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# Oil, Relative Strength and Civil War Mediation

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**Abstract:** Civil conflicts within oil-rich states tend to last longer but are less likely to be mediated and end in a peace agreement. This implies that oil-funded conflict is less likely to end through a mediated settlement despite offering a greater opportunity for peaceful resolution. This article builds on this puzzle, focusing on the research question: to what extent does the presence of non-lootable natural resources impact on the onset and outcome of civil war mediation? I argue that oil-wealth raises the relative capacity of the incumbent, making it more challenging for insurgents to force mediation and gain the guarantees against defection that are needed to resolve the problem of credible commitment. This theory is tested on 319 civil conflict episodes between 1946 and 2004. The results support the argument that non-lootable natural resources exert a strong negative effect on both the onset and outcome of mediation. The analysis also reveals that the negative effect of petroleum wealth increases relative to a states hydrocarbon revenue (per capita). This is an important contribution to conflict research focused on natural resources that has previously overlooked the relationship between resource wealth and civil conflict management efforts.

**Key Words:** Civil Conflict, Mediation, Conflict Management, Natural Resources, Oil.

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## **Introduction**

This article examines the influence that hydrocarbons have on third-party conflict management. Whilst many studies have explored the effect that natural resources have upon the onset and duration of civil war, relatively little academic research has investigated their impact on conflict resolution.<sup>1</sup> In principle the longer duration of oil-funded war should offer a greater opportunity for conflict management (Lujala 2010).<sup>2</sup> Yet many of the most durable oil-funded conflicts have proved to be largely resistant to the entrance of intermediaries and often take longer to resolve once mediation has begun (e.g. Nigeria, Sudan, and Syria). This implies that oil-funded conflict is less likely to end through a mediated settlement despite offering a greater opportunity for peaceful resolution. This article builds on this puzzle, focusing on the research question: to what extent does the presence of non-lootable natural resources impact on the onset and outcome of civil war mediation?

I argue that hydrocarbons exacerbate bargaining problems by increasing the relative capacity of the incumbent. Petroleum offers a significant source of state revenue that raises the incumbent's capacity to resist insurgent demands. This reduces the frequency and effectiveness of mediation, as it is more challenging for relatively weak insurgents to generate the costs that are required to compel the government to accept an intermediary and gain the guarantees against government defection that are needed for a settlement (Clayton 2013; Cunningham, Gleditsch and Salehyan 2009).

To empirically assess this argument I use a Sartori selection model to analyse 319 civil conflict episodes drawn from the Civil War Mediation (CWM) dataset (DeRouen, Bercovitch and Pospieszna 2011). This dataset includes 1,531 conflict

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<sup>1</sup> To my knowledge only one study partially explores the link between resources and conflict management, see Humphreys 2005.

<sup>2</sup> On average the presence of hydrocarbons within the zone of hostilities more than doubles the average duration of a civil conflict see, Lujala 2010.

years between 1946 and 2004, of which 236 involved mediation. Resource data indicating the spatial and temporal overlap of resources and conflict is used to statistically assess the different mechanisms through which hydrocarbons might impact mediation (Lujala, Rød, and Thieme 2007). The results support the argument that non-lootable resources exert a strong negative effect on both the onset and outcome of mediation by raising the relative capacity of the incumbent. The analysis also reveals that the negative effect of petroleum wealth increases relative to a states hydrocarbon revenue (per capita).

The manuscript is structured as follows: I first discuss the influence that the distribution of belligerent power has upon the onset and outcome of civil war mediation. I develop a theory and propositions linking non-lootable resources to relative belligerent power. Finally the method of empirical analysis is discussed and the statistical results presented.

## **Relative Belligerent Strength and Civil War Mediation**

### *The Incentives for Mediation in Civil War*

Mediation is an extension of negotiation in which decision-making power remains with the disputants, but some aspects of the dialogue are controlled by a third-party (Bercovitch and Gartner 2006). It incorporates a diverse collection of conflict management efforts, ranging from loosely facilitated bilateral negotiations (e.g. the Cuban facilitation of negotiations between FARC and the Colombian government) to closely managed and manipulated dialogue processes (e.g. The Dayton peace process).<sup>3</sup> Mediated negotiation, in its various forms, is the primary

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<sup>3</sup> Commitment problems born from the asymmetry in power and legitimacy mean strictly bilateral negotiation is extremely rare during civil conflict (Greig and Regan 2008; Svensson 2007; Walter 2002;). This is not the case during inter-state conflict, in which the international recognition both

means through which civil war peace agreements are achieved (Greig and Regan 2008; DeRouen, Bercovitch and Pospieszna 2011).

Mediation is a voluntary process that hinges on a third party being willing to offer their services, and both belligerents being open to outside intervention. The asymmetry in power and legitimacy provides insurgents with greater incentives to enter into mediation (Clayton, 2013; Gent, 2011; Zartman 1995). For the rebels, the onset of a dialogue process increases legitimacy and elevates their political status in a manner that is unlikely to occur through military means alone (Melin and Svensson 2009; Greig and Regan 2008). The initiation of mediation also demonstrates rebels ability to force concessions from the state, and moves them closer to achieving their political demands. Insurgent's benefits come with relatively few costs, as mediation is non-binding, which means they can enter into a dialogue (and receive the associated rewards) with little fear of being compelled to accept an unfavourable deal.

