Sanctions and Civil War

Targeted Measures for Conflict Resolution

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Table of contents

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Abstract

This study raises the issue of how sanctions affect warring parties in a civil war. How do threatened and imposed targeted sanctions affect the likelihood of bringing such parties to conflict resolution? There has been many studies of whether sanctions accomplish what a sender intends. Remarkably, this is the first to explicitly study whether United Nations targeted sanctions have a positive effect on the chances of ending a war, when controlling for the impact of battlefield outcomes. Of the three types of targeted sanctions that are examined the conclusion is that implemented arms embargos are those that have the highest likelihood of positively influencing the parties to move towards conflict resolution. The study is based on an in-depth analysis of recent civil wars in Liberia and Ivory Coast.

Preface

During the late 1990's it became clear that there was a need for a change in the approach towards sanctions since the part of sanctioned societies often least capable to bring about change in state policy, suffered the most of the adverse effects. As a response to this need of refining the sanctions tool researchers and practitioners came together and developed the Interlaken, Bonn-Berlin and the Stockholm processes, which facilitated the shift from comprehensive to targeted sanctions. (Biersteker, et al., 2001, Brzoska, 2001, Wallensteen, et al., 2003) After the initial report of the Stockholm process follow-up studies at the Department of Peace and Conflict Research, Uppsala University, have amongst others included studies on Burma/Myanmar and Iraq (Wallensteen, Staibano, and Eriksson, 2004 and 2005), and on sanctions in general (Wallensteen, and Staibano (eds.), 2005). This report is a part of the latest follow-up project funded by the Swedish Ministry for Foreign Affairs. The project results in two reports on Liberia and Ivory Coast: one covering lessons learned, based on input from experts and actors (Wallensteen, Eriksson, and Strandow, 2006), and this one, which draws more general conclusions regarding the use of targeted sanctions based on data from the two cases.

This report has benefited from comments by colleagues at the Department of Peace and Conflict Research, most notably Professor Peter Wallensteen. The responsibility for the analysis and conclusions rests solely with the author.

1. Introduction

Between 1990 and 2004 there were 15 cases of UN Security Council (UNSC) targeted sanctions. Of these 11 were imposed during conflicts with more than 25 annual battle fatalities; one during a conflict that did not reach 25 annual battle related deaths; and three as a result of other security issues[1]. Considering the number of targeted sanctions that are imposed during conflicts it is safe to say that the aim of most UNSC targeted sanctions is to aid in the management and resolution of conflicts. There has been research on the human consequences of sanctions and also on the efficacy of some aspects of targeted sanctions. Little attention has, however, been paid to the general success of the United Nation's targeted sanctions as a conflict management tool aimed at bringing belligerents to resolve their conflict. (See appendix A) This report is intended to be a first step towards addressing this gap in the academic and applied knowledge.

   The main puzzle is whether targeted sanctions have been successful in fulfilling the goals set out in the UNSC resolutions. For that problem to be more accessible for study it needs to be further specified and can be formulated as follows: *How do threatened and imposed targeted sanctions, in relation to battle outcomes, affect the likelihood of bringing warring parties to conflict resolution?[2]*

   This problem formulation has two significant benefits: Firstly, explicitly dividing the effect of sanctions into two, one resulting from the threat and one from the imposition of sanctions, means that the impact is less likely to be *underestimated*. Previous research has shown that when sanctions have been imposed their effect is very limited. Sanctions can however be successful before being imposed when used as a threat. This means that research that do not consider the threat phase

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1 For a list of sanction cases cases see Staibano (in Wallensteen and Staibano (eds.), 2005, 32-34, ..) and for a list of conflicts see Harbom, 2004. All cases of sanctions where comprehensive economic sanctions were imposed, alone or as a part of targeted sanctions, are excluded from the 15 cases.

2 Conflict resolution is here defined as the non-violent regulation of the contested issue.

are biased towards results where sanctions fail since it is mostly the fail-prone cases that are actually imposed. (See appendix A)

Secondly, since the effectiveness of targeted sanctions is studied explicitly in the light of battle-field outcomes, this analysis is less prone to *overestimate* the ability of sanctions to affect target behaviour. We do not yet know if it is in fact the battle outcomes that are the only factors really influencing the likelihood of successful conflict resolution. Sanctions might appear to have an effect when in fact they do not, simply because the battle outcomes have not been controlled for.

The purpose of this study is to make an initial attempt at addressing the problem by utilising bargaining theory to formulate proposals regarding sanctions as conflict management tools, and to test them on new data. The proposals will be developed based on how sanctions affect the warring parties' *beliefs* concerning their relative power. To determine if targeted measures have significant effects they will be included in the same models as measures of actual battle outcomes.

In the statistical analysis three types of targeted sanctions were investigated but the result is that *it is primarily implemented arms embargos that increase the likelihood of conflict resolution, even when controlling for battle outcomes*. The results concerning commodity and individual sanctions were inconclusive.

Following section 2 where the proposals are formulated and illustrated using examples from Liberia and Ivory Coast, the selection of cases and the method and material is introduced in section 3. After that the results are presented, interpreted and discussed. Additional details, for instance a more thorough review of the previous sanction research, are available in the appendixes.

2. Sanctions, Battle Outcomes, and the Resolution of Conflicts

In order to determine how sanctions and battle outcomes affect the resolution of conflicts theory will be drawn from the field of bargaining theory. First of all the effects of (imposed and threatened) sanctions on conflict resolution are determined based on an explanation concerning the actors' *believed* distribution of power. After that an explanation based on battle outcomes is presented and a hypothesis formulated. The effect of the battle outcomes is established by the degree to which there is a *mutually acceptable stalemate* between the warring parties[3].

Bargaining theory consists of a few but related explanations to the onset, duration and outcome of conflicts. The theory is primarily centred on *uncertainty* between the actors due to *private information* concerning for instance their respective military power or costs of mobilisation and fighting. The uncertainty can lead to *commitment, enforcement* and *distribution* problems. (Werner and Yuen, 2005, 263-264) The explanations that are focused on here concern distribution issues[4].

Power is an important part of both the sanctions and the battle outcomes explanations. Military power can be defined as capabilities, such as the ratio between the opposing forces, as well as a probability, more specifically the likelihood of winning battles[5]. (Powell, 2002, 22-23) For the purposes of this study the second definition of power is the most suitable. It is further assumed that only clear battle outcomes (wins and losses) can provide actors as well as *observers* with good estimates of

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3   For different versions of distributive bargaining explanations see for instance Powell, 1999, Werner 1999a, Powell, 2002, 7-9, Werner and Filson, 2002, and Powell, 2004.

4   The theory used here means that the issue of costs is not considered an essential part of the explanation. However, verbal exchanges of demands between the parties are important for the distributive explanation but that aspect will not be explicitly developed.

5   Note that capabilities consist of more than the force ratio. A number of other indicators can be found, either those that uses more 'objective' measures such as the ratio of artillery, close air support and tank capacities, or those that works more subjectively, for instance, leadership, morale and culture. (Cakan, 2003, 6 and 14-22)

such probabilities. Following from the distinction between actors and observers are the two concepts that are used here regarding probabilities of winning battles: *believed power* and *observed power*. *Believed power* is what the different parties consider to be their relative power and *observed power* is what an outside researcher would estimate to be the distribution of power. Occasionally the two estimates are similar but during some contexts they differ.

Sanctions primarily affect the actors' beliefs concerning relative power. This in turn influences the likelihood of conflict resolution by decreasing one incentive for fighting: determining relative strengths. Following section 2.1, where the effect of sanctions is further developed, in section 2.2 the concept of *mutually acceptable stalemates* is introduced and connected to existing bargaining concepts[6].

2.1 Sanctions, Beliefs and Conflict Resolution

### 2.1.1 Bargaining Theory and the Convergence of Beliefs

Authors using bargaining theory that are concerned with distributive power issues have mostly focused on the adverse effects of diverging beliefs concerning power. (Reiter, 2003, 31-32) The different beliefs over the relative power are the result of *private information* regarding the parties actual power and of *incentives to misrepresent* it as a part of their military strategy.

Regarding *the onset of conflicts* the gist of the argument is that private information and the incentives to misrepresent cause a rational attacker to be *uncertain* about the defender's power, and vice versa. The *uncertainty* can lead the attacker to overestimate its own share in the distribution of power and underestimate that of the opponent. That in turn means the defender's willingness to accept high demands is overrated by the attacker and when the defender stands firm in the face of the attacker's demands, the likelihood of a military conflict increases. (Werner and Filson, 2002)

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6   See appendix B for a further review of the assumptions behind the bargaining theory used here and for a third mechanism that is not explicitly mentioned throughout the text, but which should be kept in mind when dealing with intra-state conflicts.

