Does Arbitration Solve Conflicts? Determining the Impact of the Legalisation of International Territorial Disputes

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Student Declaration

"I, Nadav Aryeh Prawer, declare that the PhD thesis entitled *Does Arbitration Solve Conflicts? Determining the Impact of the Legalisation of International Territorial Disputes* is no more than 100,000 words in length including quotes and exclusive of tables, figures, appendices, bibliography, references and footnotes. This thesis contains no material that has been submitted previously, in whole or in part, for the award of any other academic degree or diploma. Except where otherwise indicated, this thesis is my own work".

Nadav Prawer

Date: 17 March 2019

Acknowledgements

Research is never the product of one man's ideas or consideration. As Newton famously wrote, "*If I have seen further, it is by standing on the shoulders of giants.*" In my case, I have been blessed to be both supported and led by many, upon whose broad shoulders I have relied and thrived.

My supervisors, Professors John Zeleznikow and Dan Druckman, both provided continued foils to my tendency to leap before walking. They acted as sounding boards, research partners and, above all, guides into the world of academia. Professor Zeleznikow, though, has been critiquing me, calling me on my errors and challenging me to not only reach conclusions, but to support them with others' views, since a Saturday night Dairy-Bell trip in the year 2000. After almost two decades, that John has retained the patience to hear me out, the skill to manage my competing challenges and the drive to push me to completion is a wonder, and has given me appreciation of a true supervisor, and a true friend. Alongside them were many other researchers from whom I have learned, including Dr Patrick Spedding of Monash University, my Honours Supervisor, who taught me that commitment trumped flair, Dr Michael Longo who gave me the opportunity to supervise others and the many professors at both Melbourne University and the Technion's physics departments, who taught me as a young child that there was no higher calling that contributing to society's knowledge, and no greater pleasure than finding things out.

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Abstract

Mechanisms for resolving international conflicts are central to the maintenance of global stability and avoidance of conflict escalation. Whilst a range of methods of dispute resolution exist, comparatively little is known about the conditions in which binding dispute resolution is most useful, as measured by both effectiveness and efficiency. The transformation of disputes from political to legal frameworks has been heavily associated with high rates of resolution; however little is known of the causes or replicability of these results. In this thesis, I test the hypothesis that most arbitrations and adjudications in international territorial conflicts must be reconceptualised as conflict management attempts rather than resolution mechanisms. I show, using a combination of data analysis and research into historical records, that the existing paradigms for explaining and predicting national behaviours in selecting methods of dispute resolution are not supported by empirical assessment of the data, and that new, party-centric measures of efficiency and effectiveness for dispute resolution are needed. I further propose useful methods of maximising the appropriate use of arbitration, through predetermination of dispute resolution methods to be employed between parties and the reliance on massively multilateral treaties. I also analyse the use of arbitration in other settings within international disputes and show that the resolution of bilateral disputes over territory have only limited prospects for resolution using existing arbitration approaches and structures.

As a result, I propose several conceptual changes to classic conflict resolution studies theory and practice.

Firstly, I propose a renewed emphasis and clear distinction between conflict resolution, transformation and management, with each involving different skills and seeking different outcomes. Secondly, I propose that analysis of international conflict mechanisms incorporate broader metrics, including the benchmarking of difficulty of resolution of conflicts and a party-centric approach to evaluating costs of resolution processes. Thirdly, I propose new approaches to data-collection to allow an understanding of the ongoing changes in conflict intensity and nature when evaluating resolution methods and their relative success and usefulness.

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List of Abbreviations and Acronyms

Conflict Resolution Studies (CRS)

International Conflict Resolution (ICR)

Issues Correlates of War (ICOW)

Militarised Interstate Disputes- (MID)

United Nations (UN)

United Nations Commission on International Trade Law (UNCITRAL)

United Nations Security Council (UNSC)

Section 1: Overview

Introduction

International Conflict Resolution (ICR) consists of the efforts and processes to resolve disputes between national and quasi-national entities. As a field of practice, ICR involves a unique set of challenges. Unlike domestic (municipal) dispute resolution, there are few regular, uniform or truly effective mechanisms for the enforcement of agreements or promises made. Unlike most legal systems, there is no default approach for dispute resolution buttressed by either legal precedent or systemic support. International law, whilst expanding in its field and cohesiveness, is far from comprehensive, necessarily enforceable or consistently enforced. As such, ICR is fundamentally different from municipal conflict resolution, which largely occurs in the shadow of the law (Shadowofthelaw). This is further complicated by the diverse range of disputes that occur between states. These include disputes with territorial, economic, political and cultural foundations, prosecuted in a range of methods. Conflicts can be played out in a range of forums, including trade wars, military disputes, diplomatically, through international courts and dispute resolution bodies and simultaneously through any number of methods.

International Conflict Resolution as a field of study[1] embraces a number of areas. Bercovitch (Placeholder8) and others highlight the tendency of the field to focus only on peaceful mechanisms of dispute resolution, eschewing both the study of violence methods or attempts such as war, threats of violence and even sanctions. Such approaches, despite being widely used by countries, are considered by much of the field as anathema. (Kriesgberg, 2007) In this sense, Conflict Resolution Studies displays its early 'Peace Studies' DNA, a factor considered at greater length below. As such, efforts to understand the best ways to resolve international conflicts are constrained by a number of factors, including both theoretical distinctions and the operation of the field of study. Even so, Conflict Resolution Studies (CRS) today embraces a range of methods of dispute resolution, including, principally, bilateral negotiation, mediation, arbitration, adjudication, peace conferences and a range of combinations and derivatives of the above methods.

[1] For convenience and disambiguation, I refer to the field of study as 'Conflict Resolution Studies' and actual attempts at conflict resolution as 'Conflict Resolution.' Except where otherwise indicated, I use the terms conflict resolution and dispute settlement largely synonymously.

International Conflicts are also increasingly diverse. Today, there are 193 full-state members of the United Nations a number that has more than tripled since 1945.[2] As a result there are an increasing number of possible disputes that can arise between countries. The growth of international commerce, the advent of postcolonial structures of international order and the increasing importance of zones of economic influence have resulted in greater tendencies amongst states to engage in formalised interstate disputes. Importantly, different kinds of conflicts taking place within the international arena are governed by very different sets of rules and political circumstances; international law, as a patchwork of natural-law derived principles, customary practices and treaty obligations, applies very differently in different sets of circumstances. (natureofinternationallaw) As a result, the pressures, sanction regimes and presumptions as to dispute resolution processes differ radically between areas of international order, but also between different disputants based on their past dealings and international instruments.

The goal of Conflict Resolution Studies is primarily to determine what methods of conflict resolution might be successful, and when to apply them. (Kriesgberg, 2007, pp. 25-30) However, as a field of research, Conflict Resolution has also been closely associated with Peace Studies, and the desire to avoid escalation of conflicts, the use of military force or the taking of life by state-sanctioned force, even at the cost of non-resolution of the conflict or its prolongation, though this too can result in more casualties. As such, Conflict Resolution Studies has also developed a complex relationship with other fields of research in international affairs, but also distanced itself from research into many of the same processes used on a municipal basis. This has increasingly become an issue, as the 'DNA' of the resolution of disputes, more broadly and in other areas of study, draws from distinct but interrelated traditions of resolution in the shadow of the law, mediation, legal resolution and 'political' dispute resolution. The unique features of international dispute resolution are such that a research emphasis focussed on only one aspect of conflict resolution has the capacity to obscure the processes' actual operations, and the advantages and disadvantages of each method.

[2] For a current list, see http://www.un.org/en/members/growth.shtml

Finding out What Works

As such, the primary challenge in ICR, according to many, is finding the right method to use to resolve each conflict, within the theoretical limitations of avoidance of escalation or loss of life. (Kriesgberg, 2007) The corollary requirement – to determine what factors influence the success or failure of attempts at conflict resolution – is of almost equal importance. This view, propounded by Bercovitch and others, is centred on the presumptions that all conflicts are capable of being resolved. (Placeholder9)

Existing research into conflict resolution includes many factors of presumed significance, including the identity of the parties involved in the resolution and the timing of the resolution attempts, as current thinking suggests that the prospect of a conflict being resolved rises when it is 'ripe' for resolution. The challenge that underpins this approach, and indeed all international conflict resolution, is our lack of knowledge as to what causes conflicts to be resolved, and *what it is about each method of dispute resolution that contributes to the successful resolution of the conflict.* This is analogous to a doctor using a broad spectrum of antibiotics in the knowledge that, in the past, these drugs have been effective in curing patients, even if the doctor cannot ascertain why. Dispute resolution methods may therefore be ineffective, expensive and, worryingly, may cause further conflicts to arise. Indeed, the 21st Century has seen the conflicts extended as a consequence of ineffective or partial conflict-resolution efforts, including, notably, the Oslo Accords, the Sudan, North-South Korea, the South China Sea boundary disputes and others.

As a result, there is an urgent need to gain understanding as to what elements of each conflict resolution method contribute, and where they might be most useful. In Section 2 of this thesis, I discuss the current state of knowledge within the field as to how dispute resolution works, and our basis for those positions. In subsequent chapters, I test the theoretical presumptions in light of data obtained by researchers, as outlined below.

The corollary challenge to understanding functionality and timing is in understanding *effectiveness* and *efficiency* within each process. Whilst many processes could achieve a similar outcome – including armed conflict, massive trade sanctions or mediation- there are, undoubtedly, priorities for each party in how it evaluates the 'side-effects' – relative costs in

time, economic output, human life, national prestige, military power and other factors - of engaging in each process of resolution. Other factors of critical import to parties can include the probability of success, time delay, impact on domestic politics and policies and compliance with international norms. By and large, this is an area that is poorly understood by Conflict Resolution Studies, particularly the contrasting interests of different parties and differing values given to such prime Western considerations as human life and the avoidance of conflict-escalation. In Section 3, I explore the current theoretical positions as to the reasons parties pursue different methods of conflict resolution, particularly arbitration. In Sections 4 and 5 respectively, I explore the notions, measurement and basis for both the 'effectiveness' and 'efficiency' of arbitration through both subjective and objective measures. In each section, I provide statistical tools and methodologies for testing existing assumptions and measuring future conflict resolution attempts.

An understanding of the actual impact of conflict resolution attempts also brings into play a greater understanding of the differences between *resolution*, *management* and *transformation*. Whilst the goal of most processes is ultimately to seek to end international disputes, other processes may contribute in different ways to that goal, and to the overall desire to prevent loss of life. A 'good offices' attempt to seek a ceasefire, for instance, might be highly effective in delaying the conflict or de-escalating it temporarily, without much prospect of resolving it altogether. In Sections 3 and 4, I further explore the notions of transformation, management and resolution, and examine the measurable impact of different methods of conflict resolution in achieving each of these outcomes. In so doing, the pursuit of methods of reducing intensity and overall level of conflicts becomes clearer.

Optimal Methods of Dispute Resolution-Determination and Measurement

What properties are optimal in a method of dispute resolution? What are the criterion for 'optimality?' Arguably, the factors which make a process attractive are some combination of low-cost, speed, prospect of success, overall fairness and predictability, with the relative value of these objectives differing based on the particular interests of the parties and circumstances themselves. Clearly, however, the diversity of interests and factors operative in international disputes will ensure that conflicts may not be best resolved by the same process, nor may the process itself be desirable to the parties for a range of both political and practical reasons.

Similarly, the unique desires of parties within conflicts will ensure that the attractiveness of the speedy resolution of a dispute will vary between parties. Unlike in municipal disputes, there is no 'default' pathway e.g. litigation through which to establish a 'baseline' for the resolution process. As such, the exploration of options available to parties can itself be a source of conflict, given the diversity of interests and outcomes likely to result based on the process, and implementation of the process, that is ultimately chosen.

In many ways, it is this uncertainty that stands at the heart of the challenge of understanding and optimising international conflict resolution. (Sourdin, 2012, p. 24) Whilst almost all municipal systems have developed 'default' processes or ranges of processes for litigation and formalised dispute resolution, there is no equivalent in international law. Perhaps the closest equivalent in international law is Article 33 of the United Nations Charter:

> "The parties to any dispute, the continuance of which is likely to endanger the maintenance of international peace and security, shall, first of all, seek a solution by negotiation, enquiry, mediation, conciliation, arbitration, judicial settlement, resort to regional agencies or arrangements, or other peaceful means of their own choice" (Charter of the United Nations, 24 October 1945)

However, this does not create a binding process or consequences for breaching the process- the parties are in effect required, under some circumstances, to adopt one of a range of processes- either binding or non-binding, through which to 'seek' a resolution. The obligation to pursue a resolution in the first instance is not matched by an obligation to adopt a particular process, or even to select the most efficient and appropriate case in the circumstances.

In municipal (domestic) disputes, the concept of 'bargaining in the shadow of the law' (Moonkin & Kornhauser, 1979) has become critical in dispute resolution theory. The principal notion, that the parties' understanding of possible resolutions that are desirable and realistic is modelled on the probable range of outcomes that would be achieved if the case progressed to trial or judicial determination, is critical in providing a framework for settlement. Where the law is relatively certain, parties are better able to settle disputes through mediation, conciliation and direct negotiation. However, where the range of processes available to parties to 'push' a claim includes completely different fields of endeavour – political, economic, military and

legal, the capacity of parties to appreciate and determine BATNA's (Best Alternatives to Negotiated Agreements) – is greatly limited. As such, the determination of optimal processes is complicated by a fundamental lack of underlying valid assumptions as to the priorities that should be pursued by dispute resolution itself- certainty, procedural fairness, underlying justice, economic feasibility, sustainability of outcomes, international/global considerations, state integrity or any number of other factors.

The optimal process may also vary based on the interests of intervening parties. Third-party nations may exercise greater influence and control over conflicts that they mediate. Geo-political interests, such as oil, cultural connections or traditional spheres of influence may motivate intervention in conflicts and a desire to prevent an intervener being 'shut out,' such as may occur when a conflict is legalised and placed in the hands of judges. As I explore in Section 5, the variable interests involved in conflict resolution ensure that, whilst there will be no universally preferable process, it is possible to identify the consequences of the change in basic methodology from nominally facilitative (mediation, conciliation, facilitation, peace conferences, good offices etc.) to determinative (arbitration and adjudication.) The identification of these changes, and the reasons for them, is central to the selection of dispute resolution mechanisms for future conflicts.

Summary of Structure

In Section 1, I outline the methodology, research questions and principal issues for determination in evaluation of the impact of legalised dispute resolution.

In Section 2, I analyse the current state of international conflict resolution processes, in terms of their usage and the theoretical assumptions as to what promotes or influences their success.

In Section 3, I analyse the factors affecting the choice binding third party dispute resolution, (arbitration) the prevalence of arbitration and the claimed reasons for this outcome in light of existing literature. I then statistically test the validity of these hypotheses using the Correlates of War data-set, and demonstrate that the existing theoretical assumptions that are dominant within Conflict Resolution Studies are not supported by current data.

In Section 4, I explore the notion of 'effectiveness' in international conflict resolution, and the facility of arbitration to 'effectively' resolve conflicts. In doing so, I analyse the existing assumptions regarding the high 'effectiveness' of international conflict resolution using the Correlates of War and demonstrate that the existing assumptions, again, are not supported by current data. I provide alternative explanations for the notional 'effectiveness' of arbitration.

In Section 5, I explore the 'efficiency' of arbitration in the resolution of international territorial disputes. I do so by providing both objective and subjective measure and benchmarks for efficiency. I conclude that arbitration's effectiveness is highly variable based on the unique interests of the parties, and that arbitration favours smaller parties in disputes.

In Section 6, I consider the cross-applicability of the research outcomes beyond territorial disputes. I present, as comparable paradigms, the use of arbitration in municipal settings, in international trade disputes, military disputes, historically and in international law of the sea disputes. I present a series of hypotheses, on the basis of both existing literature and the research outcomes above, to provide for maximal utility for arbitration in future cases.

Finally, in Section 7, I summarise the outcomes and the further research pathways resultant from this research.

Scope of Enquiry and Methodology

An inherent challenge in the conduct of research into international conflicts is the assumption, questioned frequently, as to how much can be learned from one conflict to the next. As identified by Druckman (Druckman & Stern, 2000), the assumption that knowledge gained in one conflict provides a precedent for cross-application into another environment, with many changed variables, is difficult to sustain.

As such, any research into international conflicts which seeks to apply knowledge from past conflicts to future conflicts runs the risk of making a fatal miss-assumption, that conflicts are 'like' to a sufficient degree to allow knowledge to be cross-applied.

This research relies primarily on statistical analysis of past archival data derived from the Issues Correlates of War data set (archival analysis) using fresh analytical assumptions (experiment) and queries of the data conducted using SPSS modelling and analysis software. In addition, cross-application of case studies (case study methodology) was used to confirm the initial contentions and conclusions reached. This mixed-method, multi-stage approach has been adopted because of the unique challenges of generalising from cases arising in international conflict resolution studies. By using case studies focussed on specific elements of legalisation, it has been possible to assess the generalised proposed solutions raised. This research deliberately avoids complex data analysis, multi-variate modelling or machine-learning-driven analysis, as set out in detail in Section 2.

The methodology has been informed by a literature review, which has identified generalised assumptions about the role, effectiveness and use of binding dispute resolution in the resolution of international territorial conflicts, and the capacities and preferences of countries in this regard. As described in the literature review and methodology sections of this thesis, this highlighted the need to determine the extent to which arbitrated conflicts are 'like' the general body of conflicts, and the extent to which existing assumptions as to countries' preferences are supported by actual data.

This thesis is focused primarily on international territorial, river and maritime disputes, collectively 'territorial disputes.' I have selected this scope of enquiry for the following reasons:

Firstly, as a subset of all disputes, territorial, river and maritime disputes may be representative of the principal differences between international conflict resolution and domestic conflict resolution. This is manifested in a number of ways:

- *Territoriality*- states, unlike other entities, are able to control territory absolutely and hence to engage in disputes about territory

- *Armed Conflict*- states are capable, and consider it essential to- maintain control over territory and national rights, to the extent of engaging in armed conflict to protect 'sovereignty.'

- *Political Elements of Resolution*- states are frequently concerned with acceptance of jurisdiction of binding dispute resolution models consequent to the political consequences of loss of territory and recusal of fundamental duties of sovereignty associated with protection of the 'homeland.' (The Carter Center, 2010, pp. vi-3)

- *Lack of Single Jurisdiction*- no court or international legal body has sole or pre-determined jurisdiction to hear claims in territorial, river or maritime border disputes. (Noting the distinction with matters determinable under the *United Nations Convention on the Law of the Sea*, which primarily deals with international maritime disputes, not boundaries.)

Whilst economic disputes between states are often resolved economically, states with greater economic and political strength are routinely able to achieve better results, and international trade negotiations are often very much the product of market forces, territorial, maritime and river disputes are associated with the exclusive capacity of nations to determine laws, controlled territory and ultimately to use force. Territorial disputes also engage questions of national pride, sovereignty and ultimately of military potential to a degree that other kinds of disputes often do not.

Secondly, there exists a substantial body of publicly available data that has already been codified for analysis, covering territorial disputes. This allows for the comparative analysis of large numbers of cases. Below, I detail the data-sources used, chiefly the International Correlates of War data-set.

Thirdly, territorial disputes by their very nature represent a mixture of legally and politically-structured disputes, some of which are covered by international legal principles and others not. This represents a sample of all international disputes that can be analysed in greater depth.

Fundamentally, though, disputes between states are unlikely to be eradicated. This is because states have diverse interests. In many ways states are both competitors and allies, dealing with a range of issues common to the family of nations whilst also seeking their own interests. Questions of territory often involve disputes between states that can be very fundamental to both sides. As a result, the significance can often be greater than is otherwise experienced in economic issues therefore finding methods to effectively resolve international disputes is

increasingly important given that war or sustained conflicts can be the results of a failure to efficiently resolve disputes.

In this thesis, I primarily adopt a statistical approach to the measurement and evaluation of existing hypotheses and measurement of outcomes. I focus on basic techniques, using a range of SPSS processes, including mean and median analyses, as well as more advanced 'z' and 'r' correlation techniques. This is because, as noted above, the challenges of usefully learning about optimal conditions for resolution of disputes through different mechanisms can only be determined through analysis of very large numbers of cases to manage case-specific factors. The primary data-source for this thesis is the Issues Correlates of War (ICOW) data-set, (Hensel, 2001) with some supplementary use of Jacob Bercovitch's International Conflict Management data-set. (Bercovitch & Fretter, 2004) In each case, the primary tools for analysis were IBM's SPSS software, including its attached statistical packages. This thesis did involve the expansion and addition of new fields to the existing ICOW database, through the use of existing historical sources, treaty-databases, news aggregators and academic records and analysis of past conflicts. This thesis does not contain or rely on research on human subjects. However, I supplement my statistical findings by deep research within the historical record.

Research Problem and Research Space

The broad area in which this research has been conducted, as outlined above, is international conflict resolution. International Conflict Resolution is an intersection of both international relations and classic conflict resolution; however, its development as a field of study (Conflict Resolution Studies) has been informed and influenced by the somewhat related fields of Peace Studies, Peace Research and International Law. This has led to the functional exclusion of some methods of conflict resolution from within the scope of CRS, despite the significant extent to which these methods are used. Primarily, the areas of study that embraces are mediation, negotiation and, to a limited extent, arbitration. This excludes armed conflict and the threat of armed conflict from the field of study. In Section 2, I outline the current state of research and the significance of different methods of dispute resolution.

Research Focus

This research focuses on understanding the operations of international arbitration and adjudication, generally referred to herein as third-party binding dispute resolution, or simply binding resolution. Arbitration and adjudication, whilst differing principally in the usage of international law, both fall within the purview of international legal processes and international law. As such, the research area for this thesis has been broadened to include analysis of international political and legal norms, as well as international legal processes and practices in international treaty-making, formalisation of international disputes and international arbitral and judicial bodies.

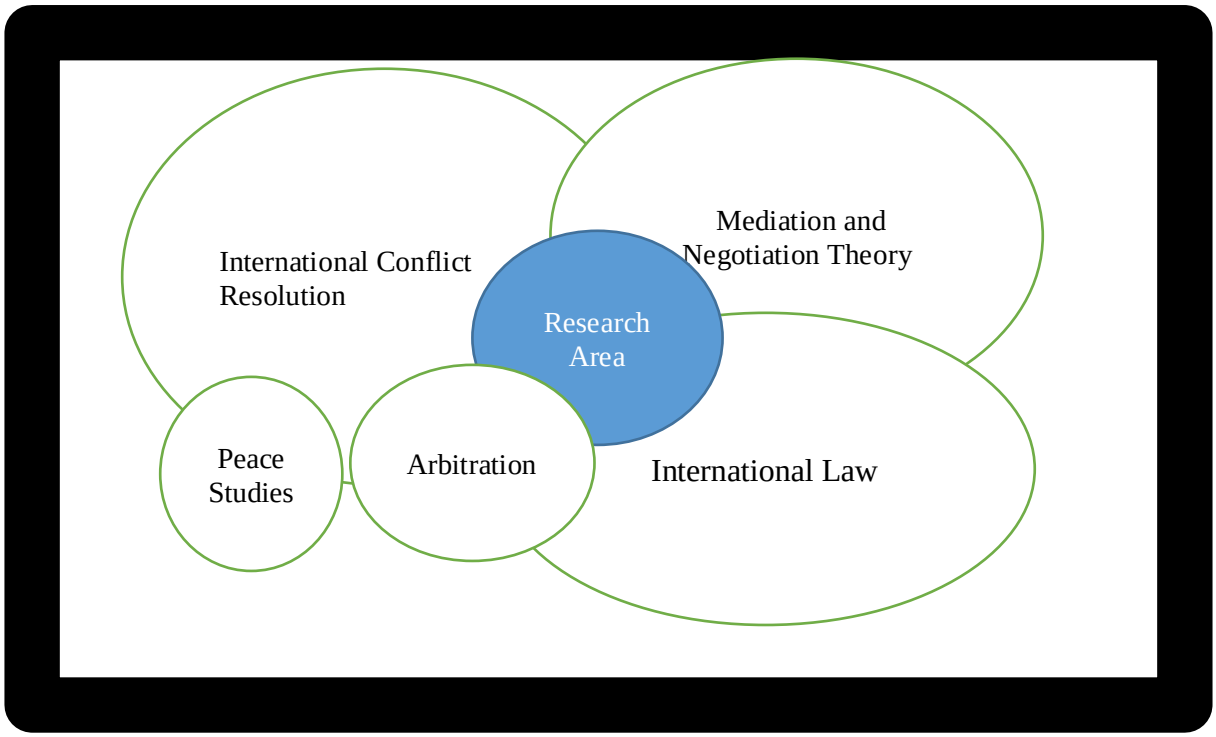

Figure 1:Research Area

The specific challenge being addressed is:

> *To discover the impact and effectiveness of the resolution of international territorial, river and maritime disputes through the legalised dispute resolution, and the reasons for those results.*

Essentially, I conclude that the impact of arbitration and third-party dispute resolution itself has been greatly overstated in international territorial disputes, because of the way in which legalised dispute resolution processes have been employed in those cases. However, as a result of this conclusion, I differentiate the *legalisation process* from the *conduct of a legalised*

dispute resolution and demonstrate that each of these distinct processes produce different outcomes towards the *transformation* and *management* of international conflicts.

The research methodology for addressing each of the research sub-problems is set out within the relevant section of this thesis. However, the sub-problems identified and addressed within this thesis are:

Sub-problem one is to identify and describe how the circumstances in which binding dispute resolution has been used in international territorial disputes compared to the broader body of international territorial conflicts and international territorial conflict resolution attempts

I conclude, on the basis of statistical comparison and 'benchmarking,' that the overall difficulty, salience and nature of disputes in which legalisation is employed are broadly similar, though somewhat harder to resolve and more involved than average for all disputes within the ICOW data. However, I conclude, on the basis of detailed case-analysis, that this may be misleading as the preparatory process and negotiations leading to arbitration may themselves result in a process of conflict transformation.

Sub-problem two is to identify the impact of legalisation on international conflicts, measuring both effectiveness and efficiency in the achievement of results.

I conclude, on the basis of the International Correlates of War (ICOW) data, that conflicts in which arbitration is employed are generally identified as being resolved by that arbitration, at a very high rate of effectiveness, far surpassing other methods used by parties, whether military, political or otherwise.

However, I identify a major concern with the assumed result that the arbitrations are actually responsible for the resolution of the disputes, as opposed to being employed as a *conflict management* attempt following an effective *conflict transformation* event which establishes the arbitration, or where the parties have reached a point of conflict exhaustion such that the method of resolution may be less significant than the attempt itself.

I therefore identify and describe two phases and processes resultant from legalisation:

- A transformation and conceptual reduction of political disputes, involving values, past 'wrongs' and aggregated tensions into a narrowed and defined scope for determination in accordance with legal rules and principles
- The conduct of hearings and delivery of an award by a third party as to the actual details of the determination of the legal issues.

Sub-problem three is to identify the conditions under which the effectiveness of arbitration could be maximised.

Here, I employ comparative case-studies from other international conflict types to demonstrate that the four preconditions for effective arbitration as a conflict *resolution* mechanism are currently rarely present in international territorial arbitrations. These are:

- Existence of effective and clear international legal presumptions
- Awards that are capable of being implemented by parties without challenges to core national sovereignty or security.
- Involvement of 3rd party enforcement mechanisms
- The existence of massively multilateral treaties relating to the conflict, or the dispute having strategic importance (global salience) to many countries

In so doing, I identify further areas for research, as set out in the Conclusion section of this thesis, in particular a need for a differential benchmarking system for the *efficiency* of international conflict resolution that is party-subjective, rather than focussed on the values of arbitrators, mediators and non-participant nations. I also identify a need for the development of further data-sets analysing legalised dispute resolution attempts in non-territorial disputes and those occurring within international political unions to enable ongoing analysis and optimisation of dispute resolution processes.

Sub-problem four is to conceptualise and present for further research the differences, if any, between legalisation as a method of conflict resolution and conflict transformation or conflict management as such a method.

I conclude that further research, and new research and analysis paradigms are required in order to fully explore the notion of a determinative process being used as a management effort, despite the comparative frequency of this outcome within domestic conflict resolution. I postulate that theoretical assumptions in the field of international conflict resolution studies are not amenable, at present, to this line of research.

Section 2: The Current State of International Conflict Resolution and Conflict Resolution Studies

The relative uses and roles of different methods of dispute resolution form a critical background to an understanding of the field of CRS. In this section, I explore, firstly, the current level of use and state of ICR methodologies, before I then consider the overall approach taken by CRS researchers to date in analysing and approaching measures of effectiveness, efficiency and usefulness of different conflict resolution methods.

Extent of the Use of Armed Conflict and Threats of Armed Conflict in Conflict Resolution

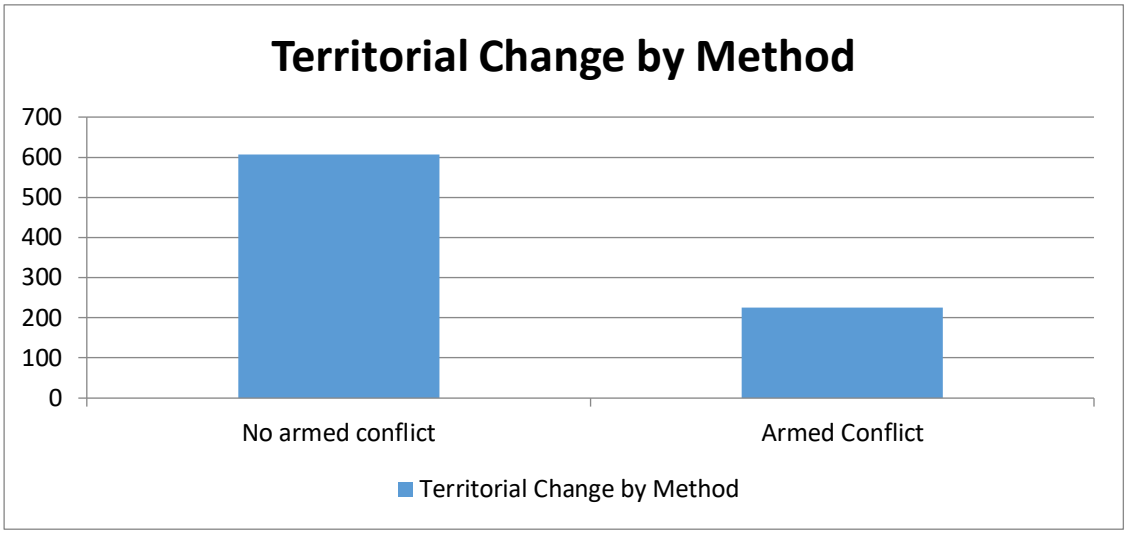

Figure 2: Territorial Change by Method

Figure 2 illustrates the extent to which armed conflict, in some form, is involved directly in territorial change events. Included in the above data are 122 acts of conquest. (Tir, Schafer, Diel & Goertz 1998 p89) From 1945 until 2008, 21 cases of conquest and 56 cases of conflict were recorded as the basis for territorial change, 19% of all cases of territorial change, which is appreciably lower than the conflict rate since 1816 of 27%. As a result, it seems clear that conflict accounts for a major mechanism in changes to geopolitical reality across the globe, and over a sustained period of time.

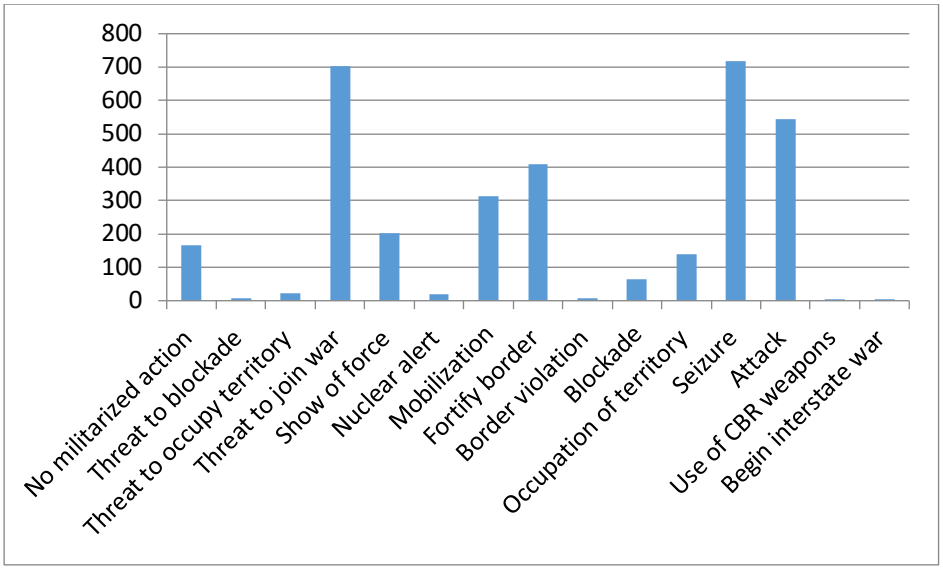

Figure 3:Interstate Conflict- Mechanisms Exercised, 1816-2010

Figure 3, drawn from the Correlates of War Militarised Incident Data, (Ghosn, Palmer & Bremer) considers the various militarised and quasi-militarised occurrences in interstate conflicts. Altogether, 3317 incidents are recorded in the period 1816-2010. Whilst it is impossible to ascribe armed action as *necessarily* indicating an attempt to resolve a dispute, as opposed to escalating a dispute, responsive efforts or action taken for other purposes, the data records 730 'threats' of hostile action. Threats, coupled with actual use of force or the creation of 'facts on the ground,' accounted for more than 2,200 events. On any measure, this is a substantial number of actions effecting international relations and conflicts. As a result, I argue that any meaningful analysis of the effectiveness of arbitration *must* include a comparison to other methodologies used by countries in practice and the realistic scope of possible BATNA's that could be employed, including armed conflict.

Why has armed conflict been excluded from within Conflict Resolution Studies?

In their article, *Conflict Resolution as a Field of Inquiry: Practice Informing Theory,* Babbitt and Hampson (2011, p. 46) provide a description and critique of the field of Conflict Resolution. "Theory and research," they argue, "are drawn not only from political science but also from social psychology, sociology, economics and law… IR [sic] scholars perceive a bias among CR scholars and practitioners towards peaceful methods of dispute settlement and resolution, one that deliberately and self-consciously eschews the use of force and violence."

The critique argues that there are inherent biases affecting conflict resolution practitioners and theoreticians in their approach to this field. As a result, Babbitt and Hampson suggest that the

field of International Conflict Resolution research may, by reasons of ideology, philosophy or background familiarity, be substantially affected by unscientific and inappropriate biases in research.

Babbitt and Hampson go on to posit that a more genuine analysis of Conflict Resolution should be as two interrelated fields of study and endeavour- ""conflict settlement" and "conflict transformation."" The goals of both fields taken together are to enhance our understanding of "conflict prevention, peacemaking, and peacebuilding." Apparently, therefore, the goal of "International Conflict Resolution" in its entirety is to determine what processes and procedures are most necessary to achieve a maximisation of peace through conflict prevention, peacemaking through the most efficient and best methods of resolving current conflicts and the creation of stable political and legal structures so as to avoid the prospect of conflict, in the form of war or violence, arising in future.

However, the achievement of "peace" and "conflict resolution" are not the same thing. More importantly, 'peacefully obtaining an outcome' and 'resolving a conflict' are very different things, with the former preconditioning a method of achieving a result, and ruling out the prospect of war, armed conflict or, likely, the threat of such in order to obtain a political or practical settlement i.e. an outcome whether formalised between the parties, or merely a detente. If indeed Conflict Resolution is to be seen as the combined fields of 'conflict settlement' and 'conflict transformation,' as opposed to being akin to the much narrower 'peace studies,' (defined by Samaddara (2004) as merely "the study of peace and mechanisms to bring about peace as an active pursuit,) due consideration should be given to all methods actually or potentially utilised by states and other participants in international conflict resolution to achieve resolution of disputes. It would appear inappropriate to predetermine which methods are 'legitimate' for the international community to use, and to interpolate those positions into the actual study undertaken in order to assist policy-making or in prioritising effective dispute outcomes. This, however, is the norm within the academic disciplines of International Conflict Resolution, International Dispute Resolution, Peace Studies and other interrelated fields, as outlined below.

Addressing this issue is complicated by the ongoing blurring of terminology used in the consideration of conflicts, as reflected by a number of increasingly interrelated disciplines. Literature associated with the determination and management of international 'quarrels'

contains references to fields of studies and concepts including International Conflict Resolution, International Dispute Resolution, International Conflict Settlement and International Dispute Settlement, as well as 'Peace Studies, 'Peace Research,' 'Conflict Management' and others. (As is apparent, there are few 'neutral' words that are not already embraced by the literature and carry particular meaning. The selection of 'quarrel' is not to suggest a new term, but a generalized reflection of disputes, conflicts, clashes, arguments, etc.) Terminologically, 'conflict' and 'dispute' are distinct ontological terms, the former indicating issues that are not negotiable and the latter indicating "negotiable interests." (Burton 1991 p62) 'Settlement' and 'resolution' are also distinct, with the former, classically, referring to negotiated outcomes, rather than 'resolution,' which Burton defines to mean "outcomes of a conflict situation that must satisfy the inherent needs of all." Were these definitional distinctions to be applied in practice, a number of distinct fields of study would exist within the matrix of conflict-dispute and settlement-dispute dichotomies alone, as outlined below.

Field Definitions- International 'Conflict Settlement,' 'Conflict Resolution,' 'Dispute Settlement' and 'Dispute Resolution.'		
	Settlement	**Resolution**
Conflict	Negotiated outcomes to disputes that are not negotiable	Achievement of outcomes that are generally satisfactory to all parties over issues that are non-negotiable
Dispute	Negotiated Outcomes to negotiable interests	Achievement of outcomes that are generally satisfactory to all parties over issues that are negotiable.

Table 1 Field Definitions: International 'Conflict Settlement,' 'Conflict Resolution,' 'Dispute Settlement' and 'Dispute Resolution.'

However, even a cursory analysis of the literature shows that these fields, if ever separate and distinct, have functionally merged through the misuse of terminology. "International Conflict Settlement" -the achievement of negotiated outcomes to disputes that are non-negotiable should not be possible and hence the term should have no meaning; if 'conflicts' are successfully negotiated, they should by definition have been considered to have actually been 'disputes.' However "conflict settlement" is a popularly used term. Lieberfeld (1995 p201), ("Small is Credible: Norway's Niche in International Dispute Settlement), Hannah ("Some Dimensions of International Conflict Settlement Procedures and Outcomes") (1968 p1) and in more recent years, Weller (2013 p217) and Dixon (1994 p32) all illustrate the sustained use of

"conflict settlement" and its seeming interchangeability with 'conflict resolution,' 'dispute resolution' and 'dispute settlement' as descriptors of issues between parties that may or may not be negotiated or negotiable. Hadzi-Vidanovic (2010) a researcher at the European Court of Human Rights, in an article entitled "Conflict Settlement by the International Court of Justice" describes the role of the court as 'conflict manager' and a resolver of international disputes. On this analysis, there is no functional differentiation between International Conflict Resolution ("ICR") and International Dispute Resolution ("IDR") and certainly no applied distinction between either of these terms and International Conflict Settlement ("ICS") or International Dispute Resolution ("IDR.").

War and 'Conflict Resolution'

On *any* construction of the above definitions, war and armed conflict are very much on the outer, applicable only to an analysis, at most, of conflict. Even then, the role of war in 'determining' or 'ending' conflicts or disputes would seem to be excluded by definition. Rather, war would appear to be only a matter for consideration as a 'conflict' in and of itself, rather than a method of 'resolution.'

Accordingly, it is unsurprising that war and armed conflict are, very little analysed in terms of their effectiveness in resolving 'conflicts' within ICR. This is a deeply troubling outcome given the frequency with which war, or the threat of armed conflict, is actually used in international political negotiations and conflict resolution attempts. War and armed conflict have become increasingly central to international political affairs, with the Twentieth Century "the bloodiest epoch of all human civilization. The barbarism that characterizes the past hundred years is greater than any that afflicted earlier times." (Cheldelin, Druckman & Clements 2008 p9) ICR research does cover, at least to some extent, other tools that are available to states to enforce resolutions or to pressure states to behave in certain ways. One such tool is the application of sanctions. (Amley 1998 p235) However, the study and consideration of the use of military force, or the threat thereof, as *tools* in conflict resolution remains anathema across the field.

This thesis aims to put the consideration of war into the proper context within International Conflict Resolution. Firstly, we survey the current extent of 'coverage' offered **by** ICR, both of kinds of conflicts addressed and the methods of conflict resolution or transformation

generally studied within the field. Secondly, we consider the role that military action and the threat of military action (generally termed 'war' within this thesis for convenience,) play in international conflicts and conceptually in ICR. Thirdly, we consider the degree to which war or militarized action is, in fact, efficiently used in international affairs. Finally, we consider the degree to which ICR, in both its theoretical constructs and in statistical research, considers war.

The Current Scope of ICR as a field of study

International Conflict Resolution is a field that has only "come into being over the past few decades." In its current state of development, it incorporates a variety of levels of analysis, domains and perspectives derived from a range of academic disciplines. As noted by Cheldelin, Druckman, Fast, and Clements, (2008 p1) conflict resolution as a field of study is now in the phase of "integration," with a necessary process of combining views and levels of study from across a great many source disciplines.

In its current level of development, ICR can be described as a "vibrant, interdisciplinary field where theory and practice pace real-world events... CR studies are focused on applying the insights of theory and research to the resolution of actual conflict situations." (Babbit & Hampson 2011 p46) Whilst investigating what causes international conflicts, ICR is primarily an analysis of the use and effectiveness of tools of conflict prevention or resolution. ICR as a *field of study* encompasses a broad range of conflicts, including armed conflict, political disputes, territorial disputes, trade and economic conflicts and even cultural disputes. ICR research currently focuses on a broad range of techniques for resolving these conflicts, primarily negotiation, arbitration, international court-based processes and, to a lesser degree, on the tools available for the enforcement of the outcomes of negotiations, chiefly sanctions. ICR as a field of study, therefore, is functionally a conglomeration of a range of study areas drawing from political theory, economics and, principally, law.

Principal Methods Researched in Conflict Resolution

A variety of terminological and analytical approaches exist to dividing different types of approaches to resolving international conflicts. Bercovitch and Jackson, for example, (2001 p60) prefer an approach based on categorising attempts to manage conflicts based on a

unilateral, bilateral or third-party intervention classification. Others, such as Fox (2003 p134), prefer an international law-focused approach, considering resolution attempts as either operating within a legal or political framework. Many ICR researchers come from a background in municipal dispute resolution. As such, significant emphasis is placed on mediation by many. A mediation-centric approach may provide great emphasis on the methods of mediation, and the variations within the various kinds of mediation that are offered, whereas others focus more on the role of third-party interventions. Detailed research is therefore being conducted into a number of methods of resolving conflicts.

ICR research can broadly be described as either *method* focused or *issue* focussed- namely, either an examination of techniques or processes used in the attempt at resolution or settlement, or an examination of particular conditions and factors relevant to the kind of conflict or dispute involved i.e. 'resolution of armed conflict' or 'settlement of trade disputes.'

It is worth at least briefly surveying the dominant methods of 'peaceful,' non-directly-coercive methods of conflict resolution that are used and studied. Whilst there is a broad range of study connected to each of the areas canvassed below, it is also apparent that they share several common foundations- all methods of peaceful dispute resolution are influenced by the circumstances in which the conflict management attempt takes place. In so doing, we set out the principal space that ICR, IDR, Peace Studies and others have come to operate within.

Negotiation

Almost all dealings between states involve some level of negotiation. International conflicts are often resolved through direct, facilitated or multi-party negotiation. As a consequence, much research exists into the extent of negotiation in the international sphere, as well as factors contributing to successful negotiations, to advantageous outcomes and to ways of facilitating efficient results.

Negotiation generally can be described as discussion aimed at reaching an agreement. Lodder and Zeleznikow (2010 p2) define negotiation as "a process where the parties involved modify their demands to achieve a mutually acceptable compromise. The essence of negotiation is that there is no third party whose role is to act as facilitator or umpire in." International affairs often

result in negotiations not aimed at reaching an agreement, but occurring for other purposes, such as to comply with international pressure, to delay the application of other forms of conflict resolution or even for the sake of negotiating. Many forms of negotiation exist, including direct negotiations between parties and the increasingly significant massively multilateral negotiations that characterise treaty variations and creation. Massively multilateral negotiations, however, are less significant in the context of conflict resolution than direct negotiations, as it is rare for a very large number of states to be party to a dispute.

Direct Negotiation is often considered the simplest form of dispute resolution. As in domestic dispute resolution, it involves communications between the parties acting directly with each other. Whereas in domestic disputes between individuals or corporations, representatives or employees are likely to participate in discussions, international negotiations are carried out between governments or their representatives. Governments, in turn, (nominally) represent their relative states or nations. This represents a gross simplification of the realities of state negotiations, not all (or most) of which are with other state actors. However, ICR scholarship does differentiate, to varying degrees, between state-state negotiations and negotiations with non-state parties.

Classic tools of direct international negotiation have included a range of communication methods, ranging from diplomatic communiques to in-person meetings between leaders, conferences or 'back-channel' negotiations. A relative wealth of information is available to researchers to consider the impact of attempts at direct negotiations. (Bercovitch 1996)

Whilst a number of Western countries have implemented records-provision policies for otherwise secret negotiations, a long history of diplomacy has created a basis on which to conduct both case-based studies and longitudinal, statistical research into the impact and effectiveness of direct negotiation. (Bercovitch & Fretter 2007 p145) A body of research exists to offer illustrations into our understanding of direct negotiation.

Direct negotiation also bears a number of basic similarities to classic, non-state-based negotiation. Parties and participants in negotiations are relatively easy to identify. The relative positions of parties can be established through information exchanges. Elements of personality come into play, especially when dealing with strong regimes. In direct negotiations, questions such as the Best Alternative to Negotiated Agreement are easier (though not always easy) to establish. (Fisher & Ury 1981) In contrast to multi-party or facilitated negotiations, direct negotiations are also easier to characterise or place within theoretical contexts. Theorists who

favour a liberal approach (Hall 1996 p12) to international negotiations, for example, are able to consider the motivations and engagements of parties dealing directly with each other more readily that parties involved in more complex negotiation frameworks. As such, direct negotiations, and even facilitated negotiations (often described as mediation) are amongst the most studied areas of international conflict resolution.

Indirect Negotiations are an increasingly important component of global diplomacy. They involve parties acting through intermediaries or agents, who may often have their own purposes. Many states, for instance, have refused to negotiate with groups that they have defined as terrorists, resulting in indirect negotiations through third parties. Such negotiating conditions have frequently categorised the Israel-Palestine conflict, particularly in early phases of negotiations. Indirect negotiation differs from mediation in that, rather than the creation of a triadic negotiation structure, with a neutral third party, indirect negotiations involve separate parties acting as 'agents' or conduits for information, rather than direct contributors to the negotiation itself. Increasingly, ICR research has considered methods of negotiation and mediation with non-state actors, a particularly important requirement in an age of increasing terrorism and global conflict.

However, Conflict Resolution Studies has, largely, moved away from considering the use of conflict as a negotiating tactic. Wallensteen and Svenson (2014 p315) define success in conflict resolution as 'the cessation of hostilities' or 'the signing of peace agreements.' Väyrynen (1991 p1) indicates that "conflict resolution becomes the antinomy of political violence" and as such is to be considered a pathway to peace, not the use of violence as part of a party's approaching to achieving victory. Nicholson, writing in the same collection, makes the classic, but questionable, assumption that war is irrational (1991 p57). Kriegsberg, provides some understanding for this attitude, suggesting that ICR as a field was influenced by the idea that

> *"As articulated by some leaders of nonviolent campaigns, committing violence made future negotiation and reconciliation much more difficult. Instead, they argued, waging a nonviolent struggle enhanced the likelihood of later attaining an enduring and mutually acceptable outcome." (1997 p51)*

As such, there is a real prospect that ICR's analysis of the operation of negotiations is infected with an operative bias towards presumed desirable outcomes, and away from empirical consideration of negotiating patterns and behaviours which involve the use of armed conflict.

Mediation

Strictly speaking, mediation is relatively rare in international negotiations, at least within the meaning usually given to it in domestic conflict resolution. Mediation is normally defined as "a process by which the participants, together with the assistance of a neutral person or persons, systematically isolate disputed issues in order to develop options, consider alternatives, and reach a consensual settlement that will accommodate their needs." (Lodder & Zeleznikow p3) Most domestic legal systems require that a mediator be an impartial operator whose role is to facilitate the parties in reaching a decision of their own. In Australia, for instance, in most circumstances, a mediator is prohibited from so much as venturing a conclusion by rules of the court (See, for instance, Federal Court of Australia Order 72). A mediator must also not have, or make use of, power or influence over the other parties in order to achieve outcomes of any kind, much less those desired by the mediator.

In short, 'domestic' mediation is founded on principles of neutrality, the *facilitation* of the parties reaching their own agreement and the increase in the efficacy of otherwise bilateral or multilateral negotiations. This, however, bears little to no resemblance to the preponderance of international mediation. Indeed, it may be that 'international mediation' is primarily successful when it is a multi-party negotiation, with the 'mediator' applying political and economic pressure on the parties to reach and adhere to a resolution. As Wannis-St John and Ghais argue:

"It is generally agreed that mediators of international conflicts are not expected to be neutral, in contrast with some domestic mediation contexts (Smith, 1985; Greig and Diehl, 2012); indeed, some argue that biased mediators are actually more effective because their close relationship to one side may make them more credible transmitters of information."

There would be few parties to international mediations without substantial vested interests in the achievement of an outcome. This often results in the mediator applying pressure on parties

to make concessions and even guaranteeing good faith compliance with an agreement offered. Whereas mediators in domestic conflicts are generally impartial professionals, international mediation is dominated by heads of state, countries, international bodies, regional organisations and, to a small extent, a body of professionals, themselves often former statesmen. (Bercovitch 1996 p28) Prime examples include the United States of America, which has mediated in conflicts across the globe, a series of American leaders, the United Nations and the Arab League.

Generally, the proffered service of a mediator can be ascribed either to wider foreign or domestic policy goals of the mediating party, or for liberal theorists more usually the commitment to the achievement of a just outcome. International mediation often evolves into triadic bargaining situations, in which the mediating party applies pressure or the threat of sanctions in an attempt to push parties to reach an agreement, or at least to commence a negotiation. (Babbit & Hampson 2011 p48) The influence and role of 'mediators' in international conflicts is thus in many ways out-sized, playing a role as both participant and as a nominally disinterested party.

The selection of a mediator is therefore of crucial importance, especially where the mediator is unlikely to operate as a 'pure' mediator, as they, arguably, represent the introduction of fresh forces to the conflict and a change in the balance of power. Illustrative of the influence of the power of an interested mediator compared to a 'powerless' mediator is the comparative lack of success identified by Bercovitch of the United Nations as a mediator, compared to the success of regional International Organisations or major powers. As a result, international mediation, and the consideration of its operations, involves a substantial departure from our normative assumptions about municipal approaches, even where the terms overlap. (Bercovitch 1996 p33)

Scholarly knowledge of international mediation includes both case-based studies and statistical research, largely pioneered by Jacob Bercovitch. There is also significant research, pioneered largely by Touval, into the role and operation of triadic mediation structures in international disputes. The different approaches to mediation have resulted in a wealth of knowledge and research into the issue, and as a result in the development of numerous international and scholastic bodies designed to encourage the successful use of mediation in international conflicts.

Debate continues to exist as to the relative efficacy of mediation and/or negotiation in resolving particular conflicts. (Bercovitch & Jackson 2001 p60) Within the examination of mediation, debate also continues as to the relative role of timing of intervention, the identity of the mediator, the basis of appointment and a number of other matters. There is a fundamental recognition of the role of mediation, the potential for its further optimisation and its role within international conflict resolution as a tool for comprehensive dispute settlement. However, there is only limited study as to the reasons why parties select particular methodologies for the resolution of international conflicts.