In contrast, the incumbent has fewer incentives to negotiate with insurgents. The government is likely to possess a larger military force, more substantial economic resources, and greater political legitimacy (Clayton, 2013; Gent, 2011). Accepting mediation signals the incumbent's inability to control their territory and undermines its autonomy. This in turn can motivate new and existing challengers to mobilise and take up arms against the state. Mediation also requires the state to concede control of (at least) some elements of the peace process, increasing the probability of an unfavourable outcome. Together these significant costs act as strong disincentives for the incumbent to accept mediation.

However, when military victory becomes increasingly unlikely for the government, and/or the costs of conflict become unbearable, mediation offers a

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belligerents, and less severe problems of commitment, make bilateral negotiation an effective and frequently adopted form of conflict management.

competent means to terminate violence (Bercovitch and Gartner 2006; Beardsley et al. 2006). The incumbent is only then likely to endure the costs of dialogue when a rebel group proves capable of presenting a significant challenge to state authority (Clayton 2013; Grieg and Regan 2008; Melin and Svensson 2009). In this way the onset of mediation is largely determined by the incumbents' cost-benefit analysis, in which the significant price of mediation is weighed against the benefits of conflict resolution.<sup>4</sup>

The relative strength of the insurgents is a strong determinant of the state's propensity for mediation. Strong rebels are better equipped to produce the high intensity and costly violence required to trigger dialogue. Strong insurgents are also those most likely to challenge core state interests, warrant a significant allocation of the government's military resources, and fundamentally threaten the survival of a regime. This has been illustrated empirically in studies showing the positive relationship between the likelihood of mediation and the strength and size of a rebel group (Clayton 2013).

### *The Incentives for Settlement in Civil War*

Armed conflict produces significant costs that can be avoided in the absence of war (Fearon 1995). A settlement that removes the costs of conflict should be an optimum outcome for all disputants. However, belligerents have incentives to exaggerate their strength and resolve in order to elicit concessions from their opponent. This creates a problem of asymmetric information in which both parties question the credibility of the information provided by their adversary. This can

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<sup>4</sup> In principle both the rebels and government have the power to veto the onset of mediation. However, given the significant rewards rebels are likely to be favourable to the onset of the non-binding process, even when they lack a genuine desire for peace. It is therefore the government's incentives that tend to determine when mediation occurs (Clayton 2013; Grieg and Regan 2008; Melin and Svensson 2009; Svensson 2007).

complicate the resolution process and lower the likelihood of the belligerents finding an acceptable solution (Kydd 2006; Svensson 2007).

The problem of asymmetric information is compounded by the obstacles disputants' face in credibly communicating their intention to abide by the terms of an agreement. When it is expected that incentives for cooperation will shift over time it is challenging for the potential benefactor to credibly guarantee they will not renege on a deal in the future (Walter 2002). In this way, future incentives to abandon a settlement can prevent resolution (Beardsley et al. 2006; Beardsley 2011). The problem of credible commitment is particularly pertinent within civil conflicts, as actors must reside in close proximity in the aftermath of an agreement. This can create a period of intense vulnerability for at least one actor, exacerbating the problem of commitment during the process of disarmament.<sup>5</sup>

Mediators can reduce the bargaining challenges that commonly prevent resolution. By acting as a conduit of information, mediators can help the disputants gain a more accurate appreciation of the conflict, helping to reduce the problem of asymmetric information. Mediators can also to reduce the problem of commitment by offering incentives to counterbalance future benefits belligerents might have to renege (Beardsley 2011: 172). Inducements can include economic or political support and the provision of security guarantees in the most challenging post-settlement period.

Mediation is more likely to secure an agreement when the capabilities of the belligerents are closely aligned. Relatively strong insurgents are less vulnerable in the event that the government defects from a deal, as they should retain the ability to protect their constituents in the early phases of the post-settlement period (Clayton 2013). In comparison weak insurgent groups are more likely to become vulnerable in

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<sup>5</sup> This also contributes to the rare nature of bilateral negotiations during civil violence, as the assistance of a third party is generally required to overcome the more challenging bargaining environment.

the aftermath of an agreement, and require strong security guarantees to protect against government defection. Yet paradoxically weak insurgents with the greatest need of protection are also the least likely to gain concessions on issues such as third-party monitoring, security sector reform and power sharing (Gent 2011). Relatively weak insurgents lack the offensive capabilities to threaten an escalation in violence or other similar actions that might later be traded for commitment-enhancing concessions.

Hence, while weak rebel groups have the greatest need for additional concessions to maximize their security, they are also the groups that are least likely to receive these concessions from the state. Mediators therefore have a more limited range of tools available to them when working within conflicts that involve relatively weak insurgents. As such, mediation is less frequent and less effective under conditions of power disparity.

## **Non-Lootable Natural Resources**

### *Mediation Onset*

Petroleum is the world's largest industry. In 2009, \$2.3 trillions worth of hydrocarbons were sold globally, representing around 14 percent of global commodity trade (Comtrade 2014). The high demand for petroleum means that oil extraction can be an extremely valuable source of state revenue. As a result, most oil-producing states are relatively rich. For example, in 2004 the median income of oil producing states was more than double that of non-oil producers (Ross 2012: 158).