Concerning the *duration and outcome of conflicts* the argument is that the parties will continue to fight as long as the parties are uncertain of the distribution of power. (Reiter, 2003, 31-32, Werner and Filson, 2002, 826-827, Werner and Yuen, 2005, 264-266) According to this the ending of conflicts occurs when the attacker's demands can be accepted since they are in line with what both believe to be the real power[7]. (Werner and Filson, 2002, 826-831, Powell, 2004, 346-347) Since sanctions in conflict situations are most often imposed when armed violence, at least at low levels, has already broken out the focus here is on explanations regarding the duration and outcome of conflicts.

Figure 1. Believed Relative Power and Conflict Resolution
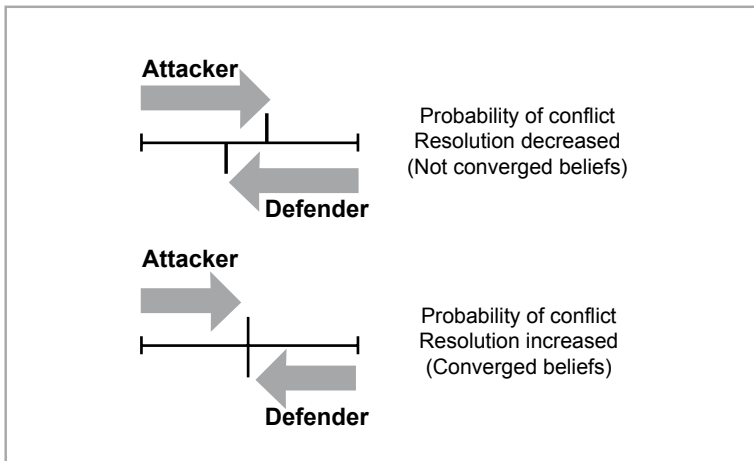
Beliefs cannot be measured directly. It is however possible to measure incidents that are assumed to affect the actors' beliefs (through influencing private information). This is where sanctions feed into the model.

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7   Conflicts are also assumed to be able to end when one or both sides are unable to continue fighting since the military capabilities have been depleted through combat.

2.1.2 Sanctions and the Convergence of Beliefs

The time it takes for beliefs of power to converge, and conflicts to end, depends not only on factors internal to the dyad of warring parties, such as clear battle outcomes, but also on factors external to them, such as whether the actors receive arms and ammunition, foreign military assistance etc. from external parties. The factors that are internal and originate within the dyad are most often predictable by the parties based on the history of the conflict but the factors that are external can be less predictable[8]. If the convergence of beliefs is hindered by external influence it is more difficult for the parties to determine the relative strengths by converging their belief. If however external efforts are performed in a consistent manner and decrease the uncertainty the effect is positive. *External factors increase certainty of the believed relative power only if they do not risk bringing unforeseen changes to the distribution of concrete military capabilities.*

An experience from the arms embargo on Ivory Coast can be used to illustrate the importance of making sure that sanctions bring certainty to a situation. The Ivorian government operated attack helicopters that were used in raids on French forces. The French military response was to destroy most of these aircraft. (Reuters, 2003-02-20, Xinhua News Agency, 2004-11-06) Following the imposed arms embargo the United Nations Expert Panel reported that the helicopters had been worked on by foreign mechanics but noted that it was unclear whether foreign assistance for reparations and related imports of dual-use components should to be considered breaches of the embargo. (S/2005/699, 40-42, S/2006/204, 15). This brings a degree of uncertainty to the situation since the risk of a renewed use of the attack helicopters will affect the parties' beliefs concerning the power balance.

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8   In the case of sanctions an internal factor is for instance that an actor will try to acquire ammunition if it has expended its stock and has funds available. In this case an external factor would be the availability of arms dealers.

2.1.3 Imposed versus Properly Implemented Sanctions

In order for externally imposed sanctions to increase the convergence of the actors' beliefs concerning relative power sanctions must be consistently implemented. Simply imposing sanctions will not decrease uncertainty but might instead serve to increase it if it is unclear which of the parties are affected and how hard the sanctions strike. Previously the importance of proper implementation has been acknowledged for improving the impact on the target and the likelihood that it will comply. (Wallensteen, Staibano, and Eriksson (eds), 2003, 11) The contribution of this report is that the mechanism behind the claim has been further specified for cases where sanctions are used as a conflict management strategy.

The later years in the Liberian case, when the implementation had been improved, can serve as an example of how consistent sanctions can serve to stabilise a situation. According to statements by former Liberian president, Charles Taylor, the arms embargo had a stabilising effect on the Liberian government forces ability to wage war: "We are hands-tied as a result of the arms embargo. We will not be able to give the type of defence you expect." (Reuters, 2002-02-09) Taylor even blamed the arms embargo for the LURD advances on Monrovia in early 2002. (Reuters, 2002-04-01) This was also the sentiment of Defence Minister Chea: "We would have done a lot more to defend this country if we did not have an arms embargo on us. We are doing tough work now in difficult circumstances". (Reuters, 2002-04-04) The conflict resolution that followed in Liberia has proven durable.

> **Hypothesis 1: The more proper the implementation of sanctions, the greater the likelihood of conflict resolution.**

2.1.4 Sanctions Affecting Beliefs of Power versus Beliefs of Costs

In line with the earlier arguments it is asserted that *sanctions that affect the actors' beliefs over military power have a greater impact than sanctions that affect their beliefs over costs.* In the research on sanctions it is often argued that sanctions simply increase the target's costs and therefore increase compliance. (See appendix A) As already indicated the effect might not be that straight-forward when sanctions are aimed

at influencing targets during times of war. One reason is that the effect of uncertainty over costs decreases very rapidly after the armed conflict has started. This is not to say that costs are irrelevant. The argument is merely that if the burdens brought by sanctions are seen as reducing uncertainty, they are far more important in reducing uncertainty over power than over costs, since disparate perceptions over the costs of going to war are easier converged through negotiations than are perceptions concerning power (Powell, 2004, 345).

The costs brought by some measures, such as commodity and individual sanctions only affect the distribution of power indirectly: Sanctions which target the actors' income might lower the value of the relative stakes and should affect the actors' military power only indirectly by reducing its funds to buy arms. These funds are decreased since, for instance, a commodity embargo may decrease the external demand of exported goods and thereby affect the income the sanctioned actor. Individual measures like asset freezes and travel bans increase the transaction costs which also affect the funds available to the actor. Taken together the decreased income and the increased transaction costs could significantly increase the costs of continuing the war. However if the uncertainty over costs already is low soon after a conflict has started, as Powell (2004) has suggested, increased certainty over costs, due to costs brought by sanctions, will not increase the likelihood of conflict resolution noticeably[9]. It is even possible that if the certainty regarding costs is already low enough before the introduction of sanctions, they might increase the uncertainty over costs and thus risk that the conflict continues.

Sanctions that target the military power more directly, such as arms embargos, are more likely to decrease the uncertainty over power. That means they are more likely to improve the chances of conflict resolution.

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9 If the costs are sufficiently high to deplete the actors' capacities to wage war they will of course have a significant effect. It is however argued here that the cost of sanctions is seldom that direct since the actors who have gotten sanctions imposed on themselves have probably not responded to the earlier threats of sanctions because they think they can bear their cost. (See Hovi, et al., 2005)

> **Hypothesis 2: The more directly sanctions target the actors' military power, the greater the likelihood of conflict resolution.**

2.1.5 Empty versus Credible Threats of Sanctions

Analogous to the difference between merely imposed sanctions and properly implemented sanctions, threatened sanctions can be either empty or credible. *Credible* means that the actors can expect that the threats are followed through. Such threats are more likely to have a positive effect on the outcome of intra-state conflicts. The reason for this is that *highly credible threats provide targets with information concerning future decreases of their capabilities, which means that the private information concerning battle outcomes is decreased.*

An example of the opposite is the threats in 2001 against Liberia, which did not work. Although the threats could have been perceived as credible since UNSC had followed through on previous threats, it was not. According to a statement by Liberia's foreign minister, Monie Captan, in May 2001 the Liberian government believed the diamond and travel sanctions would be imposed whether the Liberian government would comply or not: "The decision to impose sanctions on Liberia was premeditated and would have come into effect irrespective of what action were taken by the Liberian government". (Reuters, 2001-05-08) Even if this was just government propaganda, or if the government really had this perception (compare to Hovi, et al., 2005), the example clearly shows the complexity involved when trying to determine the effects of threats, and the importance of being clear regarding the consequences of contesting as well as yielding to the threats.