It is fair to say that, as a whole, ICR and Peace Studies have driven our understanding of mediation to new heights. Whilst today, we still do not know what makes mediations successful or unsuccessful, we are closer to determining which factors are of significance. Empirical research, as well as the development of a range of data-sets, have seen a furtherance in our ability to consider why mediation works and how mediation differs on the international level to domestic considerations. However, the presumptive role and goal of ICR as the process of achievement of solely peaceful solutions also influences real study of mediation. (Nicholson's definition, that "Conflict resolution is the process of facilitating a solution where the actor no longer feels the need to indulge in conflict activity and feel the distribution of benefits in the social system is acceptable" is a solid restatement of the classical supposition.) For instance, the Uppsala University analysis (Melander, Moller & Oberg 2009 p1) of Low-Intensity Armed Conflict describes 'third party actors' as having a role "to change conflict behaviour," rather than to resolve the conflict. The goal, the authors suggest, of undertaking the research is to "to study how third parties can contribute to preventing conflicts from escalating to war." This changes the primary analysis which underpins approaches to mediation. Rather than considering mediations as successful if they advance the parties towards the resolution of the underlying issue, the measure of mediation is the prevention of a particular form of escalation, regardless of the broader consequences.

The deficiency of this approach can be highlighted through consideration of the increasing use of 'biased' mediators- mediators who bring a strong interest to the issue through relationships with their 'protégés' and whom may often exert an unequal influence over the parties. (Svennson 2009 p446) Biased mediators are often successful in preventing particular escalations of a conflict, such as by demanding immediate concessions or the institution of a temporary ceasefire. This may, however, prove counterproductive in the achievement of long-

term peace or overall resolution of the conflict. The crisis in Ukraine, as of March 2016 has been marked by mediated ceasefires and continued escalation on the one hand, has illustrated that a series of mediation 'successes' may have a broader consequence of *prolonging* conflict.

International Arbitration and Treaty-Based Mechanisms

Arbitration, in all its iterations, is sharply differentiated from negotiation and mediation-based approaches by the operation of an external decision-maker or decision-making mechanism. Whilst a relatively late entrant into international affairs, arising primarily out of the 1794 Jay Treaty, the operation of arbitral bodies, created both by treaties and operating on an ad-hoc basis has sharply changed the operation of international conflict resolution and moved towards a legalisation of international affairs. This contrasts with earlier arbitrations conducted principally by rulers or national governments themselves, a practice that has largely tapered off in other than a formal sense in the 20th and 21st centuries. There were, however, some early exceptions, with efforts at arbitration between Mecedon and Athens as early as 344 BC (Ellis, 1976, p. 155) The process of arbitration, political decisions regarding jurisdictions, state attitudes towards being bound by arbitral bodies and the enforcement of arbitration awards are all matters for extensive research. The capacity of tribunals without any direct enforcement capabilities to make rulings with actual impact on international affairs has also been substantively scrutinised. (Charney 1998 p697)

International Conflict Resolution research has also been hampered by the deep divisions in the analysis of methods of conflict resolution which have largely precluded global, comparative analysis of methods of ICR. These appear to be connected to the fundamental divisions underpinning both attitudes to international law and a question of the core discipline or researchers. This is seen in the division between research and analysis of decisions conducted by tribunals, (Withana 2008 p39), pursuant to treaty-based dispute resolution mechanisms, or international courts on the one hand, and of processes of non-legal decision-making on the other, incorporating negotiations, mediations, conciliations and other political manoeuvrings. The former is largely the preserve of scholars of international law, whilst the latter is generally a focus for a very different group of academics, specialising in mediation, international negotiation processes and more generally, political science. This is perhaps best evidenced by the dearth of case notes and legal analysis in 'political' ICR journals. For instance, the Sage

Journal of Conflict Resolution does not contain a single case note, a standard method of considering the development of law and its impact. Key legal phrases such as 'obiter dicta,' (the legal reasoning of universal application in the case) and 'ratio decidendi' (the reason for a decision) are absent. 'Arbitral Award' occurs only six times within the journal's entire publication database, as of 15 August 2014. Equally, the definitions adopted by 'legal' scholars are, predictably, drawn from within case law, such as *Mavromatis. (Mavromatis Palestine Concessions* (Greece v U.K.), 1924 PCIJ ser A No. 2, at 11 (Judgement of Aug. 13)), (O'Connell, 2003 p5)

International arbitration exists in many permutations. However, ICR has been particularly focussed on standing international courts and tribunals on the one hand, and public, ad-hoc tribunals on the other. Some courts, such as the International Court of Justice, the International Court of Arbitration for Sport and the International Tribunal on the Law of the Sea are imbued with a broad, inherent jurisdiction by international treaties. (United Nations Charter Chapter XIV) Other courts, such as the International Criminal Court, are themselves the subject of much controversy both as to their roles and perceptions of bias, both with regards to states (Powell 2013 p349) and state-non-state parties. (Brekoulakis 2015 p515) Amongst the greatest controversies in the operation of international courts have been the requirements that participant nations accept jurisdiction and empower the court to intervene either on a dispute-by-dispute basis or more broadly by unreserved accession to a treaty. Specific instances have included the powerlessness of international courts to intervene in cases of genocide and the attempted avoidance of jurisdiction by the United States in a dispute with Nicaragua in the 1980's. Famously, Jeanne Kirkpatrick, USA ambassador to the United Nations, described the International Court of Justice as a "semi-legal, semi-juridical, semi-political body, which nations sometimes accept and sometimes don't." (Reading Eagle 1984,) International Conflict Resolution research has included substantive consideration of the impact of decisions of such courts. (Falk 1997 p74)

However, not all arbitration decisions or panels are the subject of public scrutiny. A feature of arbitration in the truest sense is the availability of confidentiality throughout the process. In domestic settings, arbitration is often kept confidential by a combination of law and the mutual interests of the parties. As a result, data on arbitration can also be limited. Even so, a growing, but limited, body of statistical research into arbitration and international court-based dispute resolution outcomes exists, including the work of the Correlates of War project and further

research led by Jacob Bercovitch. (Ghosn, Palmer & Bremer 2004 p133) As such, research into international arbitral outcomes is often extensive, though rarely based on a statistical analysis of decisions.

Vicuna,(2001) Barnidge,(2013) Hall(1996) and many others provide workable histories of the development of arbitration into international law, though arguably the history of arbitration in international disputes precedes the introduction of tribunals for the purpose by centuries, if not millennia, extending back to third-party settlements between major powers, ranging from the Treaty of Ayton to Greek city-state arbitrations, such as between Plataea and Boeotian Federation.(Rhodes 2007 p270) Even Napoleon sought to invoke balance of power actors, such as Russia, to arbitrate disputes, with the arbitrating party to serve as a guarantor of compliance by the parties. Broadly speaking, arbitration has been integrated into ICR research as something of a stepchild, particularly amongst scholars arriving from negotiation backgrounds, in that it has not been fully integrated into ICR or compared side-by-side with other methods of conflict resolution in the same way as mediation and negotiation. Detailed analysis of international tribunals, their decision-making processes and the impact of their decisions is often a product of two very different methods- legal analysis, largely the province of international legal scholars, and an impact of the political outcomes arising from the decision, enforcement mechanisms and implementations processes associated with arbitration and arbitration agreements. In this sense, ICR betrays its origins as a 'merger' between fields of inquiry.

The Extent of Use of Negotiation, Mediation, Arbitration and Other Methodologies in Conflict Resolution

Each of the above methodologies, in a variety of permutations, has been widely used in conflict resolution. Bercovitch's study of modern conflict resolution in armed conflicts identifies more than 300 separate conflicts, many containing more than 20 different attempts to resolve the conflict. However, different approaches and data codification approaches can lead to different criteria for consideration. Relative determinations of the numbers of attempts at negotiation or mediation of conflicts are therefore somewhat difficult to achieve. More than 150 cases have been referred to the International Court of Justice since its inception in 1945. (International Court of Justice Advisory Opinions by Chronological Order 2014). Since its establishment in 1997, the International Tribunal for the Law of the Sea has heard 22 cases. (International

Tribunal for the Law of Sea, Cases, 2014) The Permanent Court of Arbitration, established in 1899, has heard at least 40 state-state cases, as well as many cases involving states and non-state actors. (Permanent Court of Arbitration, Past Cases 2014) Determining the actual extent of the use of methods of conflict resolution is also a matter of extensive methodological dispute- defining what constitutes a mediation or a negotiation, separating out each attempt and otherwise identifying matters which are not necessarily in the public domain can be extremely difficult.

Therefore, in setting out the scope of this research, it is important to note the considerable departure from existing assumptions contained within Conflict Resolution Studies. Principally, this research recognises that the context in which the effectiveness of a method of dispute resolution is to be measured is in light of the full gamut of processes available to parties

An understanding of the principal processes used in international conflict resolution, and their prevalence, requires a departure from the existing consideration of arbitration, mediation and armed conflict usually dominant amongst both lawyers and dispute resolution practitioners operating in a range of fields. Lawyers, classically, are trained in the resolution of disputes in the 'shadow of the law,' or increasingly, in court-connected dispute resolution. (Sourdin, 2012, p. 255) These processes principally operate on the assumption that the legal system sets out a standard for the resolution of the disputes, along with a normative process and forum through which this will occur. Classically within municipal jurisdictions, this is a court of law. The court, operating under the auspices of an authority with enforcement capacity and relative certainty as to the principles and legal rules that are to be applied, is capable of compelling attendance and asserting exclusive authority over the parties.

As outlined as far back as Austin, (Bix, 2015) these maxims are not truly applicable in international conflict resolution. Many scholars have argued that it is doubtful whether international law is, truly speaking, law, lacking the command of a sovereign on the one hand or sufficient certainty on the other. The participation and compliance with international law is very varied; the lack of an authority within the international community which is both capable of and reliably expected to consistently enforce norms renders the notion of legal compliance largely moot. Equally, whilst war and some other forms of prosecuting disputes are nominally illegal pursuant to Article 2 of the United Nations Charter, few international laws have enforcement mechanisms built in to them which include a choice of forum, time-frame or

methodology.[3] Whilst lawyers may negotiate or participate in mediation in the shadow of the court, international law offers no such default resolution mechanism, and no default to legal rights in the absence of a mutually agreeable resolution. To further the confusion, international law is notably incomplete. In many instances, such as the Israel-Palestine conflict, there is no existing territorial or legal imperative on which to propose a legally binding conflict resolution mechanism, save appeal to natural law or the parties' own agreement. Thus, the primary underlying foundations of both facilitative and determinative processes on which lawyers rely - are largely inoperative in most international territorial disputes and beyond.

Other kinds of conflict resolution professionals are similarly challenged through the limitations of international order. The normative principles underlying mediation and other forms of facilitated dispute resolution involve, amongst other factors, neutral and uninvolved third-parties, the existence of enforcement mechanisms or processes and the inability of the parties to normatively make law or use armed force against each other to prosecute a conflict. Existing theories of conflict transformation, mediation and conciliation also focus primarily on the role of the mediator as facilitating information-exchange, the management of personal or professional attitudes and the assumption of good faith in bargaining. However, these principles have lesser application in the case of countries for a number of reasons. Firstly, as described by Touval, (1994) it is arguable as to whether most mediators are in fact neutral in international conflict resolution, where mediation services are principally provided by third-party nations. Touval describes this process as rather akin to triadic negotiation, with the 'mediator' able to apply pressure to the parties themselves and to consequently seek to compel genuine negotiation, in direct opposition to negotiation principles. Secondly, the depth of conflict existing between parties to international conflicts is often far greater than municipal disputes, which rarely concern allegations of criminal offences- a far cry from the resolution of armed conflict.

Further, the parties themselves reflect few of the qualities which are considered to make mediation more likely to be effective in municipal disputes. International Dispute-Resolution attempts represent dealings between the apex of two (or more) political systems, capable of clearly understanding the other party's interests and performing effective information

[3] It is worth noting that, whilst the 'crime of aggression' falls within the jurisdiction of the International Criminal Court pursuant to Article 5(1)(d) of the Rome Statute of the International Criminal Court, no definition of the crime has yet been agreed. As such, pursuant to Article 5(2), the crime cannot be prosecuted!

exchange. Whilst Sourdin (2012) and others suggest that genuineness and authenticity are primary drivers of effectiveness in mediation attempts, there is little evidence to support this as a significant factor in large group negotiations. The UN (United Nations, 2012), by contrast, highlights the provision of effective, "well-supported politically, technically and financially" processes as essential to the achievement of outcomes, with good intentions "do not advance the goal of achieving durable peace." The operation of international disputes, and territorial disputes are likely to be further complicated by the greater length over which they are prosecuted, potentially many years. In that time, negotiators, leaders, laws and the overall political positions of parties may substantially change in ways that render the classic facilitative models of mediators as information-exchange servitors largely meaningless.

It is worth noting, also, that whilst there is little formal distinction between the usage of the term 'mediation' between international and domestic systems, mediation as performed in practice on the international stage would be non-compliant with municipal systems and laws. Whilst mediation involves, generally, the facilitation of a negotiation and some form of information-exchange by a third party, most municipal systems impose requirements of impartiality and independence on the mediator. By contrast, international mediations are primarily undertaken by parties with an interest in the outcome. Additionally, international mediations are frequently undertaken by institutions or countries, rather than individuals. As such, limitations- whilst perhaps less than apply to arbitration- also do apply to the applicability of knowledge garnered from municipal mediation when imported into the international context. The result of these challenges is that different conceptual models are needed when addressing or exploring the use of international conflict resolution mechanisms. As outlined above, this is critical because, in understanding the factors that may encourage parties to prefer a model of dispute resolution (or a willingness to seek resolution at all,) a misunderstanding or refusal to engage with existing alternative processes available to the parties will inevitably lead to warped analysis of participants' BATNA's, strategies and overall behaviour.

The Extent and Usage of Conflict Resolution Mechanisms in International Territorial Disputes.

Researchers have been keenly interested in understanding the extent of use of different methods of dispute resolution in international conflicts. The traditions of international conflict resolution

are not new, with states negotiating, intervening in and restraining conflicts for thousands of years. Greek city-states held the first recorded mediation between states, in 209BCE. (Melin, 2013, pp. 78-80) Analysis of the historical record shows that the traditional methods of dispute resolution over questions such as territory involved both direct action- conflict, war, confiscation of nationals' assets- negotiation, mediation- often involving third-party nations or religious leaders such as the pope- and, rarely, arbitration. (Fraser, 1926)[4]

Arbitration involves two notions that very much compete. Firstly, the submission of the dispute to a nominally neutral third party for resolution in accordance with either generalized principles of natural justice or other, unstated bases (such as US presidential arbitration in South America.) Secondly, the referral of the dispute to an established or ad-hoc tribunal designated to implement a judicial framework for the rendering of an arbitral award in accordance with either established principles of law or a written framework entered into between the parties. The latter mode is a relatively recent innovation, principally the product of the modern iterations of international order. Even as recently as the 19th century, arbitration was still viewed as primarily the province of an elected body, representing disparate powers, who would effect a determination that they would then be able to enforce. (Fraser, pp. 183-187) The Permanent Court of Arbitration, for instance, only came into being in 1899 following the first Hague Peace Conference and represents one of the first efforts at professional arbitrators- still appointed by member-nations. The tension between both ideas has also seen the development of a diversified set of arbitration types, along with a set of customary practices in international arbitration, including the development of a communique between the parties as a statement of issues, hearing modes and criteria for the selection of arbitrators.

In order to understand the current state of international conflict resolution, it is necessary to analyze the relative usage and conditions for usage of different methods of conflict resolution.

The Issues Correlates of War Project

As outlined above, this research primarily relies on the Issues Correlates of War (ICOW) research project as a source of data and encoding of data. The project was commenced in 1997

[4] Indeed, the history of popes as arbitrators is extensive, with popes both applying religious dictat and acting as decision-makers in purely political disputes for centuries.

and has been led by Paul Hensel. The project's coordinators describe it as "The Issue Correlates of War (ICOW) project is a research project that is collecting systematic data on contentious issues in world politics." (Hensel, 2015) The project involves a number of researchers encoding data in accordance with detailed coding manuals, using publicly available data such as world books, newspapers and almanacs. Within the project, there have been efforts to produce data-sets on a number of issues. These include:

- Territorial Claims
- River Claims
- Maritime Claims
- Identity Claims
- Regime Claims
- Multilateral Treaties of Pacific Settlement
- Colonial History

Data-sets also involve different levels of coding, including on both the party-party basis and the claim level for disputes. The collection of data is ongoing, with updates to data-sets continuing. Given the commencement date of this research was January 2013, the then-current data-sets for territorial claims has been relied on throughout. As of 2013, the data-set incorporated data to 2001, with settlement attempts from the Americas, Western Europe and the Middle East. Subsequent data-set releases, expected by 2017, will involve extension of the data across the globe and an update of collection to 2010. (Hensel, 2015).

Whilst a full accounting of the ICOW process is contained within the Annexed Coding Manuals, it is worth noting that:

- The coding methodology involves independent lateral coding of data by multiple researchers;
- The project has been extensively cited and accepted as the basis for further research in major journals and publications;
- The methodology involves applying classifications for major historical events, and sets standards for inclusion of events involving formalized dealings between countries.

The ICOW database is publicly available, and at present in its most recent iterations is available freely at www.paulhensel.org/icow.html. It is currently managed by both Dr Paul Hensel, Department of Political Science, University of North Texas, and Professor Sarah Mitchell, Department of Political Science, University of Iowa. In conducting coding exercises, the project directors have enlisted a range of research assistants and appear to have undertaken extensive quality control processes. These include the implementation and maintenance of a coding manual, set criteria for coding, cross-coding and the submission of the data-set for extensive peer review. The ICOW data-set generally and the ICOW Territorial Claims Data-Set have been cited widely, including analyses of its reliability (Hensel, 1998). Though the data has been widely accepted, as Hensel notes,

> As Singer (1990: 18) suggests in discussing reliability and validity issues, "every data set must be examined closely, along with the coding rules by which it was generated, prior to its use in systematic analysis." Or as McClelland (1983: 175) warns, "let the user beware." (Hensel, 1998, p. 22)

Analysis of the coding tools and techniques used by the Correlates of War and the Territorial Data-Set reveal a number of substantive factors that create limitations on analysis. Broadly, these include:

(a) Assumptions
(b) data-collection and codification methodologies
(c) coding rules
(d) limitations on the data available

(a) Assumptions

The codification of political acts and determination of what amounts to a dispute must involve extensive assumptions in the process. Whilst the ICOW coding manuals highlight numerous assumptions, most of which are non-controversial, the most significant question involves the criteria for determination of inclusion within the data-set. For international disputes, determination of criteria involves the principle questions of the existence of a dispute, the classification of the parties as having international personality and the typing of the dispute. For the purposes of this research, the relatively conservative criteria on the questions of

international legal personality comparted to other data-sets such as Bercovitch's International Conflict Management Dataset (Bercovitch & Fretter, 2004) is valuable.

Inherent in the data is the assumption that 'official acts' reflect reality. The commencement of a conflict or its resolution are measured by the acts, declarations or communications of duly empowered officials. In so doing, the ICOW approach is generally consistent with other approaches taken to the identification of territorial conflicts. (Hensel, 1998, p. 25) This does, however, raise some issues of importance. Increasingly, there may be uncertainty as to who is deemed to be an 'official' of a government. The ICOW definition of "official representative" raises issues

> "…include such individuals as a country's head of state, foreign minister, and other legitimate political or military officials speaking on behalf of the state's government. Claims by individuals or organizations without the authority to speak on behalf of a state government are excluded, unless official state representatives support their claim through explicit statements." (Hensel & Mitchell, 2007)

However, there may be significant uncertainty as to whether individuals or organizations have authority to speak on behalf of government. A modern illustration of this is the Palestine Liberation Organization- in many respects functionally synonymous with the Palestinian Authority, but legally a separate entity. Similarly, statements may be made by government officials acting *ultra vires*. The published material does not include any record of the degree to which coders disagreed on classification.

Overall, however, the concerns raised by the pattern of assumptions are limited. As identified by Hensel, there is a very high overlap between the results obtained through the ICOW methodology and those of other data-sets available for comparison. (Hensel, 1998) Whilst the differences in assumptions may result in slight variations to the data, there does not appear to be a substantial controversy about the data-set or its scope.

(b) data-collection and codification methodologies

Data Sources

The method of data-collection for all ICOW projects uses a combination of news reporting, authoritative databases on boundaries, scholarly atlases and regional reference works. (Hensel, 2013, pp. 13-17) This approach is designed to avoid the challenges identified within other data-sets that have relied primarily on worldbooks, the *New York Times* or other journals of record, without reference to the 'real world.' Even so, the sources used to identify claims, whilst not proscriptive, show a strong bias towards those recording public, open conflicts and away from disputes raised confidentially between parties. Cabinet papers, late-release records, documentation from the proceedings of international tribunals and United Nations resolutions or proceedings are not identified explicitly as sources within the data-set. This may have the effect of under-stating the length of conflicts, with information about low-key settlement attempts likely also to be excluded.

'Missing' Variables

The ICOW data makes extensive use of 'missing' variables. Where, for instance, a conflict does not concern a river dispute, the variable 'rivname' will be listed as missing. Dyadic references to the EU are also missing, by design. (Hensel, 2013, p. 10) Ongoing claims have a 'missing' value for the variable 'Resolved,' which concerns types of methods used to actually resolve the conflict. The full list of the variables contained within the Settlement Attempts sub-set (the principle sub-set for analysis) is contained in Appendix A:

Of these variables, Concstr3, Concstr1 and Concwk3 variables are notable because they refer to either the variable not being relevant, or the input data being missing from within the origin data-set.

An overall test of the integrity of the data is possible by comparing the variables listing 'missing' as an option in their construction to those that do not provide that option. This was performed using an SPSS 'Frequency' search query to produce a tabulation of valid and missing results, per variable. Cross-referencing of the list of variables which intentionally use 'missing' shows that there are no 'missing' items other than in those fields that include

'missing' as an option. As a result, we conclude that the data is internally reliable, consistent and suitable as the foundation for analysis.

(c) Coding Rules

Analysis of the coding rules shows several further matters that needed to be carefully considered in relying on and interpreting the ICOW data. Firstly, the definition of 'agreement' used by the ICOW data may be confusing. Where an agreement, award or treaty is produced as the product of the settlement attempt, regardless of the scope of the agreement, this is considered as producing an agreement. (Hensel, 2013, p. 34). This may artificially inflate the overall performance of interim methods and steps, especially where the parties agree to do nothing more than defer talks to a later stage. Whilst there is some suggestion that momentum-building – however gradual- is important in achieving positive final outcomes, the coding limitations contained in the ICOW data are substantial. This contrasts to the Bercovitch data, which offers a much more comprehensive analysis of both the scope of attempts and the extent of agreements reached in the course of dispute resolution attempts.

Finally, the codification approach to arbitration and adjudication is extremely limited in detail. This is manifested in the categorization into arbitration and adjudication- distinguished based on whether the resolution of the dispute was referred to a standing arbitral body or otherwise. The distinction contained within the data is seemingly quite narrow, with a standing commission unique to the Syria-Israel conflict considered to be an adjudication, but referral to arbitration by a specially convened tribunal in South American cases not considered to meet this classification. There is no correlation between these classifications and the method of establishment of the standing tribunal, either. As such, in using the data, arbitration and adjudication categories have been combined into one, with a transitory set of variables created, including a combined 'Arbtrans' variable added to the data-set. For the purpose of most analysis, the combined 'Typesett3' variable within the data-set appears most useful considering all third-party binding dispute resolution attempts as a single category.

Table 2: Frequency Extract- Settlement Attempts by Variable

Frequency Extract- Settlement Attempts by Variable

		issue	terriss	riveriss	mariss	region	claimdy	claim	dyadnum	chal	tgt	dyad	settnump	settnumt	begsett	endsett
N	Valid	2005	2005	2005	2005	2005	2005	2005	2005	2005	2005	1991	1687	2005	2005	1994
	Missing	0	0	0	0	0	0	0	0	0	0	14	318	0	0	11
Missing' Coded as an Option? Y/N		N	N	N	N	N	N	N	N	N	N	Y	Y	N	N	Y

		year	yearend	durmid	durfat	durwar	typesett	typeset3	typesetm	bilat	nonbind3	binding3	midiss	typeact	actor1	actor2
N	Valid	2005	1994	2005	2005	2005	1687	1687	2005	2005	2005	2005	2005	532	532	153
	Missing	0	11	0	0	0	318	318	0	0	0	0	0	1473	1473	1852
Missing' Coded as an Option? Y/N		N	Y	N	N	N	Y	Y	N	N	N	N	N	Y	Y	Y

		actor3	actor4	actor5	actor6	typeio3	typeio5	io	ioreg	ioglob	ioacttype	iobind	ionon	other3rd	oth3bind	oth3non
N	Valid	93	71	52	36	1687	1687	1687	1687	1687	1687	1687	1687	1687	1687	1687
	Missing	1912	1934	1953	1969	318	318	318	318	318	318	318	318	318	318	318
Missing' Coded as an Option? Y/N		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

		extentsa	extentsa3	attfunc	attproc	attiss	agree	agreeall	extentag	extentag3	agreefun	agreepro	agreeiss	terrchag	allocag	marchag
N	Valid	1687	1687	1687	1687	1687	1675	934	934	934	934	934	934	564	16	272
	Missing	318	318	318	318	318	330	1071	1071	1071	1071	1071	1071	1441	1989	1733
Missing' Coded as an Option? Y/N		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

		sqchgag	concesag	conceven	conceslo	conceshi	concany	concchal	conctgt	concstr3	concstr1	concwk3	concwk1	ratfailc	ratfailt	ratfail
N	Valid	934	934	934	934	934	934	934	934	922	922	922	922	936	936	936
	Missing	1071	1071	1071	1071	1071	1071	1071	1071	1083	1083	1083	1083	1069	1069	1069
Missing' Coded as an Option? Y/N		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

		compchal	comptgt	comply2	claimend	clmendatt	clmendma	clmendall	clmend2	clmend5	clmend10	effect4	Settlement Attempt Effectiveness	nomid5	nomid10	nomid15
N	Valid	934	934	934	934	934	934	934	1923	1826	1665	934	934	1836	1676	1566
	Missing	1071	1071	1071	1071	1071	1071	1071	82	179	340	1071	1071	169	329	439
Missing' Coded as an Option? Y/N		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

		mid	midhost	midwar	midfat	midfatany	midendiss	version
N	Valid	318	318	318	303	303	318	2005
	Missing	1687	1687	1687	1702	1702	1687	0
Missing' Coded as an Option? Y/N		Y	Y	Y	Y	Y	Y	N

(d) Limitations on available data

The ICOW data set includes extensive information about the coding rules and approach adopted. This provides the foundation for any analysis and assessment of the coding and approach used in assembling the data. However, none of the data 'behind' the coded data-set has been made publicly available. Material presumably relied upon, such as actual lists of sources used, conflict resolution attempts listed with backgrounds or records of disagreements between coders as to classifications would all be of substantial use in any attempt at verification or cross-referencing of the data. Little of this is available in the ICOW data. By contrast, the Bercovitch data provided to this author includes a chronological 'attempts list,' incorporating short summaries, of each attempt at conflict resolution.

Snapshot Analysis

Using the ICOW approach to recording conflict resolution attempts, the overall number of attempts at conflict resolution in territorial conflicts, and the relative frequency with which different methods are used, is easy to establish. Of the total of 2005 attempts covered by the data-set and the 1687 peaceful dispute resolution attempts therein, bilateral negotiations were attempted in 68.5% of cases.

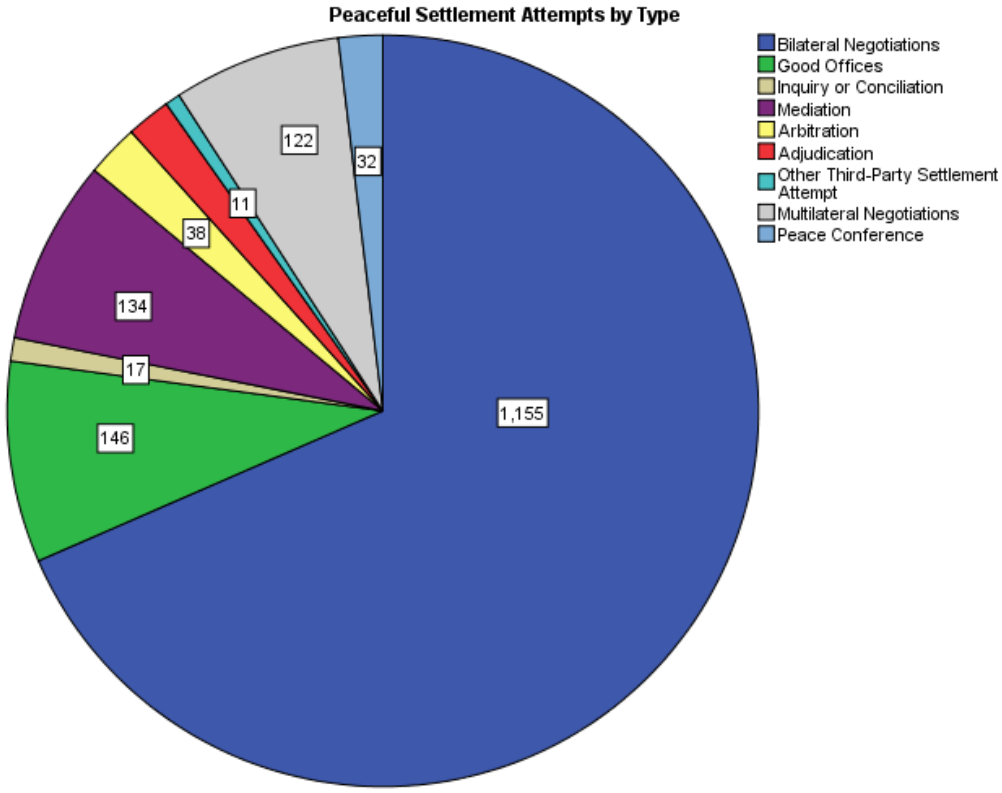

Figure 4: Peaceful Settlement Attempts by Type

In total, amongst facilitated settlement attempts, mediation and good offices represented the dominant form of dispute resolution. Using the 'typesett3' categorisation within the ICOW data which categorises settlement attempts into either bilateral, non-binding third party and binding third party attempts, it is clear that non-binding attempts represent the overwhelming majority of peaceful dispute resolution attempts.

Table 3: Settlement Type- (Typesett3)- Frequency and Percentage in ICOW Database

typeset3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Bilateral Negotiations	1155	57.6	68.5	68.5
	Non-binding Third Party Attempt	462	23.0	27.4	95.9
	Binding Third Party Attempt	70	3.5	4.1	100.0
	Total	1687	84.1	100.0	
Missing	System	318	15.9		
Total		2005	100.0		

This has been reflected in the literature by a focus primarily on mediation. Google Scholar searches for 'international conflict resolution mediation' (conducted 8 March 2016) reveals

232,000 results. By contrast, a search for 'international conflict resolution arbitration' conducted on the same date reveals 128,000 results. This is reflective also of Kriegsberg's analysis of the field of international conflict resolution studies (Kriesgberg, 2007) and its primary origins thematically. It may also be reflective of the comparative interests and skills of those involved in international conflict resolution, drawing primarily from a mediation background.

The Current Understanding of the Impact of Arbitration on International Dispute Resolution

"CR research has continued to be directed at the use and effects of different kinds of mediation in international and other types of conflicts." (Kriesgberg, 2007, p. 35) As a result, research into binding third-party dispute resolution, of which arbitration comprises the dominant number, has been extremely limited both within international dispute resolution broadly and within international territorial dispute resolution. The vast majority of research into international conflict resolution has been focused on mediation and non-binding dispute resolution. Of the material that is available, there is limited research into the efficacy, impact or basis for the selection of binding dispute resolution as opposed to other processes. There is also little research into the timing of arbitration attempts. This has occurred despite the increased adoption of binding dispute settlement agreements within international treaties, notably the International Convention on the Law of the Sea. As described by Charney,

> "Third-party dispute settlement in international law has increased dramatically in recent years." (Charney, 1996, p. 69)

Though there have been consistent disputes about technical questions and the parallel development of numerous different courts or methods for conducting arbitrations, the rise in binding resolutions of disputes has not been matched by a parallel rise in the level of research engagement from within international conflict resolution studies into the area. Instead, as outlined below, the majority of the knowledge available with regards to international arbitrations, their impact and limitations arises from the transplantation of other areas of knowledge, with limited testing of the inherent assumptions thereto.

By contrast, non-academic research into the use of binding international conflict resolution has accelerated in recent years. The interest in imposed solutions, massively multilateral approaches and arbitration have grown amongst political pressure groups, international centres and to a lesser degree, politicians. The research and position papers, for instance, of the Carter Group ("Approaches to Solving Territorial Conflicts") (The Carter Centre, 2010) have paralleled a growing interest in the development of understanding of a diverse range of dispute resolution processes and an increasing trend to view countries as being capable of being 'bound' by court processes.

Definitions- What is Binding Third-Party Dispute Resolution?

A number of processes routinely occur on the international stage involving parties attempting to resolve a dispute. Where the parties are themselves participants in a dispute, their engagement in dispute resolution attempts has been viewed as basically different from where (nominally) non-party entities have been involved. Whilst the dominant form of third-party involvement has been and continues to be variations on mediation, binding third-party dispute resolution is classified as where the parties have, by treaty, agreement or international law, empowered a third-party to render a decision on all or part of the dispute, with the parties having agreed to be bound by that dispute. Within the ICOW data-set, the two forms of dispute resolution considered to be binding third-party dispute resolution are arbitration and adjudication. The ICOW coding manual provides definitions, respectively, for arbitration and adjudication, respectively, as

Arbitration

Arbitration is one type of third-party action that allows the outside actor to make a decision that will be considered binding on the disputants. Before submitting a dispute to arbitration, the disputants agree on an arbitrator that both sides consider acceptable and define the power and jurisdiction to be granted the arbitrator, and both sides agree to accept the decision that will be reached by the arbitrator. Note, though, that some actors later decide to reject an unfavourable arbitral award, so even this legally binding technique is no guarantee of compliance with the ultimate decision/award.

Adjudication

Like arbitration, adjudication allows a third-party actor to make a binding decision to help resolve a conflict of interest. The most important difference between arbitration and adjudication is that the latter involves an established legal tribunal such as the International Court of Justice, while the former involves a more ad hoc submission of the dispute to some actor that both disputants consider to be acceptable (which could include foreign kings, presidents, the Pope, or other actors). As with arbitration, some actors eventually decide to reject an adjudicated decision, despite their initial agreement to accept whatever decision is reached. (Hensel, 2013, p. 8)

Functionally, both arbitration and adjudication can, and generally are, products of the application of rules of law, whether international law generally, the application of 'natural justice' or pursuant to specific agreements between the parties. As such, in this thesis the terms 'binding dispute resolution,' 'arbitration' and 'adjudication' are used interchangeably, save where otherwise indicated.

Sources of Knowledge of the Impact of Binding Dispute Resolution

Conceptually, current theoretical assumptions regarding the impact of arbitration on international disputes derives from three principle forms:

1. Bargaining and Enforcement research in international conflict resolution
2. Analysis of data on international arbitrations and international conflicts
3. Extrapolation from general principles of international law
4. Extrapolation from other sources of knowledge regarding arbitration.

In each case, much of the theoretical analysis arises from the philosophical underpinnings or, again, from within the variety of disciplines that influence international conflict resolution studies.

Bargaining and Enforcement research in international conflict resolution as a source of assumptions regarding the impact of arbitration

It is generally understood that the entry into a binding agreement in international relations carries consequences. These may be reputational or structural- the breach of an agreement between two parties may create a change in the trust dynamics between the parties. Alternative theories suggest that the impact may be informational- rather than having a binding impact, the decision-making process facilitates third parties in deciding which side to favour in a dispute through the making of a ruling which carries informational value only. (Johns, 2012) Entry into binding agreements and the process of binding dispute resolution may also trigger other consequences in terms of retaliation or changed behaviours, but more critically, it may create changes to legal dynamics and frameworks- a lawyer's truism is that a breach of contract begets a cause of action. As such, if agreements carry consequences- reputational, moral and legal- adherence to them may carry significant incentives.

Research into bargaining and enforcement theory does support the notion that the more significant the potential agreement's consequences and benefits, the more encouragement to hold out for a better deal. (Fearon, 1998, p. 270). The use of third parties is understood to create a series of incentives for the achievement of a resolution promptly, particularly where the third party in effect operates with a bias towards the achievement of a resolution. (Touval, 1994 , p. 47) This can have a positive effect on the achievement of outcomes, as the incentive to delay resolution is decreased. Increasingly, the use of third parties generally is also understood to involve a change in the balance of power between the parties, amounting to changed conditions from any earlier negotiations and of itself providing an incentive to settle through the generation of uncertainty and risk for the parties. Substantial debate exists as to the source of this impact, given the limitations on enforceability that may arise in international court processes. (Johns, 2012), (Reinhardt, 2001). However, the generally accepted assumption is that the entry into, and rendering of determination by international bodies has a significant impact on the end result.

The involvement of third parties generally may have positive impacts on the achievement of enforceable agreements and in avoiding breaches of the agreements. This is based on the long-standing assumption of the self-interested third party whose participation and contribution to an effective agreement carries benefits that they may wish to protect. Even Napoleon sought to

invoke balance of power actors, such as Russia, to arbitrate disputes, with the arbitrating party to serve as a guarantor of compliance by the parties. This was seen as being a more stable approach to international order than simply unilateral force of arms, and led to the potential for balance-of-power approaches to conflict management. Touval (1994) describes a theory of 'tryadic negotiation' as occurring within even nominally non-binding dispute resolution processes, such that mediators or nations offering 'good offices' have a vested interest in achieving results; they will therefore invoke consequences against parties not complying with an agreement, thereby increasing the reputational consequence of breaching an agreement. On this basis, third-party dispute resolution is expected to achieve better outcomes in terms of the adherence to agreements over bilateral negotiations, whether the third parties are acting in a binding capacity or otherwise.

On this basis, the impact of arbitration should be drawn comparatively to the nature of the third party providing dispute resolution services. This is not an issue canvased directly within the identified literature. Whilst there is growing discussion (Charney, 1996) as to parties' preferences of arbitration forums, there has thus far been no effort to correlate successful adherence to arbitration outcomes in international disputes and the power or nature of the arbitrating party, whether state, international body or specially convened tribunal. Gent and Shannon (2011, p. 714) imply that states may have a preference for the avoidance of overly powerful arbitration bodies consequent to a desire to maintain ultimate "decision control." This is also expressed as a factor in the avoidance of arbitration. Gent and Shannon also suggest that states with more powerful military or economic forces may generally wish to avoid arbitration where it is likely to provide an inferior outcome. (2011, p. 719). If correct, the use of more powerful third-parties as arbitrators or as guarantors of the resolution may contribute to the enforcement and stability of the agreement. Whilst there is some exploration of this concept in mediation, particularly in mediation (Bercovitch & Houston, 1996) where the identity of the mediator and their capacity to exert power over the parties has correlations both to the achievement of agreements and adherence, no research was identified that parallels this within arbitration.

However, arbitration also has other impacts on the process of resolving a dispute from a bargaining perspective. As noted, (Gent & Shannon, 2011, p. 719) the capacity (or belief in capacity) to achieve a better result through armed conflict, sanctions or other options are basic drivers away from anything other than a direct negotiation. The use of third parties of any kind

may have an effect of ameliorating power-imbalances between parties. It may also have a broader effect of changing the ways that parties are able to relate to the bargaining exercise, shifted from a power-based approach to a rights-based approach. "Unlike the outcome of most international negotiations, which are highly influenced by the relative power of states, binding conflict management decisions are based primarily on legal principles. Arbitration and adjudication open up favourable outcomes to weak states that would not otherwise be available." (Gent & Shannon, 2011, p. 720), (Bercovitch & Oishi, 2010) The adoption of arbitration by states can therefore be expected to have a levelling effect on the fairness of the dispute resolution outcome, but also to increase the probability of a reoccurrence of the dispute, as the disparity between the power balance of the parties and the outcome achieved would be substantial.

Summary

Broadly, enforcement and bargaining theory offer insights into both the impact of arbitration on the adherence to agreements reached as a result of the process and also into the decision to select arbitration as a process. Whilst there is extremely limited direct research, there are indications that arbitration may not follow the usual pattern of third-party behaviour in that the use of independent non-state arbitrators would provide little by way of changes to the balance of power. More importantly, there are contra-indications as to the preferences of large states to use arbitration and suggestions that the range of circumstances in which arbitration may be preferred by both parties- a necessary precondition except where there is a pre-existing arbitration agreement- will be limited.

Analysis of Arbitration Data

A number of efforts have been made to determine the relative success-rates of arbitration. These are comparatively rare, and at a high level, compared to the analyses of international mediation attempts. Notable efforts include Jacob Bercovitch's data-set (Bercovtchdatasetartcile) and Shannon & Gent's recent articles. (Gent, 2010). These authors adopt an approach and conclusion consistent with the general view of arbitration as highly effective in resolving conflicts. In each case, analysis of arbitration data- compiled either in Bercovitch's data-set or in the more widely used and available ICOW data- is compared,

broadly, to other methods of dispute resolution as a measure of rate of success. Gent and Shannon's express conclusion is:

> "First, arbitration and adjudication are more effective mechanisms for ending territorial disputes than bilateral or nonbinding third-party negotiations. Legality, increased reputation costs, and domestic political cover make binding negotiations a successful conflict management strategy." (Gent, 2010, p. 367)

Gent et al's position is supported by a strong analysis of data from within the ICOW set, showing that, amongst all dispute resolution attempts, using a z-test reveals a p-score of 2.115 for binding dispute resolution attempts ending the claim compared to non-binding dispute resolution attempts with a correlation of 0.467. Prima facie, the correlation between the use of arbitration or adjudication and the resolution of a dispute is very strong, particularly in contrast to the use of other dispute resolution methods.

This can also be expressed visually and simply, as seen in the figure below. Of the total number of successful dispute resolution attempts measured in the form of resolution of all issues ('AgreeAll' variable), the ICOW Data records 62 binding third party attempts, all successful. As a result, arbitration is considered by Shannon, Gent and others as measurably more effective as a probability of resolving a dispute. (Gent, 2010)

However, the analysis presented by Gent and Shannon is also simplistic in its consideration of what amounts to resolution of a dispute. Arbitrations, by their very nature, involve the presentation of a set of issues, defined by the parties, to a third party for resolution. Courts and tribunals are very good at issuing determinations, awards of judgements on the range of issues presented to them. Arbitrations may therefore be considered artificially 'good' at resolving all issues, rather than resolving principle issues. This may result in a false impression of the comparative usefulness of arbitrations and other third-party binding dispute resolution approaches, over and above other methods.

The ICOW data (Hensel, 2001) does provide methods for resolving this, including a number of different measures of success and the durability of successful resolutions. Principally, these are measured by a range of variables summarized in the table below.

Table 4: ICOW Settlement Attempt Data Variables for Measurement of Agreement

Variable Name	Descriptor	Options
Agree	Did settlement attempt produce an agreement/treaty/award?	- Yes - No
Agreeall	Did agreement cover entire scope of settlement attempt? (i.e., did a substantive attempt produce a substantive agreement, a procedural attempt produce a procedural agreement, or a functional attempt produce a functional agreement?)	- Yes - No
ExtentAg	Scope of agreement, if any	- Functional agreement - Procedural agreement - Substantive agreement - covering part of claim - Substantive agreement - covering all of claim
Extentag3	Scope of agreement (combining substantive agreements)	- Functional agreement - Procedural agreement - Substantive agreement - covering part of claim - Substantive agreement - covering all or party of the claim
Agreepro	Procedural agreement dummy	- Procedural Agreement - Functional or substantive agreement
Agreeiss	Substantive (issue) agreement dummy	- Substantive agreement - covering part or all of claim - Functional or procedural agreement

Claimend	Did agreement end contention over claim?	- Agreement ended contention over all of claim - Agreement ended contention over most, but not all, of claim - Agreement did not end contention over most or all of claim
Clmendatt	Did settlement attempt end contention over claim	- Agreement ended contention over all of claim - Agreement ended contention over most, but not all, of claim - Agreement did not end contention over most or all of claim, OR no agreement
Clmendma	Did agreement end most OR all of claim	- Yes - No
Clmendall	Did agreement end entire claim	- Yes - No

As yet, there is extremely limited usage to which this research has been put with regards to arbitration. The vast majority of the articles or publications citing this research have been focused on questions of timing, salience of conflicts as the principle determinant variables in to be examined as indicators of effective conflict resolution attempts, or mediation in its various guises.

It is also worth noting that not every attempt at conflict resolution is designed to resolve the entirety of an issue. Incremental resolution of a dispute, determination of the mechanism through which further issues may be resolved, trust-building exercises or even the implementation of a ceasefire are all valuable contributions towards the resolution or transformation of a dispute, even if they result in less than total resolution of the dispute at that point in time. As such, the 'Extentsa: Scope of settlement attempt'- variable is critical, in that measurement of attempts to partially resolve a dispute against a yardstick of the total resolution of disputes is artificial.

Unsurprisingly, arbitration and binding third-party resolution are rarely used in an attempt to achieve only a partial resolution of a dispute. As noted in the figure below, 61 of 70 binding third-party dispute resolution attempts are designed to cover all of the dispute. (though partial resolutions may also have some utility as confidence building measures in resolving larger disputes, this is not generally an approach that has been shown used in arbitration.)

Table 5: Types of Settlement Attempt (Typesett3) by Extent of Settlement Attempt

typeset3 * extentsa Crosstabulation

Count

		extentsa				
		functional attempt	Procedural attempt	Substantive attempt-covering part of claim	Substantive attempt-covering all of claim	Total
typeset3	Bilateral Negotiations	193	313	51	598	1155
	Non-binding Third Party Attempt	54	103	24	281	462
	Binding Third Party Attempt	2	4	3	61	70
Total		249	420	78	940	1687

When considered on the basis of the extent of the attempt, the relative success of binding dispute resolution attempts in resolving the issue entirely is somewhat less significant, though still substantially above the apparent rate for other dispute resolution methods. Even so, the relative rate of success for binding third-party attempts is highly impressive; as noted by Shannon and Gent, "[b]inding negotiations are more effective than nonbinding or bilateral negotiations, and the bias of a third party has no direct influence on the success of conflict resolution. Such theoretical and empirical insights could not be gained if one focused on mediation as the only type of conflict management." (Gent, 2010, p. 378).

The rate of success of different methods of conflict resolution has not, thus far, been measured proportionally to the goal of the attempt within the literature uncovered. This is indicative of the limitations of the current levels of research into international conflict resolution outside of mediation, which has been the dominant area of study. (Gent, 2010, p. 378) This is a critical limitation in existing knowledge of the relative impact of the legalizations of international disputes, as it indicates the lack of understanding of what legalization is 'good for,' as well as

the necessary conditions precedent to achieving real success through arbitration or adjudication. Given the limitations of the existing literature in terms of measuring the effectiveness of each method in achieving partial settlements and successful procedural outcomes, measurement of these factors has been considered as a critical component of this thesis.

Third-party dispute settlement attempts are also, at times, analyzed as a whole without differentiation based on binding or non-binding status. This is consistent with the concern over Touval's triadic negotiation view of international mediation- if, indeed, third party settlement attempts are not entirely neutral, they have major similarities to binding disputes. Thus, for instance, Mitchell and Zawahri's (2015, p. 195) analysis of water disputes and treaty design provides correlations between militarization, bilateral negotiations third-party settlement attempts and an ordinal scale based on a range of past conflicts (p. 195) but do not differentiate between different types of third-party attempts, which they group collectively as 'Third-party settlement attempts.' This betrays a view amongst some scholars that third party attempts are basically similar.

Summary:

Existing data-sets, principally ICOW data, make it possible to provide in-depth analysis of arbitration's performance on a number of measures, including the achievement of agreements, the resolution of disputes altogether and the type and extent of agreements achieved. However, very little research has been conducted that focusses on arbitration and its comparative performance to other dispute resolution attempts. The limited existing statistical analysis of arbitration indicates that arbitration is extremely successful in resolving disputes. It indicates a strong correlation between reaching agreement and, to some extent, the durability of that agreement.

Extrapolation from General Principles of International Law

International law, as a field of study, has intersected only slightly with international conflict resolution studies. Primarily, CRS has focused on the use of mediation and other political dispute resolution processes. However, arbitration and adjudication have long been primarily

legal processes; in this sense, they have fallen well within the dictates of international law. As such, much of the theoretical expectation regarding binding conflict resolution today emerges from expectations consequent to international legal personality of states and the consequences of binding agreements.

Are states bound by arbitration outcomes? The Principles of State Sovereignty and International Courts

International law generally relies on principles of natural law. This follows back to the formalized foundations of international law in the writings of Grotius, earlier Roman thinkers on the law of nations and subsequently incorporated into the Charter of the United Nations by reference.[5] As a result, the basic assumptions of natural law with regards to party conduct- including being bound by determinations pursuant to the law of contract- are foundational to the operation of the international legal and political systems. As such, parties- countries- are assumed to be bound by the commitments in the forms of treaties. (Helfer, 2012, p. 640) These treaties include the United Nations Charter, which itself contains a number of formal, binding dispute resolution mechanisms which states may avail themselves of in specific circumstances.

Additionally, international treaties may contain binding dispute resolution processes. Formally, therefore, states may bind themselves, pursuant to their inherent 'contract-making' role, to the determinations of arbitral bodies pursuant to treaty functions. There is no at-large function pursuant to which states are bound to participate in any form of dispute resolution save through treaty mechanisms. Participation in dispute resolution processes, whether binding or otherwise, is not considered to be a *jus cogens* principle.

Further, international law provides for a broad range of circumstances under which countries may withdraw from international treaties. For those countries that have subscribed to it, the *Vienna Convention on the Law of Treaties* (United Nations, 1969) provides for a broad range of reasons through which a country may assert the right to withdraw from a treaty. These include the threat of force or coercion (Part V to the Vienna Convention) of either an individual representative or against the nation itself. In the context of international territorial disputes,

[5] See, for example, the Preamble to the UN Charter: "to establish conditions under which justice and respect for the obligations arising from treaties and other sources of international law can be maintained," and more generally Article 33 of the Charter

where threats of violence or the escalation of a dispute to the point of violence are common the capacity to subsequently withdraw from a dispute-resolution treaty is therefore very great.

However, despite this, international arbitration has increasingly come to be accepted as part of the framework of international law. Helfer, for instance, cites proponents of an idea that arbitration treaties fall within a small class of exempt treaties that cannot be withdrawn from in normal circumstances. (Helfer, 2012, pp. 637-639) Similarly, Fox notes that arbitration has become ingrained in international law, despite

> "unlike the situation of the private party who chooses flexibility of the arbitral process as an escape from the strict requirements of litigation, arbitration in any form is for the State a loss of liberty, an acceptance of constraints from which it is otherwise free. All international proceedings are instituted by some form of arbitration clause. There is not today and never has been any general method of compulsory adjudication at the international level… the jurisdiction of that [International] Court was and still is dependent on the consent of the parties. (2003, p. 137)

At the time of writing in 1985, 46 states out of a possible 160 (28.8%) had taken the optional step of accepting compulsory jurisdiction of the International Court of Justice in at least some circumstances pursuant to Article 36 of the Statute of the International Court of Justice. (Fox, 2003, pp. 137-138) By 2015, that number had risen to 72 states out of 196 states (36.7%). However, the degree to which binding dispute resolution is truly effectively binding is itself questionable. Not only must both states consent- or have irrevocably consented to jurisdiction- the matter must also be capable of resolution within the terms of the ICJ statute. In practice, as a result, a relatively small, but growing number of matters are sent for adjudication before the ICJ. As Alexandrov illustrates, the 'binding jurisdiction' of the ICJ is therefore not entirely binding, and is itself a matter of voluntary consent by the states involved. (Alexandrov, 2006)

As a matter of principle, though, international law now fully integrates the notion of binding obligations imposed on states by the determination of an independent non-state actor in the form of an arbitral tribunal, international court or other decision-maker duly appointed by the parties. As with other treaties, the resolution rendered by the decision-maker has effect as the will of the parties pursuant to the treaty from which the decision-maker gets their power, and as such may not validly be derogated from without a breach of international law. In this sense,

international law does not meaningfully differentiate between standing international courts and ad-hoc tribunals.