Contrary to the claims made by earlier studies, there is little evidence that oil extraction produces slow economic growth or weak and ineffective governments (Ross 2012). However, oil rents are subject to less political scrutiny than other



sources of state revenue (e.g. taxes). This often hinders democratization and increases the likelihood of conflict. Lower political influence also makes it easier for incumbents that utilize oil revenue to insulate their regime from political opponents (Reno 1998; Le Billion 2001; Basedau and Lay 2009; Smith 2004). The disproportionate investment in the security forces is commonly justified by the need to protect oil producing infrastructure, or the desire to deter external opponents. Yet the sophisticated security apparatus supported by oil revenue can also be deployed to protect oil-funded regimes from internal challengers (Thies 2010; Morrison 2009). The strong military capacity of states like Saudi Arabia, Iran and Nigeria illustrate the scale of the military force that can be accumulated in this way.

In principle rebels can also benefit from the sale of non-lootable resources. However, this requires a level of territorial control that is often unattainable for insurgent groups. On occasions in which groups do gain sufficient territorial control of an oil-rich region, it is also more challenging for them to convert non-lootable resources into revenue. Extracting and transporting hydrocarbons is a technical process that requires a combination of strong organisational structures, hierarchical leadership, and formalised links to international markets (Le Billion 2001, 2012). Consequently incumbent's legal trade in non-lootable commodities generates far greater revenue than insurgents could accumulate through the theft of oil (i.e. 'oil bunkering') or the sale of future oil contracts (i.e. 'booty futures') (Ross 2004; Buhaug, Gates and Lujala 2009; Humphreys 2005; Fearon 2005). This means that whilst insurgents might also profit from the sale of oil and gas, incumbents monopolise the resource revenue (Thies 2010). For example, the Movement for the Emancipation of the Niger Delta (MEND) generated the majority of their revenue from the sale and trade of oil that they looted from pipelines in the Delta area of

Nigeria. Yet even at its peak MEND was only capable of generating a small fraction of the oil wealth controlled by the Nigerian state.

The state's monopolisation of the oil industry can lead rebels to target oil and gas facilities, disrupting the production process, and leading to the evacuation of oil company employees (Mitchell and Thies 2012). In theory this should increase the incumbent's conflicts costs, and act as an incentive for the state to enter into mediation. However whilst the reduction in resource revenue is disruptive, the rebels are unlikely to fundamentally remove the state's ability to profit from the resource. As such the state is unlikely to accept mediation as long as it can retain a level of production capacity that sustains a military advantage.

The greater military capacity of oil producing states increases the power asymmetry in civil conflict. This makes it more challenging for a non-state group to pose a credible threat to a state supported by oil revenue, as the oil funded security services of rentier states are better equipped to resist the challenge posed by insurgent groups (Reno 1998; Le Billon 2001). Rebels must therefore amass a stronger military force than would normally be required in order to trigger mediation. In addition to a better-funded armed force, resource revenue can also help incumbents to mitigate the financial costs of war. Oil rents can be used to counterbalance the conflict costs that often increase the likelihood of mediation (Greig and Regan 2008), effectively reducing the financial pressures of war and insulating the regime from need to seek peace.

The on-going conflict in Iraq offers a pertinent example of these effects. Since 2013 Islamic State (IS) has enjoyed a meteoric rise across the Middle East. The rapid growth of IS has been supported by the revenue raised from pillaged Iraqi oil, estimated to be worth as much as \$1 million dollars a day (Financial Times 2014).

However, the Iraqi state has maintained an advantage over the insurgents despite the loss of oil rich territory. Selling oil on the black market means that IS offers its hydrocarbons at around 75% less than the market value (Newsweek 2014). At the same time Iraq has increased its oil output from other regions, to the extent that it has regained its position as the second largest oil producer in the world (Reuters 2014). Iraqi petroleum revenue, estimated to be approximately \$100 billion a year (Reuters 2014), has helped the government to maintain a strong military presence in most key positions, and remain equipped to endure the costs of the on-going war. Thus despite the costs of fighting in a destructive civil conflict, the loss of key oil-producing territory and calls from political commentators to consider negotiation (e.g. Powell 2014), the Iraqi government has shown no desire for international mediation. This illustrates the greater capacity of oil-rich states to withstand the costly price of civil conflict and continue to monopolise oil wealth in the face of well-armed and organised insurgent groups (Mitchell and Thies 2012).

The case of IS also highlights how geo-political factors might impede the initiation of dialogue in oil-rich states. The strategic importance of petroleum on global markets creates incentives for external actors, in particular incumbent supporters, to protect their interests in a region (Balch-Lindsay and Enterline 2000).<sup>6</sup> This could involve sanctions to prevent the onset of negotiations with hostile non-state groups. For example, the United States is likely to strongly oppose any form of political dialogue between the Iraqi government and ISIS. Yet states that are capable of generating significant oil revenue, which are also those most likely to be of interest to international actors, can use oil revenue as a form of economic protection from the

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<sup>6</sup> Rebel groups are also vulnerable to external pressures. However, links between rebels and their patrons are less formalised, meaning rebels are capable of shifting or redefining allegiances in order to achieve their political goals. Geopolitical pressure is therefore unlikely to be a serious impediment to rebels considering mediation.

interests of outside parties. Put differently, oil wealth can purchase a certain level of freedom in domestic policy (e.g. Saudi Arabia). Thus if the incentives are sufficiently strong, wealthy oil producers should be capable of entering into dialogue with internationally unfavourable groups. Rather than geopolitical pressures, it is therefore the greater relative capacity of oil producers that reduces the likelihood of mediation.