In Ivory Coast the most noticeable example was that the Security Council repeatedly threatened with imposing sanctions on individuals, starting from May 2004. On 15 November 2004 resolution 1572 was adopted, and with that came specified individual measures. Those sanctions were, however, not imposed until after a Committee decision on 7 February 2006 when three people were put on the sanctions list. Ahead of that decision there had been eight threats of naming targets (see the Uppsala Battle and Sanctions Data). When people were finally named the general sentiment among experts in Ivory Coast was that the targets were not really significant. (Wallensteen, Eriksson, and Stran-

dow, 2006) In this case threats could have been used more sparsely and when imposed they could have been made more severe to match the scope of the threats.

> **Hypothesis 3: The more credible the threatened sanction, the greater the likelihood of conflict resolution[10].**

## 2.2 The Effect of Battle Outcomes on Conflict Resolution

From the previous arguments follow that it is enough that beliefs over power have converged for the parties to make sound demands that increase the likelihood of conflict resolution. The question then is if the impact of sanctions on this convergence is enough to increase the likelihood of conflict resolution? To assess the impact of sanctions they will be analysed when controlling for *mutually acceptable stalemates. If battle outcomes indicate that there is a stalemate that the actors find acceptable, the probability of resolving the conflict increases*. Although the concept *mutually acceptable stalemate* is new the theory behind it is not. The contribution here is that already existing theory is adapted to fit outcomes of civil wars instead of the onset of intra-state wars.

Building on Powell (1999, and 2004), battle outcomes are resulting in mutually acceptable stalemates the more that observed relative power converges with the relative stakes. Powell (1999) developed a theory to explain the onset of inter-state conflicts but others have begun to adapt it to the outcomes of inter-state (Werner, 1999b) and intra-state conflicts (Strandow, 2003). A very simple summary of this concept is that *if the distribution of power and the distribution of the contested stakes mirror each other (i.e. if both are symmetric or asymmetric towards the same*

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10 No hypothesis is formulated that separate between the effects of different threatened sanctions, such as hypothesis 2 does for imposed sanctions, since the theory is so far not developed enough.

actor) no actor can expect to gain more from using violence[11]. In other words, an outside observer would view the situation as a mutually acceptable stalemate. On the other hand if it can be determined that an actor is dissatisfied since it has a greater share in the relative power than it has in the relative stakes, violence is still an option. For instance, if the attacker has enough military power compared to the defender to take a certain territory (increase its stake) a stalemate will not be acceptable until it has tried to conquer that area. When it is convinced that it cannot gain any more territory through force, a negotiated settlement is easier achieved.

Figure 2 Mutually Acceptable Stalemate and Conflict Resolution
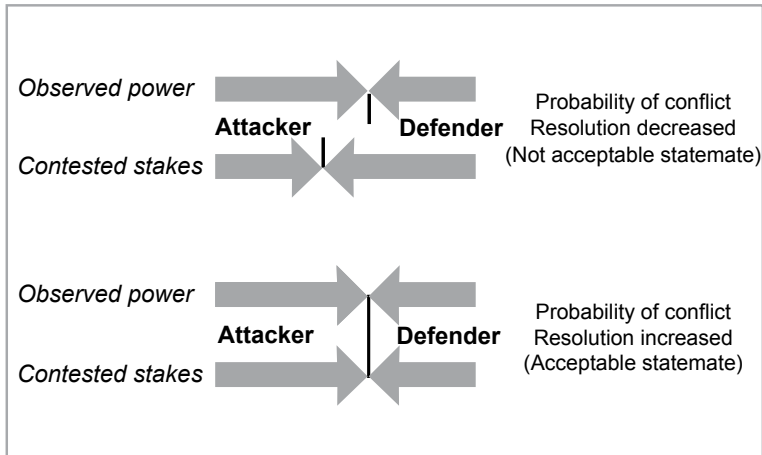
In the early part of the Liberian conflict the balance of power was not clear and there was no mutually acceptable stalemate. It was a situation in which neither the Liberian government nor the rebels saw a reason

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11   It should be noted that Powell uses the term benefits instead of contested stakes which is used here. For more on this type of explanation see also Werner 1999a. It can be added that Werner and Filson (2002) also managed to reach this conclusion through their model adding to the credibility of this explanations since, unlike Powell (1999), who views the result of conflicts as a costly lottery, Werner and Filson prefer to view conflict as a series of battles between which bargaining and negotiated solutions are possible. (Werner and Filson, 2002, 831) Powell, 2004, has also gone past viewing conflict as a costly lottery.

to end the fighting. (Reuters, 2002-02-09) Later on it is possible that the beliefs regarding the balance of power was converged but that the outcomes of battles had not yet resulted in enough mutually acceptable stalemates to get a negotiated settlement. It is however clear that at the point when stalemates were mutually acceptable there was an increased likelihood of negotiated settlements, as illustrated by a statement given by rebel leader Charles Benney: "It takes a couple days for the fighting to calm down. [..] We don't want to take the country by force. We want to do it by negotiated settlement... a military takeover isn't in anyone's interest," (Dow Jones International News, 2003-07-24, Uppsala Battle and Sanctions Data)

> ***Hypothesis 4: The more that stalemates are mutually acceptable, the greater the likelihood of conflict resolution.***

2.3 Alternative Explanation: Peacekeeping

In the sanctions literature there are different opinions regarding the impact of sanctions, and concerning whether the effects are even noticeable when compared to the indirect or direct use of force. (Pape, 1998) In the line with the present theoretical discussions *it is however the predictability of the foreign involvement (including the use of force), that is important and not primarily whether foreign involvement is present or not.* The hypothesis that will be tested here is based on the more common views of the impact of foreign military involvement that is prevalent in the sanctions literature. (see appendix A)

The foreign military involvement that will be investigated is the United Nations peacekeeping operations. Although other, non-UN, military operations might be present they are not controlled for since for the purpose of comparison UN peacekeeping is more suitable. Most often it has similar intended effects as UN sanctions. To reflect the viewpoint of proponents of the use of force a straightforward hypothesis will be tested:

> ***Hypothesis 5: The presence of UN peacekeeping operations increases the likelihood of conflict resolution.***

3. Research Design

3.1 The Cases and the Timeframe

In order to make sure there is variation between the cases in the dependent variable (conflict resolution) one case which has had a successful conflict resolution process, and another case with a less successful process, are selected. The case with peace agreements that have been implemented is the conflict in Liberia that started 2000. The other conflict with peace-agreements that have not yet been fully implemented started 2002 in Ivory Coast. (Harbom, 2004, 133-134) The cases are suitable since both came under similar UN sanctions and had UN Expert Panels monitoring the sanctions, by the end of the time-period selected (March 2006). Data collection for Liberia ended earlier, January 2006, when the rebel group had been dissolved.

3.2 Method and Material

There are, as with all studies, some limitations to this project, for instance only a very limited number of cases can be studied and the population from which they can be chosen is small. The first limitation, the number of cases, implies that the possibility to generalize the results is smaller. This problem will be mitigated by dividing the cases into dyad-months[12], which in effect multiplies the number of observations since temporal as well as spatial comparison are possible.

The second limitation, concerning the small population, means that the two cases that are selected might not be ideal for comparison. It is, for instance, possible that a random affect could have too big of an impact if it is present in both cases, thus risking to veil the influence of targeted sanctions. Because of this it is important to emphasize that only with great care should the results of the study be used as a source of general conclusions regarding the impact of external factors on conflict resolution.

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12 A dyad is a pair of actors consisting of the government and an opponent. In for instance Ivory Coast there are at one time two rebel-groups active, giving two dyads.

The study was conducted using data specifically collected for this analysis and it covers the period until March 2006. Data was gathered for a variety of variables, including imposed and threatened arms, commodity, and individual sanctions, number of battles won by rebels/government respectively per month, peace agreement, demands for peace raised monthly, etc. The time-series cross-sectional data was analysed with binary logistic regression. Even though there are more than a hundred observations (N=117) there are only two conflicts (with four dyads).

3.3 Remedies for Possible Design Problems

Since logistic regression is used there is a problem with the number of variables that can be analysed in the same model (Long, 1997, 54)[13]. Based on the number of observations it is determined that no more than three variables should be analysed at one time if the results are to be sufficiently accurate. To come to terms with this restriction the variables will be analysed in groups with only one type of sanctions indicator per model. This will also help to avoid multicollinearity between the sanctions variables (as it is possible that the presence of one type of sanction increases the likelihood that some other sanction is imposed).

There are two selection biases likely to be present in the data used. First of all in the cases studied the targets have gone from the threat phase to the imposition phase, which suggest that the cases are fail-prone and not likely to have reacted to threats. The threat hypothesis can be expected to produce results skewed towards threats not being effective.

The second bias is that one of the indicators of proper implementation of sanctions (the monitoring indicator) is dependent on the presence of UN Expert Panels (see section 3.4.2). The mission of UN Expert Panels is to monitor the implementation of sanctions and since there were Expert Panels during the latter part of both conflicts it might be difficult to reach correct results based on the monitoring indicator. If occasions of conflict resolution are more common in the end of the

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13 Too few observations give too few observations per combination of independents. Note also that in logistic regression when there are missing values in a cell the entire row is excluded from the analysis, thus giving even fewer observations.

conflicts (which would be likely) the monitoring indicator could be time-dependent since it is possible that monitoring is increased only when the conflict resolution process has started.