As a field of study, international conflict resolution studies has not drawn heavily on arbitration or international law in comparison to mediation theory, negotiation or other fields. The impact of the 'binding' status of international legal determinations made on the basis of treaty-provisions may be substantially different to in other fields and also to mediation. This is particularly important with massively multilateral treaties that include arbitration; a failure to abide by the arbitral outcome is a breach of the treaty. However, little effort has been made to explore this area in work to date.

Extrapolation from other sources of knowledge regarding arbitration.

Assumptions about the success or otherwise of binding dispute resolution have also been drawn from other areas of research beyond international political dispute resolution. Principally, these include both international and domestic private arbitration. In each case, the comparatively high standard of success achieved in resolving disputes and in enforcement of outcomes has led to a presumption that arbitration itself is an effective mechanism for conflict resolution.

The practice of arbitration and/or adjudication as a method of resolving disputes between private parties is long established. References to arbitration- resolution of disputes by other than state-appointed judges on the basis of a range of rules exist within a range of cultures, including in the Talmud (The Jewish Code of Law), in Chinese commercial practices and in market economies across the globe. Arbitration in its modern iteration primarily focuses on the capacity of parties to privately agree to resolve their disputes using an agreed-upon decision-maker, rules of procedure and legal system.

Proponents of arbitration frequently cite a range of benefits, including confidentiality, the capacity of parties to choose and expert judge, flexibility of rules of evidence and the parties' own control of timing and processes to be implemented. In commercial transactions, the capacity of the parties to maintain confidentiality in particular has been of great interest. This has led, in recent years, to a boom in commercial contracts specifying arbitration clauses, particularly in circumstances where class actions or other similar lawsuits could result. As such,

the choice of arbitration as a method of dispute resolution has itself led to suggestions of reduction in overall lawsuits, at the expense of individual rights. Overall, arbitration has been viewed as an effective method of settling commercial disputes with a reduced cost compared to classic litigation models.

Arbitration has also been effectively implemented internationally. Whilst many jurisdictions have developed detailed models for the interaction of arbitration awards with court judgements, the international UNCITRAL model law has created a high level of synchronicity across jurisdictions. Along with the New York Arbitration Convention on the Recognition and Enforcement of Foreign Arbitral Awards, (New York, 10 June 1958), the process for enforcement of arbitrations between private parties is substantially easier across most jurisdictions than the equivalent enforcement of judgements. This has led to the oft-expressed description of arbitration as something of a panacea in settling disputes. Illustratively, Wang describes arbitration as "a neutral, flexible, efficient and binding legal means of dispute resolution." (2014, p. 427). The inherent assumption in this definition is that arbitration is any more binding a mechanism than any other approach, save with the consent of the parties.

Therefore, private arbitration, whether on a municipal or international setting, has limited applicability to international country-country arbitration. Whilst the principles of selection of forum, confidentiality, speedy enforcement and easy choice of laws are all mainstays of private arbitration, none of these factors are significant in territorial disputes. The cross-application of lessons from domestic arbitration into international conflict resolution must therefore be done hesitantly, if at all.

Additionally, arbitration differs from judicial dispute resolution in the nature of the data available to researchers to analyse and assess its performance. As a private, confidential process, arbitration awards from domestic conflicts are not available for scrutiny except when appealed or otherwise brought into the public domain. Unlike state courts, which, in many jurisdictions, track case loads, progression times and rates of appeal, arbitration is inherently private. In this sense, arbitration is similar to mediation. As such, the assumption that is made that arbitration is highly effective is difficult to support statistically.

However, one area of knowledge that may transfer from municipal arbitration to international conflicts is the impact of the availability of dispute resolution methods. Arbitration in domestic

settings is largely optional; in most instances, parties may contract to resolve disputes by arbitration. Where this is available, the capacity for binding, confidential dispute resolution may result in changes to party behaviour and a preference for this approach or, for instance, and avoidance of mediation. There is little research on this issue

Comparative success rates for different methods of dispute resolution at achieving partial and full resolutions of disputes

It is possible to measure the relative performance of different methods of conflict resolution at accomplishing different goals, in this instance achieving partial resolutions, full resolutions, avoiding escalation of a conflict and achieving 'lasting' agreements. Evaluation of each method of conflict resolution against each goal requires a separate analysis of the existing data. As noted above, existing analysis has focused on the achievement of complete agreements or on a range of factors associated with mediation, rather than on the actual nature of the attempt. A comparative understanding of the rates of success of methods of dispute resolution is therefore a critical underpinning in any understanding of the overall success of arbitration.

Measurement of effectiveness of different methods of dispute resolution in achieving procedural agreements

Method: Using the ICOW data, I selected for cases within the data-set where the dispute resolution attempt was limited in scope to the achievement of a procedural agreement, defined within the ICOW Data Manual as "attempts (which address future efforts to settle the claim -- e.g. negotiating over terms of submitting the case to a certain third party -- but don't address sovereignty directly)" (Hensel, 2013, p. 28). This was achieved using the 'select cases' tool within SPSS and selecting 'procedural attempt' within the 'Extentsa' variable. 420 cases were identified. These were then distributed by classification using the Typesett3 variable, and compared to the achievement of an agreement, as per the table below.

Table 6: Type of Settlement by Achievement of Agreement- Extract for Procedural Settlement Attempts

typeset3 * agree Crosstabulation

			agree		
			No	Yes	Total
typeset3	Bilateral Negotiations	Count	97	216	313
		% within typeset3	31.0%	69.0%	100.0%
		% within agree	66.0%	79.1%	74.5%
	Non-binding Third Party Attempt	Count	50	53	103
		% within typeset3	48.5%	51.5%	100.0%
		% within agree	34.0%	19.4%	24.5%
	Binding Third Party Attempt	Count	0	4	4
		% within typeset3	0.0%	100.0%	100.0%
		% within agree	0.0%	1.5%	1.0%
Total		Count	147	273	420
		% within typeset3	35.0%	65.0%	100.0%
		% within agree	100.0%	100.0%	100.0%

The results show that binding third-party attempts at the achievement of procedural resolutions is very low, at only 4 recorded attempts. Whilst all four attempts have been successful, this is a statistically insignificant outcome. Of note, however, is that the overall rate of success in negotiating procedural resolutions is higher otherwise amongst bilateral negotiations than through mediations. Arguably, therefore, the involvement of third parties should not otherwise be expected to produce a higher rate of resolution, with the reverse outcome otherwise expected. Significant conclusions as to the impact of arbitration or legalised dispute resolution can therefore not be reached.

Measurement of effectiveness of different methods of dispute resolution in achieving partial agreements

I used the same procedural method to assess the effectiveness of different dispute resolution processes in achieving partial agreements. I sorted the ICOW date for attempts at partial resolution. Unsurprisingly, deliberate attempts to achieve only partial resolutions were relatively rare, totaling 78 cases. However, the overall rate of success in the achievement of a settlement where a partial agreement was sought is relatively high, at 73.1%. The number of

binding third-party attempts to achieve a partial resolution is again statistically insignificant at only 3, however all were successful as noted in the table below.

Table 7: Type of Settlement by Achievement of Agreement- Extract for Procedural Settlement Attempts

typeset3 * agree Crosstabulation

			agree		
			No	Yes	Total
typeset3	Bilateral Negotiations	Count	14	37	51
		% within typeset3	27.5%	72.5%	100.0%
		% within agree	66.7%	64.9%	65.4%
	Non-binding Third Party Attempt	Count	7	17	24
		% within typeset3	29.2%	70.8%	100.0%
		% within agree	33.3%	29.8%	30.8%
	Binding Third Party Attempt	Count	0	3	3
		% within typeset3	0.0%	100.0%	100.0%
		% within agree	0.0%	5.3%	3.8%
Total		Count	21	57	78
		% within typeset3	26.9%	73.1%	100.0%
		% within agree	100.0%	100.0%	100.0%

Again, notably, the rate of success for third-party involvement is lower than bilateral negotiations measured overall. As a result, the supposition that the involvement of third parties should lead to the efficient resolution of disputes is not supported by the data. However, the number of cases is small for the achievement of statistically significant results.

Measurement of Effectiveness of Different Methods of Dispute Resolution in Avoiding Escalation of Conflicts Following the Dispute Resolution Attempt

Some research (Landau & Landau, 1997) exists to suggest that the impact of a dispute resolution attempt may include a de-escalation of the conflict, or conversely cause an escalation in the dispute. This may be measured broadly through a number of methods, however existing classification within the ICOW data-base allows only for consideration of either time-based resolution- whether the dispute ends within 2, 5 or 10 years of the attempt- or consideration of

militarized escalation over 5, 10 or 15 years. I measured the performance of different methods of dispute resolution on each of these baseline measures, both where the dispute resolution attempt resulted in an agreement and where it did not. The tables below demonstrate, using the cross-tabs feature of SPSS and analysis of achievement of agreement (Agree) and claim-ending variables (Clmend2, Clmend5 and Clmend10), the degree to which claims are likely to end within each of the nominated time periods.

typeset3 * agree * clmend2 Crosstabulation

clmend2				agree		Total
				No	Yes	
No	typeset3	Bilateral Negotiations	Count	412	496	908
			% within typeset3	45.4%	54.6%	100.0%
			% within agree	68.4%	76.3%	72.5%
		Non-binding Third Party Attempt	Count	187	135	322
			% within typeset3	58.1%	41.9%	100.0%
			% within agree	31.1%	20.8%	25.7%
		Binding Third Party Attempt	Count	3	19	22
			% within typeset3	13.6%	86.4%	100.0%
			% within agree	0.5%	2.9%	1.8%
	Total		Count	602	650	1252
			% within typeset3	48.1%	51.9%	100.0%
			% within agree	100.0%	100.0%	100.0%
yes	typeset3	Bilateral Negotiations	Count	68	141	209
			% within typeset3	32.5%	67.5%	100.0%
			% within agree	60.7%	55.7%	57.3%
		Non-binding Third Party Attempt	Count	40	69	109
			% within typeset3	36.7%	63.3%	100.0%
			% within agree	35.7%	27.3%	29.9%
		Binding Third Party Attempt	Count	4	43	47
			% within typeset3	8.5%	91.5%	100.0%
			% within agree	3.6%	17.0%	12.9%
	Total		Count	112	253	365
			% within typeset3	30.7%	69.3%	100.0%
			% within agree	100.0%	100.0%	100.0%
Total	typeset3	Bilateral Negotiations	Count	480	637	1117
			% within typeset3	43.0%	57.0%	100.0%
			% within agree	67.2%	70.5%	69.1%
		Non-binding Third Party Attempt	Count	227	204	431
			% within typeset3	52.7%	47.3%	100.0%

		% within agree	31.8%	22.6%	26.7%
	Binding Third Party Attempt	Count	7	62	69
		% within typeset3	10.1%	89.9%	100.0%
		% within agree	1.0%	6.9%	4.3%
Total		Count	714	903	1617
		% within typeset3	44.2%	55.8%	100.0%
		% within agree	100.0%	100.0%	100.0%

Table 8: Claims Ending Within two years of settlement attempt, classified by attempt

typeset3 * agree * clmend5 Crosstabulation

				agree		
clmend5				No	Yes	Total
No	typeset3	Bilateral Negotiations	Count	339	413	752
			% within typeset3	45.1%	54.9%	100.0%
			% within agree	70.2%	76.8%	73.7%
		Non-binding Third Party Attempt	Count	141	111	252
			% within typeset3	56.0%	44.0%	100.0%
			% within agree	29.2%	20.6%	24.7%
		Binding Third Party Attempt	Count	3	14	17
			% within typeset3	17.6%	82.4%	100.0%
			% within agree	0.6%	2.6%	1.7%
	Total		Count	483	538	1021
			% within typeset3	47.3%	52.7%	100.0%
			% within agree	100.0%	100.0%	100.0%
yes	typeset3	Bilateral Negotiations	Count	120	187	307
			% within typeset3	39.1%	60.9%	100.0%
			% within agree	60.0%	59.7%	59.8%
		Non-binding Third Party Attempt	Count	76	81	157
			% within typeset3	48.4%	51.6%	100.0%
			% within agree	38.0%	25.9%	30.6%
		Binding Third Party Attempt	Count	4	45	49
			% within typeset3	8.2%	91.8%	100.0%
			% within agree	2.0%	14.4%	9.6%
	Total		Count	200	313	513
			% within typeset3	39.0%	61.0%	100.0%
			% within agree	100.0%	100.0%	100.0%
Total	typeset3	Bilateral Negotiations	Count	459	600	1059
			% within typeset3	43.3%	56.7%	100.0%
			% within agree	67.2%	70.5%	69.0%
			Count	217	192	409

		Non-binding Third Party Attempt	% within typeset3	53.1%	46.9%	100.0%
			% within agree	31.8%	22.6%	26.7%
		Binding Third Party Attempt	Count	7	59	66
			% within typeset3	10.6%	89.4%	100.0%
			% within agree	1.0%	6.9%	4.3%
	Total		Count	683	851	1534
			% within typeset3	44.5%	55.5%	100.0%
			% within agree	100.0%	100.0%	100.0%

Table 9: Claims Ending Within five years of settlement attempt, classified by attempt

typeset3 * agree * clmend10 Crosstabulation

				agree		
clmend10				No	Yes	Total
No	typeset3	Bilateral Negotiations	Count	252	316	568
			% within typeset3	44.4%	55.6%	100.0%
			% within agree	70.8%	77.3%	74.2%
		Non-binding Third Party Attempt	Count	101	83	184
			% within typeset3	54.9%	45.1%	100.0%
			% within agree	28.4%	20.3%	24.1%
		Binding Third Party Attempt	Count	3	10	13
			% within typeset3	23.1%	76.9%	100.0%
			% within agree	0.8%	2.4%	1.7%
	Total		Count	356	409	765
			% within typeset3	46.5%	53.5%	100.0%
			% within agree	100.0%	100.0%	100.0%
yes	typeset3	Bilateral Negotiations	Count	150	226	376
			% within typeset3	39.9%	60.1%	100.0%
			% within agree	58.6%	61.2%	60.2%
		Non-binding Third Party Attempt	Count	102	99	201
			% within typeset3	50.7%	49.3%	100.0%
			% within agree	39.8%	26.8%	32.2%
		Binding Third Party Attempt	Count	4	44	48
			% within typeset3	8.3%	91.7%	100.0%
			% within agree	1.6%	11.9%	7.7%
	Total		Count	256	369	625
			% within typeset3	41.0%	59.0%	100.0%
			% within agree	100.0%	100.0%	100.0%
Total	typeset3	Bilateral Negotiations	Count	402	542	944
			% within typeset3	42.6%	57.4%	100.0%
			% within agree	65.7%	69.7%	67.9%

	Non-binding Third Party Attempt	Count	203	182	385
		% within typeset3	52.7%	47.3%	100.0%
		% within agree	33.2%	23.4%	27.7%
	Binding Third Party Attempt	Count	7	54	61
		% within typeset3	11.5%	88.5%	100.0%
		% within agree	1.1%	6.9%	4.4%
Total		Count	612	778	1390
		% within typeset3	44.0%	56.0%	100.0%
		% within agree	100.0%	100.0%	100.0%

Table 10: Claims Ending Within ten years of settlement attempt, classified by attempt

A number of factors may influence this data, and must be considered in the analysis of these results. Firstly, the length of time taken for arbitration proceedings may be far longer than other mediation or dispute resolution processes. As the measures of dispute resolution attempts are from commencement, arbitration may appear to perform artificially poorly as a result. Secondly, consideration of the above results must be tempered by an acceptance of the variability of dispute resolution attempts, not all of which are, structurally, identical even within broad methods. For instance, arbitration attempts include both permanent tribunals and ad-hoc tribunals. Further, the data is derived from attempts-level data, meaning overlaps will occur where multiple settlement attempts have occurred within the same time period. Thus some weighting must be given to the assumption that, where multiple attempts have been made, progress may have occurred from earlier attempts in adjusting the nature of the dispute.

However, several outcomes are apparent from this analysis. Firstly, whilst 21.8% of claims end within 2 years of a dispute resolution attempt, 32.7% within 5 years of an attempt and 44.1% within 10 years of a dispute resolution attempt, there is only a modest increase based on the achievement of an agreement. This suggests that the entry into a dispute resolution process itself may contribute to the resolution of the dispute, even where the process itself fails to reach an outcome.

Secondly, there is a markedly improved performance of binding dispute resolution processes over other options in achieving dispute settlements that lead to the end of the claim. Of claims in which an arbitration took place, 78.6% resulted in the claim ending within 10 years. A strong correlation between successful arbitrations and the resolution of the claim was also observable, with 81.5% of successful binding dispute resolution attempts resulting in the end of the claim

within 10 years, compared to 57.1% of unsuccessful arbitrations. These statistics are also pronounced when looked at over the shorter, 2-year timeframe, despite the time-lag likely for arbitration. Of the 69 binding dispute resolution attempts recorded within that data, 47 resulted in the claim ending within 2 years, of which 43 were successful arbitrations. As a result, binding dispute resolution shows a strong indicator of being correlated to the ending of claims.

Measurement of Effectiveness of Different Methods of Dispute Resolution in Avoiding Militarization of Conflicts

Using the same methodology, I considered the rate of incidence of militarized interstate disputes (MID)'s following a dispute resolution attempt. Where MID's have occurred within 5, 10 or 15 years of the attempt, the dispute resolution attempt has clearly had only a limited impact in terms of the reduction of violence. The ICOW data codes specifically for new MID's, as opposed to the continuation of existing ones.

Outcomes:

91.7% of successful binding third party dispute resolution attempts resulted in the avoidance of an MID within 5 years. 91.7% of the cases in which an MID was avoided for 5 years in a binding dispute settlement attempt involved successfully reaching an agreement. This is not surprising, given that most disputes are never militarized- 70.4% of disputes experiencing no MID events.

midsiss

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	293	70.4	70.4	70.4
	1	62	14.9	14.9	85.3
	2	28	6.7	6.7	92.1
	3	12	2.9	2.9	95.0
	4	6	1.4	1.4	96.4
	5	6	1.4	1.4	97.8
	7	2	.5	.5	98.3
	8	2	.5	.5	98.8
	13	2	.5	.5	99.3
	16	1	.2	.2	99.5
	19	2	.5	.5	100.0
	Total	416	100.0	100.0	

Table 11: Claim-level analysis, frequency count for militarized interstate disputes

Similarly, analysis of the usages of arbitration shows that it rarely occurs in circumstances where armed conflict has been involved, and never in cases where armed conflict is ongoing. As shown in table 15 none of the arbitrations in the data-set occurred during full-scale war between the parties.

typeset3 * durwar Crosstabulation

Count

		durwar		
		.0	1.0	Total
typeset3	Bilateral Negotiations	1137	18	1155
	Non-binding Third Party Attempt	433	29	462
	Binding Third Party Attempt	70	0	70
Total		1640	47	1687

Table 12: Settlement Type by Commencement of attempt during War

Only a single arbitration occurred during a fatal MID- the United Kingdom-Iceland Dispute of 1952-1956, during which a single person died.

typeset3 * durfat Crosstabulation

Count

		durfat		
		No	Yes	Total
typeset3	Bilateral Negotiations	1130	25	1155
	Non-binding Third Party Attempt	419	43	462
	Binding Third Party Attempt	69	1	70
Total		1618	69	1687

Table 13: Settlement Type- Fatalities Y/N

However, a surprising number of cases of arbitration occurred during a non-fatal MID, such as an escalation or minor conflict more akin to posturing.

typeset3 * durmid Crosstabulation

		durmid		
		No	Yes	Total
typeset3	Bilateral Negotiations	1099	56	1155
	Non-binding Third Party Attempt	385	77	462
	Binding Third Party Attempt	62	8	70
Total		1546	141	1687

Table 14: Settlement by Type Occurring within Militarised incident

Less than 5% of bilateral negotiations occur during an MID. 17% of third party interventions occur during an MID. 11% of arbitrations occur during an MID. The arbitrations and adjudications within this sub-set involve long-simmering conflicts such as Greece-Turkey, the sole casualty UK-Iceland 'Cod War,' and a series of South American disputes.

Selection of each of these cases pursuant to the ICOW claim dyads (13001, 13002, 13602., 16001, 170003, 205001, 220801, and 235201) provides the basis for determination as to the Maximum Hostility Level reached within each conflict.

Claim Dyad	Party 1	Party 2	ICOW label	Highest Force Level
13001	Ecuador	Peru	Oriente-Mainas	Use of Force
13002	Ecuador	Peru	Cordillera del C—ndor	Use of Force
13602	Peru	Bolivia	Acre	Use of Force
16001	Chile	Argentina	Patagonia	Use of Force
170003	Syria	Israel	DMZ Diversion	Use of Force
205001	Nicaragua	Honduras	Honduras-Nicaragua Caribbean Sea	Use of Force
220801	United Kingdom	Iceland	Cod War (50 miles)	Use of Force
235201	Greece	Turkey	Aegean Sea	Use of Force

Table 15- Claims extract

This indicates a possible issue within the data-set in terms of the breadth of labels being applied within 'use of force' category as being very broad. However, it does show that in none of the cases where arbitration was used in the course of an MID was there any subsequent escalation of the dispute. Despite the small sample size, this does indicate that, even in conflict situations, MID's addressed by arbitration are unlikely to escalate.

Maxhost

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No MID Occurred	293	70.4	70.4	70.4
	Threat to Use Force	2	.5	.5	70.9
	Display of Force	19	4.6	4.6	75.5
	Use of Force	79	19.0	19.0	94.5
	Full-Scale War	23	5.5	5.5	100.0
	Total	416	100.0	100.0	

Table 16: Highest hostility levels across all conflicts

As such, it appears that there is a strong correlation between successful arbitration and avoidance of further armed conflict. However, there was also a reverse correlation, with an avoidance of the use of arbitration in cases of MID's, and certainly in wars. Amongst all methods generally, arbitration can therefore be said to be extremely effective at avoiding escalation. Within the classifications provided by ICOW, 'use of force' is considered to be a significantly high event on the scale of possibilities. 'Use of Force' and 'Full-Scale War' constitute approximately the upper quartile of severity of cases. As such, it is reasonable- though far from certain given the broad categories of the classification- to accept that arbitration is used in cases that are at least moderately significant. However, given also that the category of 'use of force' is broad and the relatively small number of full-scale wars, it is not possible to reach statistically significant conclusions regarding overall comparisons of dispute resolution methods and avoidance of escalation.

Cases involving fatalities are generally considered to be harder to resolve. Over 90% of the conflicts within the data-set involved no casualties. Using the 'Att3Bind' variable within the claim-level summaries to produce a sample of claims in which at least one binding 3rd party dispute resolution attempt was made; 58 cases were selected. Using the 'Maxfatal' variable- maximum number of fatalities- produces a spread of results contained in Table 17. The contrasting results are contained below in Table 18

Table 17: Intersection Analysis- Fatalities in Conflict- arbitration employed

Maxfatal- Att3BindYES

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No fatalities	45	77.6	77.6	77.6
	1-25	6	10.3	10.3	87.9
	26-100	2	3.4	3.4	91.4
	251-500	1	1.7	1.7	93.1
	501-999	1	1.7	1.7	94.8
	1000+	3	5.2	5.2	100.0
	Total	58	100.0	100.0	

Table 18: Intersection Analysis- Fatalities in Conflict- arbitration not employed

Maxfatal- Att3BindNO

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No fatalities	330	92.2	92.2	92.2
	1-25	5	1.4	1.4	93.6
	26-100	1	.3	.3	93.9
	101-250	2	.6	.6	94.4
	501-999	2	.6	.6	95.0
	1000+	18	5.0	5.0	100.0
	Total	358	100.0	100.0	

Comparison of the cumulative percentages shows that, in general, more fatalities occur in cases where arbitration occurred. However, the data indicates that MID's and wars rarely occur after arbitration, indicating that arbitration has a retardant effect on the potential escalation of disputes.

Are River, Maritime and Territorial Disputes Alike?

Whilst codified within the same database, river, maritime and territorial disputes may have unique, structural factors that differentiate them and make them unlike for the purposes of analysis. These include the modern development of a range of treaties governing maritime issues, the capacity of multiple parties to share interests in the same river, complicating what are otherwise more likely to be fundamentally bilateral disputes in the case of territories. Accordingly, in considering the three subcategories within the ICOW data as they apply to arbitration, it is important to consider the profile and variables of these cases.

Comparative Number of River, Maritime and Territorial Disputes

Table 19: Comparative Numbers of Claims by Type

issue

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Territorial Claim	191	45.9	45.9	45.9
	River Claim	82	19.7	19.7	65.6
	Maritime Claim	143	34.4	34.4	100.0
	Total	416	100.0	100.0	

Table 19 shows that the majority of disputes within the data are territorial in nature, rather than river or maritime. This is unsurprising, as many territorial boundaries are determined by rivers as a natural and convenient method of creating boundaries. (Prescott & Triggs, 2008, p. 215)

Arbitration was deployed across all kinds of disputes. It was more likely to be employed in territorial conflicts than the overall proportion of such conflicts, with a similar reduction in usage in river claims and a very small reduction in maritime claims. However, given the small sample size, this variance is not considered to be significant or indicate a basic difference in attitudes to dispute resolution methods.

Issue- Binding Attempts

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Territorial Claim	33	56.9	56.9	56.9
	River Claim	6	10.3	10.3	67.2
	Maritime Claim	19	32.8	32.8	100.0
	Total	58	100.0	100.0	

Table 20: Intersection- Issue type by use of binding attempts

These differences may be better accounted for by the question of conflict intensity and potential for hostility. Territorial claims are demonstrably more likely to result in armed conflict and may consequently attract more aggressive interest in their resolution, particularly insofar as third-party activity is concerned. Table 13 below highlights that, proportionally, territorial disputes are twice as likely as river or maritime disputes to result in full-scale war.

issue * maxhost Crosstabulation

			maxhost					
			No MID Occurred	Threat to Use Force	Display of Force	Use of Force	Full-Scale War	Total
issue	Territorial Claim	Count	119	2	10	39	21	191
		% within issue	62.3%	1.0%	5.2%	20.4%	11.0%	100.0%
		% within maxhost	40.6%	100.0%	52.6%	49.4%	91.3%	45.9%
	River Claim	Count	70	0	5	6	1	82
		% within issue	85.4%	0.0%	6.1%	7.3%	1.2%	100.0%
		% within maxhost	23.9%	0.0%	26.3%	7.6%	4.3%	19.7%

	Maritime Claim	Count	104	0	4	34	1	143
		% within issue	72.7%	0.0%	2.8%	23.8%	0.7%	100.0%
		% within maxhost	35.5%	0.0%	21.1%	43.0%	4.3%	34.4%
Total		Count	293	2	19	79	23	416
		% within issue	70.4%	0.5%	4.6%	19.0%	5.5%	100.0%
		% within maxhost	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table 21: Issue type by maximum hostility level

Similarly, an analysis of the ways in which conflicts are ultimately resolved shows no substantial differences between the three categories of conflicts. Using the 'Resolved' variable- showing the way conflicts are ultimately resolved- I identified the three major methods through which conflicts are ultimately resolved.

resolved

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Dropped by Challenger	64	15.4	19.4	19.4
	Renounced by Challenger	7	1.7	2.1	21.5
	Third Party	69	16.6	20.9	42.4
	Bilateral	125	30.0	37.9	80.3
	Independence	17	4.1	5.2	85.5
	Actor Leaves System	7	1.7	2.1	87.6
	Dropped by Target	19	4.6	5.8	93.3
	Dropped by Target	13	3.1	3.9	97.3
	Renounced by Target	1	.2	.3	97.6
	Plebiscite	6	1.4	1.8	99.4
	Claim No Longer Relevant	2	.5	.6	100.0
	Total	330	79.3	100.0	
Missing	System	86	20.7		
Total		416	100.0		

Table 22 Claim Outcomes frequency

Between them, 'dropped by challenger,' Third party intervention (including arbitration) and bilateral negotiations account for 78.2% of valid cases. The remaining 8 options each accounted for less than 20 cases.

I then performed a 'select cases' function within the 'issue' variable to isolate each of the issues separately. I then sorted using the 'resolved' variable.

resolved

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Dropped by Challenger	64	15.4	19.4	19.4
	Renounced by Challenger	7	1.7	2.1	21.5
	Third Party	69	16.6	20.9	42.4
	Bilateral	125	30.0	37.9	80.3
	Independence	17	4.1	5.2	85.5
	Actor Leaves System	7	1.7	2.1	87.6
	Dropped by Target	19	4.6	5.8	93.3
	Dropped by Target	13	3.1	3.9	97.3
	Renounced by Target	1	.2	.3	97.6
	Plebiscite	6	1.4	1.8	99.4
	Claim No Longer Relevant	2	.5	.6	100.0
	Total	330	79.3	100.0	
Missing	System	86	20.7		
Total		416	100.0		

Table 23: Outcome by Issue

Pursuant to the figure above, the same three principle methods of resolution account for 77.2% of resolutions to date.

Performing the same query with River disputes yields a very similar result:

resolved

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Dropped by Challenger	22	26.8	31.0	31.0
	Third Party	8	9.8	11.3	42.3
	Bilateral	27	32.9	38.0	80.3
	Independence	1	1.2	1.4	81.7
	Actor Leaves System	4	4.9	5.6	87.3
	Dropped by Target	9	11.0	12.7	100.0
	Total	71	86.6	100.0	
Missing	System	11	13.4		
Total		*82*	*100.0*		

Table 24: River Disputes by Method of Resolution

The three principle methods of resolution represent 80.3% of resolutions to disputes. Substantially the same results, pursuant to table 25 below, are achieved when analysing maritime disputes.

resolved

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Dropped by Challenger	16	11.2	18.2	18.2
	Third Party	17	11.9	19.3	37.5
	Bilateral	36	25.2	40.9	78.4
	Independence	6	4.2	6.8	85.2
	Dropped by Target	10	7.0	11.4	96.6
	Dropped by Target	2	1.4	2.3	98.9
	Plebiscite	1	.7	1.1	100.0
	Total	88	61.5	100.0	
Missing	System	55	38.5		
Total		143	100.0		

Table 25: Maritime Disputes by method of resolution

I therefore conclude that, fundamentally, river, maritime and territorial disputes are similar in the approach that nations take to both attempting to resolve conflicts and in actually resolving them. The subject matter of the dispute- within the broader heading of 'territory and sovereignty' therefore appears to have little influence on the type of dispute resolution method that would be deployed, or its expected rate of success.

Salience

Gent and Shannon, amongst others, provide a strong focus on analysis of 'salience' as an indicator of whether arbitration is likely to be used. They suggest that arbitration is unlikely to be deployed in cases of very high salience of a dispute, given a likely loss of control by the parties. This suggests that arbitration may involve a fundamental loss of control over dispute resolution, a position that is supported by the inherent nature of the rendering of an arbitration award.

'Salience' is a variable coded for by the ICOW data. It is not defined by the ICOW coding manual. However, the ICOW website (Hensel, 2015) refers to salience:

> *A third requirement for each ICOW data set is that data must be collectable on some type of measure of issue salience. That is, scholars using the data set must have some way to distinguish between claims of higher and lower salience. The ICOW territorial claims data set offers numerous variables that may be used to distinguish claims by issue salience, including the area and population of the claimed territory, the existence of resource, ethnic, or religious bases for the claim, and whether the claim involves mainland or offshore territory, homeland or colony/possession territory, and all of the target state, part of the target state, or merely the precise location of the border.*

The ICOW coding manual does suggest that there are issues with determination of salience, a fundamentally subjective variable because it assigns relative weight to a number of different issues as one value. The ICOW data includes both a salience indicator and a variable 'salold', based on a previous measure of salience that gave different relative weightings to elements of the salience index. However, there is a long-established basis within the literature (Hensel, 2001) to suggest that 'issue salience' can be a key determinant in party behaviour. Generally, a high salience would indicate that this issue is very important to one, or both, parties to a dispute. Salience is not coded for within the ICOW settlement attempts data-set, but only within the overall ICOW claim-level data, at this time.

Accordingly, I used the ICOW Claim-level data and sorted the data into two categories- conflicts in which a binding attempt was made and conflicts in which no binding attempt was made. Using the 'Icowsalc' variable- which categorizes salience into low (salience scores of 0-4, moderate (4.5-7.5) and high (8-12), I compared the salience-spread for conflicts in which a binding attempt occurred to conflicts in which it did not.

Table 26: Arbitration Attempts salience for conflicts in which a binding attempt took place

Icowsalc

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Low	16	27.6	27.6	27.6
	Moderate	21	36.2	36.2	63.8
	High	21	36.2	36.2	100.0
	Total	58	100.0	100.0	

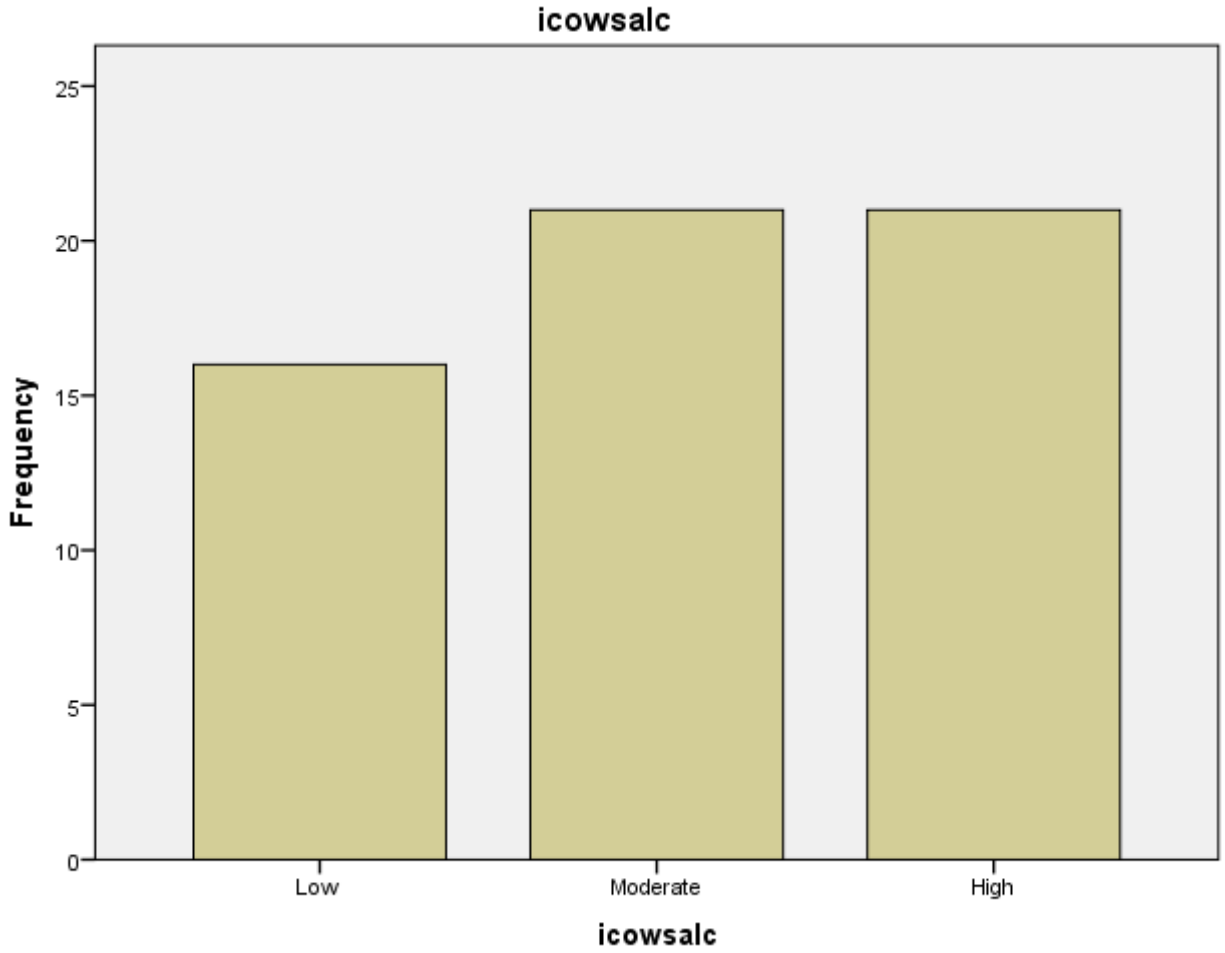

Figure 5: Arbitration Attempts salience for conflicts in which a binding attempt took place.

There does not appear to be a significant correlation between conflicts in which arbitration is used and overall salience. However, there is a significant difference in the salience between conflicts in which arbitration is used and conflicts where it is not attempted, with arbitration used in conflicts of lower salience more often that in the overall sample of conflicts.

Icowsalc

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Low	105	25.2	25.2	25.2
	Moderate	173	41.6	41.6	66.8
	High	138	33.2	33.2	100.0
	Total	416	100.0	100.0	

Table 27: Icowsalc - all conflicts

The ICOW data also provides the capacity to consider the salience of the conflict to either party individually. This is also a potentially misleading measure, as it operates on the basis of categories, rather than specifically expressed views of governments and also because it relies on the highest salience achieved during a claim, rather than the actual salience at the time of the dispute resolution attempt. I compared the comparative salience levels for 'challengers' (initiators of disputes) and 'targets' (respondents in disputes) for disputes in which an arbitration took place. The scale for salience in this measure is 0-6. The average difference was 0.302, indicating that arbitrations took place primarily in conflicts where the dispute was, by the salience measure, of roughly similar salience to both parties. Only 2 conflicts hade a salience-variance of 2- the Aves (Bird) Island dispute between Venezuela and the Netherlands, and the Pirara dispute between Brazil and the United Kingdom. By comparison, the average difference among all claims was 0.632. This suggests that, rather than absolute salience of disputes to a given party being an indicator of the use of arbitration, disputes where the salience is similar for both parties is likely to be a better indicator of the employment of arbitration.

Is Arbitration a Front-Line Methodology?

Whilst each conflict represents unique features, common approaches to foreign policy, international relations and membership of the community of nations may be taken consistently by particular countries. This reflects a sound foreign policy, stable international relationships and the growing need for certainty and stability in international relations. Whilst most countries are not represented within the ICOW data and few participants are engaged in multiple conflicts across the same era, it is still possible to expect that consistent approaches to resolving international conflicts would be taken by nations.

On first principles, it would be expected that the first attempts in resolution of any conflict would be bilateral, involving the formal raising of the dispute by representatives for the 'challenger' state. This assumption is buttressed by the coding rules for the ICOW data-set, which commence recording a conflict from the time when it is formally raised by officials for one nation. Consequently, it is expected that arbitration would rarely be the first settlement attempt within any given conflict. Indeed, consistent with both basic legal principles and the United Nations Charter, an attempt to settle a dispute should be made before commencing litigation.

Using the Settlement Attempts data and the 'Typesett3' variable, I selected for cases where the dispute was arbitrated. I then used the 'Settnumt' variable to count the chronological number of settlement attempts preceding the arbitration attempt. The variable includes both peaceful and militarized dispute settlement attempts.

Table 28: Chronological number of settlement attempts in the dispute- arbitrated disputes at time of arbitration

Settnumt

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.0	8	11.4	11.4	11.4
	2.0	9	12.9	12.9	24.3
	3.0	11	15.7	15.7	40.0
	4.0	6	8.6	8.6	48.6
	5.0	2	2.9	2.9	51.4
	6.0	7	10.0	10.0	61.4
	7.0	3	4.3	4.3	65.7
	8.0	2	2.9	2.9	68.6
	10.0	4	5.7	5.7	74.3
	11.0	2	2.9	2.9	77.1
	12.0	2	2.9	2.9	80.0
	13.0	1	1.4	1.4	81.4
	14.0	1	1.4	1.4	82.9
	15.0	1	1.4	1.4	84.3
	16.0	1	1.4	1.4	85.7
	17.0	1	1.4	1.4	87.1
	19.0	3	4.3	4.3	91.4
	20.0	1	1.4	1.4	92.9
	21.0	2	2.9	2.9	95.7
	28.0	1	1.4	1.4	97.1
	33.0	1	1.4	1.4	98.6
	52.0	1	1.4	1.4	100.0
	Total	70	100.0	100.0	

The mean 'settnumt' score for arbitration attempts is 8.07. The median is 5. Whilst the variance is quite substantial and there may be an overlap in occurrences because of conflicts in which there is more than one arbitration attempt, this indicates that it is comparatively rare for arbitration to be tried first.

Table 29: Settnumt- settlement attempts in claim at time of arbitration attempt

Number of settlement attempts- at time of arbitration attempt

			Statistic	Std. Error
settnumt	Mean		8.071	1.0438
	95% Confidence Interval for Mean	Lower Bound	5.989	
		Upper Bound	10.154	
	5% Trimmed Mean		6.952	
	Median		5.000	
	Variance		76.270	
	Std. Deviation		8.7333	
	Minimum		1.0	
	Maximum		52.0	
	Range		51.0	
	Interquartile Range		8.3	
	Skewness		2.539	.287
	Kurtosis		8.941	.566

Using the Settnumt data and sorting by the 'Typesett3' variable, I compare the mean and median number of settlement attempts at the time of usage of each method of resolution- non-peaceful, bilateral, non-binding third party and binding third party. To do this, I recoded missing variables as non-peaceful settlement attempts pursuant to the ICOW coding handbook.

Table 30: Number of Settlement Attempts by number of settlement attempt type

Settlement Attempt Type	Number of results	Mean settnumt	Median Settnumt	Highest Settnumt	% of time used as first attempt at dispute resolution
Non-peaceful	318	9.85	7	51	14.78%
Bilateral	1155	8.30	5	61	17.40%
Non-binding 3rd party	462	9.32	5	58	16.45%
Binding 3rdparty	70	8.07	5	52	11.43%

This analysis shows that, whilst non-peaceful attempts are likely to happen slightly later in the conflict, there is no strong correlation between method used and stage in the conflict in which

the method is used. However, arbitration was the least popular method to use as the first attempt at dispute resolution.

However, this data may be effected by the small number of conflicts in which many conflict resolution attempts have been made. Accordingly, I created a Transform variable, categorising settnumt into bands- 1-3, 3-7, 7-10 and >10. Very similar results were obtained, with a slight difference in average number of attempts showing for non-peaceful attempts over all others. However, on this calculation, the median number of attempts was 2 for all categories. This indicates that, arbitration is used in a similar methodological profile as all other methods of conflict resolution.

Further data concern

Pursuant to the data-coding rules that indicate that a dispute is taken to formally exist only through statements by officials, it is surprising to find any arbitration results with a 'settnumt' score of 1, indicating that the arbitration was the first attempted resolution in the conflict. Accordingly, I extracted the 8 relevant results for further exploration.

Challenger	**Target**	**Dispute Name**
United States	United Kingdom	Passamaquoddy Bay
United States	United Kingdom	St. Croix-St. John Rivers
United Kingdom	United States	Dixon Entrance
Netherlands	Belgium	Albert Canal
Netherlands	Ireland	Irish 50 Mile
Norway	Sweden	Grisbadarna
Syria	Israel	National Water Carrier
European Commission	Ireland	EEC Fisheries

Table 31: Cases Selection- Arbitration as First Attempt

Analysis of each of the eight cases indicates unique circumstances that may highlight the future of arbitration as a front-line method of dispute resolution. The first two cases both involved the United States and the United Kingdom, pursuant to a broad treaty between them, arbitrating specific issues that subsequently arose for determination. The parties had already fought a number of wars between them, including the War of Independence and the War of 1812. (Knox

& Bryce, 1910)Emergent from these conflicts was the Treaty of Gent, which determined to appoint "commissioners to divide the islands of Passamaquoddy Bay between the United States and Great Britain." (Treaty of Ghent, 1814). It also contains further provision for arbitration over the St Croix River. As such, whilst the arbitration over each of these two matters was indeed the first settlement attempt of these specific issues, they represented subsequent attempts in a long chain of conflict between the two sides, including broader territorial disputes that extended to the questions of the US-Canada border as well. (Van Zandt, 1976).

The Dixon Entrance case emerged from a prior international convention- the Convention of 1825 between Russia and the United Kingdom, establishing the boundaries between Alaska and what would later become Canada. The United States, as purchaser of the Alaskan territory, inherited the title boundaries and the entitlements and obligations for boundary resolution through the Alaska Boundary Commission. (Van Zandt, 1976, p. 29). In 1903, following the failure of the bilateral Commission to reach agreement on the issue, the matter was referred pursuant to the standing convention to the Permanent Court of Arbitration pursuant to a further treaty, the *'Convention Between Great Britain And The United States Of America For The Adjustment Of The Boundary Between The Dominion Of Canada And The Territory Of Alaska, Signed At Washington, January 24, 1903.'* (United Nations, 2006)

It appears that the codification approach used by ICOW has omitted to consider the Alaskan Boundary Tribunal as a separate event, or to consider the entrance into the Convention of 1903 as a procedural attempt at partial resolution of the dispute.

The Albert Canal dispute appears, on the records of the Permanent Court of International Justice, to be a rare case of unilateral action undertaken by one party, pursuant to an earlier arbitration provision within a treaty. There are no identified English-language records to show that the parties engaged in bilateral communication prior to the commencement of proceedings. However, this appears to be highly unlikely. (Rosenne, 2007, p. 165) This indicates a limitation in the available records which form the codification base for ICOW. Alternatively, it suggests that an over-high standard may have been adopted to determine what constitutes a bilateral settlement attempt, over and above normal diplomatic communications.

However, analysis of all of the above cases indicates that, rather than being the first attempts to resolve issues between the parties, arbitration was used consequent to pre-existing processes or agreements, arising out of either long-standing efforts to solve the issue (beginning before

the commencement of the period covered by the data-set)[6] or represent a branching attempt to resolve a sub-issue within a broader, complicated relationship between two parties.

As a result, it appears that arbitration does not represent a method of dispute resolution that is used as a first-instance approach. Rather, it represents a process used following the development of a framework for dispute resolution between two or more parties, often in the course of long-running disputes.

Profiling an 'Arbitration Case'

On the basis of the above data, it is possible to provide a series of generalizations about a case likely to be arbitrated within the sub-set of territorial, maritime and river disputes.

Firstly, the dispute is likely to involve either some threats of conflict or official suggestions of the willingness to use force, but is very unlikely to have had force or war occur prior to the arbitration. This indicates that arbitrations are likely to be employed in conflicts that are of potential significance to the parties, but not yet involving very high levels of political commitment.

Secondly, it is likely to be a conflict of similar significance, as denoted by salience, to the two parties. Conflicts where the issue is of great national importance to one party, but limited or no principal concern to the other nation, are extremely unlikely to be arbitrated.

Thirdly, the conflict is likely to be one where there are preceding attempts at resolution, often across a number of methods ranging from bilateral negotiations to mediation. The prior occurrence of a mediation makes arbitration far more likely.

Finally, the conflict is likely to have involved some form of escalation, but not yet progressed to all-out war. The conflict is likely to have involved some international interest, but not yet progressed to the point of major-power direct involvement.

[6] To confirm this, I contacted the authors of the data-set with a specific query and received the following response:
"Our dataset begins in 1900, hence the lack of a settlement attempt that occurred in 1898. You are correct that our numbering system for settlement attempts begins with one (for the first attempt) and then increases by one for each subsequent attempt. Sara" Email, 9 March 2016.

Conclusion

In this section, I have analyzed and reviewed the current state of understanding of international arbitration in territorial, maritime and river disputes. On the basis of that analysis, it is clear that the understanding of the field is relatively limited, with a range of suppositions as to the uses of arbitration not supported by the available evidence. I have also analyzed the principal data-source used in this research, highlighting both limitations and the capacity to conduct effective analysis on the basis of the available data and tools.

Arbitration can be understood to be a relatively rarely used method of dispute resolution in territorial, maritime and river disputes, compared to dominant approaches of mediation and negotiation. It has a high correlation with successes, avoidance of escalation and the entry into final and binding arrangements. However, arbitration is rarely used in cases of ongoing high-intensity conflicts, and is overall clearly not a preferred method of problem-solving, never being used as the first-instance attempt to resolve a dispute.

At the same time, the level of understanding of arbitration and its impact are limited. Unlike mediation, the subject of extensive studies, arbitration has been considered to a much lesser degree. The causes of success of arbitration have not been analyzed in significant detail. Crucially, the factors affecting the willingness of parties to arbitrate or the likelihood of success of such arbitrations have been scantly addressed.

Section 3: Factors Affecting the Choice of Binding Third Party Dispute Resolution

Despite an ostensibly high rate of success and a reputation in the literature as an extremely effective means of reaching binding, sustainable resolutions of disputes of all sorts, arbitration has, as shown above, been employed rarely in international territorial, maritime and river disputes. In this section, I explore the existing assumptions as to the factors influencing the choice of arbitration as a method of resolving disputes.

The Decision to Pursue Binding Third Party Resolution- Existing Assumptions Within Literature

On the basis of existing literature, it is surprising in many respects that arbitration is so rarely used in international conflicts. For parties seeking to resolve disputes, the choice of a method with a strong track record at reaching binding, durable, agreements should be highly favourable. The material cost of arbitration is likely to be far lower than military action- lawyers are (usually) cheaper than guns.[7] Additionally, for thinkers who adopt a liberal approach to international relations, the strong assumption that parties wish to comply with international law and be 'good global citizens,' if true, should result in countries embracing international courts for matters of grave concern to world peace, such as territorial disputes. (Liberaltheoryofinternationalrel) Parties should be even further incentivized to resolve disputes that are primarily economic in nature, where resolution of the dispute can be achieved by adopting either compensation or financial measures to resolve conflicts, with the assumption of future compliance a basic component in decisions-making.

However, arbitration remains a relatively little-used process in international conflict resolution, with a marked preference by nations to use mediation, bilateral or multilateral negotiation or even armed conflict as a way of resolving issues, rather than resorting to the court room. (Gent, 2011, pp. 711, 713). Gent and Shannon (2011, p. 711) raise the obvious question of why binding mechanisms are not preferred more by states, given what they highlight as the high rate of successful use of the process in resolving conflicts. For instance, they cite the successful

[7] By way of an indication, the cost of registration of a case with the Permanent Court of Arbitration is 2000 euros. Hourly costs of registry services do not exceed 250 euros. See https://pca-cpa.org/en/fees-and-costs/ for current fees.

use by Colombia and Venezuela of arbitration to resolve a land boundary, but a refusal to use a binding process to determine maritime borders. In explanation, they raise a number of long-standing theoretical explanations, including the perception that parties require decision-control, including the capacity to finally refuse to ratify an outcome, (generally shortened to 'decision-control' in this thesis,) the perceived loss of national prestige resulting from surrender of sovereignty, the existence of allegedly difficult conditions under which arbitration may be preferred and to some degree a dislike of international law.

Existing Assumptions

What are the factors that affect the choice of parties to utilize- or avoid- binding third party dispute resolution? Within the literature, a number of factors have been identified. These can generally be divided into two categories:

(1) Factors encouraging or promoting the use of third-party dispute resolution in some form
(2) Factors discouraging the use of third party dispute resolution in some form.

Amongst the affirmative factors identified by Gent and Shannon (2011, p. 712), following an extensive survey of the existing literature are:

- Past successful performance of arbitration over other methods at reaching agreement
- Low cost of arbitration
- Specific success in military and high-value disputes
- Binding nature of resolutions in international law
- 'hesitancy' of parties to break arbitration agreements- reputation and legal costs
- Reduced internal resistance to concessions subject to international arbitration- 'political cover'
- Benefits to leaders as political diffuser
- Prevention of deaths

Gent and Shannon also identify a number of factors which, they say, explain the relative lack of interest in binding dispute resolution. (pp. 713-715) These are, principally:

- Cost of relinquishing control- both political and internal political costs- 'sacrificial decision control'
- Risk of unfavourable outcome which may be binding
- Loss of opportunity to achieve compromise arising from final settlement structure of arbitration.

Gent and Shannon also identify that the relative importance of different factors may vary between parties. They suggest that the willingness of parties to participate in arbitration will come down to the

> "willingness to cede decision control to a third party: the importance of the issue to the disputants, the availability of favorable outside options, and the history of negotiations."

This notion is frequently described as 'decision control,' and is a described factor in a number of different dispute resolution processes. However, it would appear to be considered as being more important in arbitration, where the final acceptance-power of states of an agreement is removed.