From the preceding discussion I derive two hypotheses:

*Hypothesis 1a: Mediation is less likely when a state contains non-lootable resources.*

*Hypothesis 1b: The greater a state's non-lootable resource revenue the lower the likelihood of mediation.*

#### *Non-Lootable Resources and Mediation Outcome*

Oil revenue also lowers the probability of a mediated agreement. As the previous discussion illustrated, oil rich incumbents tend to enjoy a position of relative strength. This power asymmetry increases the vulnerability of insurgents in the post-settlement period, creating a greater need for commitment enhancing mechanisms. Insurgents are unlikely to commit to disarmament without security guarantees, power sharing provisions, and/or political representation to ensure that their constituents receive any additional economic and social resources promised within a deal (e.g. a more equitable share of oil revenues).

Reduced transparency within petroleum producing states further intensifies the commitment problem. Resource wealth lowers state reliance on taxation, which often results in corruption, patronage, nepotism and ineffective bureaucracies (Moore 2009; Fearon and Laitin 2003; Fearon 2005; Snyder and Bhavnani 2005). Predatory

governments serving sectional interests are unlikely to desire a settlement that redistributes oil wealth more equally (Le Billion 2001: 567.), and are thus not likely to be trusted to implement an agreement without mechanisms to ensure compliance (Mitchell 2002).<sup>7</sup>

Yet paradoxically insurgents operating within an oil-rich state are less likely to receive the concessions required to overcome the more significant commitment problems. Oil revenue increases states capacity to endure the costs of conflict, making it harder for insurgents to force concessions once within mediation. This reduces the likelihood of concessions on vital issues that might be offered to protect the insurgents against defection. Similarly, it is more challenging for a mediator to leverage an oil-producing state towards an agreement, as their greater economic strength means that they require more significant inducements than would normally be required to sweeten a deal (e.g. Angola). It is therefore harder for mediators to manufacture a zone of agreement and/or offer commitment-enhancing mechanisms.

The valuable prize of oil wealth can also motivate insurgents to resist an agreement (Fearon and Laitin 2003). Prior to conflict, oil revenue can be used to buy off threatening groups, which can often prevent the onset of violence (Fjelde 2009). However, once within a conflict insurgents are more inclined to bargain harder, or fight longer, for a greater share of the resources.

The Sudanese conflict offers a pertinent example of these mechanisms. Between 1955 and 2005 the Sudan Liberation Army and central Sudanese government engaged in two civil conflicts that lasted almost forty years and cost around two and a half million lives. In this time mediation repeatedly proved an

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<sup>7</sup> Even when terms are agreed resource conflict are more likely to occur as a result of these distributional problems (Rustad and Binningsbø 2012).

ineffective method of resolving the conflict. The first mediation process did not officially take place until a decade after the violence started, it then took a further thirty-six separate mediation episodes (spanning two decades) to eventually produce the 2004 agreement (DeRouen, Bercovitch and Pospieszna 2011). In this time oil revenue insulated the state from the costs of war and sustained a closed autocratic system of rule. The secessionist aspirations of the SLA also complicated the process, with the insurgents consistently demanding greater control of the valuable oil wealth in their region.

From this discussion I derive two further hypotheses:

*Hypothesis 2a - Mediation is less likely to be successful when a state contains non-lootable resources.*

*Hypothesis 2b- The greater a state's non-lootable resource revenue the lower the likelihood of mediation being successful.*

## **Research Design**

### *Data*

To test the hypothesis I draw upon the Civil War Mediation (CWM) dataset (DeRouen, Bercovitch and Pospieszna 2011).<sup>8</sup> This is the first dataset to provide information on all mediation attempts within conflict episodes at the lower 25 battle-related death threshold.<sup>9</sup> The CWM dataset includes information on 319 civil war

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<sup>8</sup> For a full list of cases included within the CWM see, <http://www.prio.org/jpr/datasets/>

<sup>9</sup> A conflict episode is a continuous period of active conflict-years. Episodes begin when the conflict first crosses the threshold provided in the UCDP/PRIO definition of conflict, and terminate when an active conflict year is followed by a year in which there are fewer than 25 battle-related deaths, see Kreutz, 2010.

episodes between 1946 and 2003, 236 of which included mediation. 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 organization to settle their conflict or resolve their differences without resorting to physical force or invoking the authority of law (Bercovitch, Anagnoson and Wille 1991: 8.).

This broad definition captures the full collection of conflict management efforts, from the most passive forms of facilitation to more active ‘mediation with muscle’. To better account for the presence of multiple mediation attempts within a single conflict episode I separate each episode into individual years. This approach results in a population of 1,531 observations (civil conflict years).