To investigate whether time-dependence is a problem a variable (TIME) measuring the time each dyad have been in a non-eventful spell will be controlled for. A non-eventful spell is the time since the last dyad-month with conflict resolution, or since the start of the conflict. (Beck, et al., 1997, 5-10) The TIME variable will also be included in models that do not contain the monitoring variable to test if there are other cases where observations are time dependent[14].

3.4 Specifying the Measures

3.4.1 Dependent Variable: Conflict Resolution

The dependent variable, conflict resolution, needs to be operationalised in such a manner that it captures the variation that most often characterize conflict resolution. If the variable would only measure whether there is or have been an agreement or not it would have very little variation. The lack of variation would in that case be artificial since the observations are made on a monthly basis. This is the reason why the variable conflict resolution will be operationalised to measure whether or not the actors express willingness to implement agreements concerning the contested issue[15]. The variable will be referred to as *monthly conflict resolution* (CRESOLV). There are three indicators that constitute the CRESOLV variable: *peace agreement* (PEACAGRE), *government demands concerning contested issue* (GDEMAND) and *rebel demands concerning contested issue* (RDEMAND). Up until the time when there is a peace-agreement the CRESOLV is coded 0. If there is a peace-agreement sometime during a month the CRESOLV is coded 1 for that month. Further, if during a month following a peace-agreement, one of the actors expresses a demand that is not in line with the agreement, the CRESOLV is coded as 0. If both actors state

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14 TIME and the indicator for peacekeeping will not be run in the same regressions because of the previously mentioned small N.

15 This coding minimizes the risk of autocorrelation when compared to just coding if there is an agreement in place or not.

demands that are in line with the agreement, the CRESOLV is coded 1. The CRESOLV will be lagged one month.

3.4.2 Independent Variables: Imposed Sanctions

In order to address hypothesis 1, concerning properly implemented sanctions, and hypothesis 2, concerning the type of targeting, 2 sets of proxies will be used. Note that both sets will be used to test aspects of both hypotheses.

The first set is the *monitoring of arms*- (MONITARM), *commodity*- (MONITCOM), and *individual sanctions* (MONITIND). The variables are coded 0 if there is no monitoring, or only committee monitoring, during the month. They are coded 1 if there is Expert Panel and/or peacekeeping monitoring.

The second set of variables is the *violation of arms*- (VARMS), *commodity*- (VCOMMOD), and *individual sanctions* (VINDIVID). If there is no violation recorded by the Expert Panel during a month it is coded 0 and if there have been a violation it is coded 1.

3.4.3 Independent Variables: Threatened Sanctions

As concerns threatened sanctions one set of variables will be used to check hypothesis 3, about the credibility of threatened sanctions. The variables included in the set are: *credible threat of arms*- (THREATA), *commodity*- (THREATC), and *individual sanctions* (THREATI). Unlike the dichotomous variables that measure the implementation of sanctions, this variable has four variable values (see appendix C).

3.4.4 Independent Variables: Mutually Acceptable Stalemates

In order to test hypothesis 4 a measurement of the *mutually acceptable stalemates* needs to be calculated. The *acceptable stalemates* (STLMATE) measure is a result of the convergence between the *rebel battles won divided by total battles won by any of the parties* (RBWRATIO) and the *rebel territory divided by rebel and government territory* (RTRGT) variable.

As the name indicates the *rebel battles won divided by total battles won* (RBWRATIO) measures the distribution of battles won by the

rebels as a ratio of the total number of battles won. The ratio is updated every month there is a battle. Only battles that are clearly won by either party are considered to have a clear outcome.

The *rebel territory divided by rebel and government territory* (RTRGT) gives the proportion of territory held by the rebels compared to the amount held by the government in one dyad[16].

The *acceptable stalemates* (STLMATE) measurement is the quotient of dividing the lower of the two measurements RBWRATIO and RTRGT with the highest. The result is a ratio between 0 and 1, where a higher number means that battle outcomes yield more mutually acceptable stalemates.

3.4.5 Peacekeeping

The peacekeeping hypothesis will be controlled for through variable UNPEACEK. This is coded 1 if there are peacekeepers deployed during a month and 0 if not.

3.4.6 Time before Conflict Resolution

This variable is not described in section 2 since it is primarily included out of methodological concerns and not analysed out of theoretical necessity. (Beck, et al., 1997, 10) The first dyad-month is always coded 0. During a month when there is conflict resolution the TIME variable is coded according to the number of months since the latest conflict resolution.

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16 See appendix C for more information on how RTRGT and RBWRATIO are coded.

4. Statistical Analysis

The three forms of sanction measurements – threats, monitoring and violation – were run in different regressions since they are likely to be correlated. The control variables TIME and UNPEACEK were separated and kept in different models out of methodological concerns (see section 3.3). UNPEACEK was furthermore not included in the same model as the monitoring variable since the latter is depending on the former. Note that data from dyads in Liberia and Ivory Coast are analysed together in all models. There is a variation in the number of observations (N) from one model to the next. The reason for this is that a missing value in one variable results in the deletion of the entire observation (for that particular model).

4.1 Arms Embargo Effects

Table 1 The Effect of Threatened and Imposed Arms Embargos

	Model 1	Model 2	Model 3	Model 4	Model 5
Acceptable Stalemates	1.762**	2.221*	1.311	1.970**	2.417**
	(0.858)	(1.185)	(0.980)	(0.938)	(1.233)
Arms Threat	-0.679	-0.772			
	(0.943)	(0.965)			
Arms Monitoring			0.447		
			(0.503)		
Arms Violation				-1.387*	-1.557*
				(0.830)	(0.815)
Time	-0.091**		-0.101**	-0.085**	
	(0.042)		(0.045)	(0.042)	
UN Peacekeeping		0.305			0.307
		(0.613)			(0.623)
Constant	-1.428**	-2.289***	-1.351*	-1.397*	-2.203***
	(0.707)	(0.702)	(0.712)	(0.758)	(0.738)
N	112	112	112	105	105
No of Dyads	4	4	4	4	4
Nagelkerke's pseudo r-square	0.232	0.153	0.233	0.292	0.225
-2 Log Likelihood	124.127	131.605	124.047	111.260	117.544

Note: Standard errors are in parentheses. Significance, in two-tailed tests, at the 99, 95 and 90% levels are indicated by ***, **, *, respectively

There are two models where the effects of arms embargos were statistically significant at the 90% level, model 4 and 5. Both of these are based on the VARMS indicator and in model 4 all independents were statistically significant[17]. Of the two models, number 4 provides the highest pseudo R square, which indicates a higher level of relation between the included variables and the dependent[18]. Models 4 and 5 passed a Hosmer-Lemeshow goodness-of-fit test[19]. Both models suggest that during occasions of violations of arms embargos the likelihood of conflict resolution decreases. They provide similarly strong explanations but all in all model 4 appears to provide the best and most efficient explanation[20]. The results lend preliminary support to hypothesis 1 (*the more proper the implementation of sanctions, the greater the likelihood of conflict resolution*).

The *acceptable stalemates* (STLMATE) measure was statistically significant at the 95% level in model 1 and in the last two models. In model 2 the significance was at the 90% level and all significance was lost in model 3. The sign of the coefficient was however always positive

17 Although the 95% level is normally the cutting point chosen for statistical significance within social sciences, here results that are significant on the 90% level will also be considered when comparing models since it can be claimed that a lower level is reasonable when samples are small. The argument being that in small samples, according to Long, the normal distribution of maximum likelihood estimates is unknown. (Long, 1997, 54)

18 Note that quasi R Square measures, unlike OLR R Square, are not directly measuring the model's goodness-of-fit but should be seen as an analogy to the R Square. (Long, 1997, 104-105)

19 If an H-L test is statistically insignificant the model provides a good fit. (Wuensch, 2006, 8) Model 4 scored 0.325 and model 5 0.534.

20 Model 4 had the lowest -2 log likelihood of all models which means it is better in predicting conflict resolution (the smaller the measure the better the model). (Wuensch, 2006, 4) Model 5 had a slightly higher percentage estimated correct (70.5%) than model 4 (68.6%) (the null-hypothesis was 64.8). An observed groups and predicted probabilities histogram was also checked in order to compare the models, both did however have good u-shapes. According to the log odds (Exp(B) = 0.250) of VARMS in model 4 the odds of conflict resolution increases by a factor of 0.25 when there is no violation, controlling for the other variables.

and the effect not greatly differing between models. The lost significance of STLMATE in model 3 could be due to multicollinearity; the correlation between STLMATE and MONITARM was -0.494.