Gent and Shannon undertake an analysis based on empirical factors, and conclude, substantively, that the rates of success in achieving a binding outcome through arbitration are much higher than through non-binding dispute settlement methods, such as mediation. Further, they demonstrate that there is no statistically valid correlation between the nature or identity of the party performing the adjudication or arbitration and the achievement of successful settlement outcomes. In so doing, they conclude that "the strategy chosen to manage a conflict can be more important that the identity of the actor that utilizes the strategy," and that "Binding negotiations are more effective than nonbinding or bilateral negotiations, and the bias of a third party has no direct influence on the success of conflict resolution." (Gent, 2011, pp. 725-731)

An Incomplete List- Legal and Bargaining-Based Analysis of the Availability and Usefulness of Arbitration

I suggest that, in practice, the factors highlighted within the literature may not be principally accurate or primary indicators of the usefulness or availability of arbitration in international territorial conflicts. To ascertain whether the factors identified above are likely to be principal

determinants of the use of arbitration, I subject a number of them to analysis using ICOW data, as set out below.

However, firstly, I suggest that a range of other factors must be included, based on both basic principles of bargaining and international law.

Is the Dispute Arbitrable or otherwise determinable according to law?

For the purposes of this section, I differentiate between the terms 'arbitration' and 'adjudication,' used consistently with legal definitions, with arbitration a process of binding resolution subject to law and adjudication as a looser process.

Not all disputes can be solved by reference to international law. This is because international law is, functionally, incomplete and based on a combination of *jus cogens* principles, international agreements, principles of natural law and the inherited law of predecessor states. In many instances, there may not be a legal answer to a problem, or the problem may not be one that provides for the interpretation of a pre-existing right on the basis of verifiable principles.

This can be effectively illustrated by reference to the much-analyzed question of the Israel-Palestine conflict. Whilst the parties have entered into some agreements, most notably the Oslo Accords in 1993 which international law is available to interpret, the agreement itself does not provide for a remedy through international arbitration i.e. neither side has a right of enforcement of terms of the agreement through any international body. Further, even were there such a right, questions such as the specifics of borders, prisoner transfers, arrangements for cooperation and joint security patrols, locations for police stations, the withdrawal of settlements or incitement against Israel are not the subject of any existing international law for which remedies could be imposed. These matters are, effectively, not regulated by international law or principles of natural law referable as a result of the agreements between the parties. In these circumstances, what role could arbitration have in applying law? Further, the existing agreements do not provide for any mechanisms for penalties, compensation or damages to be assessed or even for a right to seek such remedies. As a result, there is no native capacity of an arbitral tribunal, even if convened, to 'do anything' about alleged breaches of treaty

obligations. This contrasts substantially with many multilateral treaties that do contain provisions or references to provisions in other treaties allowing for redress and with the inherent political capacities of states to take action, including sanctions, for which no judicial resolution is required.

An understanding of the conditions and ease with which a dispute can be arbitrated is also of significant importance in modern arbitrations. Conditions may exist which make arbitration possible, but extremely difficult or untimely in particular circumstances. These include national instability or the uncertainty of international legal personality in a given instance. Illustrative of this is where a country's legitimate government is uncertain, such as during a revolution or fragmentation. The identity of the 'correct' government of China was arguably in dispute until 1971, with the government of Taiwan asserting its continued legitimacy and holding the 'China' seat on the United Nations Security Council until that time. International legal personality can also be a substantial legal factor in determining arbitrability of a dispute under international law, where standing is dependent on legal personality. It is noteworthy that the spate of South-American arbitrations did occur principally between successor-states to colonial rule. However, none of the states in question were of questionable legal status as international actors. Disputes instead centred around territorial boundaries, not national existence.

Unlike most regions of the globe, the formation of the principal national territorial boundaries in South America has been largely the result of national decisions by one government. Spain, long the colonial ruler of much of South America, designated colonial and territorial borders for many of the entities that subsequently became separate states. In the processes of decolonization, these borders, though often vague and uncertain, became the presumptive boundaries on which new nations negotiated. Whilst the territories of other Great Powers and poor mapping techniques also became issues central to a number of arbitrations, the determination of territorial boundaries in Latin America have had an uncommonly strong basis in international law when compared to similar issues elsewhere in the globe. Coupled with the existence of a number of broad and specific international treaties for the determination of boundary disputes, South America offers a discrete case study for the potential effectiveness of arbitration and adjudication as processes for the resolution of these kinds of issues without the resolution of disputes on a violent basis.

However, the history of South America has been replete with political tension, both internal and international. A number of conflicts, both formally declared and political, have persisted for many years in the region. Indeed, for a landmass with only 12 countries, South America has had a very large number of territorial conflicts with hundreds of incidents. 32 arbitrations have occurred in this region- nearly half of the total reported in the ICOW data-set. Whilst many of these have been resolved or addressed through arbitration, many of these conflicts have firstly resulted in fatalities, despite the existence of a basis in international law for proceedings to be entered to avoid the resort to force.

Gent and Shannon's earlier 2010 article, *The Effectiveness of International Arbitration and Adjudication: Getting Into a Bind*, offers a substantial step forward in our analysis and understanding of international territorial conflict resolution by empirically focussing on the relative successfulness of arbitration as a mechanism for dispute resolution and focuses substantially on South America. Particularly usefully, they highlight the fact that many of the arbitration cases in South America emerge because of specific Spanish legislation providing for the basis of border interpretation. Considered on this basis, the prevalence of South American arbitrations may represent a strong indication of a correlation between 'native arbitrability' and the use of arbitration.

Table 32 below contains a list of all South American arbitrations.

Table 32 South American Arbitration Attempts

Claim Dyad	Challenger	Target	Claim Name (ICOW assigned)
7201	Honduras	Guatemala	R'o Motagua
7601	El Salvador	Honduras	Bolsones
7801	El Salvador	Honduras	Gulf of Fonseca Islands
8001	Nicaragua	Honduras	Teotecacinte
8002	Nicaragua	Honduras	Teotecacinte
8002	Nicaragua	Honduras	Teotecacinte
8002	Nicaragua	Honduras	Teotecacinte
10001	Venezuela	Colombia	Goajir‡-Guain'a
10001	Venezuela	Colombia	Goajir‡-Guain'a
10001	Venezuela	Colombia	Goajir‡-Guain'a
11001	Venezuela	Netherlands	Aves (Bird) Island
11201	Venezuela	United Kingdom	Essequibo

12201	Brazil	United Kingdom	Pirara
12802	France	Brazil	Amap‡
13001	Ecuador	Peru	Cordillera del C—ndor
13001	Ecuador	Peru	Cordillera del C—ndor
13002	Ecuador	Peru	Cordillera del C—ndor
13602	Peru	Bolivia	Acre
14601	Argentina	Brazil	Misiones
15201	Bolivia	Paraguay	Chaco Boreal
15404	Peru	Chile	Tacna-Arica
15602	Chile	Argentina	Los Andes
15801	Argentina	Paraguay	Chaco Central
16001	Chile	Argentina	Palena/Continental Glaciers
16401	Argentina	Chile	Beagle Channel
16601	Chile	Argentina	Palena/Continental Glaciers
16601	Chile	Argentina	Palena/Continental Glaciers
16601	Chile	Argentina	Palena/Continental Glaciers
204801	El Salvador	Honduras	Gulf of Fonseca
204802	Honduras	Nicaragua	Gulf of Fonseca
205001	Nicaragua	Honduras	Honduras-Nicaragua Caribbean Sea
212001	Argentina	Chile	Beagle Channel

Review of the above disputes shows that, overwhelmingly, they involve questions of boundaries of former Spanish colonies, or between Spanish colonies and other states. Disputes 11201 and 12201 both involved Belize, a British colony inherited from prior colonial powers and the arbitrations occurred pursuant to those prior boundary treaties. As such, the preponderance of arbitrations in the region and the selection of arbitration as a mechanism for resolution can be shown to correspond closely to the question of 'native arbitrability.'

Similarly, an analysis of all arbitrations shows a strong correlation to 'native arbitrability' of the dispute. Arbitrability pursuant to treaty or principle of international law can, of course, be achieved either through the existence of prior agreements or through entry into a new treaty, setting out the basis on which an arbitration should take place. I therefore selected 30 cases of arbitration at random from within the ICOW data-set and verified whether a treaty had been entered into prior to the arbitration taking place, and whether that treaty specifically set out provisions for an arbitration. Table 32 shows that, of the 30 cases selected, 28 cases involved a prior treaty between the parties, with the remaining two cases involving a massively multilateral treaty- the Statue of the Permanent Court of International Justice. Whilst the full

text of treaties is not always available in English, the author's language, analysis of available treaties shows a general trend to either empower the arbitrator to make a determination as they see fit, or the application of principles contained within prior treaties or agreements. Analysis of trends and approaches within arbitration treaties is beyond the scope of this work.

Table 33 Case Selection with Identified Arbitration Treaties

Claim Dyad	Challenger	Target	Treaty Name
804	United States of America	United Kingdom	Washington Treaty 1871
11201	Venezuela	United Kingdom	Treaty of Washington, 2 February
13001	Ecuador	Peru	Treaty of Rio De Janeiro, 29 January, 1942
15201	Bolivia	Paraguay	Treaty of Peace, Friendship and Boundaries, 21 July, 1938
6001	Mexico	France	Treaty of March 2, 1909
401	United States of America	United Kingdom	Treaty of Gent 1814
15801	Argentina	Paraguay	Treaty of Feb 3, 1876
7201	Honduras	Guatemala	Treaty of Arbitration of July 16, 1930
16401	Argentina	Chile	Treaty of 22 July, 1971
3801	Denmark	Norway	Statute of the Permanent Court of International Justice
3801	Denmark	Norway	Statute of the Permanent Court of International Justice
20401	France	United Kingdom	Special Agreement September 24, 1951
21002	Netherlands	Belgium	Special Agreement 26 November 1957
15404	Peru	Chile	PROTOCOL OF ARBITRATION BETWEEN CHILE AND PERU, July 20, 1922
10001	Venezuela	Colombia	Modified agreement to arbitrate, January 15, 1886- The 'Act of Paris'
2202	Mexico	United States of America	Mexico-United States Treaties of 1848 and 1853
120001	Netherlands	Belgium	Meuse Treaty 1863
16001	Chile	Argentina	May Pact (May 28, 1902)
1003	United Kingdom	United States of America	Hay-Herbert Treaty 1903
7801	El Salvador	Honduras	General Treaty of Peace and Amity
7601	El Salvador	Honduras	General Treaty of Peace 1980
13001	Ecuador	Peru	Espinoza-Bonifaz Convention, August 1, 1887
12201	Brazil	United Kingdom	Convention of London, 6 November, 1901
200401	United Kingdom	United States of America	Convention Between Great Britain And The United States Of America For The Adjustment Of The Boundary Between The Dominion Of Canada

14601	Argentina	Brazil	Bueos Aires Treaty September 7, 1889
13002	Ecuador	Peru	Brasilia Presidential Act 26 October 1998
8001	Nicaragua	Honduras	Bonilla-Gamez Treaty
120901	Spain	France	Bayonne Treaty 1856
12802	France	Brazil	Arbitration Convention of April 10, 1897
13602	Peru	Bolivia	Arbitration Agreement 21 November 1901

On this basis, the most essential indicator for the use of arbitration is arbitrability, whether achieved through an underlying international treaty or principle of international law or through a mechanism created by the parties themselves. (In most instances, the above treaties are specific arbitration instruments that are supplemental to prior treaties or agreements between the parties. However, it is not feasible to categorically declaim the existence of prior treaties between parties in any particular instance.) Accordingly, I infer that the parties primary use of treaties prior to arbitration from a *legal* perspective is to create a jurisdiction for arbitration to take place in, not to create causes of action or principles of law on which one or the other party may make or resist a claim.

It is noteworthy, though, that whilst the presence of a treaty between parties is an overwhelming precondition to the use of arbitration, the existence of a treaty is not a good indicator of whether arbitration will be used specifically. As noted above, arbitration has never been used as a first-instance method of dispute resolution. As such, the existence of a treaty or treaties is not a vital indicator that arbitration will be used. Put simply, *arbitrability* is not necessarily correlated to *arbitration*, but a *precondition of arbitration* is arbitrability.

However, there is a strong association between entry into an arbitration treaty and entry into an arbitration within a relatively short interval. Using the above treaty data and the 'begsett' variable, I determined the interval between treaty entry and commencement of arbitration. Excluded from inclusion in this query were the arbitration attempts conducted according to the Permanent Court's enabling provisions, as they were not specific to the dispute in question.

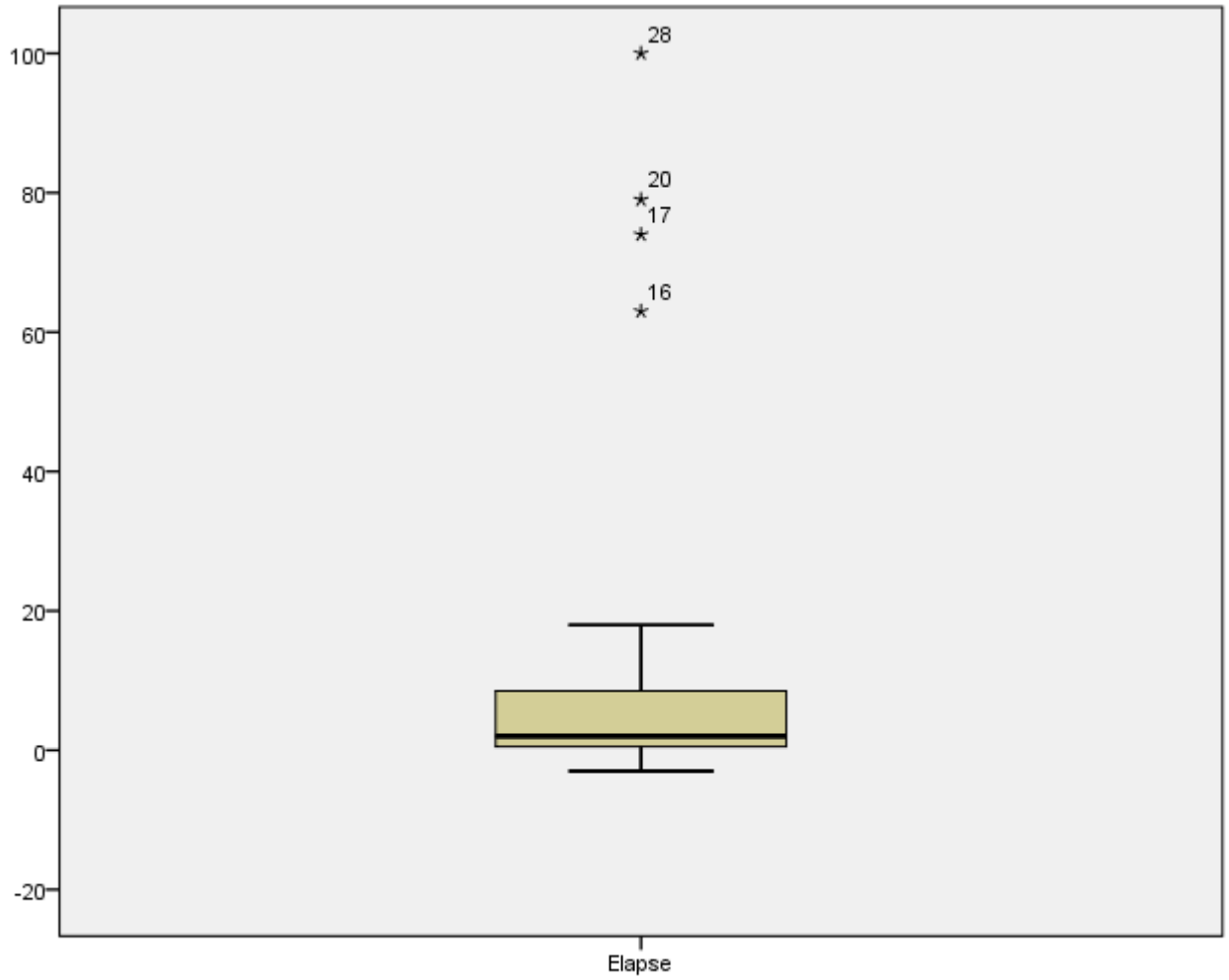

Figure 6: Box plot of elapse time periods for arbitration from treaty entry in years.

The median time period for entry into an arbitration was 2 years from treaty commencement. Note that, in two instances, a negative period was reported, indicating that the arbitration commenced under earlier agreements but that the parties determined to enter into a new agreement to cover aspect of the arbitration during the settlement attempt's course.

Of the cases, 7 involved lengthy periods elapsing between treaty and arbitration. These appear to be instances in which a long-standing treaty provided sufficient clarity for arbitration to enable the claimant to bring immediate action on the issue arising.

It is therefore possible to infer that, in most instances, the creation of a certain 'field of arbitrability' is strongly correlated to the resolution of disputes through arbitration. However, as noted further below, entry into an arbitration agreement itself creating the basis for legalization of a dispute is a potentially unlikely event for a number of reasons.

Treaties and arbitration agreements may also have another influence on the selection of arbitration, in the form of certainty as to scope of arbitration. For parties interested in 'decision control,' the potential for the arbitration to exceed a scope that they are comfortable with can be mitigated by careful construction of arbitration agreements. This is consistent with general approaches to treaties exercised by many nations. (Placeholder3) As such, the entry into arbitration agreements reflects a capacity to achieve certainty and effectiveness in the conduct of the arbitration itself, a factor likely to make the decision to arbitrate more attractive.

3. Bargaining and Process Selection

Gent and Shannon's research is consistent with other existing literature in that it makes no differentiation on the basis of pre-existing agreements to make use of specific processes of dispute resolution, the existence of agreements covering the dispute or whether the process of resolving the dispute was consistent with same. This is understandable, as the basic regimes for international dispute resolution have changed significantly during the period of the ICOW data.

Where a default process for resolving conflicts exist, the method of dispute resolution is not itself the subject of bargaining in the course of the conflict. This greatly simplifies analysis of the issues between the party and makes analysis of the relative strength of positions analogous 'bargaining in the shadow of the law'- even where the process of resolution is mediation, the relevant power or rights measure can more easily be understood as either legal, military, economic or political. Domestically, dispute resolution clauses are increasingly popular in many jurisdictions and may also lead to elements of good faith participation, leading to higher rates of resolution.

However, the selection of a method of resolving a dispute *during the course of a dispute* is a basically different proposition. For parties with different relative strengths in a dispute, the selection of a 'yardstick' for determination may be tantamount to resolution of the problem- or, at the least, confer a great advantage or disadvantage. For instance, for a party with a *de facto* occupation of territory, along with substantial military resources, the reference of a dispute to binding arbitration under international law is not likely to be a favourable option. So long as the process is to be decided with reference to a 'yardstick' that advantages one party

over the other, the impetus to change is likely to be minimal. Therefore, the prospect of a party voluntarily agreeing to make use of a process which would disadvantage it is therefore likely to be minimal. As reference of a dispute to arbitration requires agreement from *both* parties (absent pre-existing agreement or a provision of international law,) it appears unlikely that cases where one side holds a strong legal advantage over the other will result in reference to arbitration. Further, it appears more unlikely that, in most cases where arbitrability is in doubt or where the dispute is not initially arbitrable that a party with a weaker legal position than its initial political position would consent to generating arbitrability to begin with. This is perhaps best illustrated by the course of proceedings before the International Court of Justice- Johns (2012, pp. 269-272) asserts that two thirds of cases heard by the ICJ involve at least one party denying that the court has jurisdiction to hear the claim, indicative of efforts by the party to avoid being captured by a disadvantageous forum. I address this issue further in Section 4 of this thesis.

The selection of methodologies of resolution for ongoing international conflicts can usefully be compared to a bargaining process, where the parties are bargaining not for a resolution of the dispute, but for the relative advantages arising out of different approaches to resolving the conflict. Unlike single-factor bargaining- where price is the sole determinant- the selection of a conflict resolution methodology is extremely complex and involves the exchange of 'resources' that may not be of equal value to the respective parties. Modelling of multi-factor bargaining processes is inherently complex and is made more so by the recognition that the parties do not have equivalent interests. Thus, in considering the selection of methods of dispute resolution and the rejection or acceptance of arbitration, it can be useful to apply a bargaining analysis. To paraphrase Chatterjee and Lilien (1984, p. 297), where there is little informational uncertainty as to outcomes, the space of efficient bargaining outcomes- the entrance into an agreement where one is mutually beneficial- is likely to be extremely small, if extant at all. Indeed, more broadly speaking, the consideration of such measures of efficiency as the achievement of a mutually beneficial outcome are likely to be inapplicable in both negotiations to determine methods or principles by which a dispute will be resolved. 'Efficiency,' rather, must be considered from a cost perspective, rather than as a notional form of effectiveness in achieving mutually beneficial results. This approach to bargaining analysis departs from that used to consider negotiations where the parties share common units of value. This is considered further in Section 6

General Non-Participation in International Legal Bodies

A number of countries have expressed a strong preference for the avoidance of international tribunals and courts. These reservations and rejections have been based on a variety of ostensible reasonings, from a fear of soldiers being prosecuted for war crimes, a generalized principle of non-intervention, narrow interpretation of jurisdiction or all of the above. Notable nations in this regard include the United States and China (Murphy, 2008), the latter currently engaged in denying jurisdiction of the Permanent Court of Arbitration in a dispute brought by the Philippines under the United Nations Convention on the Law of the Sea. (Goldenziel, 2015). As a generalized principle, the submission or reference of authority to non-state actors or to international organizations may form part of broader governmental policy that does not relate to the particular case at hand. In many instances, the interaction that states have with international bodies may form part of a complex tension of statism and internationalism. For countries such as China, which Feinerman (Feinerman, 1995) describes as displaying "schizophrenic international legal behaviour," the basic philosophical and economic interests may increasingly be met by engaging with international law as a *de facto* situation, using 'terminology of compliance,' but basically resisting acceptance of its norms wherever possible. In China's case, with a foreign policy based on being "unusually insistent upon absolute sovereignty as the basis for international relations, national interest is the paramount consideration influencing international legal behaviour," (Feinerman, p. 189) the incidental value of submitting to arbitration on a case-by-case basis may be easily overwhelmed by the institutional consequences.

As a result, understanding of the decision-making process to participate in arbitration must make reference to overall national philosophies and approaches to dispute resolution, not simply the concerns of the case at hand.

5. Assessing the Accuracy of Claimed Bases for Use and Avoidance of Arbitration

I now refer to the assumed reasons for the choice of arbitration delineated above.

The Postulates for Assessment

Beyond the analysis of arbitrability, the existence of arbitration agreements and certainty of scope of arbitration- all matters not considered within the literature- Gent and Shannon provide a number of postulates that can readily be measured to determine whether the assumptions about state behaviour in the selection of arbitration are borne out by past experience in territorial conflicts. I have further set out the measurement that would be expected within the ICOW if the assumption is correctly borne out. These are:

Table 34: Postulated Factors Encouraging or Promoting the Use of Third Party Dispute Resolution

Factors encouraging or promoting the use of third-party dispute resolution in some form			
Number	Factor	Measure if Correct	Note
1	Arbitration is more successful at reaching agreements	Rate of 'Agree' higher for binding dispute resolution than for non-binding dispute resolution	'Agree' is a measure of whether an agreement was reached of some sort, including procedural agreements and partial agreements. With regards to arbitration, agreement includes the making of an award.
2	Arbitration is more successful at reaching complete agreements	Rate of 'Agreeall' higher for binding dispute resolution than for non-binding dispute resolution	'Agreeall' is a measure of complete agreement on all issues being reached.
3	Arbitration is more successful at reaching agreements in militarized disputes	Rate of Agree and Agreeall higher in disputes with an ongoing MID than for non-binding dispute resolution	MID- Militarized Interstate Dispute- is defined within the ICOW coding manual
4	Parties are less likely to break arbitration agreements than agreements reached in other ways	Rate of 'Nomid' variables- Nomid5, Nomid10 & Nomid15- will all be higher for arbitration than for other forms of dispute resolution	'Nomid' are measures of avoidance of further militarized interstate disputes following the end of a dispute resolution attempt.

Factors discouraging the use of third-party dispute resolution in some form			
Number	Factor	Measure if Correct	Note

5	Arbitration Agreements are binding- countries wishing to avoid being bound will not wish to use arbitration	Rate of breach of arbitration agreement would be zero or close to zero; high-salience conflicts will not be arbitrated	

Results

Factors 1-4

As outlined in Section 2 above, the ICOW data-set available to me appears to be the same as the data-set used by Gent and Shannon and which is otherwise widely used in the field. Pursuant to the results reported in Section 2, arbitration is demonstratively associated with higher rates of achievement of agreement- 'agree' variable, agreement on all issues – 'agreeall' variable- and the achievement of durable agreements, using the respective variables for 5, 10 and 15 years of no-MID's following the dispute resolution attempt. However, based on the conclusions presented by Gent & Shannon, the rates of success should be substantially different i.e. arbitration should outperform all other types of dispute resolution in the rate of achievement of agreements, complete agreements and have the lowest rate, by a substantial margin, of subsequent non-compliance- such acts being considered to be 'illegal.'

Accordingly, I conducted comparative analyses to show the variance in rate of success in achieving agreements by method of conflict resolution in the results achieved for each of these metrics.

Factor 1-Reaching Successful Agreements

Table 35: Rate of achievement of 'agreement' by method- all methods

typesett * agree Crosstabulation

			agree		
			No	Yes	Total
typesett	Bilateral Negotiations	Count	496	655	1151
		% within typesett	43.1%	56.9%	100.0%
		% within agree	66.9%	70.1%	68.7%

	Good Offices	Count	72	71	143
		% within typesett	50.3%	49.7%	100.0%
		% within agree	9.7%	7.6%	8.5%
	Inquiry or Conciliation	Count	9	8	17
		% within typesett	52.9%	47.1%	100.0%
		% within agree	1.2%	0.9%	1.0%
	Mediation	Count	76	57	133
		% within typesett	57.1%	42.9%	100.0%
		% within agree	10.3%	6.1%	7.9%
	Arbitration	Count	2	36	38
		% within typesett	5.3%	94.7%	100.0%
		% within agree	0.3%	3.9%	2.3%
	Adjudication	Count	5	26	31
		% within typesett	16.1%	83.9%	100.0%
		% within agree	0.7%	2.8%	1.9%
	Other Third-Party Settlement Attempt	Count	6	5	11
		% within typesett	54.5%	45.5%	100.0%
		% within agree	0.8%	0.5%	0.7%
	Multilateral Negotiations	Count	69	50	119
		% within typesett	58.0%	42.0%	100.0%
		% within agree	9.3%	5.4%	7.1%
	Peace Conference	Count	6	26	32
		% within typesett	18.8%	81.3%	100.0%
		% within agree	0.8%	2.8%	1.9%
Total		Count	741	934	1675
		% within typesett	44.2%	55.8%	100.0%
		% within agree	100.0%	100.0%	100.0%

I used the 'typesett' variable rather than the more general 'typesett3' variable to isolate each method of dispute resolution identified within the literature. This variable excluded non-peaceful dispute resolution attempts. I then exported the above table into Excel, where I used the percentage success rates to create a variance table between the methodologies used. I then converted the results into a box plot, showing the mean variance and interquartile range of the results. Whilst 'Multilateral Negotiations,' 'Mediation' 'Other Third-Party Settlement Attempt,' 'Inquiry or Conciliation, and Good Offices all produced very similar and unimpressive rates of success- an average of 45% with a variance of 7.74% and a standard deviation of 2.78, other methods of dispute resolution were much more effective, and were more similar in performance levels to arbitration, with 'peace conferences' and 'adjudication'

(here treated separately to 'arbitration') producing rates of success of between 81 and 84 percent, compared to arbitration's overwhelming success rates of 94.7%. This would appear to support Gent & Shannon's contention. However, as noted above, consideration of the 'agree' variable is highly misleading altogether, given that it considers procedural attempts leading to partial agreements- such as agreements to mediate or negotiate- as fulfilling the variable. Even combing arbitration and adjudication into one variable reduces the rate of overall success to 89.5%, hardly an overwhelming difference to peace conferences. As such, it is difficult to argue that arbitration could be known as being overwhelmingly more successful in achieving agreements than any other, unrelated methods of resolution. Analysis of arbitration's ability to reach *an* agreement does not therefore show a greater performance for arbitration than other measures.

Substantially different results are observed using the 'typesett3' variable, pursuant to which all non-binding third party attempts are grouped together, with peace conferences included in this measure. Using this approach, arbitration now seems far more effective at reaching agreements than other categories.

typesett3 * agree Crosstabulation

			agree		
			No	Yes	Total
typeset3	Bilateral Negotiations	Count	496	655	1151
		% within typeset3	43.1%	56.9%	100.0%
		% within agree	66.9%	70.1%	68.7%
		% of Total	29.6%	39.1%	68.7%
	Non-binding Third Party Attempt	Count	238	217	455
		% within typeset3	52.3%	47.7%	100.0%
		% within agree	32.1%	23.2%	27.2%
		% of Total	14.2%	13.0%	27.2%
	Binding Third Party Attempt	Count	7	62	69
		% within typeset3	10.1%	89.9%	100.0%
		% within agree	0.9%	6.6%	4.1%
		% of Total	0.4%	3.7%	4.1%
Total		Count	741	934	1675
		% within typeset3	44.2%	55.8%	100.0%
		% within agree	100.0%	100.0%	100.0%
		% of Total	44.2%	55.8%	100.0%

Table 36: Rate of achievement of 'agreement' by method- all methods

As noted, the same issues arise using the Typesett3 variable along with the 'agree' variable as previously denoted. In addition, subsuming some of the categories of non-binding dispute resolution may be questionable. If binding third party dispute resolution is worthy of its own category with 69 attempts, mediation- used almost twice as often- arguably deserves to be considered separately to the 143 good offices attempts.

Factor 2- Use of arbitration in reaching complete agreement.

As previously noted, an artefact of arbitration is that it leads to normatively complete agreements in the form of arbitration awards covering all issues. A normal legal process would not render a judgement of only some of the issues presented to it. Accordingly, it is expected that a high rate of agreement would be achieved in arbitrations, whether the parties accept this or not. As such, unsurprisingly, binding third-party dispute resolution is the most effective means of having an agreement made on all issues. Using the 'Typesett' and 'Typesett3' variables cross tabulated with the 'agreeall' variables, the comparative percentage success rates for methods can be shown to be perceptively different. (note the higher rate of 'missing' results coded in ICOW reducing the number of results.)

Table 37: Rate of achievement of 'agreement' by method- all methods

typeset3 * agreeall Crosstabulation

			agreeall		
			No	Yes	Total
typeset3	Bilateral Negotiations	Count	58	597	655
		% within typeset3	8.9%	91.1%	100.0%
		% within agreeall	61.7%	71.1%	70.1%
		% of Total	6.2%	63.9%	70.1%
	Non-binding Third Party Attempt	Count	36	181	217
		% within typeset3	16.6%	83.4%	100.0%
		% within agreeall	38.3%	21.5%	23.2%
		% of Total	3.9%	19.4%	23.2%
	Binding Third Party Attempt	Count	0	62	62
		% within typeset3	0.0%	100.0%	100.0%
		% within agreeall	0.0%	7.4%	6.6%
		% of Total	0.0%	6.6%	6.6%
Total		Count	94	840	934
		% within typeset3	10.1%	89.9%	100.0%
		% within agreeall	100.0%	100.0%	100.0%
		% of Total	10.1%	89.9%	100.0%

Within valid results- settlement attempts that are still in progress are also excluded under the ICOW coding approach- most methods of dispute resolution are seen to be highly effective at producing progress agreements at the least. Again, this does not provide a basis for the general presumption that arbitration is overwhelmingly more effective at binding parties to its outcome.

Factor 2 Results- Analysis

It is possible that there is a generalized perception that arbitration is more effective in binding parties to outcomes and that it somehow differs in international law to bilateral treaties. The existence of this assumption, amongst international leaders or decision-makers, would provide the basis for avoidance of arbitration. Is there such a perception? Gent and Shannon identify the existence of such an expectation. Increasingly, arbitration is used in other contexts, such as through WIPO and WTO processes, as well as through international commercial settlement activities. However, the familiarity with arbitration is no a basis to conclude that there is therefore a greater tendency to regard it as somehow more binding than other treaty-derived international instruments. In a more recent paper, Gent & Shannon conclude that:

> *While states comply with the vast majority of legal rulings on territorial claims (Mitchell and Hensel, 2007) and arbitration and adjudication have been shown to be highly effective means of resolving such issues (Gent and Shannon, 2010), the Argentina and Venezuela cases highlight that power in international relations constrains the ability of states to use legal mechanisms to resolve disputes over territory. These conflicts are political in nature: states are primarily interested in achieving outcomes that protect their own security and economic interests. Therefore, while the decisions of arbitration panels or international courts may be largely legal in nature, the choice of disputing states to pursue and comply with arbitration or adjudication is a political decision. (Gent & Shannon, 2014)*

This is reflective of a consideration of international law as a factor in party behaviour, rather than an authoritative, overwhelmingly inviolate postulate of state behaviour. It is also reflective of the fact that, as outlined above, arbitrations are not always complied with, or always successful.

Factor 3- Arbitration is More Successful at Reaching Agreements in Militarized Interstate Disputes

Using the ICOW settlement data, I coded for the 'Durmid' variable- a determination of whether a settlement attempt occurs during an ongoing Militarized Interstate Dispute- I performed a cross-tabulation by type of settlement attempt using the 'typesett' variable.

Table 38: Settlement Attempt Type (Typesett) – Crosstabulation with Occurrence during Militarised Interstate Dispute

typesett * durmid Crosstabulation

			durmid		
			No	Yes	Total
typesett	Bilateral Negotiations	Count	1099	56	1155
		% within typesett	95.2%	4.8%	100.0%
		% within durmid	71.1%	39.7%	68.5%
		% of Total	65.1%	3.3%	68.5%
	Good Offices	Count	124	22	146
		% within typesett	84.9%	15.1%	100.0%
		% within durmid	8.0%	15.6%	8.7%
		% of Total	7.4%	1.3%	8.7%
	Inquiry or Conciliation	Count	12	5	17
		% within typesett	70.6%	29.4%	100.0%
		% within durmid	0.8%	3.5%	1.0%
		% of Total	0.7%	0.3%	1.0%
	Mediation	Count	95	39	134
		% within typesett	70.9%	29.1%	100.0%
		% within durmid	6.1%	27.7%	7.9%
		% of Total	5.6%	2.3%	7.9%
	Arbitration	Count	34	4	38
		% within typesett	89.5%	10.5%	100.0%
		% within durmid	2.2%	2.8%	2.3%
		% of Total	2.0%	0.2%	2.3%
	Adjudication	Count	28	4	32
		% within typesett	87.5%	12.5%	100.0%
		% within durmid	1.8%	2.8%	1.9%
		% of Total	1.7%	0.2%	1.9%
		Count	11	0	11

	Other Third-Party Settlement Attempt	% within typesett	100.0%	0.0%	100.0%
		% within durmid	0.7%	0.0%	0.7%
		% of Total	0.7%	0.0%	0.7%
	Multilateral Negotiations	Count	113	9	122
		% within typesett	92.6%	7.4%	100.0%
		% within durmid	7.3%	6.4%	7.2%
		% of Total	6.7%	0.5%	7.2%
	Peace Conference	Count	30	2	32
		% within typesett	93.8%	6.3%	100.0%
		% within durmid	1.9%	1.4%	1.9%
		% of Total	1.8%	0.1%	1.9%
Total		Count	1546	141	1687
		% within typesett	91.6%	8.4%	100.0%
		% within durmid	100.0%	100.0%	100.0%
		% of Total	91.6%	8.4%	100.0%

As is apparent from Table 38 above, a total of 8 binding settlement attempts have occurred during Militarized Interstate Disputes, an overall rate of 11.4%. Of the eight cases identified, 7 have concluded, with one ongoing process at the time of the conclusion of the data-set- the Honduras-Nicaragua Caribbean Sea dispute.

Table 39: Arbitration and adjudication cases- agreement (of any kind) reached where attempt occurs during MID

agree

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	no	3	37.5	42.9	42.9
	yes	4	50.0	57.1	100.0
	Total	7	87.5	100.0	
Missing	System	1	12.5		
Total		8	100.0		

Table 40: Arbitration and adjudication cases- agreement on all issues reached where attempt occurs during MID

agreeall

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	4	50.0	100.0	100.0
Missing	System	4	50.0		
Total		8	100.0		

As is apparent from Table 40, the rate of success of arbitration in achieving agreement during the course of MID's is 50%, at best.

Performing the same process within all results shows that, as illustrated by Table 41 and Table 42 below, arbitration is significantly more effective than other methods at achieving results during MID's:

Table 41: Agreement reached- all settlement types- during MID

agree

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	82	55.8	59.0	59.0
	Yes	57	38.8	41.0	100.0
	Total	139	94.6	100.0	
Missing	System	8	5.4		
Total		147	100.0		

Table 42: Complete Agreement reached- all settlement types- during MID

agreeall

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	7	4.8	12.3	12.3
	Yes	50	34.0	87.7	100.0
	Total	57	38.8	100.0	
Missing	System	90	61.2		
Total		147	100.0		

Factor 3 Analysis

To the extent that it is possible to draw conclusions using such a small sample size, there is a significant improvement in the rate of reaching agreements during MID incidents using arbitration over other methods of dispute resolution. However, the limited number of cases does make this far from conclusive. It is also inconsistent with the position identified by Gent & Shannon as to a common assumption existing as to the effectiveness of arbitration in during MID's- arbitration is attempted only 8 times during MID's over the course of the data-set.

It is also noteworthy that MID's vary widely. Using the claim dyads for each of the identified arbitration cases, it is possible to assess whether arbitration is in fact used where MID's have, or are likely, to occur. Considering the 58 conflict where arbitration has been employed, the average Midsiss- total number of militarized disputes that have occurred in the conflicts, both before and after arbitration has been attempted, is 2.413. This contrasts with a Midsiss average for all claims of 0.76. Similarly, the median number of MID's for arbitration claims is 1, whilst for all conflicts it is 0. Similar contrasts can be seen across Midsiss, Maxhost and MaxFatal variables, with arbitration cases measurably showing that they are used in 'tougher' conflicts than average.

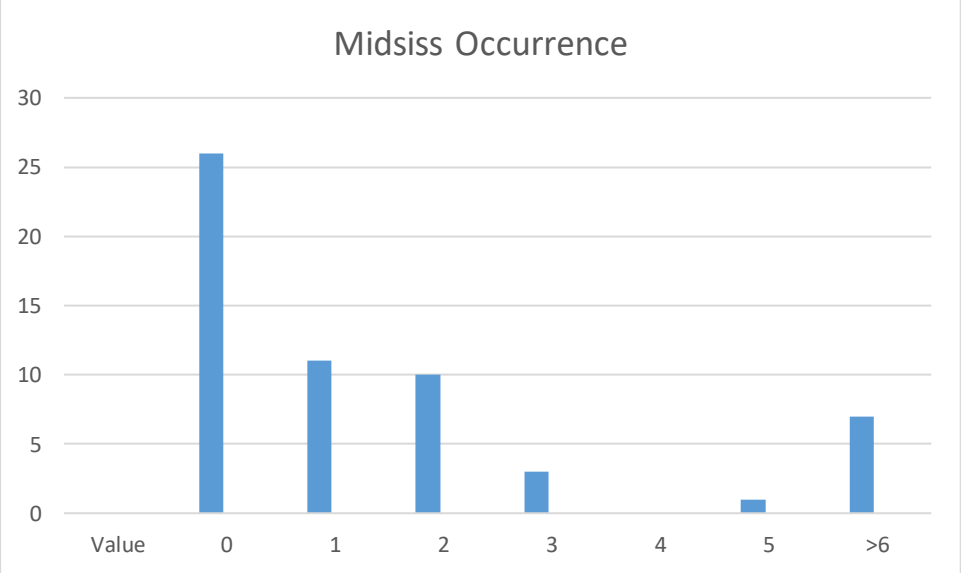

Figure 7: Midsiss Occurrence, Conflicts With Arbitration Attempts

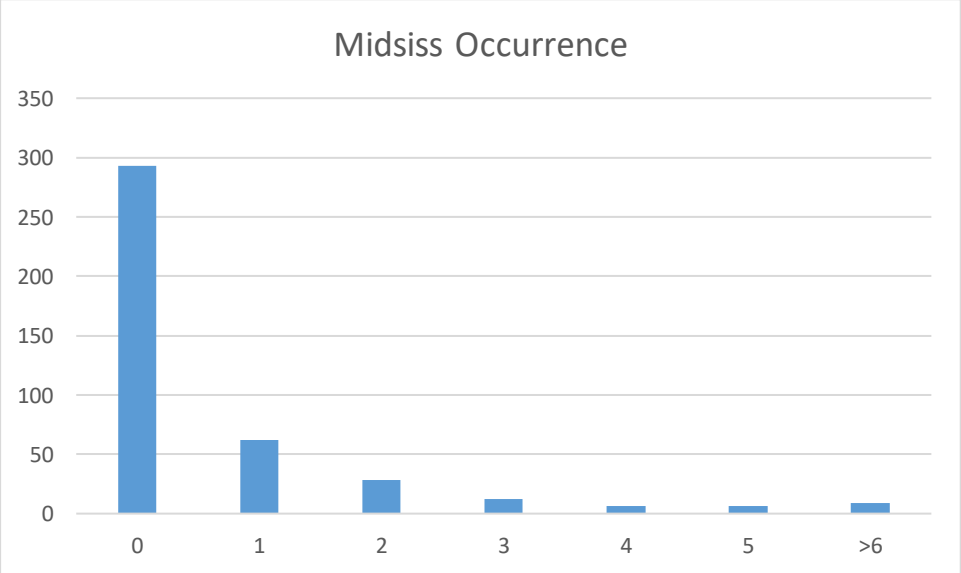

Figure 8: Midsiss Occurrence, all conflicts

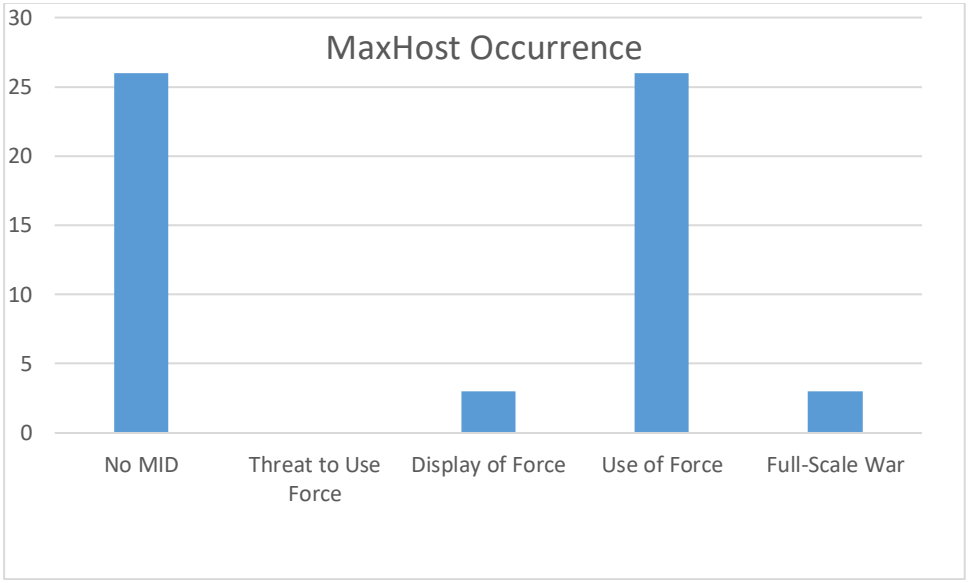

Figure 9: Maxhostility - conflicts with arbitration attempts

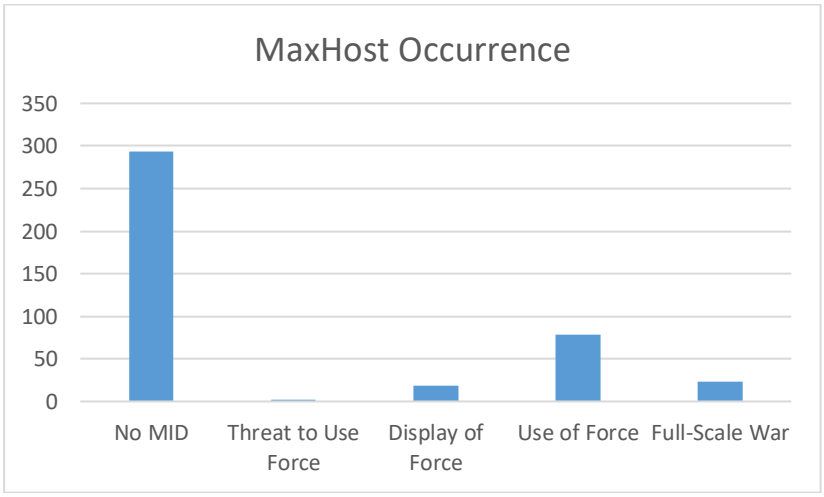

Figure 10: Maxhostility- all conflicts

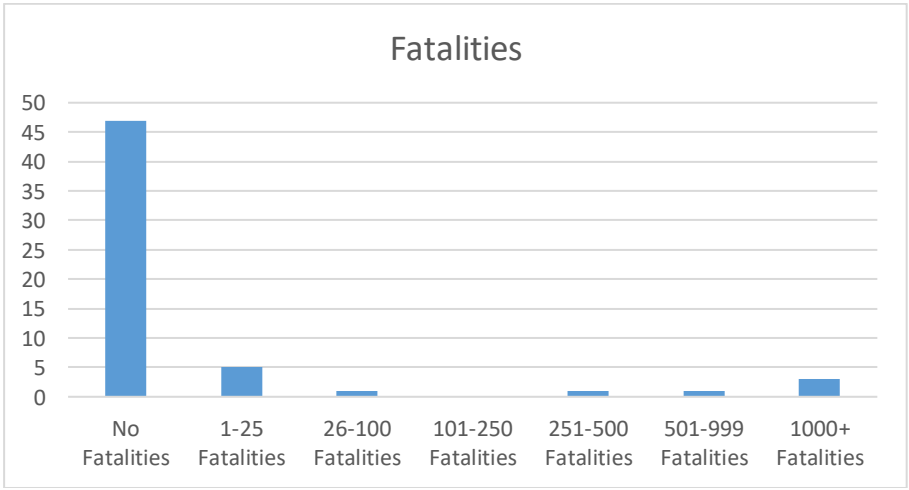

Figure 11: Fatalities by Category- Conflicts with Arbitration Attempts

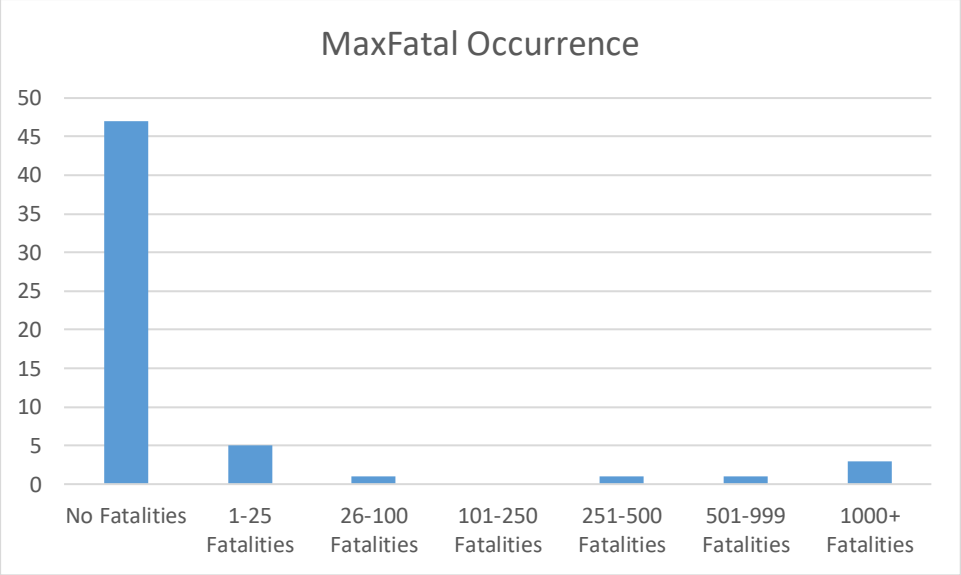

Figure 12: Total Fatalities by category- disputes with arbitration attempt

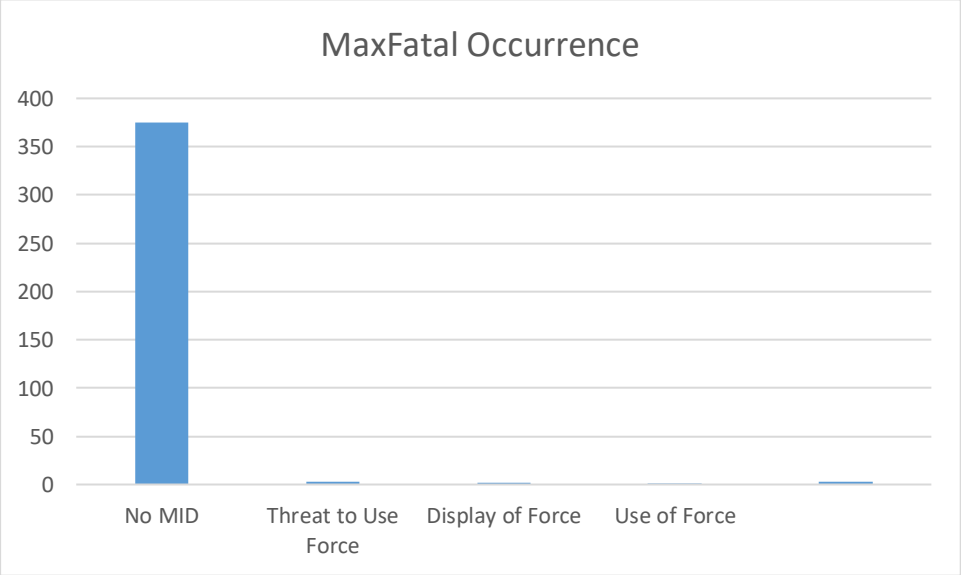

Figure 13: Total Fatalities by category- all conflicts

It should be noted that, on the available data, it is impossible to distinguish whether the conflict reached a higher point of hostility after the arbitration began or before. However, given that the majority of arbitrations see the conflict end thereafter, it is unlikely that this has a substantial impact on the data.

However, there is a clear and statistically significant correlation between more difficult conflicts and arbitration being used, as well as a correlation between arbitration and the successful resolution of conflicts, though the latter is based on a very small sample size. To the

extent that the small sample size can be relied on, the data does support Gent & Shannon's postulate that arbitration is more successful in difficult and violent conflicts.

Factor 4- Parties are less likely to break arbitration agreements than agreements reached in other ways

Different measures of violation of an agreement exist. These, of course, depend on the nature of the agreement. Where an agreement is reached which resolves a conflict- measured by the 'agreeall' variable (with limitations as noted above,) subsequent military action or MID's between the parties over the same issues is very likely an indicator that the agreement has not been complied with.

In order to measure this, I used the 'agreeall' variable and the 'select cases' function within SPSS to select all cases where an agreement was reached that resolved (at least on paper) all issues. Using this selection, I then used the 'crosstabs' feature to compare the 'Nomid5' 'Nomid10' and 'Nomid15' variables in for each dispute resolution method.