### *Model*

A disputant’s decision to accept mediation is likely to be closely connected to their expectations of success. The forces shaping the onset of mediation are also likely to be the factors that determine the outcome of a process (Svensson 2007). When the two phases of mediation are modelled independently this crucial selection effect is overlooked. Existing studies of mediation have used varieties of a two-stage selection model to capture this effect (Svensson 2007; Melin 2011). However, selection models require firm identifying assumptions and the conventional Heckman model is only appropriate when at least one additional observable explanatory factor affects only the selection side of the model. It is challenging to identify good distinct predictors for initial mediation selection and the eventual outcome of mediation. In the absence of such features the Heckman model estimates are ‘based only upon ...the distributional

assumptions about the residuals rather than the variation in the explanatory variables’ (Sartori 2003:112)

Instead I utilize Sartori’s (2003) selection estimator. This model is based on the identifying assumption that the error term for the observations is the same in the selection and outcome equations. This model is appropriate when the unmeasured factors influencing both selection and outcome can be assumed to have the same sign or direction. This seems acceptable here, as existing mediation research suggests that the unobservable features that encourage an incumbent to accept mediation are also those features that increase the likelihood of success. For mediation is only likely to occur on those occasions in which the resolve of the state has been diminished. The reduction in (unobserved) resolve for resisting mediation should be strongly correlated with an increase in the likelihood of settlement. There are therefore good theoretical reasons to assume that the sign of the unmeasured factors influencing both the onset and outcome of mediation would be the same (see, Sartori 2003; Clayton 2013). As a result the Sartori model is a more appropriate choice.

### *Dependent Variables*

The dependent variable in the onset analysis is taken from the CWM dataset, and indicates whether mediation began in a conflict year. Mediation onset occurred in 236 of the 1,520 conflict years (15%). The dependent variable in the outcome analysis is binary success measure based on whether the CWM dataset defines a mediation episode as achieving either a partial or full settlement. Of the 180 conflict years in which mediation was initiated, 78 produced a settlement (43%).<sup>10</sup> This method does not provide a comprehensive evaluation of mediation outcomes. For example, a peace

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<sup>10</sup> In those years in which more than one process occurred the most successful outcome was selected.



agreement is not always implemented and can often fail to prevent the continuation of violence in the future. However, both partial and full settlements signify notable achievements for a mediator, and offer an indication of the belligerents desire to move towards peace. As such it represents a valid indicator of one important element of mediator success (see, DeRouen, Bercovitch and Pospieszna 2011; Touval and Zartman, 1985).

### *Independent Variables*

To capture the presence of non-lootable resources I draw on a number of indicators. First, I include a binary variable from PETRODATA that indicates the presence of onshore oil production within a state (Lujala, Rød, and Thieme 2007). Second, to capture the (relative) size of a states oil wealth I include an indicator of oil and gas income per capita (Ross 2012). Finally, to undertake a more convincing evaluation of competing mechanisms I also include binary measures of gas production, offshore oil production, and a spatially coded variable indicating when the conflict zone and oil producing territory overlap. Disaggregating resource indicators and using spatially coded resource variables facilitates a more convincing evaluation of competing mechanisms (Lujala, Gleditsch and Gilmore 2005; Buhaug, Gates, Lujala 2009; Lujala 2010). For when there is a temporal and spatial overlap of resources and conflict it is more plausible that insurgents are also benefiting from resource revenue. Conversely, the production of gas and off-shore oil requires the greatest level of technological sophistication and is therefore most likely to be controlled by the state.

### *Controls*

I include a number of control variables to account for other factors that might influence belligerent's incentives to agree to mediation and settlement. First, I include a measure of conflict intensity to account for incumbent's greater willingness to consider mediated settlement in costly conflicts (Clayton 2013). The intensity indicator is a dummy variable recording if a conflict crosses the 1,000 deaths per year threshold (Lacina and Gleditsch, 2005). Second, I include a measure of conflict duration indicating the number of years since conflict onset (Kreutz 2010). Long conflicts are more likely to involve weak insurgencies that are less likely to compel the state to accept mediation (Svensson 2007). Thirdly I include a binary measure capturing the existence of parallel conflicts within a state (Kreutz 2010). Multiple insurgencies increase the states costs for mediation and settlement, as rewarding one insurgency can motivate other challengers to intensify their efforts (Cunningham 2006; Walter 2002). I also consider if a conflict occurred after 1989, since post-Cold War conflicts are more likely to be mediated and end peacefully (DeRouen, Bercovitch and Pospieszna, 2011). I include a variable indicating if the conflict was fought over a territorial incompatibility where groups seek autonomy or secession rather than control over the central state institutions (Kreutz 2010). Territorial incompatibilities are more likely to be focused within a specific region in which the insurgents can more effectively rival the incumbent. Even if an insurgent is clearly weak in relation to the state as a whole, they are more likely match the state within the specific conflict zone. As a result territorial conflicts are more likely to see mediation and settlement (Clayton 2013). I also include the lagged polity score for the incumbent (Gleditsch 2008). Democracies are expected to be more resistant to mediation but more effective once within the process (Mitchell 2002). Finally I include a measure of conflict management history indicating if mediation occurred

within the conflict in the previous year.<sup>11</sup> Past conflict management efforts increase the likelihood of future mediation and success (Melin 2011). For descriptive statistics on all variables see online appendix A.

The next section will present and discuss the statistical results.

## **Results**

The statistical results are presented on table I. Model 1 tests the effect of onshore oil production. Model 2 assesses petroleum revenue per capita. Model 3 focuses on offshore oil production. Model 4 includes the indicator of gas production. Finally Model 5 tests the impact of the spatially coded oil production variable. In all models the selection (mediation onset) results are displayed in the left-hand column, and the outcome results in the right-hand column.