TIME was statistically significant in all models where it was included which suggest that the number of observations between incidents of conflict resolution is relevant. UNPEACEK was not statistically significant but note that the sign was positive in the models where it was included.

The results concerning threatened arms embargos are inconclusive. That is not surprising considering that the cases analysed here are all basically cases of failed threats, since sanctions were imposed in both conflicts. The number of threats that could be considered credible was low. The idea was however to see if it would be possible to discern any effects despite that, but the few occasions of credible threats recorded were probably not enough to provide a basis for statistically significant results.

4.2 Commodity Sanctions Effects

Table 2 The Effect of Threatened and Imposed Commodity Sanctions

	Model 1	Model 2	Model 3	Model 4	Model 5
Acceptable Stalemates	1.741**	2.434**	1.265	1.649*	2.553**
	(0.862)	(1.216)	(0.901)	(0.895)	(1.214)
Commodity Threat	-0.230	-0.339			
	(0.409)	(0.393)			
Commodity Monitoring			0.806*		
			(0.464)		
Commodity Violation				1.036*	1.078**
				(0.558)	(0.534)
Time	-0.091**		-0.103**	-0.094**	
	(0.043)		(0.043)	(0.044)	
UN Peace-keeping		0.157			0.044
		(0.618)			(0.636)
Constant	-1.413**	-2.348***	-1.418**	-1.540**	-2.620***
	(0.715)	(0.715)	(0.713)	(0.730)	(0.731)
N	112	112	112	108	108
No of Dyads	4	4	4	4	4
Nagelkerke's pseudo r-square	0.179	0.152	0.256	0.284	0.207
-2 Log Likelihood	129.239	131.651	121.775	115.142	122.481

Note: Standard errors are in parentheses. Significance, in two-tailed tests, at the 1, 5 and 10% levels are indicated by ***, **, *, respectively.

In the last three models, concerning the imposition of commodity sanctions, the sanction indicators were statistically significant, in models 3 and 4 on the 90% level, and in model 5 on the 95% level. The effects do, however, appear to contradict each other: Models 4 and 5 suggest that occasions of violations of commodity sanctions increase

the likelihood of conflict resolution. That likelihood is also increased by monitoring, according to model 3. The expectation was that the signs of the coefficients would oppose each other. Although hypothesis 3 assumes that measures not directly aimed at the actors' military power, such as commodity sanctions, will have a smaller impact on the likelihood of conflict resolution, the results based on models 4 and 5 are surprisingly strong. The coefficients actually show that violations of commodity sanctions are positive for conflict resolution. The results from model 3 do in a way balance those results by showing that if commodity sanctions are properly monitored they do increase the likelihood of conflict resolution. A further balancing factor is that violations of commodity embargos, particularly diamond embargos, are also very sensitive to weather and seasonal conditions. During rainy seasons there were much fewer cases of violations since it is hardly possible to mine diamonds in some areas during that period. (Uppsala Battle and Sanctions Data) Such exogenously imposed lulls in violations might randomly coincide with occasions of conflict resolution and thus produce misguiding results.

Model 3 as well as models 4 and 5 received high pseudo R square values, with model 4 peaking at 0.284. All models passed the H-L test, but model 5 got a rather low figure at 0.109. Of the three models number 5 had the lowest goodness-of-fit and model 4 appeared to have a slightly better and more efficient fit than model 3[21].

STLMATE had a positive sign and was statistically significant in model 1, 2 and 5 on the 95% level, and on the 90% level in model 4.

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21 Model 3 and 4 had low or almost no multicollinearity but in model 5 there was a correlation between UNPEACEK and STLMATE at -0.713. To further check the models an observed groups and predicted probabilities histogram was studied, it showed that all models had u-shapes but with slight similarities to normal distributions. Model 5 had the clearest tendency towards normal distributions and had many 1 counts placed wrongly. For model 4 there were also some 1 counts placed wrong or close to the cutting point but model 4 had the lowest -2 log likelihood, which support the assertion that it is best at predicting conflict resolution.

According to the log odds (Exp(B) = 2.818) of VCOMMOD in model 4 the odds of conflict resolution increases by a factor of 2.818 when there is a violation, controlling for the other variables.

In the third regression it was not statistically significant. Still, the coefficient was similar over all cases ranging between 1.265 and 2.553.

TIME was statistically significant at the 95% level and had a negative sign in all models where it was included. UNPEACEK was not statistically significant in either model. Correlation (-0.713) between STLMATE and UNPEACEK in model 5 could possibly explain the absence of significance of UNPEACEK in that model. Multicollinearity can cause an affect to appear statistically insignificant when it really is significant (type II error).

Commodity threats were, just as arms embargo threats, not statistically significant in any of the models, probably for the same reasons.

4.3 Individual Sanctions Effects

Table 3 The Effect of Threatened and Imposed Individual Sanctions

	Model 1	Model 2	Model 3	Model 4	Model 5
Acceptable Stalemates	1.911**	2.271*	1.380	1.652*	2.513**
	(0.876)	(1.195)	(0.889)	(0.912)	(1.208)
Individual Threat	-0.597	-0.604			
	(0.423)	(0.428)			
Individual Monitoring			0.717		
			(0.462)		
Individual Violation				0.533	0.340
				(0.488)	(0.470)
Time	-0.092**		-0.102**	-0.102**	
	(0.041)		(0.043)	(0.045)	
Un Peace-keeping		0.382			0.163
		(0.615)			(0.640)
Constant	-1.461**	-2.302***	-1.439**	-1.485**	-2.534***
	(0.716)	(0.712)	(0.712)	(0.725)	(0.741)
N	112	112	112	106	106
No Of Dyads	4	4	4	4	4
Nagelkerke's Pseudo r-square	0.250	0.170	0.250	0.264	0.168
-2 Log Likeli-hood	122.358	130.016	122.408	114.605	123.334

Note: Standard errors are in parentheses. Significance, in two-tailed tests, at the 1, 5 and 10% levels are indicated by ***, **, *, respectively.

Interestingly enough individual sanctions show no statistical significance, neither in the threat nor in the imposition models. Although no conclusions on the effects can be drawn it can be noted that threats have negative coefficients and implementation measures have positive coefficients. Although neither model with individual implementation variables directly support hypothesis 1 or 2, it can at least be concluded that hypothesis 2 (*the more directly sanctions target the actors'*

military power, the greater the likelihood of conflict resolution) is not contradicted since it can be argued that the statistical insignificance of individual sanctions is in fact due to real insignificance since individual sanctions, which were assumed to merely cause transaction costs, have the least direct effect on the actors' military power.

STLMATE is statistically significant on the 95% level in models 1 and 5, and on the 90% level in models 2 and 4, and statistically insignificant in model 3. Model 3 do, however, still have a rather high pseudo R square (0.25) and it passes a Hosmer-Lemeshow test[22]. It therefore seems that STLMATE and/or MONITIND contribute to increase the fit of model 3 so it might be probable that the reason why neither is significant is that the small N (112) has taken its toll on this particular model[23].

TIME was again statistically significant, at the 95% level, as in all models where it has been included. UNPEACEK was statistically insignificant but as in the previous models it had positive coefficients.

4.4 Conclusions based on the Statistical Results

4.4.1 Imposed Sanctions and Acceptable Stalemates

First of all note that the indicators of violations and monitoring can both be used to test hypothesis 1 as well as 2. They provide information regarding proper implementation meaning that hypothesis 1 can be addressed using both measures. The sets of indicators are furthermore divided into arms-, commodity-, and individual sanctions and that indicates they can contribute with information regarding the extent to which the actors' military power is targeted, thus testing hypothesis 2.

The model of imposed arms embargos, Table 1, and imposed commodity sanctions, Table 2 that had the most robust results was, in both cases, model 4. The results suggest that violations of arms embargos decrease the likelihood of conflict resolution, and that violations of commodity embargos increase it. Hypothesis 2, *the more directly sanctions*

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22 Model 3 H-L score was 0.695.

23 Too small N might cause to few 1's in MONITIND and when combined with the other variables it can cause MONITIND as well as STLMATE to loose significance.

target the actors' military power, the greater the likelihood of conflict resolution, is therefore supported. As has been mentioned in section 4.2 a complicating factor is that commodity sanctions are easier to violate during dry-seasons and therefore the effects of violations on conflict resolution could be random.

Based on the violation indicators alone it is not enough to conclude that hypothesis 1; *the more proper the implementation of sanctions, the greater the likelihood of conflict resolution*, is generally supported. The reason being that the commodity violation results appear to contradict that more proper implementation is always beneficial.

When turning to the monitoring variables of the third models in all tables, commodity monitoring, as opposed to commodity violation, seems to suggest that proper implementation is indeed positive. Only commodity monitoring was statistically significant but it can still be noted that the monitoring variable of all sanctions had positive coefficients. This lends some additional support to hypothesis 1: the more proper implementation leads to greater likelihood of conflict resolution.