Table 43: Nomid5 by settlement attempt type- Agreeall cases

typesett * nomid5 Crosstabulation

			nomid5		
			No	Yes	Total
typesett	Bilateral Negotiations	Count	81	468	549
		% within typesett	14.8%	85.2%	100.0%
		% within nomid5	71.1%	71.6%	71.5%
		% of Total	10.5%	60.9%	71.5%
	Good Offices	Count	9	41	50
		% within typesett	18.0%	82.0%	100.0%
		% within nomid5	7.9%	6.3%	6.5%
		% of Total	1.2%	5.3%	6.5%
	Inquiry or Conciliation	Count	2	4	6
		% within typesett	33.3%	66.7%	100.0%
		% within nomid5	1.8%	0.6%	0.8%
		% of Total	0.3%	0.5%	0.8%
	Mediation	Count	10	36	46
		% within typesett	21.7%	78.3%	100.0%
		% within nomid5	8.8%	5.5%	6.0%

		% of Total	1.3%	4.7%	6.0%
	Arbitration	Count	3	31	34
		% within typesett	8.8%	91.2%	100.0%
		% within nomid5	2.6%	4.7%	4.4%
		% of Total	0.4%	4.0%	4.4%
	Adjudication	Count	2	24	26
		% within typesett	7.7%	92.3%	100.0%
		% within nomid5	1.8%	3.7%	3.4%
		% of Total	0.3%	3.1%	3.4%
	Other Third-Party Settlement Attempt	Count	0	3	3
		% within typesett	0.0%	100.0%	100.0%
		% within nomid5	0.0%	0.5%	0.4%
		% of Total	0.0%	0.4%	0.4%
	Multilateral Negotiations	Count	3	29	32
		% within typesett	9.4%	90.6%	100.0%
		% within nomid5	2.6%	4.4%	4.2%
		% of Total	0.4%	3.8%	4.2%
	Peace Conference	Count	4	18	22
		% within typesett	18.2%	81.8%	100.0%
		% within nomid5	3.5%	2.8%	2.9%
		% of Total	0.5%	2.3%	2.9%
Total		Count	114	654	768
		% within typesett	14.8%	85.2%	100.0%
		% within nomid5	100.0%	100.0%	100.0%
		% of Total	14.8%	85.2%	100.0%

Overall, 85.2% of applicable cases show no MID occurring within 5 years of a comprehensive agreement. 91.6^ of binding dispute resolution attempts did not have an MID. This is not a substantial variation, given the small number of cases- this amounts to two more successful settlement attempts than the overall average.

A slightly more substantial variation is observable over a ten-year period. Binding dispute resolution attempts are slightly less durable over a ten-year period, with 86.2% enduring without an MID. However, the overall rate of avoidance of MID's is only 76.7% over this period. The variance is even more substantial over a fifteen-year period, with 83.9% of arbitrated agreements enduring compared to 72.7% of agreements overall.

typesett * nomid5 Crosstabulation

			nomid5		
			No	Yes	Total
typesett	Bilateral Negotiations	Count	81	468	549
		% within typesett	14.8%	85.2%	100.0%
		% within nomid5	71.1%	71.6%	71.5%
		% of Total	10.5%	60.9%	71.5%
	Good Offices	Count	9	41	50
		% within typesett	18.0%	82.0%	100.0%
		% within nomid5	7.9%	6.3%	6.5%
		% of Total	1.2%	5.3%	6.5%
	Inquiry or Conciliation	Count	2	4	6
		% within typesett	33.3%	66.7%	100.0%
		% within nomid5	1.8%	0.6%	0.8%
		% of Total	0.3%	0.5%	0.8%
	Mediation	Count	10	36	46
		% within typesett	21.7%	78.3%	100.0%
		% within nomid5	8.8%	5.5%	6.0%
		% of Total	1.3%	4.7%	6.0%
	Arbitration	Count	3	31	34
		% within typesett	8.8%	91.2%	100.0%
		% within nomid5	2.6%	4.7%	4.4%
		% of Total	0.4%	4.0%	4.4%
	Adjudication	Count	2	24	26
		% within typesett	7.7%	92.3%	100.0%
		% within nomid5	1.8%	3.7%	3.4%
		% of Total	0.3%	3.1%	3.4%
	Other Third-Party Settlement Attempt	Count	0	3	3
		% within typesett	0.0%	100.0%	100.0%
		% within nomid5	0.0%	0.5%	0.4%
		% of Total	0.0%	0.4%	0.4%
	Multilateral Negotiations	Count	3	29	32
		% within typesett	9.4%	90.6%	100.0%
		% within nomid5	2.6%	4.4%	4.2%
		% of Total	0.4%	3.8%	4.2%
	Peace Conference	Count	4	18	22
		% within typesett	18.2%	81.8%	100.0%

		% within nomid5	3.5%	2.8%	2.9%
		% of Total	0.5%	2.3%	2.9%
Total		Count	114	654	768
		% within typesett	14.8%	85.2%	100.0%
		% within nomid5	100.0%	100.0%	100.0%
		% of Total	14.8%	85.2%	100.0%

Table 44: Nomid10 by settlement attempt type- Agreeall cases

typesett * nomid15 Crosstabulation

			nomid15		
			No	Yes	Total
typesett	Bilateral Negotiations	Count	134	329	463
		% within typesett	28.9%	71.1%	100.0%
		% within nomid15	74.9%	69.0%	70.6%
		% of Total	20.4%	50.2%	70.6%
	Good Offices	Count	15	19	34
		% within typesett	44.1%	55.9%	100.0%
		% within nomid15	8.4%	4.0%	5.2%
		% of Total	2.3%	2.9%	5.2%
	Inquiry or Conciliation	Count	2	3	5
		% within typesett	40.0%	60.0%	100.0%
		% within nomid15	1.1%	0.6%	0.8%
		% of Total	0.3%	0.5%	0.8%
	Mediation	Count	11	34	45
		% within typesett	24.4%	75.6%	100.0%
		% within nomid15	6.1%	7.1%	6.9%
		% of Total	1.7%	5.2%	6.9%
	Arbitration	Count	7	25	32
		% within typesett	21.9%	78.1%	100.0%
		% within nomid15	3.9%	5.2%	4.9%
		% of Total	1.1%	3.8%	4.9%
	Adjudication	Count	2	22	24
		% within typesett	8.3%	91.7%	100.0%
		% within nomid15	1.1%	4.6%	3.7%
		% of Total	0.3%	3.4%	3.7%
	Other Third-Party Settlement Attempt	Count	0	2	2
		% within typesett	0.0%	100.0%	100.0%
		% within nomid15	0.0%	0.4%	0.3%

		% of Total	0.0%	0.3%	0.3%
	Multilateral Negotiations	Count	4	26	30
		% within typesett	13.3%	86.7%	100.0%
		% within nomid15	2.2%	5.5%	4.6%
		% of Total	0.6%	4.0%	4.6%
	Peace Conference	Count	4	17	21
		% within typesett	19.0%	81.0%	100.0%
		% within nomid15	2.2%	3.6%	3.2%
		% of Total	0.6%	2.6%	3.2%
Total		Count	179	477	656
		% within typesett	27.3%	72.7%	100.0%
		% within nomid15	100.0%	100.0%	100.0%
		% of Total	27.3%	72.7%	100.0%

Table 45: Nomid15 by settlement attempt type- Agreeall cases

The above data does support Gent & Shannon's position, in that it shows that arbitration endures more than other methods of dispute resolution. However, there are major limitations on the degree to which this conclusion can be relied on. Firstly, as noted above, there are limitations on the degree to which it can be assumed that arbitrations represent difficult cases where the parties are desirous of reopening hostilities. The decision to turn to arbitration may represent conflict exhaustion, such that the resolution, even if less than satisfactory, may be the alternative that the parties prefer. The fact that conflicts involving arbitration show higher 'difficulty' indicators (Maxhost, MaxFatal and Midhost variables) may indicate that exhaustion is a better indicator of long-term stability of dispute resolution attempts where the parties do succeed in obtaining an agreement. Secondly, whilst the decision to avoid an MID may indicate that the parties have reached agreement and that the dispute has ended, this is far from certain. Parties may continue to progress claims in other ways and may also have other issues arise between them other than those defined by the parameters of the dispute. In this, arbitration has a substantial disadvantage compared to mediation, negotiation or other methods of information exchange, in that there is no opportunity afforded to resolve the tensions or relational issues that may form part of a dispute. The results therefore obtained by arbitration do reflect that this method if more effective in creating outcomes that the parties believe are binding on them.

Factor 5- Arbitration Agreements are Truly Binding

If the postulate put forward by Gent and Shannon regarding obedience to international law is to be accepted as correct, it is demonstrative of fundamentally illogical positions being adopted by many nations. Firstly, countries have been known to break treaties on a regular basis. The violation of international obligations is a relatively routine occurrence. As widely noted, the fundamental flaw of the international legal system is the lack of any enforcement mechanism save that adopted on an ad-hoc basis by countries or international bodies- there is no 'cop on the beat.' As a result, the suggestion that the 'mere violation of international commitments' is a sufficient basis for deterring countries from entering into arbitration is difficult to sustain.

Secondly, analysis of the rate of breach of international bilateral agreements is not dramatically different, whether reached by mediation, negotiation or arbitration. States are also unlikely to be in a materially different legal position under international law whether they have entered into a binding agreement through one mechanism or another- a properly constructed arbitration agreement gives the award the force of a treaty, just as a mediation can be executed as a treaty. There is no evidence or literature available to suggest that the international political capital lost as a result of breaching an arbitration agreement would be higher than breaching a bilateral treaty.

Adherence to Agreed Outcomes

It is also possible to consider the degree to which parties adhere to the agreements that they reach. I therefore used the performed analysis of the sub-set of settlement attempts where an agreement was reached by the parties covering all aspects of the dispute using the 'Agreeall' cases variable. 840 cases resulted, of which 4.2% were binding dispute resolution attempts.

Table 46 Settlement Attempt by Type- Where Agreement Reached on All Issues in Dispute

Settlement Attempt by Type- Where Agreement Reached on All Issues in Dispute

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Bilateral Negotiations	597	71.1	71.1	71.1
	Non-Binding 3rd Party Attempt	181	21.5	21.5	92.6
	Binding 3rd Party Attempt	62	7.4	7.4	100.0
	Total	840	100.0	100.0	

Of the resulting 840 cases, 23.5% did not result in the agreement being adhered to, despite a negotiated outcome being achieved.

Table 47 Outcome of Agreements- Adherence and/or Implementation of Agreement

Outcome of Agreements- Adherence and/or Implementation of Agreement

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agreement reached, at least one did not ratify	129	15.4	15.4	15.4
	Both Ratified Agreement, but at least one did not comply	68	8.1	8.1	23.5
	Both Complied With Agreement	425	50.6	50.6	74.0
	Agreement Ended Claim	218	26.0	26.0	100.0
	Total	840	100.0	100.0	

Amongst agreements made by binding processes, the rate of agreement-adherence was substantially higher, but by no means overwhelming. 12.9% of binding third-party settlement attempts *which reached* agreements were subsequently not adhered to by at least one of the parties! An equal number of cases of compliance occurred, but without the complete resolution of the claim, despite the fact that arbitration, as opposed to negotiation, is designed to provide a binding outcome on all issues laid before a tribunal.

Table 48: Settlement Type (Typesett 3) By Outcome of Attempt (Effect3)

typeset3 * effect3 Crosstabulation

			effect3			
			Agreement Reached, but at Least One Didn't Ratify or Comply	Both Complied with Agreement but Claim Didn't End	Agreement Ended Claim	Total
typeset3	Bilateral Negotiations	Count	147	322	128	597
		% within typeset3	24.6%	53.9%	21.4%	100.0%
		% within effect3	74.6%	75.8%	58.7%	71.1%
		% of Total	17.5%	38.3%	15.2%	71.1%
	Non-binding Third Party Attempt	Count	42	95	44	181
		% within typeset3	23.2%	52.5%	24.3%	100.0%
		% within effect3	21.3%	22.4%	20.2%	21.5%
		% of Total	5.0%	11.3%	5.2%	21.5%

	Binding Third Party Attempt	Count	8	8	46	62
		% within typeset3	12.9%	12.9%	74.2%	100.0%
		% within effect3	4.1%	1.9%	21.1%	7.4%
		% of Total	1.0%	1.0%	5.5%	7.4%
Total		Count	197	425	218	840
		% within typeset3	23.5%	50.6%	26.0%	100.0%
		% within effect3	100.0%	100.0%	100.0%	100.0%
		% of Total	23.5%	50.6%	26.0%	100.0%

Whilst it is clear that binding dispute resolution does outperform non-binding dispute resolution in the rate of adherence, and noting the small sample size involved in the data for arbitration and adjudication, the assumption that states must avoid 'binding' themselves for fear of being 'stuck' with an unfavourable outcome is not supported by the data, which shows that states have a significant track record of disregarding arbitral awards, approximately one time in ten. A close analysis of the data reveals that a number of cases of non-compliance related to adjudicative determinations regarding Israel and its neighbours; this does skew the data towards a single conflict. However, amongst the cases of compliance are a number of situations where, unusually, external regulators had the capacity to enforce outcomes, such as in disputes amongst European nations in the European Community era and beyond. As such, given the relatively small sample size, the overall difference in rate of adherence is, perhaps, less significant than the substantial rate of *non-adherence*, such that arbitration in territorial disputes cannot be said to create a certainty or overwhelming probability of final resolution of disputes.

Impact of Non-Adherence to International Law

The second issue with the postulate that states are afraid of being bound is harder to test statistically. As noted above, there is no international regulator or agency with the uniform power to enforce international law. Whilst the United Nations and regional organisations have taken on an authorisation for enforcement function, neither possesses a standing army, regulators or bailiffs. As a result, enforcement of international norms is, at best, selective, and relies on the willingness of other countries to intervene and/or support punitive or corrective actions. In the case of territorial conflict, this would require other sanctions or military action. In the case of bilateral disputes, it would appear unlikely that, short of an invasion, third parties would be willing to enforce the resolution of an arbitration. Indeed, recent actions by Russia in

the Ukraine and in South Ossetia have shown a global reluctance to militarily enforce the adherence to territorial boundaries long established under international bilateral treaties. By contrast, the involvement of the United States in securing Kuwait's territorial sovereignty in the face of Iraqi occupation indicates that countries can and will selectively use international law as a precedent or basis for intervention. As a net result, the presumption that the violation of a *bilateral* treaty or agreement is likely to have deleterious effects on a country's international standing is questionable at best. This position, of course, may be radically different in the case of *multilateral* treaties. However, territorial disputes, whilst concerning major powers, have rarely included them as actual litigants before arbitration panels, and then rarely in cases of high salience to the participants themselves.

Therefore, despite the frequent arguments raised primarily by liberal international legal theorists of countries' innate desire to comply with international law (Landau & Landau, 1997), there is little evidence to suggest that there is an empirical basis for either refusing to participate or consider binding dispute resolution on the basis of the consequence of non-adherence being any different to non-adherence to any other comparative form of binding agreement.

In fact, the use of binding conflict resolution may involve a decrease in the incentives for compliance. Touval (1994) in particular argues that one of the core reasons for the effectiveness of international mediation relies in its deviation from classical mediation-theory, in which a personally powerless, uninterested mediator acts as an information-flow controller to enhance the parties' understanding of their positions, leading towards the exploration of new possible outcomes for settlement. Touval argues that the reality of international mediation is better described as triadic negotiation- where the 'mediator' acts as a further interested party, applying pressure to one or more other participants to change their conditions for resolution. In some cases, this may involve the breach of confidentiality or public pressure to negotiate in good faith, and in others may involve the threat of sanctions or withdrawal of military support. As a result, Bercovitch and others note that the identity of the mediator and the parties whom they represent is a key indicator of success, with the United Nations being amongst the least effective mediators, and regional organisations amongst the most successful (Bercovitchfrombook).

The use of arbitration in its modern structure of international courts, ad-hoc tribunals and specialist groups of independent legal scholars- actually deprives the arbitration process of the

potential for enforcement by what would otherwise be the party of first recourse- the arbitrators themselves. Instead, even more so than mediation, arbitration relies on the good will of the parties themselves as an enforcement tool. In this sense, arbitration as a mechanism has been weakened by its professionalization from the earlier, classical position in which a neutral nation would both conduct the arbitration and enforce compliance with it as a matter of national honour. (Kagan, 2007, pp. 67-75) Some of this legacy has remained, with the formal appointment of neutral nations as arbitrators in a number of cases. However, the expectation of the engagement of those countries with the arbitration process as enforcers or indeed their entitlement to do so under international law has ceased.

This assessment of the success rates of international dispute resolution based on the participation of state versus non-state actors can also be assessed empirically. To do so, we categorised non-state actors involved in international conflict resolution attempts into state actors, non-state actors, international organisations and regional organisations. We did so on the basis of the standard Issues Correlates of War country coding, (Hensel, 2013) by which 3 digit codes represent state actors, 4 digit codes represent non-state actors and codes above 2000 represent regional organisations. Amongst all settlement attempts where an agreement was reached by the parties covering all aspects of the dispute, the involvement of an international organisation in any capacity increased the success rate of overall adherence to resolved outcomes, as seen by table 48 below.

Table 49 International Organisation Involvement and Outcome of Conflict

io * effect3 Crosstabulation

			effect3			
			Agreement Reached, but at Least One Didn't Ratify or Comply	Both Complied with Agreement but Claim Didn't End	Agreement Ended Claim	Total
Io	.0	Count	187	386	186	759
		% within io	24.6%	50.9%	24.5%	100.0%
		% within effect3	94.9%	90.8%	85.3%	90.4%
		% of Total	22.3%	46.0%	22.1%	90.4%
	1.0	Count	10	39	32	81
		% within io	12.3%	48.1%	39.5%	100.0%
		% within effect3	5.1%	9.2%	14.7%	9.6%
		% of Total	1.2%	4.6%	3.8%	9.6%
Total		Count	197	425	218	840
		% within io	23.5%	50.6%	26.0%	100.0%
		% within effect3	100.0%	100.0%	100.0%	100.0%
		% of Total	23.5%	50.6%	26.0%	100.0%

However, when comparing the success of international organisations acting in a binding capacity, the impact of international organisations drops significantly, with no appreciable difference in the rate of compliance when an agreement is reached based on the use of an international organisation as the binding decision-maker. Arguably, the benefit of international organisations is much greater as a facilitator or as a source of independent mediation than in rendering binding determinations. Interestingly, parties have also not expressed a preference for the use of international organisations to resolve international disputes through binding determinations- of the 70 attempts at binding third party settlements identified within the ICOW territorial data-set, 33 have been conducted by international organisations.

Summary

Consequently, it is reasonable to conclude that the selection of binding third-party dispute resolution is not connected, materially, to the achievement of an outcome that is more binding in practice on the parties themselves, as:

- Historically, adherence to arbitrated agreements is not substantially higher than to non-arbitrated agreements;
- Enforcement by third parties of arbitrated bilateral agreements is not substantially higher than of bilateral treaties;
- Parties can refuse to ratify arbitrations, or internally protest their legitimacy for internal political purposes; and
- Parties are unlikely to see substantial changes in international prestige or standing following the achievement of an arbitral award, or from violating it in the case of bilateral treaties.

As a result, the core classical claim of arbitration to be *binding* is largely a legal fiction, with a similar correlation in power dynamics between adherence to arbitration outcomes and other international treaties. Whilst international law may consider an agreement between parties to result in a binding obligation, without enforcement and with a substantial rate of 'recidivism,' arbitration is not, in practice a sound method of binding parties to the resolution of territorial disputes.

The Paucity of Use of Binding Resolution as an Indicator to the Actual Function of Binding Resolutions in Territorial Disputes

Given the above, the fundamental questions in terms of understanding parties' preferences *not* to use arbitration is, perhaps, better transformed into an assessment of:
*When is arbitration advantageous to **both** parties in a territorial dispute?*

This is because, arguably, entry into arbitration requires the consent of both parties, as outlined above. It also is not a normative process used by default and can be somewhat difficult to achieve, requiring a prior agreement between the parties, usually achieved through mediation, the native existence or construction of conditions of arbitrability and, consequently, is not a default process. The selection of arbitration is a matter of consent between the parties.

For arbitration to be used, it is essential that it be either in the interests of both parties, or that there otherwise be a trigger that requires the use of arbitration. In many cases, particularly in Latin America, the treaties have required the use of arbitration from the outset, thus making a

refusal to participate in the process more politically 'expensive' in terms of international political capital. However, save where pressured to do so by third parties, (such as pursuant to the Monroe doctrine in the British Guyana arbitration) engaging in a process with *any* cost- political, economic or military- is only likely where there is a perceived benefit, or where alternatives are considered worse. Arbitration may therefore be primarily useful where parties have reached principal agreements as to the salience of a dispute, relative to the cost of the prosecution of a dispute, but where the determination of the details of the final outcome within a given range are proving difficult. Put simply, arbitration is useful where the parties have agreed to the scope of the conflict, and are politically and militarily prepared to lose within that scope, but where actually concluding the details is difficult or undesirable. I hypothesize that these conditions will require conflicts that have been previously mediated with at least procedurally successful outcomes, where the salience of the conflict is not high for either party, and where previous attempts at resolution of the dispute have failed.

I suggest that this will be reflected in arbitrations generally, but successful arbitrations particularly, being preceded by prior conflict management attempts that resulted in at least a partial resolution of the dispute, or a procedurally successful attempt. I suggest that the agreement to arbitrate, and to limit and transform the dispute, will therefore be the primary point of effective conflict resolution or transformation.

Using the above 30-case samples contained in Table 46, I conducted a further analysis to determine whether arbitration had involved prior substantive attempts at dispute resolution resulting in conflict transformation. The results indicated that 28 of the thirty cases within the sample had, prior to the conduct of the arbitration, involved a negotiation leading to the execution of an arbitration treaty or agreement. This is consistent with the results in Table 29 which I showed that arbitration was, in all reported cases, not used as the initial step in the dispute resolution process. In most cases, this agreement involved a specific arbitration protocol. In 27 of the 30 cases (one case had not resolved at the time of the conclusion of the data-set, the arbitrations resulted in a complete agreement. I include the table of cases and arbitration agreements at Table 33.

Extentag

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Functional Agreement	1	3.3	3.4	3.4
	Procedural Agreement	1	3.3	3.4	6.9
	Substantive Agreement-Covering all of Claim	27	90.0	93.1	100.0
	Total	29	96.7	100.0	
Missing	System	1	3.3		
Total		30	100.0		

Table 50: Extent of Agreement reached

Each of the cases within the sample, therefore, satisfied the hypothesized presumption that binding dispute resolutions resulted from previous negotiations, rather than from a direct policy attempt at transformation of the dispute, unaltered, from a political to a legal conflict. The arbitrations were, in real terms, being carried out over a narrowed, less intense or salient dispute, than had previously been unresolved between the parties. This is reflected in the prior relationships between the parties, which in most cases involved either prior conflicts, prior broader disputes (only some of which were referred to the arbitration) or threats or actual MID's. The United States and United Kingdom, for instance, had been involved in a series of conflicts in the years prior to their entry into an agreement to settle border disputes by arbitration. Similar levels of hostility and involvement in complex geopolitical affairs had characterised the South American arbitrations. The Netherlands and Belgium arbitration involved a country, Belgium, that was formerly a territory of the Netherlands and that was established pursuant to a popular uprising. Whilst there were cases of better relationships- Spain and France, for instance- invoking arbitration, these appear to be characterised by low-salience matters for both parties.

In most cases, the specific arbitration treaty or agreement that was entered into between the parties prior to the conduct of the arbitration set out the scope of arbitration, method of resolution, sources of law and time frames. As a result, the arbitration itself is the result of substantial agreement by both sides on the vast majority of issues, and an agreement to depoliticise the issue itself- none of the arbitrations studied considered the political rights and wrongs involved, only the actual claims presented by the parties on a relatively empirical basis.

Analysis

I conclude, therefore, that arbitration's usefulness in the resolution of international territorial conflicts *in which it has been employed to date* is relatively minor because it neither transforms the relationships between the parties nor substantively changes the likely behaviour of actors. More importantly, I conclude that parties themselves are not using arbitration as a tool for resolving conflicts in the majority of cases, so much as they are using it as a *conflict management* tool, following the resolution of many of the principal issues between the parties, including a willingness to prosecute the conflict by other means, the scope of the conflict itself and the inherent political aspects of the conflict. Even then, the capacity for the collapse of a conflict management attempt operating through arbitration remains substantial.

This represents a substantial departure from the literature to date, in that arbitration has largely been understood as a highly effective method of resolving conflicts which, because of its innate effectiveness, has largely been shunned. (Gent, 2010) (Gent & Shannon, 2011)However, whilst each of the factors measured above do show slightly higher rates of resolution and durability than overall results for other methods, the difference are far from overwhelming. Arbitration's usage appears to fit better with a more specialised role as a method of conflict management, providing the opportunity for technical or legal specialists to resolve details of a dispute, rather than resolving the primary factors in dispute directly.

What factors are likely to affect the choice of arbitration?

Gent & Shannon and others identify the role of internal political forces in the decision to use arbitration. (Placeholder5) Internal political acceptance is undoubtedly a critical factor, though there is limited evidence that would support arbitration being considered differently in this regard to any other form of intervention or imposed solution. The primary issue with arbitration- the loss of state control over the shape and form of a resolution- may also occur in peace conferences, multilateral organizations and armed conflict. However, states appear willing to make use of these systems as well. It may be that arbitration is considered differently, but there is little evidence of this.

Indeed, of the 62 arbitrations for which data is available, 9 were definitively *not ratified* by at least one of the claimants. This indicates that arbitration is not necessarily selected as a method of resolution where parties are willing to accept the outcome regardless of what occurs. Indeed, this result is only slightly lower than the rate at which parties ratify all other agreements reached.

Table 51: Rate of ratification of arbitration agreements

ratfail

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.0	53	75.7	85.5	85.5
	1.0	9	12.9	14.5	100.0
	Total	62	88.6	100.0	
Missing	System	8	11.4		
Total		70	100.0		

Table 52: Rate of ratification of all agreements

ratfail

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.0	784	39.1	83.8	83.8
	1.0	152	7.6	16.2	100.0
	Total	936	46.7	100.0	
Missing	System	1069	53.3		
Total		2005	100.0		

However, internal political factors undoubtedly play a major role in the decision to select arbitration. (Harris, 2010) cites the example of Libya's border dispute with Chad, and France's resolution of the Rainbow Warrior litigation, as classic illustrations where internal political pressures encouraged governments to seek a non-military solution to a conflict, one that could be resented as having low-salience and, more critically, low political salience to either party. The selection of arbitration may therefore represent a particular method that is politically cost-effective for progressing some disputes, even if the outcome itself may excite public displeasure, leading to non-ratification or non-compliance.

Arbitration's Limited Availability and Accident of Conditions

On the basis of the results contained in this chapter, the issues of international law cited with regard to native arbitrability and bargaining principles, I infer that arbitration requires some combination of the following conditions in order to be employed:

1. A pre-existing arbitration treaty entered into between the parties prior to the dispute arising.
2. The subject matter of the dispute being an area in which there are clear principles of international law.
3. Both parties believing that they are likely to be successful in the arbitration.
4. One or more parties being compelled to enter into arbitration by a stronger third party or a threat of sanctions for non-compliance.
5. The parties entering into a general agreement setting out the parameters of agreement and referring the balance of issues or particulars to experts for resolution
6. Conflict exhaustion causing the parties causing them to seek a creative solution
7. Low political salience of a dispute to both parties such that the outcome of the dispute is not of significant concern to either party.

However, the dominant determinants on the use of arbitration appear to be limiters. Principally, as outline above, these include the arbitrability of the dispute, the capacity of the parties to sufficiently narrow the scope of the issues to the point where the matter can be referred to arbitrators and the belief by both parties that arbitration is in their best interests. These factors appear to coincide relatively rarely. More than any perceived advantages or dangers of arbitration, these generalized principles appear to dominate the usage of arbitration.

Section 4: Is arbitration 'effective' in resolving international conflicts? According to who?

Binding dispute settlement has a reputation for being highly 'effective' as a method of resolving conflicts. As Gent & Shannon (2010, p. 366) write:

> *Binding third-party mechanisms (arbitration and adjudication) more effectively end territorial claims than other conflict management techniques because they provide legality, increased reputation costs, and domestic political cover*

'Effectiveness,' as referred to above, is a critical question in the resolution of disputes of all kinds. This is particularly important in the context of international conflicts, where the potential for violence, death and global economic consequences is much higher than in private intra-party disputes of all kinds. (Wanis-St. John & Ghais, 2014) As such, the 'opportunity cost' of conflict resolution attempts are substantial and represents an ongoing concern for third-party interveners. The degree to which methods of conflict resolution, and arbitration in particular, can be relied on to resolve conflicts is therefore critical.

'Effectiveness' itself is not a defined term within the literature. Generally, effectiveness is taken to mean "The degree to which something is successful in producing a desired result." (Oxford Dictionary, 2016) However, for the purposes of conflict resolution, a simple dichotomous notion of effectiveness – yes or no- is insufficient and is indeed counterproductive. There are more than two possible outcomes, success or failure. There also exist both questions of opportunity cost and the possibility of making future resolution harder to achieve. As such, measurement of effectiveness in the use of arbitration requires that, at the least, both the rate of successful use of the method in different circumstances and the degree to which the method causes later consequences is required, as well as a relative effectiveness determination, compared to other outcomes in like cases. The relative effectiveness questions have been explored in Section 2 of this thesis.

Early Intervention- Ripeness Theory and Arbitration

There is little research into the impact of failed dispute resolution attempts on the overall progression of conflicts. Primarily, the focus of researchers has been in determining when *to*

intervene, not the consequences of premature or failed interventions. The notion of properly timed intervention is usually explored within 'ripeness' theory, defined by Zartmann (2000, pp. 225-235) as

> *Parties resolve their conflict only when they are ready to do so- when alternative, usually unilateral means of achieving a satisfactory result are blocked and the parties find themselves in and uncomfortable and costly predicament…*
>
> *The ripe moment is necessarily a perceptual event not one that stands alone in objective reality; it can be created if outside parties can cultivate the perception of a painful present versus a preferable alternative and therefore can be resisted so long as the party in question refuses or is otherwise able to block out this perception.*

The notion of ripeness is therefore an understanding that conflicts cannot be resolved prior to the parties' own acceptance that a full resolution is the only option, or is overwhelmingly preferable. On this basis, arbitration would appear to be an ideal method of resolution, offering a comprehensive resolution model that fully embraces a complete end to claims, with binding determinations rendered to all matters identified as being within a dispute. In a 'fully ripe' conflict, where both parties are seeking finality, low-cost resolution to the dispute with limited prospects of escalation, arbitration would appear to be the ideal solution. However, ripeness theorists do not embrace a purely passive approach to conflict resolution, in which the role of interveners is to remain ready to assist when parties form the view that they are finally ready to get on with making peace. Rather, 'ripeness' can be induced. This can take many forms, including the application of third-party pressure or good offices. The principal form of intervention identified within the ICOW data is mediation or offers of mediation. Jacob Berkovitch's data-set identifies offers of mediation as the most common form of intervention. Where interventions occur to 'induce' ripeness, the conflict is unlikely to be fully ripe. This leads to potentially more conditional resolutions i.e. the parties continue to consider other options for resolution, including continuing the conflict, exploring other methods of negotiation or simply delaying the process. Arbitration in this instance may be unavailable or simply not something that the parties are willing to accept. However, if arbitration can be employed earlier in conflicts, it may promote early ripeness as a method of binding the parties

and preventing obfuscation, delay or attempts to pursue the conflict through other means without greater consequences coming into play. In this sense, arbitration appears to be a highly effective option, if available, to end conflicts.

Ripeness theory also has implications for measurement of effectiveness in terms of opportunity cost. Conflicts may have limited numbers of opportune stages for dispute resolution, prior to which they escalate further. This can be seen from the distribution of attempts in resolved disputes:

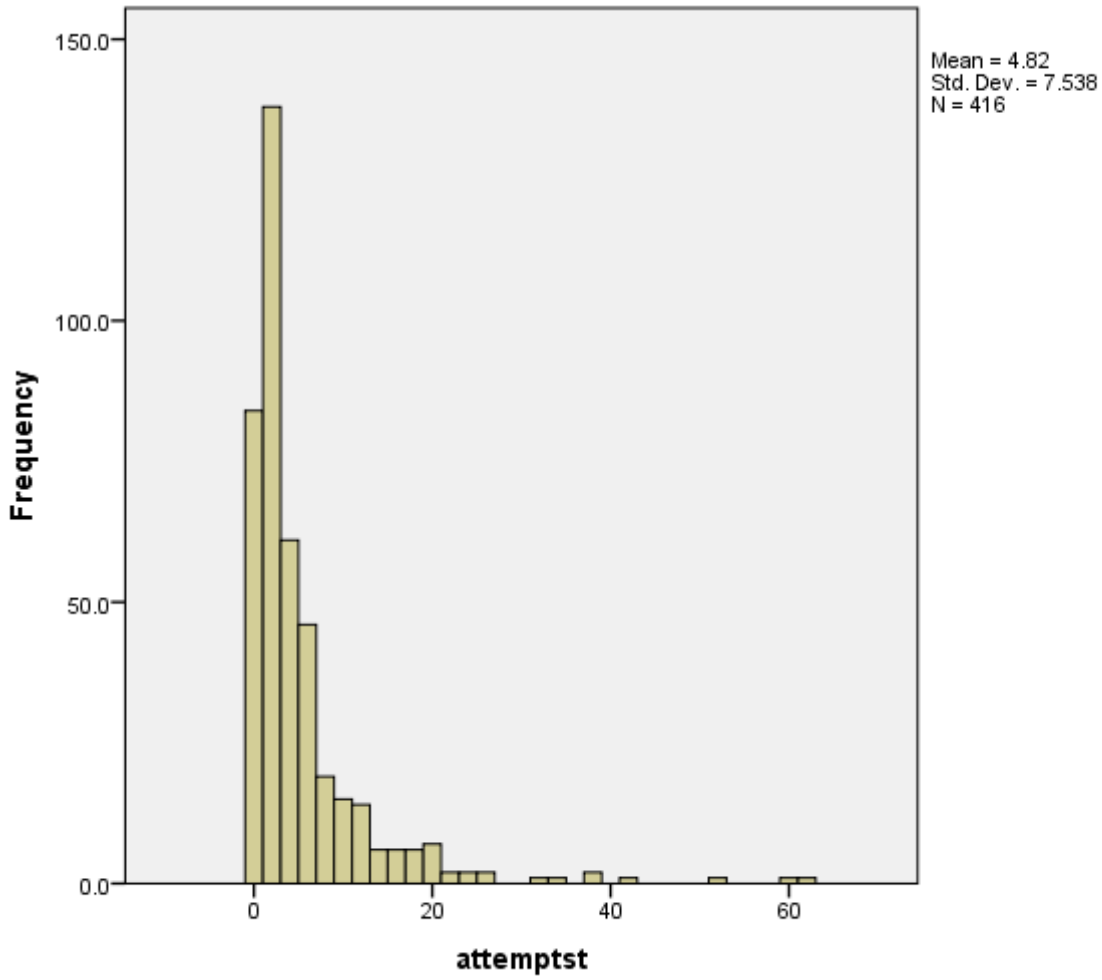

Figure 14: Number of attempts (dyadic) at conflict resolution per dispute

Table 53: Number of attempts per conflict (dyadic)

attemptst

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	84	20.2	20.2	20.2
	1	77	18.5	18.5	38.7
	2	61	14.7	14.7	53.4
	3	34	8.2	8.2	61.5
	4	27	6.5	6.5	68.0
	5	23	5.5	5.5	73.6
	6	23	5.5	5.5	79.1
	7	13	3.1	3.1	82.2
	8	6	1.4	1.4	83.7
	9	10	2.4	2.4	86.1
	10	5	1.2	1.2	87.3
	11	6	1.4	1.4	88.7
	12	8	1.9	1.9	90.6
	13	3	.7	.7	91.3
	14	3	.7	.7	92.1
	15	6	1.4	1.4	93.5
	17	5	1.2	1.2	94.7
	18	1	.2	.2	95.0
	19	4	1.0	1.0	95.9
	20	3	.7	.7	96.6
	22	2	.5	.5	97.1
	23	2	.5	.5	97.6
	25	2	.5	.5	98.1
	32	1	.2	.2	98.3
	33	1	.2	.2	98.6
	37	2	.5	.5	99.0
	41	1	.2	.2	99.3
	52	1	.2	.2	99.5
	59	1	.2	.2	99.8
	61	1	.2	.2	100.0
	Total	416	100.0	100.0	

It is apparent that, if disputes do not resolve in the first few settlement attempts, they are likely to progress to large numbers of settlement attempts- both peaceful and militarized. As a result,

the effectiveness measure of dispute resolution must account also for the impact of failed attempts where this deprives an opportunity for alternative processes that might otherwise have had better prospects of success.

Measuring the Effectiveness of Arbitration as an early-intervention tool in conflicts

Limited data is available on which to analyse the performance of arbitration in this context. The ICOW data does not facilitate a meaningful analysis of early-intervention efforts. As noted above, the hypothesis that arbitrated conflicts within the ICOW data are actually conflict management attempts, not resolutions of the prior scope of issues between the parties (this having been largely addressed through mediation or negotiation of arbitration agreements) is, in my view, strongly supported. As such, analysis of the ICOW data to determine whether arbitration is effective as an early-intervention tool is difficult. However, if the 'negotiation of arbitration agreement and arbitration' are considered as a single conflict resolution process, it is possible to provide, on the basis of the ICOW data, a meaningful, if limited, set of conclusions.

The 'settnump' variable lists the chronological ranking of each peaceful settlement attempt within a dyadic claim. Firstly, I created a cross-tab showing the rate of achievement of complete agreement by settlement attempt number:

Table 54: Crosstabulation- settnump by agreeall, all peaceful settlement attempts

settnump * agreeall Crosstabulation

			agreeall		
			No	Yes	Total
settnump	1.0	Count	20	161	181
		% within settnump	11.0%	89.0%	100.0%
		% within agreeall	21.3%	19.2%	19.4%
		% of Total	2.1%	17.2%	19.4%
	2.0	Count	16	125	141
		% within settnump	11.3%	88.7%	100.0%
		% within agreeall	17.0%	14.9%	15.1%
		% of Total	1.7%	13.4%	15.1%
	3.0	Count	10	87	97
		% within settnump	10.3%	89.7%	100.0%

	% within agreeall	10.6%	10.4%	10.4%
	% of Total	1.1%	9.3%	10.4%
4.0	Count	6	75	81
	% within settnump	7.4%	92.6%	100.0%
	% within agreeall	6.4%	8.9%	8.7%
	% of Total	0.6%	8.0%	8.7%
5.0	Count	7	61	68
	% within settnump	10.3%	89.7%	100.0%
	% within agreeall	7.4%	7.3%	7.3%
	% of Total	0.7%	6.5%	7.3%
6.0	Count	3	45	48
	% within settnump	6.3%	93.8%	100.0%
	% within agreeall	3.2%	5.4%	5.1%
	% of Total	0.3%	4.8%	5.1%
7.0	Count	5	37	42
	% within settnump	11.9%	88.1%	100.0%
	% within agreeall	5.3%	4.4%	4.5%
	% of Total	0.5%	4.0%	4.5%
8.0	Count	1	32	33
	% within settnump	3.0%	97.0%	100.0%
	% within agreeall	1.1%	3.8%	3.5%
	% of Total	0.1%	3.4%	3.5%
9.0	Count	1	32	33
	% within settnump	3.0%	97.0%	100.0%
	% within agreeall	1.1%	3.8%	3.5%
	% of Total	0.1%	3.4%	3.5%
10.0	Count	4	27	31
	% within settnump	12.9%	87.1%	100.0%
	% within agreeall	4.3%	3.2%	3.3%
	% of Total	0.4%	2.9%	3.3%
11.0	Count	2	20	22
	% within settnump	9.1%	90.9%	100.0%
	% within agreeall	2.1%	2.4%	2.4%
	% of Total	0.2%	2.1%	2.4%
12.0	Count	3	19	22
	% within settnump	13.6%	86.4%	100.0%
	% within agreeall	3.2%	2.3%	2.4%
	% of Total	0.3%	2.0%	2.4%

13.0	Count	1	9	10
	% within settnump	10.0%	90.0%	100.0%
	% within agreeall	1.1%	1.1%	1.1%
	% of Total	0.1%	1.0%	1.1%
14.0	Count	1	9	10
	% within settnump	10.0%	90.0%	100.0%
	% within agreeall	1.1%	1.1%	1.1%
	% of Total	0.1%	1.0%	1.1%
15.0	Count	2	12	14
	% within settnump	14.3%	85.7%	100.0%
	% within agreeall	2.1%	1.4%	1.5%
	% of Total	0.2%	1.3%	1.5%
16.0	Count	1	7	8
	% within settnump	12.5%	87.5%	100.0%
	% within agreeall	1.1%	0.8%	0.9%
	% of Total	0.1%	0.7%	0.9%
17.0	Count	3	4	7
	% within settnump	42.9%	57.1%	100.0%
	% within agreeall	3.2%	0.5%	0.7%
	% of Total	0.3%	0.4%	0.7%
18.0	Count	1	6	7
	% within settnump	14.3%	85.7%	100.0%
	% within agreeall	1.1%	0.7%	0.7%
	% of Total	0.1%	0.6%	0.7%
19.0	Count	1	5	6
	% within settnump	16.7%	83.3%	100.0%
	% within agreeall	1.1%	0.6%	0.6%
	% of Total	0.1%	0.5%	0.6%
20.0	Count	1	3	4
	% within settnump	25.0%	75.0%	100.0%
	% within agreeall	1.1%	0.4%	0.4%
	% of Total	0.1%	0.3%	0.4%
21.0	Count	0	2	2
	% within settnump	0.0%	100.0%	100.0%
	% within agreeall	0.0%	0.2%	0.2%
	% of Total	0.0%	0.2%	0.2%
22.0	Count	0	3	3
	% within settnump	0.0%	100.0%	100.0%

	% within agreeall	0.0%	0.4%	0.3%
	% of Total	0.0%	0.3%	0.3%
23.0	Count	0	3	3
	% within settnump	0.0%	100.0%	100.0%
	% within agreeall	0.0%	0.4%	0.3%
	% of Total	0.0%	0.3%	0.3%
24.0	Count	1	0	1
	% within settnump	100.0%	0.0%	100.0%
	% within agreeall	1.1%	0.0%	0.1%
	% of Total	0.1%	0.0%	0.1%
25.0	Count	0	3	3
	% within settnump	0.0%	100.0%	100.0%
	% within agreeall	0.0%	0.4%	0.3%
	% of Total	0.0%	0.3%	0.3%
26.0	Count	1	3	4
	% within settnump	25.0%	75.0%	100.0%
	% within agreeall	1.1%	0.4%	0.4%
	% of Total	0.1%	0.3%	0.4%
27.0	Count	0	4	4
	% within settnump	0.0%	100.0%	100.0%
	% within agreeall	0.0%	0.5%	0.4%
	% of Total	0.0%	0.4%	0.4%
28.0	Count	0	3	3
	% within settnump	0.0%	100.0%	100.0%
	% within agreeall	0.0%	0.4%	0.3%
	% of Total	0.0%	0.3%	0.3%
29.0	Count	0	3	3
	% within settnump	0.0%	100.0%	100.0%
	% within agreeall	0.0%	0.4%	0.3%
	% of Total	0.0%	0.3%	0.3%
30.0	Count	0	1	1
	% within settnump	0.0%	100.0%	100.0%
	% within agreeall	0.0%	0.1%	0.1%
	% of Total	0.0%	0.1%	0.1%
31.0	Count	0	1	1
	% within settnump	0.0%	100.0%	100.0%
	% within agreeall	0.0%	0.1%	0.1%
	% of Total	0.0%	0.1%	0.1%

32.0	Count	0	4	4
	% within settnump	0.0%	100.0%	100.0%
	% within agreeall	0.0%	0.5%	0.4%
	% of Total	0.0%	0.4%	0.4%
33.0	Count	0	4	4
	% within settnump	0.0%	100.0%	100.0%
	% within agreeall	0.0%	0.5%	0.4%
	% of Total	0.0%	0.4%	0.4%
34.0	Count	0	2	2
	% within settnump	0.0%	100.0%	100.0%
	% within agreeall	0.0%	0.2%	0.2%
	% of Total	0.0%	0.2%	0.2%
35.0	Count	0	3	3
	% within settnump	0.0%	100.0%	100.0%
	% within agreeall	0.0%	0.4%	0.3%
	% of Total	0.0%	0.3%	0.3%
36.0	Count	0	2	2
	% within settnump	0.0%	100.0%	100.0%
	% within agreeall	0.0%	0.2%	0.2%
	% of Total	0.0%	0.2%	0.2%
37.0	Count	0	2	2
	% within settnump	0.0%	100.0%	100.0%
	% within agreeall	0.0%	0.2%	0.2%
	% of Total	0.0%	0.2%	0.2%
38.0	Count	0	1	1
	% within settnump	0.0%	100.0%	100.0%
	% within agreeall	0.0%	0.1%	0.1%
	% of Total	0.0%	0.1%	0.1%
39.0	Count	0	1	1
	% within settnump	0.0%	100.0%	100.0%
	% within agreeall	0.0%	0.1%	0.1%
	% of Total	0.0%	0.1%	0.1%
41.0	Count	0	1	1
	% within settnump	0.0%	100.0%	100.0%
	% within agreeall	0.0%	0.1%	0.1%
	% of Total	0.0%	0.1%	0.1%
42.0	Count	0	1	1
	% within settnump	0.0%	100.0%	100.0%

	% within agreeall	0.0%	0.1%	0.1%
	% of Total	0.0%	0.1%	0.1%
43.0	Count	1	0	1
	% within settnump	100.0%	0.0%	100.0%
	% within agreeall	1.1%	0.0%	0.1%
	% of Total	0.1%	0.0%	0.1%
44.0	Count	0	1	1
	% within settnump	0.0%	100.0%	100.0%
	% within agreeall	0.0%	0.1%	0.1%
	% of Total	0.0%	0.1%	0.1%
45.0	Count	0	1	1
	% within settnump	0.0%	100.0%	100.0%
	% within agreeall	0.0%	0.1%	0.1%
	% of Total	0.0%	0.1%	0.1%
46.0	Count	0	2	2
	% within settnump	0.0%	100.0%	100.0%
	% within agreeall	0.0%	0.2%	0.2%
	% of Total	0.0%	0.2%	0.2%
48.0	Count	0	2	2
	% within settnump	0.0%	100.0%	100.0%
	% within agreeall	0.0%	0.2%	0.2%
	% of Total	0.0%	0.2%	0.2%
49.0	Count	0	2	2
	% within settnump	0.0%	100.0%	100.0%
	% within agreeall	0.0%	0.2%	0.2%
	% of Total	0.0%	0.2%	0.2%
50.0	Count	1	1	2
	% within settnump	50.0%	50.0%	100.0%
	% within agreeall	1.1%	0.1%	0.2%
	% of Total	0.1%	0.1%	0.2%
52.0	Count	0	2	2
	% within settnump	0.0%	100.0%	100.0%
	% within agreeall	0.0%	0.2%	0.2%
	% of Total	0.0%	0.2%	0.2%
53.0	Count	0	2	2
	% within settnump	0.0%	100.0%	100.0%
	% within agreeall	0.0%	0.2%	0.2%
	% of Total	0.0%	0.2%	0.2%

	54.0	Count	1	1	2
		% within settnump	50.0%	50.0%	100.0%
		% within agreeall	1.1%	0.1%	0.2%
		% of Total	0.1%	0.1%	0.2%
	58.0	Count	0	1	1
		% within settnump	0.0%	100.0%	100.0%
		% within agreeall	0.0%	0.1%	0.1%
		% of Total	0.0%	0.1%	0.1%
	59.0	Count	0	1	1
		% within settnump	0.0%	100.0%	100.0%
		% within agreeall	0.0%	0.1%	0.1%
		% of Total	0.0%	0.1%	0.1%
	60.0	Count	0	1	1
		% within settnump	0.0%	100.0%	100.0%
		% within agreeall	0.0%	0.1%	0.1%
		% of Total	0.0%	0.1%	0.1%
Total		Count	94	840	934
		% within settnump	10.1%	89.9%	100.0%
		% within agreeall	100.0%	100.0%	100.0%
		% of Total	10.1%	89.9%	100.0%

53.6% of peaceful settlement attempts are one of the first four attempts at settlement of the conflict. With no available definitions in the literature, I therefore assumed that up to four settlement attempts represent early intervention in a conflict. In so doing, I considered that many substantive attempts would be preceded by at least one procedural attempt, such as the pre-arbitration conference. The overall rate of success for all peaceful settlement attempts is 89.9%, with the rate of success for the first four attempts 89.6%. There is therefore no meaningful statistical variance between early attempts within the data and overall attempts.[8] By comparison, analysis of the 62 arbitration cases meeting the 'agreeall' criteria shows that all produced agreements. Using this Crosstabulation, arbitration was the first peacefully used mechanism in 9 conflicts, and was used as an early-intervention tool in 30 cases, nearly half of all arbitrations. However, of the 8 'missing' cases- indicating that the matter was still ongoing

[8] It should be noted that this result must be treated with some caution. Invariably, disputes that have eventually resolved will finally present a positive result. This may skew the results for the overall effectiveness of dispute resolution generally and may therefore slightly downplay the significance and successes of early dispute resolution attempts to promote ripeness. However, there is little variance in success rates up to 15 attempts, when the number of cases drops too low for meaningful analysis.

at the conclusion of the data-set, 6 were early-intervention attempts. It is therefore not possible to meaningfully show arbitration as being substantially more effective in early-intervention attempts than other kinds of dispute resolution processes.

Consequences of Failed Attempts

As noted, there is very little consideration within the literature of the consequences of unsuccessful attempts at resolution. Zartman only notes that "Furthermore, premature intervention may create a "self-fulfilling prophecy" by focussing attention on the conflict in the minds of disputing parties or by legitimizing radical political leaders, such as extreme nationalists." (Zartman, 2000, p. 581) Haass, too, makes similar limited reference to the concept of ripeness (Kleiboer, 1994, p. 116) Wannis-St John and Ghais note that:

"even seemingly well-managed peace processes can have catastrophic outcomes, as the Rwanda case shows, since the genocide took place just after a final agreement had been reached between the government and the Rwandese Patriotic Front (Jones, 2001)" (Wanis-St. John & Ghais, p. 24)

There were no suggestions beyond this located within the literature of ripeness theory as to the measurable impact of any failed conflict resolution attempts, or whether the nature of the attempt has any correlation to such factors as promoting focus on the conflict, legitimization of radical political leaders or extreme nationalists or indeed to prolonging the conflict.

Certainly, there is evidence that excessive intervention has the capacity to create long-term cycles of conflict. Arguably, the Israeli-Arab conflict represents an illustration par excellence, with ongoing dispute resolution attempts becoming a structural part of the conflict in which interveners have themselves become part of the conflict matrix. Arguably, the belief that conflict resolution attempts can be used to extract concessions without there being consequences or a loss of opportunity can contribute to a prolongation of a conflict or of negotiations becoming a structural feature of the conflict, in turn reducing the capacity of dispute resolution attempts to have positive impacts in the future. As a result, methods of resolution that:

(a) lead to incomplete resolutions of disputes; or
(b) are correlated to prolonged conflicts; or
(c) lead to a higher rate of failure of subsequent attempts at conflict resolution

are to be regarded as ineffective, even if the attempt itself produces results. Each of these factors, though, show arbitration to be relatively effective, in that arbitration usually is the final dispute resolution process in a conflict. Whether arbitration actually resolves the conflict or not is doubtful, as noted above. However, there is no suggestion that arbitration leads to incomplete agreements, leads to lengthier conflicts or leads to higher rates of failure of subsequent attempts, largely because, as indicated by the Nomid5, Nomid10 and Nomid15 results, arbitrations are usually at the end of the conflict.

However, what of the arbitration attempts that did not resolve the conflict? As noted previously, 8 binding settlement attempts did not result in complete agreement. Of these, 7 did not produce an agreement at all. 3 of the cases concerned adjudications involving Israel and its regional water-conflicts. 3 further conflicts were South American. The remaining case, the Aegean Sea dispute between Greece and Turkey, represents a special case where the matter was unilaterally referred to arbitration, with the International Court of Justice determining that it did not have jurisdiction. (International Crisis Group, 2011) I extracted these 8 cases and compared the 'settnump' score to the 'attemptst' score for the conflict using the ICOW claims-level data. This provides a score for the number of further settlement attempts that followed the failed arbitration.

Table 55: Number of conflict resolution attempts after failed arbitration

Claim Dyad	Claim Name (ICOW)	Settnump	attemptst	Further attempts following failed arbitration
10001	Goajir‡-Guain'a	6	6	0
13001	Oriente-Mainas	7	33	26
170003	DMZ Diversion	1	3	2
170003	National Water Carrier	2	3	1
170007	Jordan Headwaters Diversion	1	1	0
170302	Honduras-Nicaragua Caribbean Sea	1	2	1
205001	Aegean Sea	1	9	8

The average number of further settlement attempts following a failed arbitration is 7.38. This contrasts with an overall average number of attempts altogether of 4.82. This provides the basis for a weak inference that, where arbitrations fail, they may truly 'poison the well.' However, this is neither conclusive given the small and scattered sample size, not is there a demonstrable correlation as it is equally possible that cases which are so severe as to see arbitration fail represent particularly difficult cases to resolve. This is borne out by the fact that seven of the eight cases involve direct use of force between the parties, with the eighth- the Jordan Headwaters Diversion claim- arguably also involving the use of force, with Israel bombing the machinery used in construction, preventing completion of the project. However, this formed part of the broader conflict between the parties and hence has seemingly not been classified as a further attempt within the same dispute.