Hypothesis 1a predicted that the presence of non-lootable resources would reduce the likelihood of mediation. It was argued that the process of resource extraction would favour state exploitation. Therefore states containing non-lootable resources should have a greater relative strength and be less prone to accept mediation. Descriptive analysis supports this argument. Onshore oil-producing states were faced with a rebellion of at least equal strength in only 6% of civil conflict years (49 of 832 conflict years). In comparison, governments without access to oil revenues faced evenly matched insurgents in 20% of conflict years (154 of 758 conflict years). Oil-producing states entered mediation in only 6% of conflict years (50 of 811 conflict years), whilst the non-oil producers entered mediation in more than 22% cases (162 of 729 conflict years). In total non-oil producers entered into mediation in almost three times as many conflict years, despite oil producing states being involved

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<sup>11</sup> I exclude mediation extending for more than one year.

in 179 additional years of violence. Hence despite the increased opportunity for third party assistance, mediation is less common within oil producing states.

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To statistically assess this descriptive finding we turn to table I. Model 1 includes an indicator of on-shore oil production. The resource indicator shows a strong negative coefficient, suggesting that, as predicted, oil production significantly lowers the likelihood of mediation ( $p < 0.01$ ). The indicator of hydrocarbon revenue per capita (model 2) is also negative and significant, supporting the claim that the likelihood of mediation declines as oil revenues increases. As the coefficients generated by the Sartori selection model cannot be directly interpreted, I calculate the marginal effect of the oil indicator. Marginal effects report the expected change in the dependent variable as a function of a change in the independent variable (when all other covariates are held at the mean or modal values). The results show that in the oil production (in the post-cold war era) reduces the likelihood of mediation by 15%. This effect increases relative to state oil revenue. For example, in the post cold war era increasing the mean oil revenue (i.e. \$126) by one standard deviation (i.e. \$856) reduces the likelihood of mediation by 18%.<sup>12</sup> This is strong evidence in support of hypothesis 1a and 1b.

Hypothesis 2a predicted that mediation is less effective within oil producing states. It was argued that the stronger relative position of the incumbent and increased propensity for corruption and autocracy increased the scale of the commitment

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<sup>12</sup> In case terms this is the difference between Indonesia in 1990 and Senegal in 1995.

problem. These same features were paradoxically argued to reduce the probability of commitment enhancing concessions, lowering the likelihood of settlement. The analysis supports this argument. On average oil producing states scored four points lower on the polity scale, reflecting their greater propensity for autocratic tendencies. Furthermore mediation produced an agreement within only 20% of episodes involving an oil producing state (10 of 50 mediation episodes), but successfully produced an agreement in 43% of mediation episodes in non-oil-producing states (69 of 162 mediation episodes).

The statistical analysis reported in the right hand column of models 1 and 2 provide further support for the hypothesis. As predicted the presence of oil production shows a negative sign and is statistically significant. Similarly, greater oil revenue produces a more significant decline in the likelihood of mediation securing an agreement (model 2). The marginal effects suggest that oil production within a state lowers the likelihood of settlement (conditional on mediation occurring) by 12%. The size of the oil revenue again has a notable effect, with an increase of one standard deviation producing an 11% reduction in the likelihood of settlement.

### *Rival Explanations*

Taken together the statistical analysis offers strong support for the hypotheses. However, it remains unclear which mechanism is driving this statistical result. For example, oil wealth might impact mediation by shaping rebel rather than incumbent capacity. Insurgents can also benefit from the theft and sale of resources, and might be motivated to resist settlement when tempted by the potential to gain greater control of resource wealth. In order to assess this competing mechanism I reran the estimates replacing the indicator of onshore oil production with variables capturing the

existence of gas production (Model 3), offshore oil production (Model 4), and a spatially coded variable that indicates the presence of oil in the conflict zone (Model 5). In comparison to oil, it is far more challenging for insurgents to profit from gas reserves and offshore oil supplies, given the greater level of technological sophistication and organizational control required to extract the resources. The effect of these variables can therefore more confidently be attributed to the impact upon the incumbent. If these variables produce an effect that is consistent with the prior analysis, this is strong support for the argument that resources impact mediation through their effect on the strength of the state. On the other hand, oil production within the conflict zone is far more vulnerable to insurgent looting. We would also expect insurgents demanding a greater share of resources to be located in close proximity to oil rich land. If the effect of oil on mediation occurs through its effect on insurgents we would expect this variable to show a significant negative sign. However, the presence of oil within a conflict zone would likely reduce the state's ability to profit from the resources. Therefore the relative strength argument would predict a more limited effect when oil is located within an area under dispute.

The results provide strong support for the relative strength argument. Both offshore oil and gas production have a strong and statistically significant negative effect on mediation onset and outcome. This suggests that the negative effect of non-lootable resources is largely driven by the increase it produces in state capacity. The spatially coded oil variable also produces a negative sign, but the effect is small and outside of the conventional levels of significance. This again supports the argument that non-lootable resources effect mediation through their influence on the state.