In conclusion: *both hypotheses 1 and 2 find support*. The complications with the commodity violation results indicate that future research could include variables controlling for the season. That in turn means that if a quantitative method is used more cases must be included.

The measure *acceptable stalemate* was statistically significant in most models, except for model 3 in all tables. The sign of the STLMATE coefficients was positive in all models which lends support to hypothesis 4: *The more that stalemates are mutually acceptable, the greater the likelihood of conflict resolution*. That the impact of STLMATE was consistent throughout all models suggests that the results are robust and that the measure is a significant part of explaining the resolution of intra-state conflicts. This supports the argument brought forward by some bargaining theorists that distributive issues are crucial for settling conflicts. What is more important for the purpose of this report is that many variables measuring the implementation of sanctions are statistically significant even when controlling for such an influential measure as STLMATE. According to the theory behind the hypotheses this means that UNSC targeted sanctions can serve to decrease the parties' uncertainty so that the convergence between their

beliefs regarding the power balance increases. *Converged beliefs are on the one hand enough to increase the likelihood of conflict resolution since they cause the actors to give each other more realistic demands. On the other hand, it can also be interpreted that converged beliefs (due to sanctions) mean that lower levels of mutually acceptable stalemates are required to increase the chance of conflict resolution, compared to if no sanctions were imposed.* If this is the case then the timing of sanctions could prove important for giving the sender as much leverage as possible[24].

4.4.2 Threatened Sanctions

The results regarding credibly threatened sanctions were inconclusive and hypothesis 3 (*the more credible the threatened sanction, the greater the likelihood of conflict resolution*) could not be verified. The high standard errors on the threat variables could signal that there were too few cases per combination of variables. This is possible since there were rather few occasions of threats in the data, which builds on publicly pronounced threats. In total there were 24 occasions of threats, and even fewer threats that were really credible, for all three variables in all 117 cases.

That no effect of threatened sanctions could be recorded is not surprising considering that the cases are those were all threatened sanctions were eventually imposed. In itself this implies that threats failed and that the targets were difficult to influence from the outside. It is therefore not surprising that no statistically significant effects, based on the few credible threats, were recorded. For future research new ways to conceptualise and code (credible) threats are needed.

4.4.3 Time and Peacekeeping

The variable TIME, which was included to control for time dependence through measuring the number of months of each non-eventful spell, was statistically significant in all models and had negative coefficients.

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24 When sanctions increase the convergence of believed power, STLMATE is not increased in the perspective of an outside observer. But in the perspective of the actors, lower levels of observed STLMATE can be included in their "zone" of satisfactory possible solutions. This suggests that the effect of sanctions can probably be expected to have a higher effect during times when STLMATE is high.

This means that the longer time that has passed since the last occasion of conflict resolution (or since the start of the conflict) the lower the likelihood of conflict resolution.

The bargaining explanation would be that during serious negotiations information is exchanged through proposals between the parties and uncertainty is decreased. (Werner and Filson, 2002, 826-827, Powell, 2004, 348-349) What the result here seem to indicate is that the information revealed through bargaining does not disappear immediately between months of conflict resolution, but as time goes by the information gets more and more uncertain. If this is the case then timing of sanctions is possibly even more vital than the conclusions regarding the importance of acceptable stalemates suggest.

Although exchanges of demands were intentionally not included as independent variables in this study the results concerning TIME, and previous research within bargaining theory, indicate that in order to find a fuller understanding of the resolution of conflicts it would be fruitful to include exchanges of demands in future models.

United Nations peacekeeping was not statistically significant in any model, the coefficients were, however, consistently positive. One reason is suggested by model 5 in Table 2: There could be type II errors due to multicollinearity between UNPEACEK and STLMATE. It is furthermore possible that the unrefined dichotomous measure, by which small as well as large peacekeeping forces are assigned the same number, causes the results to be statistically insignificant. In future research it would be better, for instance, to measure the number of soldiers that are actually deployed each month to get a more meaningful figure. Despite the design problems it can at least so far be concluded that targeted sanctions can have an effect even when controlling for the presence of peacekeepers.

4.5 The Pros and Cons of the Analysis

There are some problems regarding the robustness of some of the results. There were probably too few cases of credible threats per combination of variables to obtain statistically significant results. The low total number of observations, combined with a rather high exclusion of units, did also affect the number of variables that could be dealt with in each

model. For future research additional cases as well as new variables should be included. It could also prove valuable to introduce cases where sanctions were threatened but never imposed. The measurement of UN peacekeeping should also be improved in future research and ways should be found to avoid multicollinearity between, for instance, UNPEACEK and STLMATE.

The correlation between sanctions that target individuals and conflict resolution were not statistically significant. Although that result is not contrary to what can be expected, it is still possible that there could be some way to distinguish these effects. Individual sanctions will primarily have a psychological impact which is not easy to pick up statistically. To find out if there are specific aspects of the individuals targeted, that should be included in variable estimates of future statistical research, qualitative investigations could perhaps be used.

Due to the time-constraints, that are a part of any research, there has been a trade-off between the time dedicated to the different elements of the study. Since this is the first systematic research to test the effects of sanctions in relation to battle outcomes the focus has been on finding a solid theoretical foundation and to create a thoroughly coded dataset. Although a suitable method was used, and relevant basic tests of the models were conducted, the design of the statistical analysis could be strengthened even further in future research. Methodological improvements could be to conduct additional tests of models regarding unobserved heterogeneity (which could possibly affect the coefficients of included independents), autocorrelation, outliers, time dependence and goodness-of-fit. (Long 1997, 231, Beck, et al., 1997)

5. Summary and Conclusion

The purpose of this research was to find out how threatened and imposed targeted sanctions, in relation to battle-field outcomes, affect the likelihood of bringing warring parties to conflict resolution.

Based on bargaining theory it was determined that sanctions primarily affect the warring parties' beliefs concerning the distribution of power. From this assertion followed two hypotheses regarding imposed sanctions: The likelihood of conflict resolution increases the more proper the implementation of sanctions, and the more directly sanctions target the actors' military power. One hypothesis concerning threatened sanctions was also determined: The more credible the threatened sanction, the greater the likelihood of conflict resolution.

In order to control for the effect of battle outcomes a measure of stalemates that are mutually acceptable to the warring parties was constructed. The acceptable stalemates measure consists of the relation between the observed distribution of power and the distribution of stakes. The more that stalemates are mutually acceptable, the greater the likelihood of conflict resolution.

Two sets of indicators were used to test both hypothesis 1 and 2: violations and monitoring of arms- commodity and individual sanctions. The results suggest that violations against arms embargos decrease the likelihood of conflict resolution, even when controlling for acceptable stalemates. Violations against commodity and individual sanctions do not have that affect; violations against commodity sanctions do actually appear to have the opposite impact. On the other hand, there is a significant correlation between proper monitoring of commodity sanctions and increased likelihood of conflict resolution. The positive effect of arms embargo monitoring was on the other hand not statistically significant. Taken together it was determined that hypothesis 1: the more proper the implementation of sanctions, the greater the likelihood of conflict resolution, as well as hypothesis 2: the more directly sanctions target the actors' military power, the greater the likelihood of conflict resolution, were supported.

The results regarding credibly threatened sanctions were inconclusive and hypothesis 3, the more credible the threatened sanction, the greater the likelihood of conflict resolution, could not be verified.

The effect of acceptable stalemates was positive in all models and supports hypothesis 4: The more that stalemates are mutually acceptable, the greater the likelihood of conflict resolution.

The control variable United Nations peacekeeping was not statistically significant in any model, the coefficients were however consistently positive.

Since the statistical analyses were made using only a little more than a hundred observations, and only four dyads, the conclusions drawn here should only be applied to other cases with care. It is probable that the results are applicable in cases similar to Liberia and Ivory Coast but for cases with other levels of development and geographical location the effects of sanctions could differ. Although important theoretical and practical gains have been made through this investigation, the capability to generalize could be greatly improved in future research by including more cases.

Despite the different problems facing a limited study such as this, it is possible to conclude that *implemented arms embargos have a positive effect on the likelihood of conflict resolution, even when controlling for the outcome of battles.* In total the results reported here are particularly valuable for understanding how measures short of – or complimentary to – military force can affect the developments of conflict societies in a positive direction.

Appendix A: Previous Research

The aim of this section is to review how far research on the effect of sanctions, in particular targeted sanctions, has come, and to find the most fruitful avenues for further research. First of all, in section A.1, research made on sanctions in general is briefly reviewed; secondly, in section A.2, the attention is turned to research focusing on targeted sanctions.

