & Donald Rothchild (1996) Containing fear: The origins and management of


Uppsala Conflict Data Program (2011) Database [www.ucdp.uu.se/database]


Table I: Sartori selection estimator analysis, mediation onset and outcome

<table>
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<tr>
<th></th>
<th>Selection</th>
<th>Outcome</th>
<th>Selection</th>
<th>Outcome</th>
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<th>Outcome</th>
<th>Selection</th>
<th>Outcome</th>
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<td>0.459**</td>
<td>0.387*</td>
<td>0.582**</td>
<td>0.112</td>
<td>0.437*</td>
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<td>0.126</td>
<td>0.188</td>
<td>0.304**</td>
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<td>-0.045†</td>
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<td>0.251†</td>
<td>0.399†</td>
<td>0.570**</td>
<td>0.669**</td>
<td>0.250†</td>
<td>0.391†</td>
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Wald Chi-Squared                  | 306.10 (9) | 303.24 (9) | 162.19   | 304.40 (9) |
Significance                      | 0.000     | 0.000    | 0.000     | 0.000     |
Observations                      | 1520      | 1520     | 619       | 1520      |

Significant at † p<0.10, * p<0.05, ** p<0.01
## Appendix A. Descriptive Statistics

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<th>Variable</th>
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