Partial Resolutions

Overall, there do not appear to be any strong indications that failed arbitrations carry with them major consequences adverse to the prospects of reaching complete resolution in disputes any more than other methods of conflict resolution do. Even so, unlike other methods of dispute resolution, arbitration does not appear to be directly effective at progressing the parties towards self-guided resolutions. This is because, unlike mediations, negotiations or other forms of bilateral engagement, arbitration is principally an adversarial process. As with most courtroom processes, the decision itself is out of the hands of the parties. As a result, it is not amenable to particularly flexible resolutions or to rendering interim conclusions that enable the parties to develop further relationships. This appears to be an element in which arbitration is demonstratively less effective than other approaches to conflict resolution.

There are, however, basic differences in approach to conflict resolution on the issue of partial resolutions. Some theorists and politicians advocate staged resolutions, with a succession of small agreements used to build trust and define the parameters of conflicts. This may occur within an agreed dispute resolution framework, such as the SALT treaties or the Oslo Accords. However, there are numerous and foundational disputes as to this approach. An 'agreement to agree' has often proved ineffective and a prompt to further conflict. The timetables for resolution of disputes can be very lengthy in circumstances where the expectation is for many rounds of negotiation. There is also the real risk of the political will to resolve difficult disputes failing at various points, or of changes of policy occurring during the course of negotiations.

Again, the Oslo Accords provide ample illustration of these challenges. Partial agreements may reflect a basic instability that is to be avoided. However, this is a subject for separate, further research.

Other questions of effectiveness in arbitration- resolving the dispute agreed to by the parties

A central concern raised in a number of arbitrations whose results have not been ratified has been the failure of the arbitral tribunal to confine itself to the scope of activity which it has been authorised to undertake. This is a central issue, one that raises questions of legitimacy of the arbitration process and may invalidate the decision of the arbitration panel as a matter of international law as well. A decision which is *ultra vires*- exceeding the scope of the authority conveyed by the arbitration agreement or *compromis*- is invalid and cannot, by virtue of the ad hoc nature of the arbitration process in international law- simply be appealed or corrected. As a result, arbitrations are at risk of collapse if their procedures and the powers granted to the arbitrators are carefully adhered to. This contrasts dramatically with non-binding processes, such as mediation, where the parties can elect in the course of the process to discuss the matters that they wish to.

Arguably, however, there is a secondary downside to arbitration's scope limitations, in that the parties are unable to effectively use arbitration to as a trust-building exercise capable of resolving other issues between them. Unlike other agreements, particularly those reached in mediation or with the assistance of regional organisations (Berkovitch), arbitrations do not serve as effective mechanisms of building trust or the development of relationships between negotiators. As noted above, this is reflective of the identity of participants in arbitration- today lawyers, not politicians or diplomats- and the ad-hoc nature of the panel. Unlike mediators who may be called on to act in many disputes, arbitration results in arbitrators making binding decisions for one party and against another. This results, as a matter of course, in there being less favourability in the reselection of arbitrators. The developed knowledge and relationships that do develop are therefore lost and are not readily available to further enable progress to be made between parties.

The capacity of international arbitration to impact on the progression of other conflicts between the same parties is therefore a major consideration in considering its overall impact on international conflict resolution. However, it is not one that is readily amenable to testing on the basis of existing data. The fact that arbitration is confined to specific issues and does not involve general pacific agreements means that it is more likely that there will be other disputes arising, not covered by the same dispute resolution process.

Rate of Resolution of Disputes

As discussed above, in simple numerical terms, arbitration is highly effective in resolving disputes, if considered on the bases of rate of agreements entered into, determined and ratified. However, as also noted above, the degree to which these agreements can genuinely be said to result from the arbitration itself as opposed to the pre-arbitration process is limited. This is particularly important, given that the arbitration itself presents limitations on the prospects of resolution. If arbitration itself is not as important in resolving conflicts, it may be more advisable to seek to find other ways of engaging in the pre-arbitral sequence- the reduction of 'political' disputes to defined key issues- rather than focussing on bringing matters before binding dispute resolution panels. Whilst this does occur through the process of arbitration with a high degree of confidence due to the essential requirements of the arbitration process, this does not imply that there are no other ways of achieving this result more effectively. For instance, mediators could employ quasi-legal position papers or 'mock' arbitrations within the mediation process. There is no comprehensive data to suggest that there is a difference in the way that issues can be reduced to legal elements through arbitration, as opposed to through other processes, though this can be inferred.

Effectiveness of Arbitration in Resolving Conflicts Involving Third-Party Interventions

International territorial conflicts are primarily bilateral. However, they frequently have involved third-party interventions of different kinds. These have included major-party engagements and proxy-conflicts between major powers, or post-colonial territorial disputes in which former powers have maintained an interest in the resolution of the dispute. Whilst third parties may have a diverse range of interests- both in resolving disputes in general but also potentially in blocking any resolution that does not meet certain parameters- arbitration is less

amenable to non-litigant intervention. Arbitrators, if unbiased, are not subject to consideration of 3rd party political interests, unless they are able to file amicus briefs, a matter which can be determined by the agreement to arbitrate.

Using the ICOW data, I used the sort function to isolate arbitrations only. I then conducted a search using the 'Actor 1,' 'Actor2,' 'Actor3,' 'Actor4,' 'Actor5,' and 'Actor6' fields- each representing a 3rd party intervention. (Hensel, 2015). Third-parties include arbitral bodies. Table 55 shows Claims and 3rd party actors.

Table 56: Third party interventions in arbitration

Claim Dyad	Challenger	Target	Actor1	Actor 2	Actor3	Actor 4	Actor5	Actor6
3801	Denmark	Norway	Permanent Court of International Justice (PCIJ)					
3801	Denmark	Norway	Permanent Court of International Justice (PCIJ)					
2202	Mexico	United States of America	Canada					
401	United States of America	United Kingdom	Netherlands					
401	United States of America	United Kingdom	0					
201	United States of America	United Kingdom	0					
804	United States of America	United Kingdom	Germany					
1003	United Kingdom	United States of America	0					
1201	Canada	United Kingdom	Judicial Committee of the Imperial Privy Council					
6001	Mexico	France	Italy					
7201	Honduras	Guatemala	United States of America	Chile	Costa Rica			
7601	El Salvador	Honduras	International Court of Justice					
7801	El Salvador	Honduras	International Court of Justice					
8001	Nicaragua	Honduras	Spain					
8002	Nicaragua	Honduras	International Court of Justice					
8002	Nicaragua	Honduras	Inter-American Peace Committee (IAPC) / Inter-American Committee on Peaceful Settlement (IACPS)					
8002	Nicaragua	Honduras	Inter-American Peace Committee (IAPC) / Inter-American Committee on					

			Peaceful Settlement (IACPS)					
10001	Venezuela	Colombia	Spain					
10001	Venezuela	Colombia	Spain					
10001	Venezuela	Colombia	Switzerland					
11001	Venezuela	Netherlands	Spain					
11201	Venezuela	United Kingdom	United States of America	United Kingdom	Russia			
12201	Brazil	United Kingdom	Italy					
12401	Netherlands	France	Russia					
12802	France	Brazil	Switzerland					
13001	Ecuador	Peru	Spain					
13001	Ecuador	Peru	Brazil					
13002	Ecuador	Peru	United States of America	Brazil	Chile	Argentina		
13602	Peru	Bolivia	Argentina					
14601	Argentina	Brazil	United States of America					
15201	Bolivia	Paraguay	United States of America	Peru	Brazil	Chile	Argentina	Uruguay
15404	Peru	Chile	United States of America					
15602	Chile	Argentina	United States of America					
15801	Argentina	Paraguay	United States of America					
16001	Chile	Argentina	United Kingdom					
16401	Argentina	Chile	United Kingdom					
16601	Chile	Argentina	United Kingdom					
16601	Chile	Argentina	El Salvador	Colombia	Venezuela			
16601	Chile	Argentina						
20401	France	United Kingdom	International Court of Justice					
21002	Netherlands	Belgium	International Court of Justice					
27402	Sweden	Finland	League of Nations					
120001	Netherlands	Belgium	Permanent Court of International Justice (PCIJ)					
120901	Spain	France						
170001	Syria	Israel	United Nations Security Council (UNSC)					
170003	Syria	Israel	United Nations Peacekeeping Organization					
170003	Syria	Israel	United Nations Security Council (UNSC)					
170007	Syria	Israel	United Nations Security Council (UNSC)					
170302	Israel	Syria	United Nations Security Council (UNSC)					
200401	United Kingdom	United States of America						
201201	Canada	United States of America	International Court of Justice					

202601	Canada	France						
202601	Canada	France	United States of America	Uruguay	Italy			
204801	El Salvador	Honduras	International Court of Justice					
204802	Honduras	Nicaragua	International Court of Justice					
205001	Nicaragua	Honduras	International Court of Justice					
212001	Argentina	Chile	United Kingdom					
220201	European Union	United Kingdom	German Federal Republic	Belgium	France	Italy	Luxembourg	Netherlands
220201	European Union	United Kingdom	European Court of Justice					
220801	United Kingdom	Iceland	International Court of Justice					
220802	German Federal Republic	Iceland	International Court of Justice					
221401	Denmark	Norway	International Court of Justice					
222001	European Commission	Ireland	European Court of Justice					
222401	German Federal Republic	Denmark	International Court of Justice					
222402	German Federal Republic	Netherlands	International Court of Justice					
222801	Norway	Sweden	Permanent Court for Arbitration					
223001	Netherlands	Ireland	European Court of Justice					
224001	United Kingdom	Norway	International Court of Justice					
234001	Albania	United Kingdom	International Court of Justice					
235201	Greece	Turkey	International Court of Justice					

The ICOW data codes arbitral bodies as 3rd parties. This overstates interventions as it suggests that courts or quasi-judicial bodies are interveners, rather than nominally neutral actors. The ICOW data also considers nations called on to arbitrate as interveners. This, arguably, is more legitimate, as national arbitration includes both nations as appointing bodies as nations as interveners.

Removal of international bodies and courts substantially reduces the number of cases of interventions. 29 of the 85 arbitral attempts contained in the attempts-level data then had an intervention. Accordingly, I used a cross-tabulation and frequency analysis to consider the comparative effectiveness of arbitration in achieving both partial and full agreements, based on whether there was an intervening party.

Table 57: Comparative success of arbitration- Agree Y/N by first intervener

actor1 * agree Crosstabulation

			agree		
			No	Yes	Total
actor1	None	Count	5	35	40
		% within actor1	12.5%	87.5%	100.0%
		% within agree	71.4%	56.5%	58.0%
		% of Total	7.2%	50.7%	58.0%
	United States of America	Count	0	9	9
		% within actor1	0.0%	100.0%	100.0%
		% within agree	0.0%	14.5%	13.0%
		% of Total	0.0%	13.0%	13.0%
	Canada	Count	0	1	1
		% within actor1	0.0%	100.0%	100.0%
		% within agree	0.0%	1.6%	1.4%
		% of Total	0.0%	1.4%	1.4%
	El Salvador	Count	0	1	1
		% within actor1	0.0%	100.0%	100.0%
		% within agree	0.0%	1.6%	1.4%
		% of Total	0.0%	1.4%	1.4%
	Brazil	Count	0	1	1
		% within actor1	0.0%	100.0%	100.0%
		% within agree	0.0%	1.6%	1.4%
		% of Total	0.0%	1.4%	1.4%
	Argentina	Count	0	1	1
		% within actor1	0.0%	100.0%	100.0%
		% within agree	0.0%	1.6%	1.4%
		% of Total	0.0%	1.4%	1.4%
	United Kingdom	Count	0	4	4
		% within actor1	0.0%	100.0%	100.0%
		% within agree	0.0%	6.5%	5.8%
		% of Total	0.0%	5.8%	5.8%
	Netherlands	Count	0	1	1
		% within actor1	0.0%	100.0%	100.0%
		% within agree	0.0%	1.6%	1.4%
		% of Total	0.0%	1.4%	1.4%
	Switzerland	Count	0	2	2
		% within actor1	0.0%	100.0%	100.0%

		% within agree	0.0%	3.2%	2.9%
		% of Total	0.0%	2.9%	2.9%
	Spain	Count	2	2	4
		% within actor1	50.0%	50.0%	100.0%
		% within agree	28.6%	3.2%	5.8%
		% of Total	2.9%	2.9%	5.8%
	Germany	Count	0	1	1
		% within actor1	0.0%	100.0%	100.0%
		% within agree	0.0%	1.6%	1.4%
		% of Total	0.0%	1.4%	1.4%
	German Federal Republic	Count	0	1	1
		% within actor1	0.0%	100.0%	100.0%
		% within agree	0.0%	1.6%	1.4%
		% of Total	0.0%	1.4%	1.4%
	Italy	Count	0	2	2
		% within actor1	0.0%	100.0%	100.0%
		% within agree	0.0%	3.2%	2.9%
		% of Total	0.0%	2.9%	2.9%
	Russia	Count	0	1	1
		% within actor1	0.0%	100.0%	100.0%
		% within agree	0.0%	1.6%	1.4%
		% of Total	0.0%	1.4%	1.4%
Total		Count	7	62	69
		% within actor1	10.1%	89.9%	100.0%
		% within agree	100.0%	100.0%	100.0%
		% of Total	10.1%	89.9%	100.0%

Table 58: Comparative success of arbitration- - Agreeall Y/N by first intervener

actor1 * agreeall Crosstabulation

			agreeall		
			No	Yes	Total
actor1	None	Count	6	35	41
		% within actor1	14.6%	85.4%	100.0%
		% within agreeall	75.0%	56.5%	58.6%
		% of Total	8.6%	50.0%	58.6%
	United States of America	Count	0	9	9
		% within actor1	0.0%	100.0%	100.0%
		% within agreeall	0.0%	14.5%	12.9%

	% of Total	0.0%	12.9%	12.9%
Canada	Count	0	1	1
	% within actor1	0.0%	100.0%	100.0%
	% within agreeall	0.0%	1.6%	1.4%
	% of Total	0.0%	1.4%	1.4%
El Salvador	Count	0	1	1
	% within actor1	0.0%	100.0%	100.0%
	% within agreeall	0.0%	1.6%	1.4%
	% of Total	0.0%	1.4%	1.4%
Brazil	Count	0	1	1
	% within actor1	0.0%	100.0%	100.0%
	% within agreeall	0.0%	1.6%	1.4%
	% of Total	0.0%	1.4%	1.4%
Argentina	Count	0	1	1
	% within actor1	0.0%	100.0%	100.0%
	% within agreeall	0.0%	1.6%	1.4%
	% of Total	0.0%	1.4%	1.4%
United Kingdom	Count	0	4	4
	% within actor1	0.0%	100.0%	100.0%
	% within agreeall	0.0%	6.5%	5.7%
	% of Total	0.0%	5.7%	5.7%
Netherlands	Count	0	1	1
	% within actor1	0.0%	100.0%	100.0%
	% within agreeall	0.0%	1.6%	1.4%
	% of Total	0.0%	1.4%	1.4%
Switzerland	Count	0	2	2
	% within actor1	0.0%	100.0%	100.0%
	% within agreeall	0.0%	3.2%	2.9%
	% of Total	0.0%	2.9%	2.9%
Spain	Count	2	2	4
	% within actor1	50.0%	50.0%	100.0%
	% within agreeall	25.0%	3.2%	5.7%
	% of Total	2.9%	2.9%	5.7%
Germany	Count	0	1	1
	% within actor1	0.0%	100.0%	100.0%
	% within agreeall	0.0%	1.6%	1.4%
	% of Total	0.0%	1.4%	1.4%
German Federal Republic	Count	0	1	1

		% within actor1	0.0%	100.0%	100.0%
		% within agreeall	0.0%	1.6%	1.4%
		% of Total	0.0%	1.4%	1.4%
	Italy	Count	0	2	2
		% within actor1	0.0%	100.0%	100.0%
		% within agreeall	0.0%	3.2%	2.9%
		% of Total	0.0%	2.9%	2.9%
	Russia	Count	0	1	1
		% within actor1	0.0%	100.0%	100.0%
		% within agreeall	0.0%	1.6%	1.4%
		% of Total	0.0%	1.4%	1.4%
Total		Count	8	62	70
		% within actor1	11.4%	88.6%	100.0%
		% within agreeall	100.0%	100.0%	100.0%
		% of Total	11.4%	88.6%	100.0%

Table 59: Comparative success of arbitration- agree- intervener yes/no

Actor1YN * agree Crosstabulation

			agree		
			No	Yes	Total
Actor1YN	No	Count	5	35	40
		% within Actor1YN	12.5%	87.5%	100.0%
		% within agree	71.4%	56.5%	58.0%
		% of Total	7.2%	50.7%	58.0%
	Yes	Count	2	27	29
		% within Actor1YN	6.9%	93.1%	100.0%
		% within agree	28.6%	43.5%	42.0%
		% of Total	2.9%	39.1%	42.0%
Total		Count	7	62	69
		% within Actor1YN	10.1%	89.9%	100.0%
		% within agree	100.0%	100.0%	100.0%
		% of Total	10.1%	89.9%	100.0%

Table 60: Comparative success of arbitration- agreeall- intervener yes/no

Actor1YN * agreeall Crosstabulation

			agreeall		
			No	Yes	Total
Actor1YN	No	Count	6	35	41
		% within Actor1YN	14.6%	85.4%	100.0%
		% within agreeall	75.0%	56.5%	58.6%
		% of Total	8.6%	50.0%	58.6%
	Yes	Count	2	27	29
		% within Actor1YN	6.9%	93.1%	100.0%
		% within agreeall	25.0%	43.5%	41.4%
		% of Total	2.9%	38.6%	41.4%
Total		Count	8	62	70
		% within Actor1YN	11.4%	88.6%	100.0%
		% within agreeall	100.0%	100.0%	100.0%
		% of Total	11.4%	88.6%	100.0%

Analysis of the above shows that, though the sample size is relatively small, there is no correlation between the intervention of a 3rd party and the achievement of nominal resolution through arbitration. There is also no illustrated correlation between particular parties as first-interveners and the final outcome of an arbitration- in the form of the making of either a final or procedural award.

A further analysis was conducted of the durability and compliance with agreements entered into involving 3rd parties, using a crosstabulation of the Actor variables as a single combined yes/no intervention variable ("var999" label Actor1YN), and the clmendall, clmend2 and clmend5 variables. For the purpose of determination of durability, missing values within the data- indicating no verified end to a claim- were coded as 0 i.e no end to claim.

Table 61: 3rdpartyintervener Y/N – Claim end as result of attempt

Actor1YN * clmendall Crosstabulation

			clmendall		
			No	Yes	Total
Actor1YN	No	Count	14	27	41
		% within Actor1YN	34.1%	65.9%	100.0%
		% within clmendall	46.7%	67.5%	58.6%
		% of Total	20.0%	38.6%	58.6%
	Yes	Count	16	13	29
		% within Actor1YN	55.2%	44.8%	100.0%
		% within clmendall	53.3%	32.5%	41.4%
		% of Total	22.9%	18.6%	41.4%
Total		Count	30	40	70
		% within Actor1YN	42.9%	57.1%	100.0%
		% within clmendall	100.0%	100.0%	100.0%
		% of Total	42.9%	57.1%	100.0%

Table 62: 3rdpartyintervener Y/N – Claim within 2 years of attempt

Actor1YN * clmend2 Crosstabulation

			clmend2		
			No	yes	Total
Actor1YN	No	Count	6	35	41
		% within Actor1YN	14.6%	85.4%	100.0%
		% within clmend2	26.1%	74.5%	58.6%
		% of Total	8.6%	50.0%	58.6%
	Yes	Count	17	12	29
		% within Actor1YN	58.6%	41.4%	100.0%
		% within clmend2	73.9%	25.5%	41.4%
		% of Total	24.3%	17.1%	41.4%
Total		Count	23	47	70
		% within Actor1YN	32.9%	67.1%	100.0%
		% within clmend2	100.0%	100.0%	100.0%
		% of Total	32.9%	67.1%	100.0%

Table 63: 3rdpartyintervener Y/N – Claim within 5 years of attempt

Actor1YN * clmend5 Crosstabulation

			clmend5		
			No	yes	Total
Actor1YN	No	Count	8	33	41
		% within Actor1YN	19.5%	80.5%	100.0%
		% within clmend5	38.1%	67.3%	58.6%
		% of Total	11.4%	47.1%	58.6%
	Yes	Count	13	16	29
		% within Actor1YN	44.8%	55.2%	100.0%
		% within clmend5	61.9%	32.7%	41.4%
		% of Total	18.6%	22.9%	41.4%
Total		Count	21	49	70
		% within Actor1YN	30.0%	70.0%	100.0%
		% within clmend5	100.0%	100.0%	100.0%
		% of Total	30.0%	70.0%	100.0%

Interestingly, these results show a significant departure between the results achieved where 3rd party intervention has occurred. Arbitration was substantially more likely to resolve a claim where no 3rd party intervention had occurred. This difference became more pronounced when considered over time, with 35.3% more claims resolved within 5 years of an arbitration *without* 3rd party intervention than with 3rd party involvement. Indeed, it is reasonable to infer that this figure understates the negative 3rd party influence on arbitrations as it includes in the 'success' column cases of arbitration conducted by 3rd party nations.

There is insufficient data to determine whether the cases of arbitration following 3rd party intervention are materially different to other cases of arbitration. However, it would appear that, prima facie, arbitration involving coercion is less likely to succeed than arbitration freely entered into by parties.

Effectiveness of Arbitration in Resolving Conflicts Between Parties of Asymmetric-Strength

Arbitration's usefulness in generating a solution to disputes, unlike militarised methods of dispute resolution, is not dependent on the relative strengths of the parties themselves. However, the *enforceability*- and hence, arguably, the effectiveness- of arbitration is dependent

either on the existence of force and the willingness of parties to make use of force- or other factors of good will, international opinion etc as discussed earlier. Accordingly, the degree of success of arbitration in resolving disputes between parties that have asymmetric levels of power is a critical indicator of its usefulness in resolving disputes.

To resolve this, I used the Concstr3 and Concstr1, Concwk3 and Concwk1 variables, which, respectively, consider whether concessions have been made by relatively strong or weak states involved in disputes. I firstly removed all claims where no complete award was rendered, using a select cases feature (agreeall=1)

Table 64: Concessions by states with at least 3-1 CINC strength advantage in arbitration

concstr3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	52	83.9	88.1	88.1
	Yes	7	11.3	11.9	100.0
	Total	59	95.2	100.0	
Missing	System	3	4.8		
Total		62	100.0		

Table 65: Concessions by states with any CINC strength advantage in arbitration

concstr1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	41	66.1	69.5	69.5
	Yes	18	29.0	30.5	100.0
	Total	59	95.2	100.0	
Missing	System	3	4.8		
Total		62	100.0		

Notably, only 11.9% of cases involving very large strength differences saw concessions made. A greater rate of concessions were made by states that had strength advantage, but not a major strength advantage.

To determine the effectiveness of arbitration- as opposed to other dispute resolution methods- I conducted the same query using all settlement attempts, not only binding dispute resolution efforts:

Table 66: Concessions by states with at least 3-1 CINC strength advantage in all dispute resolution methods (agreement over all matters)

concstr3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	no	738	87.9	89.1	89.1
	yes	90	10.7	10.9	100.0
	Total	828	98.6	100.0	
Missing	System	12	1.4		
Total		840	100.0		

Table 67: Concessions by states with any CINC strength advantage in all dispute resolution methods (agreement over all matters)

concstr1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	no	676	80.5	81.6	81.6
	yes	152	18.1	18.4	100.0
	Total	828	98.6	100.0	
Missing	System	12	1.4		
Total		840	100.0		

Table 68: Concessions by states with at least 3-1 CINC strength advantage in all dispute resolution methods (agreement over any matters)

concstr3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	no	827	88.5	89.7	89.7
	yes	95	10.2	10.3	100.0
	Total	922	98.7	100.0	
Missing	System	12	1.3		
Total		934	100.0		

Table 69: Concessions by states with any CINC strength advantage in all dispute resolution methods (agreement over any matters)

concstr1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	no	760	81.4	82.4	82.4
	yes	162	17.3	17.6	100.0
	Total	922	98.7	100.0	
Missing	System	12	1.3		
Total		934	100.0		

Demonstrably, arbitration is not more effective at obtaining major concessions from substantially stronger powers. Both in cases where complete agreement is reached over matters and in cases where only partial agreement is reached, arbitration is not seen to be an effective tool at producing major concessions. However, comparing middle powers, or cases where the parties are of differing strength but not dramatically different strength, concessions by greater powers occur far more often under arbitration than in other dispute resolution processes. This adds support to the hypotheses for the reasons for arbitration's effectiveness as set out above.

Effectiveness of Arbitration in Resolving Political Elements of Conflicts

As a necessary corollary of the above issues, arbitration's effectiveness in resolving the 'political' elements of conflicts is limited to being a second-order effect. Arbitrators, in making determinations of law or binding directives to the parties, are deprived of the power to make awards of a political nature, or which would provide for tension-reduction, political détente or other actors often sought as part of comprehensive negotiations. Where conflicts have strong political elements, arbitration will not have the capacity to resolve these elements directly. As noted above, the degree to which arbitration is employed in conflicts of this nature is extremely limited. As such, there is not enough data available to form significant conclusions.

Effectiveness of Arbitration in Forming the Basis for Subsequent Prosecution and Sanctions for Breaches

Little data is available to provide a basis for determining the effectiveness of arbitral awards in territorial, maritime or river disputes in forming the basis for subsequent enforcement of claims. None of the cases contained within the data-set saw subsequent claims brought before a court or tribunal for enforcement of the award. Rather, in cases of dispute, a range of different mechanisms have been employed, chiefly involving ignoring the arbitral award or asserting a right to set it aside. This is illustrated by cases such as the British Guiana-Venezuela dispute, whereby the subsequent decision by Venezuela to reject the award has resulted in the revival of the claim. However, there have not been any cases identified within the literature in which a claimed breach of an arbitral award was used as the basis for subsequent litigation.

Arbitration, therefore, may be of limited effectiveness in the achievement of binding resolutions where the enforcement of the outcome through the subsequent imposition of sanctions is a concern. However, the limited data means that this is an inference which is weak, at best within the scope of maritime, river and territorial disputes, where sanctions would be difficult to phrase or determine. This contrasts with other fields of endeavour, as set out in the section below.

Developing Methods of Pre-Determining Effectiveness

Based on the results above, I suggest that the measurement of 'effectiveness' represents an opportunity for the optimisation of conflict resolution attempts and methodological selection in such instances. Using only a broad brush-stroke of a yes/no outcome for the rendering of and arbitral award as a determination of an 'effective' outcome is unlikely to reflect usefully for either parties or interveners in the determination of useful processes for method-selection or optimisation. Equally, in order to encourage parties to frequently seek non-military dispute resolution processes, an understanding of the outcome-matrix and probability of such is critical.

What are the indicators of the likely effectiveness of an arbitration, with 'effectiveness' being considered as the achievement of agreement that results in the end of a claim (represented within the ICOW results as the intersections of clmend2=1 and agreeall=1?) In order to consider this further, I considered each of the cases where arbitration or adjudication was unsuccessful or non-compliance occurred- measurable by either a negative result for Clmend2 or Comply2.
I therefore used the case select function to select, within arbitration cases where a complete award was rendered (agreeall=1), for cases of non-compliance (comply2=0).

The resulting 9 cases of non-compliance represent a cross-section of all arbitration cases. All cases were at least the 3rd attempt at resolution of the conflict. Most, but not all, were conflicts where only peaceful attempts had been made to resolve the conflict, however militarized interstate instances had occurred in several cases. Cases included major power disputes, disputes between Western democracies and regional disputes. All disputes involved at least one third party intervention. None of these factors indicated a common factor which departed

from a normal distribution of factors found commonly across arbitrations or dispute resolution attempts in general.

However, a factor of commonality is that the claim was brought and prosecuted pursuant to *bilateral*, not *multilateral*, treaties. In all 9 cases, the claim was brought alleging breaches of a prior agreement passed purely between two parties, not guaranteed by any third party. In several of the cases, involving Iceland, Germany and the United Kingdom (Fisheries Jurisdiction Case (United Kingdom v Iceland) Jurisdiction of the Court, 1973), (Fisheries Jurisdiction Case (Federal Republic of Germany v Iceland) - Jurisdiction of Court, 1973), the principal issues concerned jurisdiction, with Iceland denying that it was subject to arbitration before the International Court of Justice. In other instances, changes to the parties' composition or uncertainty later discovered in an award frustrated resolution- such as the France-Netherlands arbitration of Guiana's boundaries (Prescott, 1987, p. 216). As successor states were not party to the arbitration, the matter could not be pursued.

Whilst there are other instances where arbitration has been successful involving bilateral treaties, the common, verifiable theme in the identified cases of failure of arbitrations to resolve claims following the rendering of a complete award is the reliance on bilateral treaties.

Table 70: Arbitrations where complete award rendered and non-compliance by at least one party

Claim Dyad	Claim Name	Challenger	Target	settnump	settnumt	begsett	endsett	TypeFurther actors	Actorname
2202	El Chamizal	Mexico	United States of America	3	3	191102	191106	Minor Power, same region	Canada
401	St. Croix-St. John Rivers	United States of America	United Kingdom	3	3	182901	183101	Minor Power, different region	Netherlands
8001	Teotecacinte	Nicaragua	Honduras	3	3	190504	190610	Minor Power, different region	Spain
10001	Goajir‡-Guain'a	Venezuela	Colombia	8	8	188802	189103	Minor Power, different region	Spain

12401	Maroni	Netherlands	France	3	3	189004	189105	COW Major Power Other Region	Russia
16401	Beagle Channel	Argentina	Chile	16	28	197609	197705	COW Major Power Other Region	United Kingdom
212001	Beagle Channel	Argentina	Chile	4	4	197107	197705	COW Major Power Other Region	United Kingdom
220801	Cod War (50 miles)	United Kingdom	Iceland	3	3	197204	197302	Global IGO	International Court of Justice
220802	Cod War (50 miles)	German Federal Republic	Iceland	2	2	197204	197302	Global IGO	International Court of Justice

Analysis

The results above provide the basis for a strong supporting inference for the hypothesis presented, namely that the use of bilateral treaties, without enforcement mechanisms capable of being exercised, does little to provide for the basis of effective arbitration. Absent the existence of a method of enforcing the result, such as sanctions, or the involvement of 3rd parties as participants to treaties, there is little to suggest that the mere rendering of an award will give parties cause to act substantially against perceived national interest. This further suggests that a strong indicator of successful arbitration will be the inclusion of consequences for non-compliance, with consequences proportional to the salience of the dispute.

The Flip-Side of Effectiveness- Certainty of Losing

In considering the notion of effectiveness in dispute resolution, it is important to note that the flipside of binding dispute resolution is the high probability that one side or the other will lose. This contrasts sharply with mediation, conciliation, peace conferences and other forms of non-binding dispute resolution, in which neither party can ordinarily be compelled to accept an outcome that it feels is unacceptable. The result may be a greater willingness to participate,

which may in turn increase the overall usefulness of a process- and its effectiveness, if measured from a proposal to implementation level. The value of binding dispute resolution, by contrast, is the certainty that an outcome will be achieved which, if matched with a certainty of enforceability, creates the prospect of overall certainty of process and an increased usefulness of international treaties and instruments.

However, in an environment where most international treaties do not contain provisions for sanctions, where states are deeply suspicious of the prospect of 3rd party interference and an overall unwillingness to move towards meaningful 'world government,' there is a substantial value in the availability of less binding processes as a way of generating progress in circumstances where it would otherwise not occur. Arbitration, as a departure from the international procedural norm of consensus-driven dispute resolution, is an unusual tool that is clearly not applicable, nor would it be effective, in many disputes.

Remeasuring Effectiveness- Developing Useful Measures of Effectiveness of Conflict Resolution Attempts

Determinising useful measures of effectiveness of conflict resolution methodologies requires a recognition of the purpose to which measurements will be put. Given that the purpose of such measurements is likely primarily to enable participants, interveners and researchers to make decisions about appropriate measures to use in different circumstances, a catch-all measure of one that combines elements into a weighted effectiveness-measure is unlikely to be appropriate. For instance, parties wishing to prioritize certainty of outcome over the time-cost or risk of escalation in the event of failure of the process may take different account of the results, and consider 'effectiveness' differently. Similarly, for parties seeking to establish moral principles or international political entitlements, rather than simply seeking the power to enforce an outcome, the award-making role of arbitration may be seen as highly effective in generating an agreement, which may be the goal, rather than the longevity or enforcement/enforceability of the agreement. This concept of differential measures of effectiveness departs basically from much of bargaining theory, in which experiments and evaluations are based on a common scale of interests and resource-allocation e.g. money or profits. (Chatterjee & Lilien, 1984). The need for multiple scales and measures of effectiveness can be expressed simply as the need to develop scales that answer the question" 'effectiveness in achieving what?'

Accordingly, I suggest a number of possible indexes that can be used as indicators of the effectiveness of different dispute resolution methods in producing different outcomes. Whilst the actual effectiveness measures- produced using the ICOW database- make the dangerous assumption of past success indicating future performance, they represent a starting point for further analysis and development of indexes and measures for each potential category of effectiveness that may be useful.

Table 71 Proposed Measures

Num.	Measure Name	Measure Description	Measure Calculation
1	EffectAdvance	Effectiveness of Agreement in advancing the cause of resolution of the dispute, either through the resolution of the issue entirely or through the entry into an agreement that moves matters forward, such as by resulting in further meetings, procedural agreement, timetable to resolve the dispute or other procedural result	$pr(Agree = 1 \mid Typesett3 = S)$ S= type of dispute resolution attempt
1B	EffectAdvanceAlt	Effectiveness of Agreement in advancing the cause of resolution of the dispute, either through the resolution of the issue entirely or through the entry into an agreement that moves matters forward, such as by resulting in further meetings, procedural agreement, timetable to resolve the dispute or other procedural result, based on all types of dispute resolution using Typesett variable	$pr(Agree = 1 \mid Typesett = S)$ S= type of dispute resolution attempt
2	EffectRestraint	Effectiveness of the method of dispute resolution in prevention of further escalation of the dispute through subsequent militarized interstate dispute events	$pr(Nomid5 = 1 \mid Typesett3 = S)$ S= type of dispute resolution attempt
3	EffectDeescalate	Effectiveness of method of dispute resolution in reducing	Not determinable on the basis of current ICOW data

		the level of hostility between parties	
4	EffectAgreeResolve	Effectiveness of the method of dispute resolution in the rendering of an agreement or award pursuant to which the parties bind themselves to resolve the dispute in question, whether the agreement is ultimately complied with or not	$pr(Agreeall = 1 \mid Typesett3 = S)$ S= type of dispute resolution attempt
5	EffectResolve	Effectiveness of the method of dispute resolution in actually resolving the dispute.	$pr(clmendall = 1 \mid Typesett3 = S)$ S= type of dispute resolution attempt
6	EffectStrongConcession	Effectiveness of the method of dispute resolution in causing a stronger party to make a concession	$pr(\text{Concstr3} = 1 \mid Typesett3 = S)$ S= type of dispute resolution attempt
7	EffectMajorConcession	Effectiveness of the method of dispute resolution in causing a major concessions to be made	$pr(conceshi = 1 \mid Typesett3 = S)$ S= type of dispute resolution attempt
8	EffectLength	Length of dispute resolution attempt	Duration|nTypesett3=S/(typesett3=S) S=type of dispute resolution attempt Duration= yearend-year

A weighted calculation for each method can be undertaken to, for instance, account for a party's relative need for short-term results and its desire to, above all, prevent escalation of disputes into militarized disputes. (Note, also, that the indexes calculated using ICOW will include non-peaceful attempts, such that the sum of, for instance, (Agree=1 + Agree=0) /*n*Agree will be less than 1.)

Results of Index Calculations

The results of each of the above Effect calculations are contained in Appendix C. The limitations of each of the variables, including missing values and coding limitations, are detailed above (table 71). In addition, Appendix C contains recorded indexes using the 'typesett' variable, which provides a method of consideration with greater detail of different dispute settlement attempt types. However, the very small number of cases for some types of dispute resolution, including the different types of binding arbitral processes, makes this of only limited use.

The results detailed above for Effects 6 and 7 may also be of only limited use, given that instances where no agreement is reached, or where other factors limit the availability of comparative strength data[9] (Hensel, 2013, p. 37). As such, alternative recoded variables may be used, in which 'missing' results are recoded as 'no'

In making use of the above indexes, it is also helpful to rank each method comparatively, showing the relative success of each method of conflict resolution in achieving or avoiding each outcome. A sample comparative 'performance ranking' for method and the calculations thereto are contained in Appendix D. The results contained therein indicate that there are practical limits on what any method of dispute resolution can demonstrably be shown to achieve, based on past results. However, for the purposes of avoiding escalation, obtaining relative certainty of duration and encouraging concessions and ratification, arbitration does out-perform other methods of dispute resolution.

Conclusion

This section has considered, in detail, the underlying assumption of effectiveness of arbitration in resolving international disputes. Despite conventional wisdom, it is clear that arbitration is not useful in all circumstances, and is certainly not overwhelmingly effective in resolving international disputes. The notion of effectiveness itself requires more consideration than is contained within the literature. In particular, it is clear that whilst arbitration is credited with resolving conflicts, in many instances by the time the conflict has reached the decision-makers, it has largely been resolved, with the most difficult political and social elements removed from dispute. Comparing the effectiveness of arbitration as a discrete process- separated from the negotiations that lead to the agreement to arbitrate or the prior attempts at resolution- will have a tendency to overstate its impact, as the relative difficulty of resolving conflicts may have decreased in circumstances where agreement has been reached to refer matters for conflict management, rather than resolution. Similarly, an analysis of the detailed impact of arbitration shows that its rate of resolution differs substantially in different settings. In particular, where arbitration is employed on the basis of bilateral treaties only, its rate of resolution drops substantially. Unlike mediation or other non-binding solutions, arbitrations do not reflect the

[9] "Missing values: not a peaceful settlement attempt (militarized dispute), OR no agreement, OR settlement attempt has not ended by end of current data set, OR missing COW capability data"

joint will of the parties, but the joint desire (or imputed joint desire) to refer the dispute to a 3rd party for determination. As a result, the decision reached will be of inherently lower level of mutual confidence and support.

However, arbitration demonstrably plays a useful role in resolution of international maritime, territorial and river disputes. Arbitration is demonstrably effective in reaching reasoned, detailed conclusions in often complex factual circumstances. It shifts the burden of resolution to professionals, often with reduced public expectations. As such, it offers the prospect of acting as a circuit-breaker in difficult political circumstances. Arbitration, where embraced by both parties, offers a method of reaching notionally just outcomes, as it does not depend on the parties' ultimate consent to the final agreement.

Section 5: Is arbitration 'efficient' at resolving international conflicts? According to who?

In Section 5, I explore the 'efficiency' of arbitration in the resolution of international territorial disputes. I do so by providing both objective and subjective measure and benchmarks for efficiency. I conclude that arbitration's efficiency is highly variable based on the unique interests of the parties, and that arbitration favours smaller parties in disputes.

The notions of effectiveness and efficiency, whilst at first glance similar, represent fundamentally different approaches to the analysis of international conflict resolution. Whilst 'effectiveness,' as used within the literature, involves a determination of the rate of success in achieving different outcomes, efficiency is a measure of the comparative expenditure of resources in order to achieve given outcomes. A combined consideration of both effectiveness and efficiency provides the possibility of detailed analysis of expected returns through different methods of dispute resolution. This can, in turn, inform decision-making for states considering which forms of dispute resolution to pursue, and also enable interveners to consider their own interests.

A core challenge in analysing international conflict resolution attempts, as noted earlier, is the problem of seemingly wilful non-resolution of disputes. Given the apparent success of arbitration and the assumption amongst (particularly) liberal theorists of international order that states wish to resolve their disputes, the failure to actively pursue methods that are most likely to lead to a resolution of disputes is a challenge. Seemingly, parties to a dispute should choose to engage with the method of resolution that will likely lead to the highest prospect of a successful outcome being achieved. Obviously, this does not occur. The reasons include the lack of interest by parties expecting to 'lose' through a given process in participating in it, as outlined previously. More critically, the selection of resolution process involves the sacrifice of advantages for each party. Particularly for parties with strong political positions but weak legal positions, the prospect of 'legalising' a conflict is an undesirable one. As such, the interests of parties are not simply in resolving disputes, but in resolving disputes on favourable terms.

Efficiency Analysis in International Conflict Resolution Studies

Beyond the overarching notions of ICR as discussed above, there is no consensus either as to the methods to be used in analysing or evaluating conflict, or what is considered to be a 'better' resolution or outcome. As Church and Shouldice (2002 p5) describe,

> *Unfortunately, evaluation theory specific to conflict resolution has not kept up with the demand, leaving the field comparatively lagging in this endeavour. As a result those engaged in peace work are seeking to meet the aforementioned needs with inadequate, and sometimes flawed, approaches and models.*

Within Conflict Resolution Studies, there is more consideration of the effectiveness than of the efficiency. Indeed, there is little consideration of costs of achievement of results- the results measured in formal outcomes are considered to be more important. This is also reflected in the ICOW data, with its focus on formal resolution over compliance.

Little effort has been made to consider the relative efficiency of different methods of dispute resolution. This correlates to a broader lack of consideration as to the different kinds of costs of dispute resolution from a party perspective, as opposed to from an intervener perspective. As noted above, some of the costs that are identified as being potentially consequent to peaceful or militarised conflict resolution attempts, or to a refusal to resolve conflicts, include reputational costs, loss of life, legal costs and the potential economic damages of both ongoing disputes and sanctions. (Gent, 2010). These are reflected to a degree within the ICOW database, with variables coding for loss of life, ('midsfat,') escalation ('Midwar') and duration of claim contained within the data. However, the data is not coded so as to consider the relative cost of the dispute settlement *attempt*, so much as of the dispute itself.

Considered from a negotiating perspective, countries do have the option to perpetuate disputes, rather than seeking to resolve them. This is a tactic that has frequently been employed by countries where the opportunity cost of resolution is high, or is not a priority, such as the Rio Grande disputes between the United States and Mexico, which remained unresolved for decades until respective foreign policy principles made resolution politically expedient. Similarly, the Venezuelan government renewed its formal dispute over the boundary of British

Guiana in 1966, but other than diplomatic protests has not taken steps to resolve the issue given its relative paucity of strength and diplomatic position. (Connett, 2015) (Child, 1950) Britain's dispute with Argentina over the Falklands/Malvinas has also remained unresolved, despite obvious pressures and growing interest in the territories. In considering the decision not to seek to press a dispute, the relative efficiency of both a range of dispute resolution options- and of *not* seeking to exercise any of them- must be considered.

How should we evaluate the relative efficiency of conflict resolution attempts?

To answer the question requires an evaluation of what are basically preferences between a number of potential values, which can themselves be broadly characterised as 'efficiency values,' or 'subjective values.' A partial list of factors might include:

Table 72 Efficiency Element

Efficiency Elements
(1) Finality of the Resolution
(2) Speed of the Resolution
(3) Economic Cost of the Resolution
(4) Political cost of the Resolution
(5) Social Cost of the Resolution
(6) Probability of Recidivism Following Resolution
(7) Prevention of escalation of the conflict to higher level
(8) The compliance of the resolution with international law

(9) (9) The ‘justice’ of the outcome. The adherence of the outcome to social or cultural norms

(10) Asymmetry in costs and benefits to the parties

(11) The methods used in achieving the outcome

Even these values, some of which are potentially empirically measurable, are inherently matters of preference. For instance, for business, the relative interest in achieving finality may outweigh speed, or at least be of different importance to different groups. The prospect of ‘peace in our time’ may be attractive to some, whilst anathema to others. Like an elderly neighbour not wishing to spend big to fix a building’s foundations and prevent a distant future collapse, the way that potential resolutions to disputes can be evaluated requires us to make, and identify that we are making, a choice.

The presentation and classification of these factors is, to my knowledge, novel, though there are some suggestions within the International Correlates of War data that suggest that others have considered research along these lines. For instance, the ICOW territorial claims codes for a number of measures that could be used to determine finality, such as whether the dispute reoccurs within 3 years, speed of the resolution and the highest level of the dispute.

Thus far, ICR Studies has generally made a fundamental assumption that one subjective factor, the method used in achieving the resolution, should carry prime importance. Research has primarily proceeded along method-specific lines, rather than on a methodology-neutral basis. This is despite a lack of application of empirical evidence that shows that outcomes that are

achieved without war are necessarily 'better,' at least insofar as the effectiveness of the outcome is concerned. This is also despite the obvious reality that many countries are willing to use force to achieve their goals, having determined that the subjective value of the avoidance of war is overweighed by other interests.

The Efficiency of Arbitration- Evaluation

Evaluation of comparative efficiency of arbitration is difficult, given that many of the factors posited in determining efficiency are subjective and are not matters that have been included in codification of data. The difficulty of evaluating efficiency of arbitration is increased given that arbitration is not employed as a first-attempt in resolving conflicts, indicating that prior expenditure- if time, political capital, economic costs and potential social dissatisfaction- have already occurred.

However, it is possible to usefully extrapolate, both from the ICOW data and from the broader knowledge of arbitration and legal processes, detailed information about a number of potential efficiency measures. These include time, cost, finality, escalation, and international legal compliance. Time, probability of escalation and finality are all areas that have been evaluated above. On each of these measures, arbitration does differ significantly from other forms of dispute resolution. Similarly, from a compliance perspective, the international law-making function of permanent international courts means that arbitration offers a method of ensuring compliance with international law through obedience to the determination reached.

Given the above, the relative paucity of use of arbitration suggests that the above factors may not be given overwhelming weight by parties to disputes. Other elements, such as decision-control, internal political dissension, he capacity to seek to obtain a better outcome or a general opposition to binding international law may be given greater weight by parties to many disputes- or at least by one party. Crucially, the loss of human life- considered by many ICR practitioners to be the ultimate goal of conflict resolution- may not be of principal concern to one or more parties. As a result, there is a willingness to make use of other methods of resolving conflicts, including militarized means.

Consideration of militarized means of conflict resolution is largely outside the scope of ICR Studies. This is problematic on a number of levels. In their article, *Conflict Resolution as a Field of Inquiry: Practice Informing Theory*, Babbitt and Hampson (2011 p46) provide a description and critique of the field of Conflict Resolution.

> "Theory and research," they argue, "are drawn not only from political science but also from social psychology, sociology, economics and law… IR [sic] scholars perceive a bias among CR scholars and practitioners towards peaceful methods of dispute settlement and resolution, one that deliberately and self-consciously eschews the use of force and violence."

The critique argues that there are inherent biases affecting conflict resolution practitioners and theoreticians in their approach to this field. As a result, Babbitt and Hampson suggest that the field of International Conflict Resolution research may, by reasons of ideology, philosophy or background familiarity, be substantially affected by unscientific and inappropriate biases in research. On any construction of the history of international relations, war and armed conflict are very much a part of the resolution of disputes. If parties do not consider factors such as loss of life, international political standing or compliance with international social or legal norms to be relatively important, that party's *subjective conclusion* as to the most *efficient* method of resolving conflicts may involve the use of armed force.

Several recent territorial conflicts provide support for this conclusion. Firstly, the Crimean Crisis of 2014 saw the annexation by Russia of the Crimean Peninsula from the Ukraine. (Yuhas, 2014) This occurred despite the clear illegality of annexation pursuant to Articles 39 to 42 of the United Nations Charter, the expectation of loss of life and the likelihood of sanctions being subsequently levied on Russia. According to Forsberg, Heller & Wolf, the priority in Russian national thinking of international status as a major power and the consequent demand for respect are the driving factors in its decision-making. (Forsberg, et al., 2014) Russia had long maintained claims to the Crimean Peninsula, as well as asserting an interest in the well-being of ethnic-Russian Ukrainians in the area. As such, the subjective evaluation of national interests undertaken by Russia did not favour the use of peaceful methods of conflict resolution.

A second illustration is the current dispute between China and the Philippines, Vietnam and others about Chinese maritime zones in the South China Sea. In pursuing its claims for control

over much of the region, China has departed from the United Nations Convention on the Law of the Sea and relatively settled international law in constructing artificial islands and in refusing to settle the matter before the Permanent Court of Arbitration. In so doing, China faced international condemnation but elected to proceed regardless. (Permanent Court of Arbitration, 2016), (Zhang, 2016), (Xinhua News Service, 2016). China, whilst capable of having entered into either bilateral negotiations, multilateral dispute settlement processes or arbitration, elected not to pursue any of these processes. Rather, it elected to use superior military and economic power to create a status-quo in which it controlled the disputed territory and would be very difficult to dislodge. For China, the relative value of established control over the region exceeded the 'cost factors' of pursuing this course of action.

Both of these case studies illustrate the notion that efficiency in international conflict resolution must be analysed on a party-centric basis, given the subjective and variable weighting given by different parties to different interests. The adoption of an ICR practitioner-centric approach to what is a 'good' method of resolving a dispute is dangerous, both because it leads to an inherent risk of misunderstanding party behaviour, but also because it is less likely to result in successful entry into, and compliance with, dispute resolution processes. The imposition of values by practitioners on parties also risks misunderstanding the actual nature of disputes and of the relative importance of different components of the dispute. This challenge is well captured by Stern and Druckman (2000, pp. 34-36) in their description of International Conflict Resolution as paralleling the treatment of cancer- whilst some elements of knowledge are cross-applicable between cases, the actual treatment must be patient-centric, not doctor-centric. To extend the notion further, ignoring the patient's priorities in their treatment and ultimate desires greatly increases the prospect of non-compliance with a treatment regimen. For international conflicts, understanding the interests of the parties and the relative weight that they assign to different kinds of costs is critical to determining whether the method of conflict resolution is either appropriate or cab usefully implemented within an appropriate time-frame.

Assessment of Relative Efficiency of Arbitration

The development of an overall model for the assessment of the relative efficiency of arbitration- or any other mode of dispute resolution- is not possible on the basis of the available data. This is because there are factors which are identified as being both subjective and not recorded within available data-sets. The development of new methods of collection techniques

are essential in order to be able to comprehensively measure the effectiveness of any measure of dispute resolution.

However, it is possible to provide both positive indicators and contra-indicators for the use of arbitration, based on the proposition of prime importance of particular cost-factors, as identified above. For instance, if avoidance of escalation is of critical importance, arbitration offers an efficient outcome- entry into an arbitration agreement is strongly correlated with the avoidance of subsequent armed conflict, as discussed above. Similarly, if speed- resolution of a dispute within 2 years- is the principal concern, arbitration offers an inefficient solution, with the average time to resolution substantially greater than that achieved by mediation, where the mediation is successful. For parties who require an urgent resolution, arbitration is inefficient. As set out in Table 68 below, arbitration is indicated as a potentially efficient solution depending on the relative importance of a range of factors.

Table 73: Arbitration Efficient by Factor

Efficiency Elements- Arbitration		
Element	**Efficiency (Positive Indicator (Y), Contra-Indicated (N), Uncertain/ No Available Data (U))**	**Notes**
Finality of the Resolution	Y	Majority of arbitration result in final resolution as measured by Clmendatt[10]
Speed of the Resolution- resolve within 2 years	N	
Speed of the Resolution- resolve within 1 year	N	
Economic Cost of the Resolution attempt	Y	
Political cost of the Resolution attempt	U	No codified data; some suggestions in literature to support suggestion that arbitration's acceptability is dependent on system of government.
Social Cost of the Resolution	U	No data
Probability of Recidivism Following Resolution	Y	Rates of Nomid, Nomid5, Nomid10 and Effect4 all higher for arbitration than

[10] See Table 82 in Index Clmendatt v Typesett3

		for other dispute resolution types
Prevention of escalation of the conflict to higher level	Y	Rates of Nomid, Nomid5, Nomid10 all higher for arbitration than for other dispute resolution types
The compliance of the resolution with international law	Y	Arbitration as form of law-making is inherently more compliant
The 'justice' of the outcome	U	Subjective factor
The adherence of the outcome to social or cultural norms	U	Subjective factor- no data
Asymmetry in costs and benefits to the parties		
The methods used in achieving the outcome	U	Nation and system-dependent

An alternative, and perhaps more useful method of presenting this data is to consider both the probability value for each measurable factor and the relevant confidence interval.