A.1 The General Efficiency of Sanctions

The earliest research done on the wider subject of all forms of unilateral and multilateral sanctions have mostly focused on economic sanctions and have been sceptical as to the efficiency of sanctions. (Galtung, 1967; Wallensteen, 1968; Wallensteen, 1971, Hufbauer et al., 1985). The terms used by Hufbauer et al. (1985) for the party that imposes sanctions and the party that is targeted, the *sender* and the *target*, are used throughout in this text. A categorisation of sanctions theories introduced by Wallensteen (1968), which is presented in the table below, is the point of departure of this review.

I.	Sender-oriented theories	Structural and behavioural aspects of the sender
II.	Target-oriented theories	Structural and behavioural aspects of the target
III.	Interaction-oriented theories	Interaction between sender and target and between targets, strategic choices

Table 1. A categorisation of sanctions theories (Based on Wallensteen, 1968, 252)[25]

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25 Wallensteen (1968) do also include a fourth category, environment-oriented theories (the reaction of the international system outside sender and target), which is not explicitly mentioned throughout this review to make it more focused and in line with the rest of the text that deals with UN sanctions only (international system as sender).

A.1.1 Sender-oriented and Target-oriented Research

With Hufbauer, Schott and Elliot's study, one of the more comprehensive earlier empirical studies, it was shown that when economic sanctions were imposed they had a low success rate. (Hufbauer et al., 1985) How low the effect actually is was the reason for one of the debates during the early 1990's. On the one side Hufbauer et al. showed that from 1914 to 1990 the success rate was on average one third of all cases. They also noted that there was a decrease in the efficiency during the 1970's and 1980's, when the success rate decreased to one fourth. It was also concluded that the effect of sanctions was strongly dependent on the goal of the sender and the magnitude of the intended change in the target's policy or government. (Hufbauer Schott, Elliot, 1990, cited in Elliot, 1998, 51 and in Pape 1998, 66) In an update of their research, presented in 1999, it was concluded that the cases of the 1990's showed a continued success rate of 25%. (Elliot, Hufbauer, 1999, 404) On the other hand there are researchers who conclude that economic sanctions do not work at all, one of which contends that in most cases during 1914-1990 it could not be shown that the goals were really met or that economic sanctions were used as the only policy instrument and that the effects of indirect or direct use of force was what actually settled the disputes. (Pape, 1998)

The different opinions within the scholarly community and between scholars and policy makers concerning sanctions have been suggested by researcher David Baldwin to be caused by differences in questions, concepts and different analytical concepts and since scholars who in-vestigate the question *if* sanctions work often also implicitly or explicitly try to answer the questions of when and if sanctions *should* be used as a foreign policy tool. Baldwin claims that for policy makers these are indeed different questions since the use of sanctions could be wider than just to accomplish foreign policy goals. One solution that is forwarded is that researchers explicitly separate the question if sanctions work (have a tangible effect on the target) from the question of whether they should be used (have a psychological or normative effect). (Baldwin, 1999, 80-82, 86-87) More recent research on sanctions, particularly from the public-choice perspective, have shifted from studying the efficiency of sanctions as a foreign policy measure that cause material

damage in order to achieve compliance to sanctions as a symbolic and domestic policy tool. (For a review on this see Drezner, 2003a; Hovi, Huseby, Sprinz, 2005.) Baldwin (1999) and other researchers within the rationalist bargaining literature, however believed that symbolic sanctions with a signalling goal should not be placed in the same category as symbolic sanctions that only have a domestic purpose. The reason is that symbolic sanctions with serious intent can be a signal of strong resolve and could indeed work as a foreign policy tool used to exert influence on the target over tangible issues. (Kaempfer, Lowenberg, 1988) Besides the terms already introduced to describe the goals of the sender there are other terms that have been used throughout the literature to classify the different goals of the sender. In order to provide a categorisation of such terms a typology organised by Doxey (1996, 54-57) is presented. The goal of sanctions can be:

1) Deterrence. The threatening of sanctions in order to deter norm violation.

2) Compliance. The sender's intention is that the receiver ought to change some aspect of its foreign or domestic policy.

3) Punishment. When it is too late or too difficult to bring about change the only goal could be to punish bad behaviour.

4) Destabilization. Mostly a goal of unilateral sanctions but also possible in some cases on multilateral sanctions.

5) Limitation of conflict. Arms embargoes is a method often associated with this goal.

6) Solidarity. The goals of some senders are simply to do what friendly states do in order to show support.

7) Symbolism. Provides the domestic audience of the sender (as well as the receiver) with evidence of disapproval but without inflicting serious material damage.

8) Signalling. A version of (7) but where the intent is to signal strong resolve to actually inflict material damage.

Depending on how the goals of the sender are interpreted, different researchers turn to different theories, with the popularity of *sender-*

oriented theories appearing to have increased after the 1980's in comparison to *target-oriented* theories. The objects of this study, UN targeted sanctions, do most often have *limitation of conflict* as its main goal. Since conflict can imply interaction between sender and target, as well as between target and another actor (possibly another target), the review is expanded to move beyond *sender-* and *target-oriented* to *interaction-oriented* research.

A.1.2 Interaction-oriented Research

One of the more interesting contributions made by interaction-oriented researchers is to make a distinction between the *threat* of sanctions and the *imposition* of sanctions. (Eaton, Engers, 1999; Hovi, Huseby, Sprinz, 2005; Drezner, 2003a; Lacy, Niou, 2004) Drezner argues, from the viewpoint of game theory, that the threat and the imposition of sanctions should be viewed as part of a strategic interaction and that there is a selection bias in most of the research that concludes that the sanctions instrument do not work. The selection bias lies in the absence of data on threats of sanctions preceding the decision to impose sanctions or not. If there are cases where the threats of sanctions are enough for the receiver to change its policy according to the goal of the sender then the sanctions tool is in deed more efficient than earlier assumed. Based on existing datasets, Drezner shows that when it comes to US threats of sanctions on trade, labour and environmental issues there are many more cases of threatened sanctions than of actually imposed sanctions. Threatened sanctions worked in 56.34% of the cases of trade issues (for imposed sanctions the success was 33.33%), 57.69% of the labour cases (success of imposed was 0.00%) and in 92.11% of the environmental issue cases (imposed success was 52.63). (Drezner 2003a) Based on the research on threats Hovi et al. (2005) concludes that if credible threats fail it is probable that imposed sanctions will also fail since the target have already decided not to give in to sanctions. Given that it is only the cases where the target is resolved that actually turn into imposed sanctions the question is why imposed sanctions do work in some cases? Hovi et al. provides three reasons why the target sometimes yields to imposed sanctions: 1. The cost of sanctions are underestimated. 2. The

target miscalculated the sender's resolve to actually impose the sanctions. 3. If the receiver believed during the threat phase that sanctions would be imposed whether it yielded or not and if new information in the imposition phase makes it clear that this perception was a mistake than the receiver might give in. (Hovi et al., 2005, 480)

So far it appears that *interaction-oriented* theories provide the most promising route to knowledge on the efficiency of sanctions. The above mentioned rational-choice motivated division between the threat and the imposition phase is not the only *interaction-oriented* research done lately. Kaempfer and Lowenberg study sanctions from a public-choice perspective and in their research on the difference between multilateral and unilateral sanctions they bring in the effects on different interest groups within the sender as well as the target societies, and the resultant efficiency of the sanctions. Earlier research on the difference between multilateral and unilateral sanctions have often supported the notion of multilateral sanctions as the most efficient, but according to Kaempfer and Lowenberg unilateral sanctions by a state with close connection to the receiving country can be more efficient than multilateral sanctions. (Kaempfer, Lowenberg, 1999 and 2000) With the latest developments in the sanctions instrument and the increased reliance on multilateral sanctions the case of multilateral versus unilateral sanctions is, however, far from closed.

A.2 The Specific Efficiency of Targeted Sanctions

The increase in the use of targeted measures has resulted in more research on targeted sanctions and on the relation between targeted and comprehensive sanctions[26].

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26 The Targeted Financial Sanctions Project at the Watson Institute, headed by Thomas J. Biersteker is one case where research is done on one specific aspect of sanctions, the financial. At the Sanctions and Security Project, headed by David Cortright and George Lopez at the Kroc Institute, one of their seven research themes deals with humanitarian consequences and another one, that study the success of sanctions, focus mostly on the economic aspects of success. One of the few examples of research that studies the effect of targeted sanctions compared to comprehensive sanctions is Cosgrove, 2002. The brief study does however not focus exclusively on UN sanctions.