### *Additional Findings*

The control variables perform generally as expected and produce results that are broadly consistent with the prior theoretical discussion. Conflict intensity has a consistently positive (but not significant) effect. The existence of multiple conflicts significantly reduces the likelihood of mediation being accepted and producing an agreement. Conflicts taking place after 1989 are more likely to be successfully mediated. Previous mediation attempts increase the likelihood of future mediation and the probability of settlement. Surprisingly conflict duration and the type of government within a state have no significant effect on either the selection or outcome of mediation. Finally, territorial incompatibilities are shown to be more likely to be mediated and to terminate through a peace agreement. This result is perhaps surprising given that resource-funded rebellions should be more likely to be located in the state periphery, and often desire some form of secession. However, while rebels might be in a position of weakness in relation to the state force, in the small peripheral area they are more likely to match the armed potential of the state. Therefore groups fighting over territorial incompatibilities appear to have a greater ability to project sufficient force against states that they opt to accept a mediator and eventually agree some solution.

### *Robustness Checks*

To ensure that the results are born of stable structural relationships I changed a number of the model specifications and re-ran the estimates. Firstly, research has shown that the inclusion of too many controls can increase the bias within statistical results (Clark 2005). I therefore reran all models without controls. In each case the results remain consistent.

Secondly, to ensure that I am not guilty of omitting any other key variables, I rerun the analysis including a number of additional controls that previous research suggests might influence the dynamics of civil war mediation. I include a measure of GDP per capita (Gleditsch 2008), relative rebel strength (Cunningham, Gleditsch, Salehyan, 2009), coup d'états and internationalised civil wars (Gleditsch et al. 2002). The key findings remain robust in all alternative specifications. State strength has a positive effect in all models, offering further evidence to suggest that conflicts involving strong states are the least likely to see mediation and settlement. In line with previous research, coups and non-internationalised civil wars are significantly less likely to be mediated.

Thirdly, dividing conflict episodes into conflict years increases the likelihood of a small selection of oil-rich conflicts biasing the statistical results. To ensure that this is not the case I exclude the ten states that produce the highest frequency of conflict years.<sup>13</sup> As expected this marginally reduces the size of the coefficients, however the results remain strong and statistically significant.

Fourthly, valuable natural resources often occur in close proximity to each other. For example, of the 194 conflict episodes in which hydrocarbons were present within a state, 94 also contained lucrative gemstones (48%). To ensure that the effect of hydrocarbons on mediation is not a spurious relationship driven by the presence of other resources, I reran the estimates controlling for the presence of secondary diamonds, gemstones and narcotic production (both within the state and within the conflict zone) (Lujala, Rød, and Thieme 2007; Flöter, Lujala and Rød 2007).<sup>14</sup> In each case the effect of oil production remained robust. Each of the other resources

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<sup>13</sup> The states that produced the highest frequency of conflict years are: Myanmar, India, Ethiopia, Philippines, Israel, Chad, Iraq, Indonesia, Somalia, and Colombia.

<sup>14</sup> The presence of lootable resources has been shown to influence the likelihood of more robust forms of third-party intervention, see Findley and Marineau 2014.



also exerted a generally negative effect on mediation. However, the effects were weak and inconsistent and rarely achieved statistical significance. This probably reflects the more varied effects of lootable resources. Whilst oil production almost always provides the incumbent with an economic advantage, lootable resources can benefit both belligerents. The influence on insurgents is varied, whilst access to resources can sometimes lead to strong and well-armed rebellions (e.g. NPLF and RUF), on other occasions they can facilitate the formation of relatively weak insurgents prone to infighting and splintering that would otherwise have been unable to overcome the problem of collective action (e.g. FLEC and KNU) (Weinstein 2006; Le Billion 2012). Thus whilst hydrocarbons commonly increase the relative position of the state and reduce the likelihood and effectiveness of conflict management, lootable resources have a varied effect upon the distribution of belligerent power and a less consistent effect on resolution attempts.

Finally, to this point mediation success has been equated with the creation of a partial or full settlement. This indicator measures only the immediate effects of mediation, failing to capture elements of sustainability that we might intuitively associate with successful conflict management. This is particularly pertinent in civil conflict in which many mediated agreements are short-lived. To better model the impact that non-lootable resources have upon the mid-to-long term success of mediation, I reran the models using the conflict episode as the unit of analysis. In this case the dependent variable in the onset phase of the model is a dichotomous indicator coding whether mediation occurred within a whole conflict episode. In total mediation takes place in 79 of the 290 conflict episodes. The dependent variable in the outcome analysis is a dichotomous variable recording the type of termination within each episode (Kreutz 2010). All mediated conflicts that were terminated by a

settlement (full, partial or process) or ceasefire are coded as a success, whilst mediated conflicts that terminate through military victory, the merging of rebel groups, or low activity, are considered unsuccessful. By measuring mediation success in this manner, better account is taken of the full range of agreements that can terminate violence, and the long-term effects of mediation. A process is only considered a success when a mediator produces an agreement that terminates a violent conflict for at least one year.<sup>15</sup> According to this method of operationalization, 39 conflict episodes that welcomed a mediator resulted in a positive outcome (49%).

The results offer additional confirmation of the previous findings (see, online appendix b for full tables). Oil Production reduces the likelihood of mediation (within a conflict episode) by 25%. Similarly oil production produces a 16% decline in the probability of a conflict terminating through a mediated agreement. The negative effect of petroleum on both the onset and outcome of mediation is again shown to increase relative to oil wealth (per capita).