Using the ICOW data, it is possible to provide measurements of a number of efficiency factors. Whilst it is possible to provide an indicator of the comparative efficiency between different methods of dispute resolution, it is not possible to rank methods as this is inherently subjective.

Table 74 Measurement Methods for Efficiency Measures

Category	Empirically Measurable?	ICOW Factors
(1) Finality of the Resolution	Y	Clmendma; Clmendall; Effect4 Effect3
(2) Speed of the Resolution	Y	Combination variable- Endsett- Begsett
(3) Economic Cost of the Resolution	Yes, but insufficient data	N/A
(4) Political cost of the Resolution	N	N/A
(5) Social Cost of the Resolution	N	N/A
(6) Probability of Recidivism Following Resolution	Y	Intersection of Clmendatt=2 and Nomid5 Intersection of

(7) Prevention of escalation of the conflict to higher level	Y	Clmendatt=2 and Nomid10 No direct measuremen t available
(8) The compliance of the resolution with international law	Yes, but insufficient data	N/A

In addition to the above, a further category for consideration is the 'opportunity cost' of an attempt. One method of measuring this is whether, within 12 months of an unsuccessful attempt, a further attempt occurs. However, there is insufficient arbitration data of unsuccessful attempts to meaningfully analyse this. The same data-challenge would apply to analysing all attempts and determining whether there is a further attempt within 12 months- the high rate of nominal success of arbitration attempts means that there are very few subsequent attempts in the years that follow.

The results and tabulated data for the above comparators is contained in Appendix E.

Summary of Results

The use of mean and standard deviation are of limited value in the assessment of the relative performance of all methods, due to the presence of extreme outliers and a number of data-errors. By and large, as noted above, efficiency results are higher for arbitration. Arbitration

Arbitration compares favourably to other methods of dispute resolution in most categories of efficiency, but not all. A ranking table per efficiency is below in Annexure E. As is apparent from the results, the variance of results obtained in arbitration is much smaller. As such, arbitration produces its results with a greater degree of confidence. This is a significant question of efficiency, as certainty in efficiency is a comparative value that may be accounted for. Generally, though, arbitration visibly outperforms other methods of dispute resolution in producing durable, stable result, at least within the limitations set out above.

However, further analysis of arbitration's results raises some questions as to its 'efficiency' if measured not from a global perspective, but from the perspective of large states. Whilst arbitration is effective in producing resolutions that are abided by, arbitration appears to involve a sacrifice of the more powerful party's relative advantages in political strength,

military power, economic dominance and, historically, also potentially soft-power. This results from the nature of arbitration as inherently determinative only on the basis of the legal strength of the claim (assuming that the arbitration is being conducted fairly, which is not a certain assumption.) These are not easily measured matters within the existing data. As such, the opportunity costs of arbitration are inherently greater for a larger, more powerful nation, in that it is losing its ability to bring to bear other tools which it could potentially use in a mediation or in bilateral dispute resolution.

Section 6: Are arbitration uses, outcomes and limitations in territorial disputes reflective of the broader capacity and role of international arbitration

In Section 6, I consider the cross-applicability of the research outcomes beyond territorial disputes. I present, as partially comparable paradigms, the use of arbitration in municipal settings, in international trade disputes, military disputes, historically and in international law of the sea disputes. I present a series of hypotheses, on the basis of both existing literature and the research outcomes above, to provide for maximal utility for arbitration in future cases and consider whether arbitration is currently used for case management or case resolution.

The analysis of the ICOW database, and in particular the arbitration cases contained therein, has allowed for a number of conclusions to be drawn as to the actual impact, usefulness, efficiency and effectiveness of arbitration in the resolution of international maritime, territorial and river disputes. It has also allowed for an analysis of the impact of the 'legalisation' of international territorial disputes, as displayed through the results of arbitrations undertaken in the space. Relevantly, I have concluded, in part that:

- Arbitration is highly effective at rendering determinations of disputes, but has little to no ability to enforce the outcomes arising;
- Arbitration does not generate a changed enforcement profile for disputes so decided.
- Arbitration is used only rarely and almost never as a first-point of resolution;
- The dominant use-cases for arbitration to date have been as conflict-management devices, where the parties' desire for a solution is greater than their need for a particular solution;
- The effectiveness of arbitration in resolving disputes has been overstated within the literature;
- Where arbitration is used to resolve the issues between the parties, it is usually once the charged political elements have already been resolved;

The reasons inferred for these results, as set out in sections 2 and 3,include both the use-cases to date for arbitration and the underlying limitations of international territorial arbitration, as it

presently stands. On those bases, I have suggested that arbitration is of relatively limited effectiveness in resolving:

- 'arbitrally hard' cases where both parties do not wish to resolve the dispute by arbitration;
- Disputes where there is no clear international legal principle to be applied;
- Cases where there is ongoing militarised action between the parties;
- Cases where enforcement is doubtful and where the parties have arbitrated pursuant to a bilateral agreement, not a multilateral agreement.

Conversely, arbitration appears to be highly successful in resolving cases where:

- Technical or complex questions of fact are involved-, as shown from the nature of the territorial disputes resolved by arbitration, when complex and lengthy assessment and measurement of borders is required;
- Where conflict exhaustion has set in for both sides; (Gent & Shannon, 2011)
- Where conflict management, rather than developing a mode of solution, is sought by the parties;
- Where pre-existing frameworks or principles exist pursuant to which the dispute can be resolved.

On the basis of these outcomes, it would be reasonable to suggest that arbitration is not an appropriate mechanism for resolving most international conflicts. Indeed, at present arbitration is not an available means for materially approaching many international territorial disputes at all, and would require the parties to first negotiate to make it possible to arbitrate. Whilst this is not unprecedented,[11] given that nations rarely have incentive to agree to processes through which they expect to be disadvantaged, arbitration is unlikely to be deployed in many international territorial disputes.

However, not all international arbitrations fit the dominant model of territorial arbitration and disputes. There are other instances of arbitrations in the international arena in which, unlike the dominant model of territorial arbitration:

[11] See Sections 2 and 3 for instances of arbitrations without prior arbitration agreements. Note the Monroe Doctrine (self) empowered the United States to actively intervene in South American affairs to achieve these kinds of outcomes

- The dispute is underpinned by a multilateral treaty;
- Arbitration is made mandatory pursuant to the treaty;
- Clear consequences in the form of sanctions are available for breach or the award;
- NGO's may bring claims; and
- The proceedings and outcomes, at least in part, are matters of public record. These approaches, are exemplified by the WTO-GATT free trade dispute resolution and anti-dumping activities, the International Tribunal for the Law of the Sea dispute resolution processes and, more recently, the OECD's developed common arbitration structure approach to bilateral and multilateral double taxation treaties. (OECD, 2016) Based on the successes and failures of each of these three mechanisms, it is possible to extrapolate the potential use-case and impact of arbitration in international disputes and the conditions where they become most effective.

World Trade Organisation Dispute Settlement Processes

The World Trade Organisation (WTO)is the dominant body for regulating global trade and lowering tarrif barriers. The WTO was formed from the series of treaties comprising the General Agreement on Tariffs and Trade (GATT.) It acts as a coordinating body to, amongst other matters, manage disputes about the maintenance and compliance with low or no-tariff regimes agreed by participating countries, as well as dealing with disputes about dumping, unfair competition, state support and other matters. (GATT, 1986) Pursuant to the GATT, parties alleging conduct in breach of the agreement, a failure to comply or other 'impairment' of benefits, (GATT, pp. clauise XXII, XXIII) were to adopt a two-stage process of, first, notifying the other party and then being able to engage in 'consultation' with all Contracting Parties i.e. all signatories to GATT. (World Trade Organisation, 2011) This, in effect, operated a court-less system of collective consultative and consensus-based enforcement of treaty obligations. This offered, in-principle, a system of dispute resolution capable of ensuring a collectivist and common-standard approach to enforcement of treaty obligations, without the risk that the individual complainant's relative trade-weakness would result in them being unable to access the benefits of the treaty.

However, the actual GATT approach contained further limitations. As actually developed, including through a series of modifications through to the 1980's, a positive consensus was

required before a decision would be made by the GATT council. This was noted by the WTO in its official history of the GATT. (World Trade Organisation, n.d.)

Positive consensus meant that there had to be no objection from any contracting party to the decision. Importantly, the parties to the dispute were not excluded from participation in this decision-making process. In other words, the respondent could block the establishment of a panel. Moreover, the adoption of the panel report also required a positive consensus, and so did the authorization of countermeasures against a non-implementing respondent. Such actions could also be blocked by the respondent. (World Trade Organisation, 2011).

What, therefore, made the GATT dispute resolution method effective? Arguably, the use of vetoes by affected countries should have been widespread. In addition, the knowledge by potential claimant-countries that a defendant could simply use a veto should have acted as a a major disincentive to the willingness of parties to make use of the settlement process altogether. Instead, however, the GATT process proved to be highly effective and was used extensively. Arguably, because so many countries were participants in the process with long-term implications and trade interests, there were material disincentives to inappropriate vetoes being used. Countries using vetoes to protect their own bad conduct faced a risk of being labelled unsatisfactory trading partners. In effect, reputation and the potential for de facto boycotts provided the necessary protection against inappropriate use of vetoes. The reputational value-cost of vetoes represented a major factor and, potentially, an apparent 'admission of guilt.' Interestingly, (Busch & Reinhardt, 2003) claimed that the use of vetoes was a relatively rare occurrence. At its lowest, 68% of matters referred to a panel resulted in a final ruling. This figure, whilst significant, incorporates other reasons for the early termination of a dispute, such as the resolution of the matters between the parties i.e. settlement. For these reasons, it is reasonable to infer that, in a system in which there is a veto, the combination of reputational, long-term trust, financial and the threat of legal consequences do carry a material set of consequences such that unilateral vetoes are *relatively* unlikely.

Table 75: Dispute Initiation and outcome[12]

	Disputes Initiated- GATT			
Stage of Escalation	1948-2000 (overall GATT record)	1948-1988	1989-1994	1995-2000
Initiated …of which	659	310	122	227
Panel Established	305	133	55	117
(%) of initiated complaints in which panel formed	46.28%	42.90%	45.08%	51.54%
Panel ruling Issued	230	105	45	80
% of complaints initiated in which ruling initiated	34.90%	33.87%	36.89%	35.24%
% of panels initiated in which final ruling issued	75.41%	78.95%	81.82%	68.38%

It is notable, however, that under a veto-equipped regime, many disputes will not proceed to the point of arbitral determination. Decisions may be more likely to be bargained in the shadow of the law or not at all. Identifying the cases that do not occur is extremely difficult. It is noteworthy that the rate of issue of final decisions did drop over time significantly. As noted by the WTO:

"This resulted in a decreasing confidence by the contracting parties in the ability of the GATT dispute settlement system to resolve the difficult cases. In turn, this also led to more unilateral action by individual contracting parties, who, instead of invoking the GATT dispute settlement system, would take direct action against other parties in order to enforce their rights." (World Trade Organisation, 2011).

As such, the removal of the veto should, on the basis of the inferences drawn from the limitations of territorial arbitration, result in both a higher rate of use of the dispute resolution process and a lower rate of disputes proceeding beyond the initiation phase- in a system with certainty, parties are happy to bring complaints and defendants are less likely to resist them. As such, the present iteration of WTO dispute resolution provides for a reverse-consensus veto- there must be a consensus to overturn a decision, rather than a consensus of all nations to enforce a decision. As a result, decisions are extremely unlikely to be overturned. As such, since 2001 there have been more than 300 matters referred to the WTO, equivalent to the number of disputes heard throughout the history of the GATT consensus-enforcement regime.

[12] Derived from data included in 'The Evolution of GATT/WTO Dispute Settlement' Bush & Reinhardt, *Journal of World Trade* 37 (4) 2003: 719-735

(World Trade Organisation, 2017). There is no comprehensive data available on vetoes, but there is no evidence to suggest that vetoes are widespread or occur currently with any degree of noticeable frequency.

As such, I suggest, there is a demonstrable correlation between certainty and enforceability of outcomes through the use of massively multilateral treaties and the degree to which parties will rely on them, rather than self-help measures. Similarly, the removal of early road-blocks- such as the potential availability of a veto- will help increase the willingness of nations to commit to using a process from the outset.

Importantly, it should also be noted that the WTO- and to a lesser degree, the nascent OECD approach- provide for a detailed and publicly available process through which arbitration will occur- a model of dispute resolution procedure that avoids subsequent lack of clarity between the parties, and avoids the need for parties to develop subsequent procedural agreements. The process includes a timetable, panels of arbitrators and rules of evidence (Bashir, 2012). Again, there is an arguable but unproven correlation between clarity of process and the parties' confidence in using the process. This suggests a reasonable inference - that parties are more likely to make use of a process where there is a clearly understanding and hence certainty of outcome.

Application to Territorial Disputes of WTO Practices

There is a clear inference that, with the adoption of some of the practices of the World Trade Organisation, the rate at which parties would be able to resolve territorial disputes through arbitration would increase. The corollary of certainty of process, as well as the increased likelihood of enforcement of those processes, is that there is less prospect of escalation before peaceful dispute resolution will occur. The WTO process is, therefore, in material respects more similar to municipal law than to international territorial arbitrations. The WTO process contains an enforcement mechanism which operates by more than just the plaintiff, is not reliant on self-help, has a registry, clear rules of procedure, pre-set forms of sanctions and consequences for infringement and a detailed body of case-law. Indeed, as the WTO has developed more 'legal' features common to municipal law, confidence in the process, as measured by claims brought, has increased. The inference is also supported by the high rate of

success of arbitration where regional multilateral organisations have been involved- the ability of third parties to place pressure and ensure consequences is a highly efficient- and effective- means of ensuring both compliance with arbitral outcomes and in minimising conflict altogether.

However, there are also important limitations on the degree to which the WTO experience reflects on the potential for the resolution of territorial, maritime and river disputes. Firstly, unlike international trade which is increasingly complex and increasingly multilateral, border disputes are inherently bilateral or, at most, regional. As such, developing coalitions for global enforcement of sanctions requires parties' interests to derive from a desire to achieve some other beneficial outcome from involvement which is less direct than an interest in the dispute per se, such as global stability, prestige, regional interests etc. Secondly and as a corollary, the interests of third-party interveners in disputes is harder to quantify and as such, harder to rely on. The lack of a clear expectation of enforcement by others raises a real and genuine concern as to the degree to which a consensus for enforcement would be likely to arise. Thirdly, unlike the WTO-GATT regimen, territorial matters which are not purely economic do not lend themselves to direct sanctions. What is the appropriate sanction for a territorial encroachment by, say, Mexico into its neighbours' territory? Is this financial, and if so, how should this be calculated? Given that territorial matters involve national priced, political considerations and strategic advantages, the calculation of proportionate sanctions has until now been a case-by-case matter. Unlike municipal law, there is no table of penalties, or easy consensus on what should occur.

There are a series of other objections that are more than just subject-matter concerns when considering the application of the WTO experience to other areas, such as river disputes. Most obviously, whilst there is a body of law dealing with principles of international borders, it is largely nascent. Borders are often the result of local treaties. Some examples are Spanish charters for colonies. In other cases, there is as noted above, no principle of international law available on which to found a dispute or base a position in a dispute. The prospect of the development of international treaties for the arbitration and enforcement of all territorial disputes is likely to require the agreement to the prior resolution of almost all existing land disputes currently afoot- a mammoth task which seems unlikely to occur at present.

Agreement to Enforce Arbitrations- the UNCITRAL Model

An alternative model for the widespread enforcement of arbitrations exists in the international sphere pursuant to the United Nations Commission on International Trade Law (UNCITRAL) model of international arbitration. The approach, which was codified pursuant to the Convention on the Recognition and Enforcement of Foreign Arbitral Awards (New York, 1958) (the "New York Convention"), offers a framework pursuant to which countries agree to recognise and enforce arbitrations conducted in other jurisdictions. The UNCITRAL Model's successes and limitations again demonstrate the particular challenges of international territorial arbitration and reinforce the proposition that arbitration is effective as a conflict management tool.

Background

The UNCITRAL approach is primarily the implementation of a Treaty, the New Yok Convention. The Convention entered into force in 1959. At present, 157 countries are signatories to the Convention, including China and all members of the G10. (United Nations Commission on International Trade Law, 2017). As such, the Convention has global reach. The principal outcomes of the Convention are (United Nations Commission on International Trade Law (UNCITRAL), 1958):

(a) Treatment of foreign arbitral awards that is no-less favourable than local arbitral awards
(b) Enforcement of foreign arbitral awards as orders of local courts
(c) Presumptive legitimacy and enforcement of the award.

On this basis, UNCITRAL provides a potentially effective and paradigmatic approach to international arbitration, by closing the missing link in disputes- enforcement. Parties who have duly arbitrated are now able to approach a court of competent jurisdiction and seek to make use of its enforcement functions. This is of critical importance in circumstances where assets may be located in many international jurisdictions. This also gives credence and value to arbitration as an enforcement method of dispute resolution.

However, the UNCITRAL Model also highlights the central challenge of territorial arbitration, in that both deal with multilateral enforcement of inherently bilateral disputes. This requires

either a ‘good faith’ commitment to enforcement of treaties even where there is no domestic interest in doing so, or a ‘rainy day’ approach in which countries choose to enforce treaties because of their desire to be able to rely on good international order (and those treaties themselves) on some future occasion. As Neuhaus illustrates, these are substantive challenges that arise pursuant to the catch-all exit clause of the New York Convention- non-enforcement pursuant to public policy concerns of the local jurisdiction (Neuhaus, 2004) . As a result, local jurisdictions have declined to enforce international arbitrations for a range of reasons, including what amount to political concerns, inconsistency with local laws, local approaches to *forum non conveniens* and a lack of reciprocity from countries whose citizens are seeking the benefit of enforcement. Thus, whilst the system nominally creates a consistent and enforceable framework for arbitrations to be upheld, the reality is that, where arbitrations are most likely to be needed to be enforced i.e. in the home jurisdiction or one of the other parties, there are real limitations on the degree to which enforcement- if unfavourable to national interests- can expect to be manifested. For instance, in their study, (Utterbeck, et al., 2016) a team of lawyers found the rate of enforcement to be only 68% for foreign arbitrations in China. In France and the United States, amongst other countries, (Neuhaus, 2004), enforcement of awards previously annulled by the home jurisdictions has occurred frequently. In essence, the current state of enforcement of arbitral awards is not such as to give overwhelming confidence to parties that their concerns for enforcement are likely to be unfounded.

Based on the results above, similar concerns are likely to continually arise in other mechanisms for the multilateral enforcement of either bilateral treaties or bilateral disputes arising from multilateral treaties. The subject matter of the specific instance must be of sufficient interest, or the overall concern must be sufficiently great for similar disputes to arise with regards to other parties, for there to be a real impetus for enforcement through third parties. With regards to territorial disputes, this is a particular challenge, as these are, by and large, inherently bilateral in nature. A departure from this arises where the arbitration concerns the interpretation or enforcement of a principle of boundary interpretation. For instance, the widely held ‘continental shelf’ principle for the determination of territorial boundaries is important to many countries, such as Argentina, whose basis for the claim to the Falklands is at least in part based on the extent of the continental shelf. (The Associated Press, 2016) The enforcement of third-party’s claims on the basis of preferred interpretations of such principles is certainly possible, however rare. However, given that seemingly greater principles such as the avoidance of armed conflict and compliance with the United Nations Charter are inconsistently enforced, at best, it

is unsurprising that the rate of third party intervention is very low. More particularly, arbitrations are often confidential or, if not confidential, do not involve the opportunity for third parties to intervene in the process. As such, it appears unlikely that the existence of an arbitration or conclusion is likely to result in enforcement action. This contrasts with the 'simpler' regime of pure economics.

Territorial Arbitration as Case Management or Case Resolution?

Whilst the above approaches to arbitration- UNCITRAL and WTO in particular- represent powerful tools for the resolution of disputes, underlying the capacity of any approach to successfully resolve conflicts is a willingness to use it for that purpose. However, dispute resolution processes are not used exclusively for the purpose of resolving disputes; as noted by Harris and others, they are frequently a process of managing the finer details of largely agreed directions in resolving ongoing challenges between parties, or to manage an ongoing process rather than resolve underlying difficulties. In some instances, what is ostensibly a dispute resolution process may actually be employed as an ongoing method of reducing tensions and preventing conflict escalation. 'Peace talks' are often used to that effect, as the appearance of progress may act to defuse tensions. Accordingly, any analysis of the actual usefulness of arbitration must consider, differentially, arbitration as conflict management tool and arbitration as conflict resolution method. In addition, as I highlight below, there is a real prospect of arbitration, even when ostensibly resolving conflicts, actually reflecting a conflict management role with the 'agreement to arbitrate' being the element that actually transforms the conflict from a political dispute to a relatively unimportant, technical or legal question.

Differentiating Conflict Management and Conflict Resolution

Limited discussion has occurred within the literature on the disambiguation of terminology associated with conflict resolution. The terms 'conflict resolution,' 'conflict settlement,' 'dispute resolution,' 'dispute settlement' and 'conflict management' have all been used largely interchangeably within recent publications, as noted in Section 1. However, there are different principles that are worth enunciating, particularly on the questions of conflict resolution, transformation or management. Wehr and Lederach (Wehr, 1996), for instance, define conflict transformation as "the continuous involvement of sympathetic third parties to move a conflict

from latent to overt and negotiation stages". Whilst arguably an overly constricted definition, it does show a sharp deviation from the principles of conflict management, defined by Butterworth as having the "aim of reducing the intensity and frequency of serious interstate security disputes and/or the systemic consequences of such conflict" (Dixon, 1993). As opposed to the simple *resolution* of a conflict, *management* efforts involve attempts to move the conflict towards resolution, to control aspects only of the conflict, or to reduce pressures or political flare-ups surrounding core issues. Bercovitch and others extensively canvass some of the perceived challenges involved in determining when management is appropriate, such as through offers of mediation, and when conflicts are ripe for resolution or transformation (Blum, 2007).

We suggest that a sharper differentiation of activities may be more useful in conceptualising the role and contribution of different methods of dealing with conflicts. In particular, the attempt to bring a matter to arbitration is not itself an attempt at resolution of the conflict, though it necessarily involves a transformation of what the conflict is about. As a result, we suggest that the term 'conflict transformation' should be applied more appropriately to processes through which the nature, scope or methods of progressing a conflict are changed.' Conflict transformation may not always be peaceful, and may involve, for instance, the escalation of a conflict from political to military, or corporate to national. Even so, it should be recognised that the basic changes to the nature of a dispute or its scope will result in what may be historically a continuation of a previous conflict, but is substantially different in terms of the ways that the parties themselves may approach the issue, for better or for worse. Conflict transformation should therefore be thought of as interrelated, but distinct from, conflict management.

Conflict transformation as a theoretical construct therefore provides a capacity to help measure how effective methods of dispute resolution are. This is particularly important in the case of arbitration, where the conflicts that were formerly militarized are now being dealt with in a reduced scope, in a court-room and using a very different kind of process. In order to determine the degree of contribution made by the legalisation of the conflict as opposed to the prior agreements reached by the parties leading up to the arbitration, it is unhelpful to categorise the arbitration as resolving a militarised conflict, when at the time of arbitration the conflict is no longer militarised. Illustratively, of the 70 binding dispute resolution attempts contained in the ICOW data, only one began during a militarised interstate dispute the contained a fatality.

Table 76: Types of Settlement Attempts Beginning During Ongoing Fatal MID-

durfat * typeset3 Crosstabulation

			typeset3			
			Bilateral Negotiations	Non-binding Third Party Attempt	Binding Third Party Attempt	Total
durfat	No	Count	1130	419	69	1618
		% within durfat	69.8%	25.9%	4.3%	100.0%
		% within typeset3	97.8%	90.7%	98.6%	95.9%
		% of Total	67.0%	24.8%	4.1%	95.9%
	Yes	Count	25	43	1	69
		% within durfat	36.2%	62.3%	1.4%	100.0%
		% within typeset3	2.2%	9.3%	1.4%	4.1%
		% of Total	1.5%	2.5%	0.1%	4.1%
Total		Count	1155	462	70	1687
		% within durfat	68.5%	27.4%	4.1%	100.0%
		% within typeset3	100.0%	100.0%	100.0%	100.0%
		% of Total	68.5%	27.4%	4.1%	100.0%

This indicates that *at the time in the conflict* where arbitration is being employed in territorial disputes, the conflict is no longer militarized, or likely to involve fatalities. This is a sharp departure from the overall expectations for conflict management efforts, where the overall rate of fatal MID events was three times higher.

This suggests that the success of arbitration in the resolution of territorial disputes is likely a factor of the situation that arbitration operates in, more than a result of the effect of arbitration. Disputes where violence has ceased are generally understood to be easier to resolve than others. There is no theoretical support for a proposition that commencing arbitration itself leads to a reduction in a tendency towards violent hostility between the parties. As a result, it would appear that the better approach to the analysis of the arbitrations that have been conducted in the course of territorial disputes is to analyse them in the context of conflict management attempts, or as resolution of relatively small, confined disputes.

To Manage or to Resolve?

The debate about appropriate management of international conflicts is largely centred on the presumption that, ultimately, it is in the interests of parties to resolve the conflict. This

presumption may be more philosophically motivated than supported by the data; as we discuss further below, there is little research into the consideration of costs of disputes on the basis of subjective valuations used by individual parties, as opposed to on a global, common-value basis. However, the decision to either manage- attempt to mitigate, reduce or otherwise de-intensify or transform the conflict- or to attempt an overall resolution of the conflict is a strategic decision of great complexity. In his research, Jacob Bercovitch produced a database of conflict management attempts. (Bercovitch & Fretter, 2007) Within the same database were offers of mediation and records of mediations themselves, whether seeking to reach a ceasefire or achieve a complete resolution of the conflict. Thus whilst Bercovitch's data-set covers fewer disputes than even the ICOW Territorial data-set, it contains many more incidents and data-points. This indicates, also, the practical 'merging' of management and resolution attempts within much of the literature in the field. In general, though, a noted preference towards resolution exists amongst third parties, though arguably for their own purposes. In seeking to resolve disputes, parties will offer management solutions only where no other option can be effectively implemented.

The goals of the parties are crucial in determining whether or not arbitration, mediation or any other method of engagement is viable, but also in optimizing the use of each technique. Arbitration's usefulness has thus far been restricted, largely to management of disputes, rather than being used to bring parties to a resolution. Notable exceptions include the Cod War, where arbitration was unsuccessful. However, until arbitration is to be used to 'injunct' parties against particular kinds of conduct, this is likely to remain the case.

Regional Case Study- South America

Unlike most regions of the globe, the formation of the principal national territorial boundaries in South America has been largely the result of national decisions by one government. Spain, long the colonial ruler of much of South America, designated colonial and territorial borders for many of the entities that subsequently became separate states. (Brewer, 2006, p. 128) In the processes of decolonization, these borders, though often vague and uncertain, became the presumptive boundaries on which new nations negotiated. Whilst the territories of other Great Powers and poor mapping techniques also became central issues, the determination of territorial boundaries in Latin America have had an uncommonly strong basis in international law when compared to similar issues elsewhere in the globe. Coupled with the existence of a

number of broad and specific international treaties for the determination of boundary disputes, South America offers a discrete case study for the potential effectiveness of arbitration and adjudication as processes for the resolution of these kinds of issues without the resolution of disputes on a violent basis.

However, the history of South America has been replete with political tension, both internal and international. A number of conflicts, both formally declared and political, have persisted for many years in the region. Indeed, for a landmass with only 12 countries, South America has had a disproportionate number of territorial conflicts and incidents, as outlined in the ICOW data. Whilst many of these have been, pursuant to the ICOW data and as noted above, 'resolved' through arbitration, the majority of these conflicts have involved escalated MID's and the threat of, if not use of, violence. As such, it is worth considering whether arbitration could have been used earlier in the piece, if at all, to prevent the escalation. As I argue below, this was, given the current use-case of arbitration, unlikely if not impossible.

Gent and Shannon's 2010 article, *The Effectiveness of International Arbitration and Adjudication: Getting Into a Bind*, offers a substantial step forward in our analysis and understanding of international territorial conflict resolution by empirically focussing on the relative successfulness of arbitration as a mechanism for dispute resolution. They show, substantively, that the rates of success in achieving a binding outcome through arbitration are much higher than through non-binding dispute settlement methods, such as mediation. Further, they demonstrate that there is no statistically valid correlation between the nature or identity of the party performing the adjudication or arbitration and the achievement of successful settlement outcomes. In so doing, they conclude that "the strategy chosen to manage a conflict can be more important that the identity of the actor that utilizes the strategy," and that "Binding negotiations are more effective than nonbinding or bilateral negotiations, and the bias of a third party has no direct influence on the success of conflict resolution".

However, underpinning Gent and Shannon's assumption is the notion that arbitrations are actually *resolving disputes*, as opposed to *formalizing the achievement of an outcome* or otherwise providing a post-dispute resolution conflict management strategy. In addition, they assume that arbitrations represent the resolution of disputes of comparative difficulty to the earlier conflicts over the same issues, prior to the entry into the arbitration agreement itself. We suggest that a closer analysis of arbitration, particularly within South America but also

globally, shows that the achievement of a successful arbitration result requires a *pre-negotiation*, often involving third parties and biased-parties, in order to facilitate it. In effect, we argue that most arbitrations are better characterized as the *result* of a binding agreement by parties to resolve a dispute, rather than an actual dispute resolution itself.

What Is Arbitration and Why Don't States Use It From the Begninning?

As noted above, , arbitration was understood as the appointment of a third party to issue a binding resolution to a dispute, applying either a legal code or principles of natural justice, or the use of a third-party who would compel a resolution (Fraser, 1926). Traditionally, international arbitration differed from domestic (municipal) arbitration in that only another entity with international legal personality could arbitrate between countries. As a result, monarchs, or their councils were the classic arbitrators of third party disputes. Indeed, much of South America's arbitration history has been carried out by either presidents of the United States or successive European monarchs, most notably Spanish.[13] Part of the arbitration process involved an assumption that, as a matter of principle, the arbitrator would act to uphold the compliance of all parties with the arbitral award. (Kagan, 2007) Thus there was a vested interest, for all parties, in the selection of an unbiased but involved arbitrator so as to maximise the force towards resolution of the dispute resulting from their engagement.

The twentieth century saw the rapid growth of international legal machinery, to the point where arbitration could be conducted, under treaty, by non-state actors. The Permanent Court for Arbitration and specific international courts at The Hague were designed to address the growing phenomenon of massively multilateral treaties which required some form of interpretation. The pre-designation of a body for resolution of disputes was designed to encourage stability and efficient resolution of disputes, thus increasing the value of the treaty itself. In so doing, arbitration or adjudication, itself only semantically different, offers a formalised, notionally binding process for the resolution of disputes that is attractive to parties seeking certainty, precision and an internationally recognised validity to the resolution of a dispute. Even so, arbitration remains a relatively little-used process in international conflict resolution, with a marked preference by nations to use mediation, bilateral or multilateral

[13] A full list of the identities of arbitrators is contained in the ICOW data.

negotiation or even armed conflict as a way of resolving issues, rather than resorting to the court room. (Gent, 2011, pp. 711, 713).

Gent and Shannon (2011, p. 711) raise the obvious question of why binding mechanisms are not preferred more by states, given what they highlight as the high rate of successful use of the process in resolving conflicts. For instance, they cite the successful use by Colombia and Venezuela of arbitration to resolve a land boundary, but a refusal to use a binding process to determine maritime borders. In explanation, they raise a number of long-standing theoretical explanations, including the perception that parties require decision-control, including the capacity to finally refuse to ratify an outcome, (generally shortened to 'decision-control' in this thesis,) the perceived loss of national prestige resulting from surrender of sovereignty, the existence of allegedly difficult conditions under which arbitration may be preferred and to some degree a dislike of international law.

If accepted, the postulated reasons for not preferring arbitration are, at best, arguably demonstrative of fundamentally illogical positions being adopted by many nations. Firstly, countries have been known to break treaties on a regular basis. The violation of international obligations is a relatively routine occurrence. As widely noted, the fundamental flaw of the international legal system is the lack of any enforcement mechanism save that adopted on an ad-hoc basis by countries or international bodies- there is no 'cop on the beat.' As a result, the suggestion that the 'mere violation of international commitments' is a sufficient basis for deterring countries from entering into arbitration is difficult to sustain. This, as discussed in Sections 2, 3 and 4 above, is a fundamental challenge to the usefulness of arbitration.

Adherence to Agreed Outcomes

Using the same data-set as Gent and Shannon, the International Correlates of War Territorial data set (data, n.d.), we analysed the sub-set of settlement attempts where an agreement was reached by the parties covering all aspects of the dispute using the 'Agreeall' cases variable. 840 cases resulted, of which 4.2% were binding dispute resolution attempts.

Table 77 Settlement Attempt by Type Where Agreement Reached on All Issues

Settlement Attempt by Type- Where Agreement Reached on All Issues in Dispute

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Bilateral Negotiations	597	71.1	71.1	71.1
	Non-Binding 3rd Party Attempt	181	21.5	21.5	92.6
	Binding 3rd Party Attempt	62	7.4	7.4	100.0
	Total	840	100.0	100.0	

Of the resulting 840 cases, 23.5% did not result in the agreement being adhered to, despite a negotiated outcome being achieved.

Table 78 Outcome of Agreements- Adherence and/or Implementation of Agreement

Outcome of Agreements- Adherence and/or Implementation of Agreement

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agreement reached, at least one did not ratify	129	15.4	15.4	15.4
	Both Ratified Agreement, but at least one did not comply	68	8.1	8.1	23.5
	Both Complied With Agreement	425	50.6	50.6	74.0
	Agreement Ended Claim	218	26.0	26.0	100.0
	Total	840	100.0	100.0	

Amongst agreements made by binding processes, the rate of agreement-adherence was substantially higher, but by no means overwhelming. 12.9% of binding third-party settlement attempts *which reached* agreements were subsequently not adhered to by at least one of the parties! An equal number of cases of compliance occurred, but without the complete resolution of the claim, despite the fact that arbitration, as opposed to negotiation, is designed to provide a binding outcome on all issues laid before a tribunal.

Table 79- Settlement Attempt by Type (Typesett3) and Outcome (Effect 3)

typeset3 * effect3 Crosstabulation

			effect3			
			Agreement Reached, but at Least One Didn't Ratify or Comply	Both Complied with Agreement but Claim Didn't End	Agreement Ended Claim	Total
typeset3	Bilateral Negotiations	Count	147	322	128	597
		% within typeset3	24.6%	53.9%	21.4%	100.0%
		% within effect3	74.6%	75.8%	58.7%	71.1%
		% of Total	17.5%	38.3%	15.2%	71.1%
	Non-binding Third Party Attempt	Count	42	95	44	181
		% within typeset3	23.2%	52.5%	24.3%	100.0%
		% within effect3	21.3%	22.4%	20.2%	21.5%
		% of Total	5.0%	11.3%	5.2%	21.5%
	Binding Third Party Attempt	Count	8	8	46	62
		% within typeset3	12.9%	12.9%	74.2%	100.0%
		% within effect3	4.1%	1.9%	21.1%	7.4%
		% of Total	1.0%	1.0%	5.5%	7.4%
Total		Count	197	425	218	840
		% within typeset3	23.5%	50.6%	26.0%	100.0%
		% within effect3	100.0%	100.0%	100.0%	100.0%
		% of Total	23.5%	50.6%	26.0%	100.0%

Whilst it is clear that binding dispute resolution does outperform non-binding dispute resolution in the rate of adherence, and noting the small sample size involved in the data for arbitration and adjudication, the assumption that states must avoid 'binding' themselves for fear of being 'stuck' with an unfavourable outcome is not supported by the data, which shows that states have a significant track record of disregarding arbitral awards, approximately one time in ten. A close analysis of the data reveals that a number of cases of non-compliance related to adjudicative determinations regarding Israel and its neighbours; this does skew the data towards a single conflict. However, amongst the cases of compliance are a number of situations where, unusually, external regulators had the capacity to enforce outcomes. These were invariably disputes amongst European nations in the European Community era and beyond. As such, given the relatively small sample size, the overall difference in rate of adherence is, in our view, less significant than the substantial rate of *non-adherence*, such that

arbitration in territorial disputes cannot be said to create a certainty or overwhelming probability of final resolution of disputes.

Impact of Non-Adherence to International Law

The second issue with the postulate that states are afraid of being bound is harder to test statistically. As noted above, there is no international regulator or agency with the uniform power to enforce international law. Whilst the United Nations and regional organisations have taken on an authorisation for enforcement function, neither possesses a standing army, regulators or bailiffs. As a result, enforcement of international norms is, at best, selective, and relies on the willingness of other countries to intervene and/or support punitive or corrective actions. In the case of territorial conflict, this would require other sanctions or military action. In the case of bilateral disputes, it would appear unlikely that, short of an invasion, third parties would be willing to enforce the resolution of an arbitration. Indeed, recent actions by Russia in the Ukraine and in South Ossetia have shown a global reluctance to militarily enforce the adherence to territorial boundaries long established under international bilateral treaties. By contrast, the involvement of the United States in securing Kuwait's territorial sovereignty in the face of Iraqi occupation indicates that countries can and will selectively use international law as a precedent or basis for intervention. As a net result, the presumption that the violation of a *bilateral* treaty or agreement is likely to have deleterious effects on a country's international standing is questionable at best. This position, of course, may be radically different in the case of *multilateral* treaties. However, territorial disputes, whilst concerning major powers, have rarely included them as actual litigants before arbitration panels, and then rarely in cases of high salience to the participants themselves.

Therefore, despite the frequent arguments raised primarily by liberal international legal theorists of countries' innate desire to comply with international law (Hall, 1996) there is little evidence to suggest that there is an empirical basis for either refusing to participate or consider binding dispute resolution on the basis of the consequence of non-adherence being any different to non-adherence to any other comparative form of binding agreement.

In fact, the use of binding conflict resolution may involve a decrease in the incentives for compliance. Touval (Touval, 1994) and others (Hampson, et al., 2007) argue that one of the

core reasons for the effectiveness of international mediation relies in its deviation from classical mediation theory, in which a personally powerless, uninterested mediator acts as an information flow controller to enhance the parties' understanding of their positions, leading towards the exploration of new possible outcomes for settlement. Touval argues that the reality of international mediation is better described as triadic negotiation- where the 'mediator' acts as a further interested party, applying pressure to one or more other participants to change their conditions for resolution. In some cases, this may involve the breach of confidentiality or public pressure to negotiate in good faith, and in others may involve the threat of sanctions or withdrawal of military support. As a result, Bercovitch and others note that the identity of the mediator and the parties whom they represent is a key indicator of success, with the United Nations being amongst the least effective mediators, and regional organisations amongst the most successful (Bercovitch, 1996).

The use of arbitration in its modern structure of international courts, ad-hoc tribunals and specialist groups of independent legal scholars actually deprives the arbitration process of the potential for enforcement by what would otherwise be the party of first recourse, the arbitrators themselves. Instead, even more so than mediation, arbitration relies on the good will of the parties themselves as an enforcement tool. In this sense, arbitration as a mechanism has been weakened by its professionalization from the earlier, classical position in which a neutral nation would both conduct the arbitration and enforce compliance with it as a matter of national honour. (Kagan, 2007, pp. 67-75) Some of this legacy has remained, with the formal appointment of neutral nations as arbitrators in a number of cases. However, the expectation of the engagement of those countries with the arbitration process as enforcers or indeed their entitlement to do so under international law has ceased.

This assessment of the success rates of international dispute resolution based on the participation of state versus non-state actors can also be assessed empirically. To do so, we categorised actors involved in international conflict resolution attempts into state actors, non-state actors, international organisations and regional organisations. (International Organisations, such as the UN, and regional organisations such as the African Union are generally seen as quasi-state actors.) We did so on the basis of the standard International Correlates of War country coding, by which (Henselplaceholderfromwebsite) 3 digit codes represent state actors, 4 digit codes represent non-state actors and codes above 2000 represent regional organisations. Amongst all settlement attempts where an agreement was reached by

the parties covering all aspects of the dispute, the involvement of an international organisation in any capacity increased the success rate of overall adherence to resolved outcomes, as seen by table 72 below.

Table 80 International Organisations Involvement Y/N and Outcome (Effect3) of Conflict Resolution Attempt

io * effect3 Crosstabulation

			effect3			
			Agreement Reached, but at Least One Didn't Ratify or Comply	Both Complied with Agreement but Claim Didn't End	Agreement Ended Claim	Total
io	No	Count	187	386	186	759
		% within io	24.6%	50.9%	24.5%	100.0%
		% within effect3	94.9%	90.8%	85.3%	90.4%
		% of Total	22.3%	46.0%	22.1%	90.4%
	Yes	Count	10	39	32	81
		% within io	12.3%	48.1%	39.5%	100.0%
		% within effect3	5.1%	9.2%	14.7%	9.6%
		% of Total	1.2%	4.6%	3.8%	9.6%
Total		Count	197	425	218	840
		% within io	23.5%	50.6%	26.0%	100.0%
		% within effect3	100.0%	100.0%	100.0%	100.0%
		% of Total	23.5%	50.6%	26.0%	100.0%

However, when comparing the success of international organisations acting in a binding capacity, the impact of international organisations drops significantly, with no appreciable difference in the rate of compliance when an agreement is reached based on the use of an international organisation as the binding decision-maker. Arguably, the benefit of international organisations is much greater as a facilitator or as a source of independent mediation than in rendering binding determinations. Interestingly, parties have also not expressed a preference for the use of international organisations to resolve international disputes through binding determinations- of the 70 attempts at binding third party settlements identified within the ICOW territorial data-set, 33 have been conducted by international organisations.

Summary

Consequently, it is reasonable to conclude that the selection of binding third-party dispute resolution is not connected, materially, to the achievement of an outcome that is more binding in practice on the parties themselves, as:

- Historically, adherence to arbitrated agreements is not substantially higher than to adherence of non-arbitrated agreements;
- Enforcement by third parties of arbitrated bilateral agreements is not substantially higher than enforcement of other bilateral treaties;
- Parties are able to refuse to ratify arbitrations, or internally protest their legitimacy for internal political purposes; and
- Parties are unlikely to see substantial changes in international prestige or standing following the achievement of an arbitral award, or from violating it in the case of bilateral treaties.

As a result, the core classical claim of arbitration to be *binding* is largely a legal fiction. Whilst international law may consider an agreement between parties to result in a binding obligation, without enforcement and with a substantial rate of 'recidivism,' arbitration is not, in practice a sound method of binding parties to the resolution of territorial disputes. In the specific sub-set of cases in South America, there is no correlation between the achievement of a resolution by arbitration and avoidance of subsequent disputes. Indeed, some allegedly 'resolved' disputes have lingered for decades. Parties' willingness to obey resolutions by arbitration does not appear to be influenced by the legal obligations incurred through the arbitration.

What Can We Learn About the Way Arbitration is Actually Used In Territorial Disputes From the Infrequency of its Use?

Given the above, the fundamental questions in terms of understanding parties' preferences *not* to use arbitration is, perhaps, better transformed into an assessment of:
*When is arbitration advantageous to **both** parties in a territorial dispute?*

For arbitration to be used, it is essential that it be either in the interests of both parties, or that there otherwise be a trigger that requires the use of arbitration. In many cases, particularly in Latin America, the treaties have required the use of arbitration from the outset, thus making a

refusal to participate in the process more politically 'expensive' in terms of international political capital. However, save where pressured to do so by third parties, (such as pursuant to the Monroe doctrine in the British Guyana arbitration) engaging in a process with *any* cost be it political, economic or military- is only likely where there is a perceived benefit, or where alternatives are considered worse. We hypothesized that arbitration is primarily useful where parties have reached principal agreements as to the salience of a dispute, relative to the cost of the prosecution of a dispute, but where the determination of the details of the final outcome within a given range are proving difficult. Put simply, arbitration is useful where the parties have agreed to the scope of the conflict, that they are politically and militarily prepared to lose within that scope, but where actually concluding the details is difficult or undesirable. We hypothesize that these conditions will require conflicts that have been previously mediated with at least procedurally successful outcomes, where the salience of the conflict is not high for either party, and where previous attempts at resolution of the dispute have failed.

We hypothesize that this will be reflected in arbitrations generally, but successful arbitrations particularly, being preceded by prior conflict management attempts that resulted in at least a partial resolution of the dispute, or a procedurally successful attempt. We suggest that the agreement to arbitrate, and to limit and transform the dispute, will therefore be the primary point of effective conflict resolution or transformation.

We therefore conducted manual case-analysis of 37 cases that were subjected to binding dispute resolution. Cases were randomly selected from the ICOW database, and literature searches were conducted to identify the course of negotiations that had taken place between the parties resulting in the arbitration taking place.

The results indicated that every case within the sample had, prior to the conduct of the arbitration, involved a negotiation leading to the execution of an arbitration treaty or agreement. In most cases, this agreement involved a specific arbitration protocol. In all but two cases, which were not resolved at the conclusion of the data-set coverage period, the arbitrations resulted in a complete agreement.

Table 81: Agreement Reached from Sample Analysis

Sample Study- Was a Complete Agreement Reached?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	35	94.6	100.0	100.0
Missing	System	2	5.4		
Total		37	100.0		

Each of the cases within the sample, therefore, satisfied the hypothesized presumption that binding dispute resolutions resulted from previous negotiations, rather than from a direct policy attempt at transformation of the dispute, unaltered, from a political to a legal conflict. The arbitrations were, in real terms, being carried out over a narrowed, less intense or salient dispute, than had previously been unresolved between the parties.

In most cases, the specific arbitration treaty or agreement that was entered into between the parties prior to the conduct of the arbitration set out the scope of arbitration, method of resolution, sources of law and time frames. As a result, the arbitration itself is the result of substantial agreement by both sides on the vast majority of issues, and an agreement to depoliticise the issue itself- none of the arbitrations studied considered the political rights and wrongs involved, only the actual claims presented by the parties on a relatively empirical basis.

By contrast, analysis of the arbitrated and adjudicated matters which did not result in complete resolution of the dispute shows little commonality between the two groups. 8 arbitral settlement attempts did not result in full conclusion of the dispute, across six incidents. Disputes occurred both under international law and bilateral treaties, involving both major powers and minor players. In most instances, including the Maroni River and Cod War disputes, mutual non-compliance or frustration of the arbitral agreement occurred. In the El Chamizal incident, the arbitral award was ultimately fully complied with, but some 40 years later. As a result, it is difficult to suggest common reasons for the failures of these arbitrations, in contrast to the apparent common reasons for success in other cases.

Analysis

We conclude, therefore, that arbitration's usefulness in the resolution of international territorial conflicts *in which it has been employed to date* is relatively minor because it neither transforms the relationships between the parties nor substantively changes the likely behaviour of actors. More importantly, we conclude that parties themselves are not using arbitration as a tool for resolving conflicts in the majority of cases, so much as they are using it as a *conflict management* tool, following the resolution of many of the principal issues between the parties, including a willingness to prosecute the conflict by other means, the scope of the conflict itself and the inherent political aspects of the conflict. Even then, the capacity for the collapse of a conflict management attempt operating through arbitration remains substantial.

Making Arbitration Useful

Arbitration does, however, have a number of elements that make it potentially preferable to other forms of conflict resolution if used as such. Firstly, arbitration is able to provide certainty of outcomes, with a mechanism for interpretation of the agreement entered into between the parties. This is important for the avoidance of future hostilities or issues, and can be facilitated by standing commissions or arbitral tribunals that can persist beyond the immediate resolution. Arbitral tribunals are less demanding and involve a lower ongoing political cost than mediation by world leaders or the UNSC, the most effective brokers or agreements. This, obviously, makes arbitration a powerful option for ongoing stability, if sufficiently supported.

Secondly, arbitration has the capacity to make *better* resolutions than direct or supported negotiations. Unlike leaders' meetings, summits or other similar processes, arbitrations are designed to be lengthy and to involve the legalistic presentation and consideration of claims. Arbitrations typically involve a pre-hearing process in which both sides prepare and produce an agreed statement of facts. The dispute itself is often further narrowed, following which statements of contention are produced. These, in turn, are met with detailed responses. This work is also done by experts, both in the presentation of claims (usually lawyers) but also in the formulation of the claims themselves. None of the usual factors involved in negotiations- time pressures, the potential for changes in leaders and to an extent media interest- apply in the same way. Better, more durable agreements are likely to result from the full presentation of

claims, and where the parties are able to consider positions at greater length. Whilst agreements may more often be made under pressure, the full presentation of a claim is likely to lead to more satisfactory understandings of positions.

Thirdly, arbitration forums are a tool for facilitating negotiations. It is well known within the practice of municipal (domestic) law that many matters are settled 'at the steps of the courthouse'. This is both a factor in court-ordered mediation, but also the added incentive towards settlement that results from the parties themselves being in extended contact over an issue, but also from the growing familiarity that results from the presentation of the claims, including strengths and weaknesses. The added incentive of a pending judgement that may be frustrating or inconvenient to one or more parties is a further incentive to settle. As such, the use of arbitration processes can also have the benefit of furthering direct engagement between the parties on both political and legal-institutional levels.

Fourthly, arbitration also has benefits in preventing future disputes arising between the same participants. Whilst an arbitration may not resolve all issues between the parties, arbitrators have frequently taken the opportunity in *obiter dicta* to indicate the foundational principles which a tribunal will adopt in resolving further claims that may arise. Where territorial claims are concerned, the understanding of the way in which a tribunal will rank competing claims and interests informs parties' future beliefs as to the Best Alternatives to Negotiated Agreements. Given this, arbitrations can act as advisory opinions as to future successes.

Fifthly, and perhaps most significantly, arbitrations represent perhaps the best avenue available to enable stable enforcement of agreements by third parties. Unlike bilateral agreements or treaties, which may be negotiated from a position of disadvantage, arbitrations represent (at least nominally) independent, apolitical assessments of parties' relative interests. As a result, third parties seeking to discourage conflict are more likely to have a just and consistent basis on which to intervene on the basis of a refusal to adhere to an arbitral award, rather than withdrawal from a bilateral treaty. This also enables parties to achieve the objective of being bound by an agreement more uniformly, achieving the objective originally described by Shannon & Gent. They may do so by seeking unconditional guarantees to compliance with the arbitration before it is made, with sanctions and other triggers applying to any non-compliance. Third parties seeking regional stability may therefore support the peaceful resolution of a dispute without becoming embroiled in a conflict or making determinations as to the ultimate

worthiness of each side's claims. This approach mirrors the approach to enforcement of private arbitrations under the UNCITRAL convention and treaties, through which courts of each country will automatically enforce arbitrations carried out in any member state, save where certain exceptions apply.

There are, therefore, sound reasons for promoting the use of arbitration as a mechanism for dispute resolution. However, to make it effective, one or more of the conditions described in the hypothesis must be modified – either arbitration must become more effective at binding parties to the outcomes reached, or the parties themselves must find arbitration preferable as a front-line method of dispute resolution, rather than simply as a tool for conflict management. This can be done either through a focus on enforceability, reputational consequences, domestic political expectations or perhaps through financial measures.

Conclusion

As a result of the above, I suggest that arbitration presently rarely occurs in territorial disputes save where the parties agree to it specifically, and do so on the basis of the de-escalation of the dispute. Indeed, the common factor across arbitration attempts is the agreement between the parties to refer the dispute to a third party for resolution. As Gent and Shannon argue, this has a number of functions, including providing political cover for the resolution of the dispute, such that governments have more flexibility. It also provides for a mechanism through which conflicts can be depoliticised, and left to experts.

However, this raises the real question as to when the dispute is actually being resolved. Perhaps, formally, the dispute is only resolved once a decision has been handed down by the arbitrators? In real terms, both sides are likely to continue to make vociferous submissions until such time as it is no longer possible to do so. Arbitration panels can take years to reach a determination, and as such the dispute is unresolved until that time. As such, data-sets have continued to classify arbitration as the process through which disputes are resolved.