According to some researchers there have been indications that comprehensive sanctions have been more efficient than targeted ones. Furthermore, since comprehensive measures yield greater results in a shorter time, they could also be more humane in the long run (Iraq being an obvious exception on the humanitarian argument). (Drezner, 2003b, 107-109) Cosgrove on the other hand argues that targeted sanctions are more efficient than comprehensive as long as they are carefully aimed and as long as the senders agree on the importance of the goals, and in the case of the UN, that at least one powerful member of the Security Council is strongly committed to the goals. (Cosgrove, 2002) In support of the efficiency of targeted sanctions it has, for instance, also been shown that *financial sanctions* (asset freezes) have been more successful than comprehensive trade sanctions. Dashti-Gibson et al. found in their research on economic sanctions that for most goals the use of financial sanctions was the most important determinant for success when compared to variables such as cost to receiver, extent of trade linkages, stability of target and the time sanctions are in force. (Dashti-Gibson, Davis, Radcliff, 1997) Historically financial sanctions have often been a part of more comprehensive embargoes so more cases of targeted financial sanctions needs to be reviewed before something can be said with certainty.

Another aspect of targeted sanctions in the economical arena is specific *commodity sanctions*. In Cortright et al. (2002) the prospects for success with sanctions on diamonds is investigated. It is found that there are reasons to be optimistic since the legitimate diamond industry has its own interests to keep conflict diamonds in check, but according to the authors the future success of diamond sanctions will depend on the implementation of the Kimberley process for diamond certification. (Cortright, Lopez, Gerber, 2002, 194-195)

According to some studies *arms embargoes* have so far not functioned properly. The reason is that they are either imposed too late, exempt permanent Security Council members, reinforce or worsen asymmetric power distribution, often are easy to circumvent, or cannot be adequately enforced by the UN. (Tostensen and Bull, 2002, 383)

Travel bans are also directed towards individuals who are a part of or support the targeted group and have a symbolic and psychological

effect since offenders are named and shamed (Cosgrove, 2005). *Aviation sanctions* hinder traffic and/or cargo flights from leaving and entering the receiving country. The purpose of the ban is to help implement other sanctions and may include some or all flights. *General transport sanctions* ban all forms of transports across the border to the territory which is sanctioned and are intended to support other sanctions and to increase the cost of the receiver. *General flight bans* can be used to increase the implementation of other sanctions. It appears that travel sanctions have a mixed success record with Libya often being named as a possible success case. (Tostensen, Bull, 2002, 390, 392-393) According to Hufbauer and Oegg (2000) *travel bans on individuals* have had only limited success and could mostly be seen as having a symbolic value.

In the update of the survey made by Hufbauer et al. the researchers found 20 cases of targeted sanctions with a success rate of 25%. Based on the success cases it was suggested that targeted sanctions have the greatest effect in the cases where the senders' goals are modest. (Elliot, Hufbauer, 1999; Hufbauer, Oegg, 2000) One suggested reason why targeted sanctions did not work so well during the 1990s was that the senders lacked the necessary experience and institutions. (Drezner, 2003b, 107-109) Following the reforms of the UN sanctions instruments the efficiency of targeted sanctions is now in need to be re-examined.

What should be remembered is that in many of the latest UN targeted sanctions cases the sanctions have been used in a conflict situation to pressure one or more parties to change the conflict behaviour and to address the contested issue. The situation when the sender acts in a situation with more than one potential target, and aims at one of the warring parties, or both, have not been studied systematically before, particularly in the context of targeted sanctions. Neither has the interesting discovery of the importance of studying the threat phase as well as the imposition been thoroughly addressed in research on targeted sanctions. (It is however recognised by, for instance, Wallensteen, Staibano, and Eriksson, 2003, 11) The reason for these short-comings is primarily that the few studies that exists have had to focus on what have been perceived as the most fundamental issues at the moment. In conclusion: without including these additional factors in an analysis of sanctions efficiency it is difficult to judge the impact of targeted sanctions as a strategic choice for the UN.

Appendix B: Bargaining Theory

B.1 Core Assumptions

The assumptions behind the explanations above are that: Actors are rational but have private information concerning their military power (and concerning their belief about the power of the counter-part). They also have incentives to misrepresent their capabilities (bluff) by trying to appear stronger to gain more in negotiations[27]. The assumption is also that the actors are risk averse or risk neutral[28] and that armed conflict always consumes some of the resources that are contested. A negotiated agreement is hence always less costly than armed conflict. (Fearon, 1995) The presence of private information and incentives to misrepresent will mean that the actors' cannot really trust their counter-part to commit to their threats or promises until the presence of private information is diminished. Armed conflict is (unfortunately) one of the ways that private information can be revealed. Powell (1999) and Werner and Filson (2002) do also assume that the actors' goals are chosen depending on the strategic setting instead of externally given (independent of the strategic setting). This means that instead of only viewing the actors' choices as being made strategically; the assumption is that also the goals, the objects of those choices, are being chosen strategically. As the strategic setting and the goals change so do the actors' demands over their stake in the contested issue. Note that the goals cannot change too much since an actor cannot deviate too far from publicly stated goals too fast without risking to loose public support and future credibility (audience and reputational costs). An actor must consider the signal it sends either to its home constituency or to future belligerents. The strategic setting could for instance motivate that an actor yields a certain amount but because of reputation costs the actor does not yield the full amount.

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27 An actor could also try to appear weaker to succeed with some specific military strategy if armed violence starts.

28 Risk averse or risk neutral means that the actors find no satisfaction in just the act of fighting. Making war for this type of actor is a mean to gain resources and not a goal in it self.

B.2 The Implicit Mechanism: Transforming Types of Contested Stakes

Besides the two earlier mentioned mechanisms, convergence between beliefs and mutually acceptable stalemates, there is a third mechanism that must be added in order to explain outcomes of civil wars: Stakes distributed through combat must be translated into a politically acceptable distribution of the contested stakes. In inter-state wars this is often a minor problem since both are territory (at least according to the bargaining models referred to here) (Powell, 2002, 7-9). In civil war the contested issue is often territory but sometimes it is the control over government.

It is assumed here that even if the contested stakes at its core is control over the government the parties' will most of the time, of practical reasons, act as if territory is the contested stakes while they are fighting. It is when its time to consider turning conflict gains into a political settlement that the core contested issue resurfaces.

A situation where stalemates are mutually acceptable (the distribution of power is basically converged with the distribution of territory) is much easier translated into a viable agreement over government control than a situation where the parties only share the same beliefs concerning the distribution of power. The reason is that there are less uncertainty; first of all over how the contested issue would be distributed if the conflict would continue without a bargained solution; and secondly over how to divide the government control proportionally. The third mechanism suggests that mutually acceptable stalemates are more important than convergence of beliefs in the case of civil wars[29].

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29 Another reason why convergence of beliefs could be seen as less important is that it is possible that both actors know that the attacker is the strongest but still continue fighting for some time; if for instance the attacker can take a bit more of the contested issue than the defender can give freely (for instance because of audience costs, see B1).

Appendix C: Design Issues

C.1 Specifying the Battle and Stakes Variables

Battles are considered to have been won if: 1) A tactical attacker assaults the tactical defenders position and achieves a victory that includes a territorial gain[30]. 2) A tactical defender achieves a victory by violently pushing back or stopping a tactical attacker attempting to make a territorial gain. Battle outcomes are considered unclear if: 1) A tactical attacker launches an attack of a hit and run character, where the intent is not to gain territory but to harass the opponent, and is stopped or beaten back by the defender. 2) It is unclear if anyone won the battle.

The RTGT is the ratio of territory in one dyad and is computed from estimates of the actors' gains in the entire conflict (which can consist of several dyads). Those variables that measure gains, DTCR and DTCG, are in turn estimated using information on territory ratio from news reports combined with the ordinal variable: Change in Rebel Territory Won Total (CRTWTOT).

C.2 Specifying Threatened Sanctions

Credibly threatened sanctions consist of three indicators; first whether there is a threat of arms, commodity and individual sanctions during the month; secondly whether there have been sanctions of the same type previously threatened; and thirdly whether there have been similar sanctions previously imposed. Earlier imposed sanctions (by the same sender towards either of the warring parties) increase the credibility of threats; and earlier threats, which did not result in sanctions, decrease the credibility of threats[31]. If a threat is present during a month, and if there have been empty threats earlier the variable is coded 1. If there have been no earlier threats or any sanctions imposed earlier, the variable is

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30 A tactical attacker is the actor which initiates a battle. A defender which manages to stop an attacker and continues to counter-attack is still considered a defender, as long as the counter-attack occurs immediately after the initial attack.

31 Previous threats are only included if they occurred during the period that the data covers.

coded 2. Should some form of sanctions have been implemented earlier, and if there have been no earlier empty threats, the variable is coded 3. When there have been both empty threats and imposed sanctions earlier the two cancel each other out the first time there is a threat after an imposition, and the variable is coded 2. The variable is always coded 0 if there are no threats during the present month. Unlike the dichotomous dummy variables that measure the implementation of sanctions, this variable has four categories and is of the ordinal scale.

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