## **Conclusions**

This article illustrates the effect that hydrocarbons have on the initiation and outcome of mediation. Existing literature offers many mechanisms linking natural resources to the onset and duration of civil conflict (see Koubi et al. 2014) but regrettably has overlooked the influence that resources have on conflict management. This study has shown that non-lootable natural resources influence the bargaining process in civil war. Oil revenue creates a greater power asymmetry that reduces the frequency and effectiveness of mediation. This finding complements recent work that has stressed the increased duration of conflicts fought within oil producing states (Lujala 2010).

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<sup>15</sup> This approach does not capture those cases in which violence restarts after more than one year, as in this case the conflict would be coded as a new conflict episode.

Previously this has been attributed to the effect that oil has on rebel movements, yet the results of this study suggest that the greater capacity of oil-producing states also lowers the likelihood of peaceful resolution.

These findings have relevance to the policy community, in particular those attempting to resolve disputes in oil producing states. The results suggest that third parties could increase the frequency of mediation by reducing the power asymmetry produced by oil revenue. One way in which this might be achieved is through trade embargos that lower the oil revenue available to incumbents. In principle a restriction on the sale of hydrocarbons would reduce the capacity of the state and increase their openness to mediation. However, this approach is unlikely to prevent the onset and reoccurrence of oil-funded war. Moreover, it could motivate non-state groups to bargain harder and fight longer in the hope that the international community will act to bolster their bargaining position. Instead a more fruitful approach would be policies focused upon promoting good governance in oil-producing states. An increase in the accountability and transparency of oil-rich incumbents would reduce issues of asymmetric information and lower rebel fears of defection. This should improve the effectiveness of mediation and potentially reduce the duration of resource-based war.

Understanding the obstacles that block the resolution of civil war is essential. Effective conflict management can only occur when we understand the dynamics shaping the resolution process. This study represents the first empirical assessment of the impact that resources have on conflict resolution. The use of disaggregated resource variables facilitated the assessment of competing mechanisms. In this way the study represents an important attempt to forge a better connection between methodological developments within civil war research and the growing literature

focused on conflict management. The results suggest that this is an effective approach that future research should strive to continue.

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Table I: Sartori Selection estimator analysis, mediation onset and outcome (Conflict Year).

	(1)		(2)		(3)		(4)		(5)	
	Selection	Outcome	Selection	Outcome	Selection	Outcome	Selection	Outcome	Selection	Outcome
Onshore Oil Production	-0.492*** (0.112)	-0.536** (0.171)								
Oil & Gas Income per capita			-0.0008** (0.0002)	-0.0011* (0.0004)						
Onshore Gas Production					-0.707*** (0.115)	-0.701*** (0.173)				
Offshore Oil Production							-0.259* (0.116)	-0.362* (0.159)		
Oil Production within the Conflict Zone									-0.169 (0.106)	-0.088 (0.141)
Conflict Intensity	0.046 (0.115)	0.237 (0.165)	0.108 (0.115)	0.266 (0.163)	-0.0305 (0.117)	0.152 (0.170)	0.0881 (0.113)	0.241 (0.164)	0.116 (0.113)	0.277 (0.160)
Conflict Duration	-0.005 (0.005)	-0.001 (0.006)	-0.008 (0.005)	0.005 (0.006)	-0.002 (0.005)	0.001 (0.006)	-0.006 (0.005)	-0.002 (0.006)	-0.005 (0.005)	-0.001 (0.006)
Parallel Conflict	-0.496*** (0.118)	-0.276 (0.154)	-0.638*** (0.120)	-0.399 (0.152)	-0.443*** (0.119)	-0.222 (0.157)	-0.556*** (0.116)	-0.337* (0.153)	-0.566*** (0.115)	-0.318* (0.150)
Territorial Conflict	0.546*** (0.110)	0.180 (0.148)	0.542*** (0.112)	0.154 (0.146)	0.581*** (0.111)	0.174 (0.147)	0.502*** (0.109)	0.177 (0.150)	0.466*** (0.107)	0.0997 (0.144)
Post-Cold War Period	0.586*** (0.105)	0.828*** (0.162)	0.803*** (0.102)	1.051*** (0.154)	0.711*** (0.101)	0.959*** (0.156)	0.816*** (0.104)	1.095*** (0.156)	0.764*** (0.0992)	1.019*** (0.152)
Mediation in Previous Year	1.583*** (0.128)	0.970*** (0.148)	1.609*** (0.128)	0.999*** (0.146)	1.501*** (0.130)	0.901*** (0.150)	1.636*** (0.127)	1.037*** (0.146)	1.631*** (0.127)	1.020*** (0.146)
Lagged Polity IV	-0.00316 (0.008)	0.0157 (0.010)	-0.010 (0.007)	0.013 (0.011)	0.000411 (0.008)	0.0198 (0.011)	-0.00542 (0.007)	0.0150 (0.011)	-0.00514 (0.007)	0.0137 (0.011)
Constant	-1.624*** (0.142)	-2.391*** (0.209)	-1.863*** (0.136)	-2.576*** (0.198)	-1.611*** (0.137)	-2.379*** (0.209)	-1.858*** (0.133)	-2.621*** (0.199)	-1.849*** (0.132)	-2.630*** (0.196)
Log Likelihood	-533.061		524.185		-522.803		-540.213		-542.533	
Wald Chi-squared	310.24		304.21		319.94		310.67		307.72	
Significance	0.00		0.00		0.00		0.00		0.00	