However, close analysis of this postulate raises serious questions as to its validity. Whilst the dispute may *formally* be ongoing, the move from political to legal is a fundamental transformation of the dispute itself, such that it is now, by definition, soluble and based on

legal, not political, positioning. It is very much a different dispute. However, more importantly, the parties themselves have effectively come to an agreement, through which the nature of dispute, the resources that can be used to prosecute the dispute and the principal considerations on which the dispute will be resolved are all different. This all results from an agreement between the parties – and agreement which, far more than the actions of the arbitrator, has settled the majority of the challenge between the nations involved. As such, *reaching the agreement to arbitrate* appears to be both the primary challenge in conflict resolution by arbitration, and also a better point of analysis for determining when a dispute has ended.

Consequently, the existing body of cases of territorial, maritime and riparian arbitrations do not necessarily provide many instances of the arbitration award itself resolving the same conflict that began the dispute. Rather, the willingness of the parties to negotiate an arbitration agreement, the process of negotiating an arbitration agreement and the reduction of the conflict to specific issues have the effect of both transforming the conflict from an active political dispute to a largely technical one, but also reducing the dispute to a largely conflict management exercise.

Section 7: Conclusion and Further Pathways for Research

Summary of ICOW Data Outcomes and Conclusions

On the basis of the ICOW data and existing literature, it is clear that arbitration is a relatively rarely used method of dispute resolution, accounting for less than 1% of international dispute resolution attempts. However, at the same time, arbitration is recorded as being remarkably successful at resolving conflicts, in that almost every single arbitration is recorded as achieving a resolution of a dispute. As extracted in Sections 2, 3 and 4, arbitrations out-perform the mean and median results of other methods of dispute resolution in avoidance of subsequent escalation, subsequent loss-of-life, recidivism and, crucially, offer relative confidence in outcomes, with consistent results in the time taken for the arbitration to render a verdict and hence, nominally, 'resolve' the dispute. On the basis of the ICOW data, the processes of

(a) Transforming a conflict from a political dispute to a legal dispute resolved by arbitration (legalization);
(b) From the outset approaching a conflict through legal mechanisms only; or
(c) Commencing arbitration during the course of a conflict

all result in demonstrably superior outcomes in terms of expected 'returns on investment.' Inferentially, given the costs of war or sanctions compared to the costs of legal dispute resolution, arbitration also represents a materially advantageous approach to resolving conflicts.

Dissonance Between Use-Cases and Results

However, there is an obvious dissonance between the relatively rare use of arbitration on the one hand, and its ostensible record of performance and stated desire of countries to resolve disputes peacefully, speedily and in accordance with established international principles on the other. Accordingly, I have conducted and demonstrated that the ostensible results and performance of arbitration differ substantially. Based on a detailed analysis of arbitration cases, the ICOW data and broader principles of international order, and as set out in the results contained in sections 2-6, I conclude that there are structural and practical limitations to the genuineness of the supposedly highly successful results of territorial arbitration. These arise from the atypical nature of the cases selected for arbitration, as well as key difficulties in the

metric of success as applied to arbitration. Accordingly, the ostensible success-rates of arbitration are effected by:

(a) The performance-metric of arbitration;
(b) The use of arbitration primarily by joint consent;
(c) The structural capacity of arbitration to resolve truly 'difficult' cases limiting the cases in which it can be proffered to parties; and
(d) The existence of prior arbitration agreements creating principles for international engagement.

A. The performance-metric of arbitration

In Section 2, I considered the actual methods used to measure 'success' in the ICOW database. Chiefly, the rate at which agreement was reached ('agree' and 'agreeall') was used as the metric for the resolution of a conflict. As noted there, this represents a serious deficiency, because the rendering of an arbitral award is defined as the reaching of an agreement. Whilst the reaching of an agreement directly between parties may be a strong indicator of success, the making of an award by a third-party is not necessarily a good indicator of success for a number of reasons, most importantly that the parties may decide themselves not to accept the decision! An in-principle willingness to abide by a process is not equivalent to abiding by the process. This is demonstrable through the cases, noted above, where arbitrations were not ratified, where the arbitrator was accused of bias or where one or more parties simply failed to act on the orders made by the arbitrator. As such, arbitration represents a data-anomaly, with a higher rate of notional performance than is justifiable.

B. The use of arbitration primarily by joint consent

A second challenge in the analysis of arbitration's relative performance is determining the degree to which arbitration cases are 'like' cases. If the cases in which arbitration is deployed represent a materially different set of circumstances, this may both limit the degree to which knowledge obtained in one case applies to others, but may also indicate that the methodology used is not a materially significant factor on the outcome achieved. In particular, the challenge in assessing arbitration's performance is that, unlike other processes, arbitration requires

consent between the parties to occur. Non-peaceful methods obviously do not represent consensual processes. However, mediation, good offices and bilateral negotiations do not represent an agreement to be bound by the outcome of a process up until the end, where an outcome acceptable to both (or more) parties is reached. Thus the incentive and process, as set out in Sections 2, 4 and 5, for entering into arbitration, is a belief that the process represents either a pathway to a better outcome, or that there is some other basis for wishing to surrender control of the process. The cases and circumstances in which there is either a mutual belief of legal right, a mutual conflict-exhaustion or some other consonance of the factors set out above is relatively rare. This *may* explain both the limited use-case of arbitration, or the high rate of achievement of stable resolution, or both.

C. The structural capacity of arbitration to resolve truly 'difficult' cases limiting the cases in which it can be proffered to parties

As set out in Sections 2, 3 and 4, there are a number of measures which may reflect the difficulty of particular cases and/or particular times within the life-span of a conflict in which to resolve it. In line with the literature, factors indicating greater 'difficulty' to resolve, or to resolve without escalation, include long-running conflicts, conflicts where there have been repeated failures of dispute resolution attempts, disputes that involve MIDs and disputes where parties have not complied with past agreements ('ratfail' variable.) On most of the measures set out, arbitration has been employed in slightly more 'difficult' cases than the mean within the ICOW database. This is a significant factor in favour of an assessment of arbitration as a 'front-line' method of dispute resolution, with a superior level of performance in resolving 'hard' cases.

However, as noted, there is an important corollary in that arbitration is not an available method for many conflicts. Arbitration, inherently, requires that there be available legal principles or law on which to base a determination. The alternative, that the parties simply select a third-party to make an arbitrary decision, is notionally feasible but has almost never been employed, for obvious reasons. As such, an important consideration that cannot be resolved by the ICOW data is whether cases that are arbitrable are 'easier' to resolve than cases that do not have an available legal framework through which the parties can pursue arbitration. This is a pathway for further research.

D. The existence of prior arbitration agreements creating principles for international engagement

As a further corollary, arbitrations within the ICOW data-set include a substantial number (approximately half) in which prior agreements created a framework for arbitrating the conflict. In almost all instance, a further agreement covering the particulars of the arbitration was executed between the parties. These results were obtained, as indicated in Section 2, by specific case-research attendant to each result in the ICOW data.

Arguably, the existence of agreements which provide a framework through which a dispute will be resolved represent a substantial difference in the nature of the difficulty to be resolved between the parties. Unlike many international conflicts, a framework exists. Much of the hard work needed to bring the parties to the table has already been done, before the dispute process has been initiated.

However, there is ample evidence that arbitration itself resolves conflicts irrespective of whether a prior agreement existed. This is because, on average, arbitration is only employed after the 7th prior conflict resolution attempt, as noted above. As a result, what is indeterminable is the degree to which disputes with prior arbitration agreements represent a 'special case,' or whether the existence of prior disputes is typical of other conflicts.

Outcomes- Is Arbitration Genuinely Successful in Resolving Territorial Disputes?

Despite the caveats listed above, arbitration is, in the instances in which it is employed, highly successful at resolving disputes. Whilst there are arguments that can be made, results set out in sections 3-5 show arbitration consistently outperforming other methods of resolution in both 'easy' and 'hard' cases. Whilst the performance of arbitration in 'hard' cases could arguably be elevated as a result on the uniqueness of the cases, the rate of resolution of 'easy' cases is also superior. As such, compared to other methods of dispute resolution for conflicts that would be of similar 'difficulty' in resolving for any method of disputes, arbitration outperforms other methods of dispute resolution in leading to the end of conflicts, the compliance with agreements to resolve conflicts, the avoidance of future dispute between the same parties over the same or similar issues and, critically, the ratification of dispute-resolution outcomes by respective

polities. Arbitration is materially and unquestionably, where employed, effective and efficient as a method of dispute resolution in the cases where it is employed.

However, the challenge for any researcher, as well as for Conflict Resolution Practitioners, is determining the use-case for arbitration in future. Would arbitration be successful if used in more cases? In different kinds of scenarios? In different timings within conflicts? Whilst there is substantial research (Bercovitch & Houston, 1996) into the timing of mediation and intervention, there is no research into the timing of arbitration or of attempts to arbitrate. There are not enough 'failures' within the arbitration data contained in the ICOW data-set to date to allow for a material assessment of whether arbitration would be as effective with earlier interventions, or with later interventions. Similarly, the data, which is not coded to consider the questions of legality, enforceability or other questions of law or international politics, does not allow for the useful assessment of other cases which were not arbitrated but would meet the arbitral criteria as set out above.

What is clear, though, is that there are several fundamental pre-conditions for the use of arbitration success which prevent it from being a 'front-line' dispute resolution method. These, as set out earlier in this thesis, critically include the prior attempt at bilateral or multilateral negotiation, the entry into an agreement to arbitrate the dispute, the formalization of the arbitration agreement (usually in the form of a treaty), the reduction of the dispute to technical or legal matters capable of resolution by a judicial approach and the use of a sufficiently trusted neutral body or third party to render an award. These are, in my view, evidence of conflict management techniques as opposed to front-line conflict reduction, stabilisation or resolution approaches. Put simply, arbitration does not have a record of stopping the guns, but of allowing a resolution to be developed once both parties have reached a willingness to negotiate. Arbitration is therefore being employed, and having remarkable success, in cases where the parties have some combination of:

i. having reached an in-principles agreement to resolve the conflict,
ii. are able to reduce the issues between them to territorial rather than political principles,
iii. have lost the willingness to prosecute the conflict in the previous manner (conflict exhaustion),

iv. are party to a prior treaty pursuant to which arbitration is a previously mandated method of resolving the dispute, or
v. attach relatively little importance to the resolution of the dispute.

In those circumstances, the demonstrated use-case for arbitration of territorial disputes is both limited and, as a result, justifies the relatively minor extent of its employment to date in the settling of territorial, river and maritime disputes.

Is Arbitration Effective and/ or Efficient?

Given the above use-case for arbitration, a central question for Conflict Resolution Practitioners remains whether to attempt to employ arbitration as opposed to other methods of dispute resolution in the case of each conflict. As noted previously, the measures, and notions, of efficiency and effectiveness, to the degree that they have been measured, have been almost entirely agnostic to the interests of the parties. By disregarding the relative interests of parties in dispute resolution, in their willingness to dedicate different kinds of resources to the resolution of disputes including by force, their differing political interests and principles, existing approaches to the measurement of arbitration outcomes have been, at best, limited in their ability to explain party-behaviours, including the willingness to arbitrate and the willingness to comply with arbitration awards. This has further reduced the accuracy with which it is possible to assess the appropriateness of the existing use of arbitration.

Using the existing ICOW data, I have measured the effectiveness of arbitration at producing a range of outcomes, including achievement of resolution, speed, consistency, compliance and employment in 'difficult' cases. On each of these measures, arbitration compares favourably to other methods of dispute resolution. On that basis, assessed from the perspective of willing interveners into territorial disputes, where arbitration is an option on the basis of the factors identified above, it represents the probabilistically 'best' option for achieving a resolution which avoids escalation, will most likely be complied with and, ultimately, will be able to be enforced with clarity by third parties. Given the opportunity cost inherent in each attempt at resolution and the threat of escalation associated with repeated failures of arbitration attempts, interveners would do well to give strong consideration to arbitration, perhaps to a greater extent than appears to occur on the basis of the data available.

However, this is, in my view and on the basis of the results shown in Section 5, an approach which fails to model the real-world behaviour and interests of participants in international territorial, maritime and riparian disputes. The interests of parties are not identical, nor is their relative evaluation of different forms of capital. Different resources which countries and regimes are willing to 'spend' in differing degrees include economic resources, territory, international prestige, compliance with international law, compliance with municipal law and a raft of other factors set out in Section 5.

Whilst it is well beyond the ambit of this research to attempt to develop methods of assessing the comparative values given by different regimes to different resources, or even to attempt to create a comprehensive list of such resources, it is clear that this kind of approach is critical to the greater understanding of the impact, use-case and prospects of international arbitration in territorial disputes for three reasons.

Firstly, absent a party-centric model of assessment of interests, the reasons for the success or failure of particular arbitration-attempts (or the failure of the parties to agree to arbitrate in the first-place) cannot be thoroughly understood. Arbitration, inherently, involves a relative transformation in the comparative power of different forms of capital, from power whether economic, military, political or cultural – to legal claim pursuant to applicable principles of international law or contract. The degree to which a party is willing to expend any of those resources must be weighed up against the relative cost and strength of its position at arbitration. As such, for instance, there should be little expectation of rogue states arbitrating compliance with, for instance, the Nuclear Non-Proliferation Treaty. A globalist, rather than party-centric, analysis of efficiency of conflict resolution approaches results in a false and excessively limited assessment of the performance of arbitration.

Secondly, a party-centric analysis of efficiency of arbitration has the prospect of allowing a better design of arbitration rules and procedures. It is beyond the ambit of this research to consider the rules of procedure in use in each arbitration, though these are sharply varied and have been considered in the context of the agreements to arbitrate. However, if, as considered in Section 5, one party favours delay and this is a major stumbling-block in achieving agreement to enter into a binding framework, the design of the arbitration framework can include significant lead-times as a method of providing the parties with a degree of certainty.

Similarly, if international prestige is an issue, arbitration may be conducted confidentially. The same principle applies to situations in which there is real concern about a willingness by one party to escalate and use military force to achieve an outcome that it considers satisfactory. In order to make arbitration effective in such instances, it may be necessary, for instance, to seek to adopt the 'guarantor' approach to (Kagan, 2007) arbitration, to present the approach through particular international bodies or, conversely, to move from pure bilateral to triadic approaches to conflict resolution. As noted in Section 5, the involvement of third-parties in arbitration is a significant indicator of success.

Thirdly, the development of a party-centric approach to the evaluation of the efficiency of arbitration allows for arbitrators themselves to generate more durable solutions to dispute resolution. Whilst a classic arbitration does not provide the arbitrators with the lee-way to develop solutions other than the application of the relevant law or principles, historically arbitrations have frequently resulted in outcomes that reflect the political as well as geographical elements of a dispute. Similarly, the process of arbitration can also include mediation-arbitration processes. The mediation-arbitration model has the capacity to develop into new areas of efficient resolution, with agreement made in the shadow of the law a staple of municipal dispute resolution. This is beyond the purview of this thesis.

For the reasons above, I conclude that, whilst arbitration can be shown, on a range of measures, to be more effective at reaching durable outcomes, it is a misnomer to describe it as efficient without a proper frame of reference. The correct frame of reference in measuring efficiency should be purely with reference to the parties to the dispute. The parties to the dispute include both the actual disputants and third party interveners. The goals of parties, their relative evaluation of different resources and their consequent consideration of comparative 'costs' of different processes must be considered when determining whether arbitration is efficient and hence is the method of conflict resolution to be preferred.

Are Territorial, Maritime and Riparian Disputes and Arbitrations Unique? To What Degree are the Findings and Approaches Identified Applicable to Other Forms of Arbitration or Other Subject Matters?

In Section 6, I considered several other areas within international disputes in which arbitration is employed. These included both disputes between states and disputes between non-state actors which required the involvement of state entities in order to reach resolution and to enforce the outcomes. Amongst the areas of focus were the use of the World Trade Organization dispute settlement processes and the UNCITRAL system of parallel recognition and enforcement of arbitrations across international boundaries and borders. Both systems, on the available data, are highly successful in resolving disputes, producing binding rulings that are enforced and, arguably, in altering conduct of parties who such that they less likely to commit breaches of rules in the knowledge that enforcement action is likely and relatively efficient. At the heart of both systems are:

(a) the expectation of reciprocal enforcement by third parties;
(b) the use of massively multilateral treaties;
(c) an agreement as to the form and nature of dispute resolution processes entered into before the particular dispute arises;
(d) common and detailed rules of procedure; and
(e) a common interest in the subject matter of the dispute amongst other members of the treaty.

Comparison of territorial arbitration and other forms of arbitration shows that territorial dispute resolution is not unique in all respects. Indeed, the same arbitral bodies- the International Court of Justice the Tribunal on the Law of the Sea and others- have rendered awards in both territorial and other disputes. However, as identified in Section 6, the results and factors that have encouraged the success of WTO and UNCITRAL dispute resolution are only partially replicable in territorial arbitration.

In particular, whilst it is possible to create massively multilateral treaties or even regional treaties for the resolution of territorial disputes, these are far more difficult than the resolution of trade disputes or the enforcement of contracts. On the one hand, there is no common law that governs all territorial disputes.[14] As noted, for instance, many South American border

[14] This is not to suggest that there is no common, jus cogens law of international territorial disputes. See, for instance, Crawford, J *Brownlie's Principles Of Public International Law*, Oxford University Press 8th ed, and in particular Part III for a fuller discussion. (Crawford, 2012). The principles of territorial acquisition are in some instances relatively clear, such as *terra nullius.* However, the resolution of competing territorial claims is a nascent and conflicted area of law.

disputes arise out of treaties between former colonial powers, or determinations of successive Spanish regimes. As such, the nature of a multilateral treaty would be more likely to be an enforcement agreement, rather than a genuine agreement on principles of territorial claims. Indeed, whilst there are 107 treaties registered with the United Nations referring to territorial claims relatively few of these are multilateral- only 11 territorial treaties are open to more than 2 parties. An extract of UN territorial treaties comprises Appendix F. Enforcement of international agreements has a chequered history, with international law often honoured more in the breach than in performance. For arbitration pursuant to a treaty to be truly effective and binding, an inherent requirement is that a refusal to arbitrate in accordance with the agreement carries material consequences. This, on the current state of international order, cannot be reasonably assured as a consistent outcome except where countries have an interest in the subject matter of the arbitration, or in the maintenance of a genuinely consistent trade framework.

Unlike territorial disputes, trade disputes reflect quantifiable claims. As such, compensation in financial terms can be assessed for breaches of GATT obligations. The WTO process contains provision for the imposition of sanctions which are compensatory in nature. This is a sharp contrast from the goals of sanction in territorial disputes. This is well illustrated by the current American sanctions against Russia for its annexation of Ukrainian territory. (United States Department of the Treasury- Office of Foreign Assets Control, 2016). Sanctions are inherently punitive. As such, predetermination of the quantum and nature of sanctions would create a disincentive to countries to actually comply with rulings- in many cases the sanctions would present a known alternative to a possibly less-preferable outcome. The relative usefulness of sanctions in compelling compliance with territorial obligations is perhaps best illustrated by the fact that, at present, the Russian sanctions are the only sanctions for territorial violation currently operative by the United States, despite the existence of numerous unresolved disputes in the ICOW database. (United States Department of the Treasury, 2016) Accordingly, in material respects including the willingness to enforce consequences and the inherently bilateral nature of territorial disputes, territorial conflicts represent a significant departure from trade disputes, such that the outcomes are not readily replicable.

Achieving consistent success for territorial arbitration- framework conditions

What, then, are the mechanisms which would result in the most effective and consistent outcomes? On the basis of the ICOW data analysis, the framework results in other areas of international disputes, the historical research and the case-study analyses conducted, I suggest that there are a number of approaches that can be taken so as to increase the effectiveness of arbitration of international disputes broadly, and territorial, maritime and riparian disputes in particular. In the first instance, these are emergent from the underlying causes of weakness of international order and international law- the lack of consistent enforcement regimens and the lack of clarity as to international law itself insofar as the methods of dispute resolution are concerned. (Abbott, et al., 2001) In the second instance, these emerge from a recognition that arbitration, like judicial decision-making, represents part of a framework of dispute resolution that includes negotiation and mediation, with the parties presumed able to achieve more mutually beneficial outcomes where they are able to design mutually acceptable solutions, rather than being bound by solutions imposed by courts following principles of law, rather than political or national interests.

Treaties

The implementation of massively multilateral and regional treaties has a demonstrable impact on the use of different dispute resolution methods and the outcomes achieved. As noted in Sections 2 and 3, the outcomes and use of arbitration are strongly correlated with the development of arbitration treaties between parties. However, if treaties providing for arbitration exist event before disputes arise- such as a general treaty to arbitrate disputes between parties- the choice-of-forum (and the related challenge of exercise of political power versus legal claims) questions simply do not arise. The prior agreement to arbitrate means that, so long as the treaty is expected to be enforced, the sole method of analysis of the prospects of claims will be the legal standing of the respecting parties.

As noted above, there is a significant body of evidence that shows that triadic negotiation by powerful local actors (or actors willing to act locally) is the most effective method of achieving binding outcomes through mediation. I suggest that, on the basis of the outcomes in Sections 2-5, a similar set of results can be expected where arbitration obligations are employed pursuant to treaty obligations. Indeed, the relative success of regional treaties in guaranteeing territorial norms is supported by further research by Hensel, Alison and Khanani (Hensel, et al., 2009) who provide an extensive analysis of a broader impact of the development of international

norms of territorial non-acquisition.[15] As such, the use of treaties to provide for a prior structure for dispute resolution provides for a better set of likely outcomes, as well as decreasing the prospects of non-compliance. The use of regional treaties also offers a greater expectation that other signatories will enforce the conditions of the treaty. This arises because of a greater demonstrable and construed relevance of the outcome to all parties. Thus multilateral regional guarantees of territorial integrity offer a better prospect of compliance- and of confidence in compliance- than global treaties.

Given the role that arbitration is shown to have, to date, as a method of dispute resolution it is best employed after attempts at mediation and negotiation, I suggest that any treaty adopted to maximise the impact of arbitration should use arbitration as a method of second resort. Thus, for instance, after a dispute is formally initiated by a party serving notice and attempting to negotiate, and after attempt/s at negotiation, either party would be entitled to initiate compulsory arbitration of the conflict. This mirrors the approach in the WTO. It also indicates the potential value of conciliation, with the conciliator given the power to terminate the process and refer the matter for mandatory arbitration.

Timing

As noted in Sections 2 and 3, there is little research to indicate the optimal timing for arbitration. This contrasts with mediation, where there is a wealth of research. Whilst there is much consideration of timing in offers to mediate, this is not an area which has been extensively explored or in which the ICOW data offers concrete indications of ideal timing for arbitration.

There are, however, several important contra-indicators for the use of arbitration. These arise from the legal nature of the process and its relative formality. In the first instance, arbitration demonstrably works best where the parties are able to engage sufficiently with each other to produce a list of issues and a framework for arbitrating. This may be a precondition for arbitration, as the parties must raise issues and respond to the assertions of the other parties. As a result, arbitration is functionally contra-indicated where the dispute is too early to be able to be defined by the parties. Secondly, the use of arbitration results primarily once the parties have

[15] It is worth noting that the analysis presented by Hensel et al does not differentiate between global and local treaties explicitly. However, within the article, they cite as *ineffective* (having a $p<0.001$) a range of global treaties, such as the League of nations, whilst listing the Andean Community and African Union treaties as being highly successful. This mirrors Bercovitch's results with mediation, where the identity of the mediating *body* represents a key determinant in the success of the mediation.

been able to meet and reach an agreement to arbitrate. This indicates that arbitration is likely to be more successful- and feasible- where it follows attempts at mediation, including with third-party involvement in good offices capacity. A pathway for further research would include considering the impact of defined windows in which to mediate before automatic referral to arbitration. This is beyond the purview of this thesis.

An additional factor in timing is connected to the level of hostility or MID's occurring at the time of the dispute resolution attempt. There is no significant body of data on the use of arbitration during ongoing militarized disputes. There is no data to support the use of arbitration to achieve ceasefires, to prevent ongoing violence or otherwise to act as an acute conflict management process. Arbitration has no record of being successful in such instances, and as such, I suggest that the use-case for arbitration remains primarily following an agreement to de-escalate, in cases where hostilities are not operative and in cases of conflict exhaustion. Arbitration may also be useful in earlier interventions prior to the development of hostilities as indicated in Sections 3 and 4. As such, the timing of effective arbitration involves the avoidance of actual military conflict.

Use Case

As outlined above, arbitration's use is preconditioned on the arbitrability of the dispute. The arbitrability of disputes can rarely be expanded by the consent of parties once the dispute is operative, as to do so is generally tantamount to one party surrendering the case by establishing a legal matrix that is unfavourable to it. As such, the most fundamental limitation to the use-case for arbitration remains the existence of clear principles on which the dispute can be determined. A significant research task for future efforts is to attempt to understand whether there is a genuine correlation between certainty of international law and the willingness of *all* the parties to use arbitration as a method of resolving the dispute. However, it is clear that arbitration, like all other methods of dispute resolution is likely to be most successful when used in the right circumstances. On the conclusions reached in this thesis, there is a broader use-case for arbitration than has been currently applied. However, the basic use-case for arbitration is one where the dispute has a legal basis, where the parties are willing to be bound to a third party's determination and where the parties are able to articulate the actual issues in dispute.

Final Analysis- What is the Impact of the Legalization of Territorial, Maritime and Riparian Disputes?

Legalisation, as a concept, involves the transformation of a conflict from a dispute resolved in the political realm to one where there are certain rules for its determination. (Abbott, et al., 2001) The impact of transforming the framework through which a conflict is addressed from one without rules to one with rules is therefore potentially very significant. Legalisation in practice has been shown to have specific outcome that are measurable, demonstrable and useful, as well as other consequences that are substantive.

Disputes are More Likely to be Meaningfully Resolved and Stay Resolved Through the Arbitration Paradigm

Once disputes enter the realm of arbitration, they typically remain there. Disputes are unlikely to involve subsequent MID's. Disputes that are referred to arbitration are likely to be resolved by an agreement which both sides are likely to abide by. Disputes addressed by arbitration are likely to be resolved peacefully, or at least with no further violence. The outcomes and the forms of resolution are likely to be more stable, with maps drawn by experts, rather than on purely political lines.

Nature of Conflict May be Transformed

In the case of disputes involving territory, high salience levels and elements such as national pride may impact on the resolution of the dispute. However, the use of arbitration, and the process of getting to an arbitration, may involve a transformation of the essential feature of the conflict from one about political interests, national pride, fatalities and ongoing escalation to largely technical questions of boundaries, treaty interpretation and entitlements. The shift to arbitration may also change the power factors involved in the conflict, such that the relative political, economic and military strengths of the participants are far less relevant than before, with the principal question being legal rights and entitlements.

Legalisation May Be Successful Because it Transforms Disputes from Resolution Exercises to Conflict Management Exercises, or Often the Apparently Successful Resolution May be an Artefact of Conflict Management Attempts

Based, on the available data, it is not possible to determine, in many instances, whether the success of arbitration is as a result of the arbitration itself, or the preparatory negotiation and reduction of issues consequent to the achievement of an arbitration agreement. In many instances, the process of 'agreeing to arbitrate' itself may result in the 'difficult' elements of the conflict- the lack of trust, levels of hostility, domestic political interests and lack of framework on which to resolve- being solved. Thus the arbitration itself is a technical process of conflict management, with the specific outcomes of less interest than achievement of an outcome within a range of possibilities. Again, on the available data, the ultimate contribution of arbitration itself or the pre-arbitral process cannot be meaningfully differentiated.

Further Pathways for Future Research

As outcomes of this research, a number of further pathways for research emerge.

Expansion of ICOW Data-Set

As set out above, the principal source of material for this research is the ICOW data. At present, the ICOW data is being expanded to cover other areas the globe in the dyad-level data. This is a major project which will substantially enhance the utility of the data-set and avoid some of the limitations inherent in this research, including the questions of whether results from Europe and South America are applicable in a global context.

However, the ICOW data also has other limitations, particularly with regards to arbitration. At present, the number of fields covered by the ICOW data that relate to arbitration is minimal. There is no data on the composition of the tribunal, whether the award was made unanimously or by majority, whether the award was accepted or even whether both parties participated in the arbitration. These are all important factors for consideration in attempt in to understand whether the process of arbitration itself has any impact on the subsequent adherence to awards or rulings. Similarly, there is at present no research into the nature of preliminary agreements to arbitrate, and the impact that these have on the ultimate dispute outcome. Much of the data-

gathering necessary for this inclusion has been undertaken in the course of this thesis. I humbly commend Table 33 of this thesis as a starting point for that process.

In addition, it is critical that the ICOW data be able to track the nature of changes to a conflict as well as the attempts to resolve it. A dispute that escalates militarily can also involve changes as to what the core issues for resolution actually are. In many instance ranging from the American War of Independence to the Arab Spring, the initial catalysts for conflict are soon forgotten in the course of ongoing escalation and hostile acts. In some instances, the breach may itself become more politically difficult to resolve than the original conflict. Whilst there is research by Bercovitch and others into the consequences and timing of failed attempts (Bercovitch & Fretter, 2007) (Bercovitch & Houston, 1996), this is a far cry from the existence within the data of any material to track the changes in issues involved in the same conflict. This is materially important in determining whether different dispute resolution methods are indeed effective or efficient in like circumstances.

Inclusion of Source Material in the Data-Set

Importantly, the ICOW data, as a data-set is a concise reduction of enormous quantities of data. This is practical and important work, particularly in that it enables consideration of cases in further detail as is appropriate, review of arbitration treaties and the development of collateral data-sets. Whilst the creation of data-sets of the ICOW type is a massive undertaking, the ease with which data can be stored and the nature of the ICOW source-material mean that a modern data-set can easily include access to such materials. A good example of a trend in this direction is Bercovitch, Ockey and Talib's Asia-Pacific Conflict and Peace-building database (University of Canterbury, 2013)) and, to a nascent degree, the attempts-list contained in the Bercovitch International Conflict Management (ICM) Dataset.

Importantly, the inclusion of source data, including such elements as the news reports of the negotiations regarding arbitrations or conflict resolution attempts and the exchange of materials between the parties will allow for the development of more extensive analysis of the impacts of 'interlocutory' or interim processes on the outcome of conflicts. This, as much as timing, party identity and political force, may influence the success of conflict resolution attempts, but is an almost entirely unstudied area.

How do we Differentiate Arbitration and Pre-Arbitration Processes- Laboratory and Historical Analysis

This, in my view, is the area where the greatest rapid potential for an increase in the understanding of arbitration's impact on the resolution of conflicts can be made. As noted above, the legalisation of conflicts is a dramatic change, not only in the force-related elements of conflict's balance of power, but of the attitude and tools that can be employed by the parties. Large-scale laboratory testing of this impact can be undertaken, for instance by taking participants through various stages of the negotiation of a dispute through to arbitration- initial exchange of demands, agreed statement of facts, arbitration agreement etc- and considering whether the parties are closer to agreement.

At present, there is no data within the ICOW data-set about *offers* of arbitration, or *offers* of mediation. Settlement attempts that do not extend past the making of an offer by a third party are not analysed in any depth. By contrast, the Bercovitch data-set, whilst nascent, does provide some data on armed disputes about offers of assistance in reaching a resolution. By extending this data, it may be possible to gain much greater insight into the life-cycle of an international arbitration. Whilst there is some research (Cheldelin, et al., 2008) into the lifecycle of international mediations, as well as significant research into the timing of mediation attempts, arbitrations have largely been looked at as monolithic processes, rather than modular ones. This can be contrasted to commercial arbitrations, including ones under international law, where settlement and each stage of the process are the subject of separate research and analysis. (United Nations Conference on Trade and Development, 2005).

Development of Party-Centric Relative Efficiency Index

As detailed above, there is an enormous potential to reframe our approach to international conflict resolution generally, by moving towards a party-centric analysis of the value of different dispute resolution methods, based on the costs, certainty and likely outcomes of the dispute resolution process. In particular, there is substantial value in being able to avoid the assumptions that all parties value such matters as loss of life, territory and compliance with international law in the same way, particularly when this is demonstrably not the case.

Understanding the value- and hence incentive- of different processes to different parties is critical in enabling third-party interveners to work towards achieving their desired outcomes, and in understanding the reasons for parties' behaviours in a range of processes.

In pursuin this approach, it is worth examining the results presented in Appendix D, which currently serve as a sample framework, in more detail, but also in the face of the pending further release of a revised ICOW data-set to include a further 15 years of data. This could allow for analysis both of region-centric indexes (which may provide a useful guide to the impact of different forms of government and other matters) and also to the degree to which arbitration, in the era of development of international law, is changing in efficiency. I suggest that the adjustment in boundary conditions may provide a fruitful pathway to further research in this regard.

Ultimately, the most useful research for the purpose of assisting practitioners of international conflict resolution as well as advising governments is one which will enable a detailed predictive model to be developed to indicate the prospects of different resolution processes of being successful *in achieving desired outcomes, **and** in avoiding the most undesirable of outcomes.* The development of an index coefficient for an attidunally attuned 'weighted return' from arbitration or other methods, and of sub-methods, offers great prospects and should be pursued.

Conclusion

There are many other avenues for further research which are open for study. Arbitration and legalisation of international disputes are nascent fields of study in international conflict resolution studies. This is understandable, given the relative paucity of incidents of usage. However, more than any other approach, arbitration, arguably, offers the potential for the stable resolution of conflicts without the prior escalation and challenges of politically-driven conflict resolution approaches. By selecting a method of resolution from the outset – arbitration, pursuant to detailed rules of procedure and legal principles, supported by massively multilateral treaties and mutual enforcement mechanisms – parties can potentially achieve greater certainty in the resolution of disputes and avoid disputes altogether. By contrast, parties wishing to avoid certain outcomes, to make use of their relative strengths, whether military or economic, would be well advised to study the consequences of legalising disputes. Parties may also gain

substantial insight into their opponents' interests and goals by understanding their willingness to arbitrate.

Consequently, whilst arbitration is, as yet, poorly understood and underutilised, with further research and the likely growth in popularity of binding dispute resolution, research into the impact of legalisation of international territorial, maritime and river disputes will become more valuable in the years to come.

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Appendix A: ICOW Variables- Settlement Attempts Subset

Variable Number	Variable Name	'Missing' a coded option? Y/N
1	issue	N
2	terriss	N
3	riveriss	N
4	mariss	N
5	region	N
6	claimdy	N
7	claim	N
8	dyadnum	N
9	Chal	N
10	Tgt	N
11	Dyad	Y
12	Settnump	Y
13	Settnumt	N
14	Begsett	N
15	Endsett	Y
16	Year	N
17	Yearend	Y
18	Durmid	N
19	Durfat	N
20	Durwar	N
21	Typeset	Y
22	typeset3	Y
23	Typeset	N
24	Bilat	N
25	nonbind3	N
26	binding3	N
27	Midiss	N
28	Typeact	Y
29	actor1	Y
30	actor2	Y
31	actor3	Y
32	actor4	Y
33	actor5	Y
34	actor6	Y
35	typeio3	Y
36	typeio5	Y
37	io	Y
38	ioreg	Y
39	ioglob	Y
40	ioacttype	Y
41	iobind	Y
42	ionon	Y
43	other3rd	Y
44	oth3bind	Y
45	oth3non	Y
46	extentsa	Y
47	extentsa3	Y
48	attfunc	Y
49	attproc	Y
50	attiss	Y
51	agree	Y
52	agreeall	Y
53	extentag	Y
54	extentag3	Y
55	agreefun	Y
56	agreepro	Y
57	agreeiss	Y
58	terrchag	Y
59	allocag	Y
60	marchag	Y
61	sqchgag	Y
62	concesag	Y
63	conceven	Y
64	conceslo	Y
65	conceshi	Y
66	concany	Y
67	concchal	Y
68	conctgt	Y
69	concstr3	Y
70	concstr1	Y
71	concwk3	Y
72	concwk1	Y
73	ratfailc	Y
74	ratfailt	Y
75	ratfail	Y
76	compchal	Y
77	comptgt	Y
78	comply2	Y
79	claimend	Y
80	clmendatt	Y
81	clmendma	Y
82	clmendall	Y
83	clmend2	Y
84	clmend5	Y
85	clmend10	Y
86	effect4	Y
87	effect3	Y
88	nomid5	Y
89	nomid10	Y
90	nomid15	Y
91	Mid	Y
92	Midhost	Y
93	Midwar	Y
94	Midfat	Y
95	Midfatany	Y
96	Midendiss	Y
97	Version	N

Appendix B: Further Tables

Table 82: Complete or partial end to claims by type of conflict resolution method employed

typeset3 * clmendatt Crosstabulation

			clmendatt			
			No Agreement or Contention Continued	Partial End to Claim	Complete End to Claim	Total
typeset3	Bilateral	Count	469	12	116	5
		% within typeset3	78.6%	2.0%	19.4%	100.
		% within clmendatt	75.4%	57.1%	58.9%	71.
		% of Total	55.8%	1.4%	13.8%	71.
	Non-Binding 3rd Party	Count	137	3	41	1
		% within typeset3	75.7%	1.7%	22.7%	100.
		% within clmendatt	22.0%	14.3%	20.8%	21.
		% of Total	16.3%	0.4%	4.9%	21.
	Binding 3rd Party	Count	16	6	40	
		% within typeset3	25.8%	9.7%	64.5%	100.
		% within clmendatt	2.6%	28.6%	20.3%	7.
		% of Total	1.9%	0.7%	4.8%	7.
Total		Count	622	21	197	8
		% within typeset3	74.0%	2.5%	23.5%	100.
		% within clmendatt	100.0%	100.0%	100.0%	100.
		% of Total	74.0%	2.5%	23.5%	100.

Appendix C: Effectiveness Index

Effect1

EffectAdvance	Effectiveness of Agreement in advancing the cause of resolution of the dispute, either through the resolution of the issue entirely or through the entry into an agreement that moves matters forward, such as by resulting in further meetings, procedural agreement, timetable to resolve the dispute or other procedural result	$pr(Agree = 1 \mid Typesett3 = S)$ S= type of dispute resolution attempt

agree * typeset3 Crosstabulation

			typeset3			
			Bilateral	Non-Binding 3rd Party Attempt	Binding 3rd Party Attempt	Total
agree	No	Count	496	238	7	741
		% within agree	66.9%	32.1%	0.9%	100.0%
		% within typeset3	43.1%	52.3%	10.1%	44.2%
		% of Total	29.6%	14.2%	0.4%	44.2%
	Yes	Count	655	217	62	934
		% within agree	70.1%	23.2%	6.6%	100.0%
		% within typeset3	56.9%	47.7%	89.9%	55.8%
		% of Total	39.1%	13.0%	3.7%	55.8%
Total		Count	1151	455	69	1675
		% within agree	68.7%	27.2%	4.1%	100.0%
		% within typeset3	100.0%	100.0%	100.0%	100.0%
		% of Total	68.7%	27.2%	4.1%	100.0%

Table 83 -– Crosstabulation Agree-Typesett3

EffectAdvance		
Bilateral	Non-Binding 3rd Party Attempt	Binding 3rd Party Attempt
0.56907	0.476923	0.898551

Table 85- EffectAdvance

Effect1B

EffectAdvanceAlt	Effectiveness of Agreement in advancing the cause of resolution of the dispute, either through the resolution of the issue entirely or through the entry into an agreement that moves matters forward, such as by resulting in further meetings, procedural agreement, timetable to resolve the dispute or other procedural result, based on all types of dispute resolution using Typesett variable	$pr(Agree = 1 \mid Typesett = S)$ S= type of dispute resolution attempt

agree * typesett Crosstabulation

			typesett									Total
			Bilateral	Good Offices	Inquiry or Conciliation	Mediation	Arbitration	Adjudication	Other third party settlement attempt	multilateral negotiation	Peace conference	
agree	No	Count	496	72	9	76	2	5	6	69	6	741
		% within agree	66.9%	9.7%	1.2%	10.3%	0.3%	0.7%	0.8%	9.3%	0.8%	100.0%
		% within typesett	43.1%	50.3%	52.9%	57.1%	5.3%	16.1%	54.5%	58.0%	18.8%	44.2%
		% of Total	29.6%	4.3%	0.5%	4.5%	0.1%	0.3%	0.4%	4.1%	0.4%	44.2%
	Yes	Count	655	71	8	57	36	26	5	50	26	934
		% within agree	70.1%	7.6%	0.9%	6.1%	3.9%	2.8%	0.5%	5.4%	2.8%	100.0%
		% within typesett	56.9%	49.7%	47.1%	42.9%	94.7%	83.9%	45.5%	42.0%	81.3%	55.8%
		% of Total	39.1%	4.2%	0.5%	3.4%	2.1%	1.6%	0.3%	3.0%	1.6%	55.8%
Total		Count	1151	143	17	133	38	31	11	119	32	1675
		% within agree	68.7%	8.5%	1.0%	7.9%	2.3%	1.9%	0.7%	7.1%	1.9%	100.0%
		% within typesett	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	68.7%	8.5%	1.0%	7.9%	2.3%	1.9%	0.7%	7.1%	1.9%	100.0%

Table 84: Crosstabulation Agree-Typesett

EffectAdvanceAlt								
Bilateral	Good Offices	Inquiry or Conciliation	Mediation	Arbitration	Adjudication	Other third party settlement attempt	multilateral negotiations	Peace conference
0.56907	0.496503	0.470588	0.428571	0.947368	0.83871	0.454545	0.420168	0.8125

Effect2

EffectRestraint	Effectiveness of the method of dispute resolution in prevention of further escalation of the dispute through subsequent militarized interstate dispute events	$pr(Nomid5 = 1 \mid Typesett3 = S)$ S= type of dispute resolution attempt

nomid5 * typeset3 Crosstabulation

			typeset3			
			Bilateral	Non-Binding 3rd Party Attempt	Binding 3rd Party Attempt	Total
nomid5	No	Count	191	108	7	306
		% within nomid5	62.4%	35.3%	2.3%	100.0%
		% within typeset3	18.0%	26.0%	10.4%	19.8%
		% of Total	12.4%	7.0%	.5%	19.8%
	Yes	Count	872	307	60	1239
		% within nomid5	70.4%	24.8%	4.8%	100.0%
		% within typeset3	82.0%	74.0%	89.6%	80.2%
		% of Total	56.4%	19.9%	3.9%	80.2%
Total		Count	1063	415	67	1545
		% within nomid5	68.8%	26.9%	4.3%	100.0%
		% within typeset3	100.0%	100.0%	100.0%	100.0%
		% of Total	68.8%	26.9%	4.3%	100.0%

Table 85 Crosstabulation No MID for 5 years from attempt and Typesett3

EffectRestraint		
Bilateral	Non-Binding 3rd Party Attempt	Binding 3rd Party Attempt
0.82032	0.739759	0.895522

Effect2B

EffectRestraintAlt	Effectiveness of the method of dispute resolution in prevention of further escalation of the dispute through subsequent militarized interstate dispute events using all dispute resolution methods under the typeset variable	$pr(Nomid5 = 1 \mid Typesett = S)$ S= type of dispute resolution attempt

nomid5 * typesett Crosstabulation

			typesett							
			Bilateral	Good Offices	Inquiry or Conciliation	Mediation	Arbitration	Adjudication	Other third party settlement attempt	mu neg
nomid5	No	Count	191	38	6	40	4	3	0	
		% within nomid5	62.4%	12.4%	2.0%	13.1%	1.3%	1.0%	0.0%	
		% within typesett	18.0%	31.4%	35.3%	31.3%	11.1%	9.7%	0.0%	
		% of Total	12.4%	2.5%	.4%	2.6%	.3%	.2%	0.0%	
	Yes	Count	872	83	11	88	32	28	7	
		% within nomid5	70.4%	6.7%	.9%	7.1%	2.6%	2.3%	.6%	
		% within typesett	82.0%	68.6%	64.7%	68.8%	88.9%	90.3%	100.0%	
		% of Total	56.4%	5.4%	.7%	5.7%	2.1%	1.8%	.5%	
Total		Count	1063	121	17	128	36	31	7	
		% within nomid5	68.8%	7.8%	1.1%	8.3%	2.3%	2.0%	.5%	
		% within typesett	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	
		% of Total	68.8%	7.8%	1.1%	8.3%	2.3%	2.0%	.5%	

EffectRestraintAlt								
Bilateral	Good Offices	Inquiry or Conciliation	Mediation	Arbitration	Adjudication	Other third party settlement attempt	multilateral negotiations	Peace conference
0.82032	0.68595	0.647059	0.6875	0.888889	0.903226	1	0.827273	0.84375

Effect4

EffectAgreeResolve	Effectiveness of the method of dispute resolution in the rendering of an agreement or award pursuant to which the parties bind themselves to resolve the dispute in question, whether the agreement is ultimately complied with or not	$pr(Agreeall = 1 \mid Typesett3 = S)$ S= type of dispute resolution attempt

agreeall * typeset3 Crosstabulation

			typeset3			
			Bilateral	Non-Binding 3rd Party Attempt	Binding 3rd Party Attempt	Total
agreeall	No	Count	58	36	0	94
		% within agreeall	61.7%	38.3%	0.0%	100.0%
		% within typeset3	8.9%	16.6%	0.0%	10.1%
		% of Total	6.2%	3.9%	0.0%	10.1%
	Yes	Count	597	181	62	840
		% within agreeall	71.1%	21.5%	7.4%	100.0%
		% within typeset3	91.1%	83.4%	100.0%	89.9%
		% of Total	63.9%	19.4%	6.6%	89.9%
Total		Count	655	217	62	934
		% within agreeall	70.1%	23.2%	6.6%	100.0%
		% within typeset3	100.0%	100.0%	100.0%	100.0%
		% of Total	70.1%	23.2%	6.6%	100.0%

Table 86- Agreeall Typesett3

EffectAgreeResolve		
Bilateral	Non-Binding 3rd Party Attempt	Binding 3rd Party Attempt
0.91145	0.834101	1

Effect4B

4B	EffectAgreeResolveAlt	Effectiveness of the method of dispute resolution in the rendering of an agreement or award pursuant to which the parties bind themselves to resolve the dispute in question, whether the agreement is ultimately complied with or not using all dispute resolution methods under the typeset variable	$pr(Agreeall = 1 \mid Typesett = S)$ S= type of dispute resolution attempt

agreeall * typesett Crosstabulation

			typesett						
			Bilateral	Good Offices	Inquiry or Conciliation	Mediation	Arbitration	Adjudication	Other third party settlement attempt
agreeall	No	Count	58	14	2	6	0	0	1
		% within agreeall	61.7%	14.9%	2.1%	6.4%	0.0%	0.0%	1.1%
		% within typesett	8.9%	19.7%	25.0%	10.5%	0.0%	0.0%	20.0%
		% of Total	6.2%	1.5%	.2%	.6%	0.0%	0.0%	.1%
	Yes	Count	597	57	6	51	36	26	4
		% within agreeall	71.1%	6.8%	.7%	6.1%	4.3%	3.1%	.5%
		% within typesett	91.1%	80.3%	75.0%	89.5%	100.0%	100.0%	80.0%
		% of Total	63.9%	6.1%	.6%	5.5%	3.9%	2.8%	.4%
Total		Count	655	71	8	57	36	26	5
		% within agreeall	70.1%	7.6%	.9%	6.1%	3.9%	2.8%	.5%
		% within typesett	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	70.1%	7.6%	.9%	6.1%	3.9%	2.8%	.5%

Table 87: Agreeall by Settlement Type

EffectAgreeResolveAlt								
Bilateral	Good Offices	Inquiry or Conciliation	Mediation	Arbitration	Adjudication	Other third party settlement attempt	multilateral negotiations	Peace conference
0.91145	0.802817	0.75	0.894737	1	1	0.8	0.82	0.846154

Effect5

5	EffectResolve	Effectiveness of the method of dispute resolution in actually resolving the dispute.	$pr(clmendall = 1 \mid Typesett3 = S)$ S= type of dispute resolution attempt

clmendall * typeset3 Crosstabulation

			typeset3			
			Bilateral	Non-Binding 3rd Party Attempt	Binding 3rd Party Attempt	Total
clmendall	.0	Count	539	175	22	736
		% within clmendall	73.2%	23.8%	3.0%	100.0%
		% within typeset3	82.3%	80.6%	35.5%	78.8%
		% of Total	57.7%	18.7%	2.4%	78.8%
	1.0	Count	116	42	40	198
		% within clmendall	58.6%	21.2%	20.2%	100.0%
		% within typeset3	17.7%	19.4%	64.5%	21.2%
		% of Total	12.4%	4.5%	4.3%	21.2%
Total		Count	655	217	62	934
		% within clmendall	70.1%	23.2%	6.6%	100.0%
		% within typeset3	100.0%	100.0%	100.0%	100.0%
		% of Total	70.1%	23.2%	6.6%	100.0%

Table 88: Claim Ended by Dispute Attempt by Settlement Attempt Type

EffectResolve

Bilateral	Non-Binding 3rd Party Attempt	Binding 3rd Party Attempt
0.177099	0.193548	0.645161

Effect6

EffectStrongConcession	Effectiveness of the method of dispute resolution in causing a stronger party to make a concession	$pr(\text{Concstr3} = 1 \mid Typesett3 = S)$ S= type of dispute resolution attempt

concstr3 * typeset3 Crosstabulation

			typeset3			
			Bilateral	Non-Binding 3rd Party Attempt	Binding 3rd Party Attempt	Total
concstr3	.0	Count	587	188	52	827
		% within concstr3	71.0%	22.7%	6.3%	100.0%
		% within typeset3	90.0%	89.1%	88.1%	89.7%
		% of Total	63.7%	20.4%	5.6%	89.7%
	1.0	Count	65	23	7	95
		% within concstr3	68.4%	24.2%	7.4%	100.0%
		% within typeset3	10.0%	10.9%	11.9%	10.3%
		% of Total	7.0%	2.5%	.8%	10.3%
Total		Count	652	211	59	922
		% within concstr3	70.7%	22.9%	6.4%	100.0%
		% within typeset3	100.0%	100.0%	100.0%	100.0%
		% of Total	70.7%	22.9%	6.4%	100.0%

Table 89: Concessions made by Stronger state by Settlement Type

EffectStrongConcession		
Bilateral	Non-Binding 3rd Party Attempt	Binding 3rd Party Attempt
0.099693	0.109005	0.118644

Effect7

EffectMajorConcession	Effectiveness of the method of dispute resolution in causing a major concessions to be made	$pr(conceshi = 1 \mid Typesett3 = S)$ S= type of dispute resolution attempt

conceshi * typeset3 Crosstabulation

			typeset3			
			Bilateral	Non-Binding 3rd Party Attempt	Binding 3rd Party Attempt	Total
conceshi	No	Count	584	196	35	815
		% within conceshi	71.7%	24.0%	4.3%	100.0%
		% within typeset3	89.2%	90.3%	56.5%	87.3%
		% of Total	62.5%	21.0%	3.7%	87.3%
	Yes	Count	71	21	27	119
		% within conceshi	59.7%	17.6%	22.7%	100.0%
		% within typeset3	10.8%	9.7%	43.5%	12.7%
		% of Total	7.6%	2.2%	2.9%	12.7%
Total		Count	655	217	62	934
		% within conceshi	70.1%	23.2%	6.6%	100.0%
		% within typeset3	100.0%	100.0%	100.0%	100.0%
		% of Total	70.1%	23.2%	6.6%	100.0%

EffectMajorConcession		
Bilateral	Non-Binding 3rd Party Attempt	Binding 3rd Party Attempt
0.108397	0.096774	0.435484

6			
7	EffectMajorConcession	Effectiveness of the method of dispute resolution in causing a major concessions to be made	$pr(conceshi = 1 \mid Typesett3 = S)$ S= type of dispute resolution attempt
8	EffectLength	Length of dispute resolution attempt	Duration|nTypesett3=S/(typeseet3= S) S=type of dispute resolution attempt Duration= yearend-year

Appendix D: Comparative Effectiveness Index

for Factors in Appendix C

Comparative Effectiveness Index

A comparative performance ranking for methods of conflict resolution is necessarily variable based on the degree to which each potential 'cost,' and the degree of predictability of outcome, is valued. As such the basic equations for calculating a 'comparative performance index' may be available and used with an added interquartile range analysis within each method to indicate the degree of confidence within each result.

1. Weighted Average Performance Ranking- Probability Based

Calculation:

For each 'method' (use 'Typesett3' sort to select cases by method)
N(x)= Measure Number (See Table 71)
W(x)= Measure Relative Importance- decimal, such that W((w)) = 1

Weighted Index Sample:

*(Pr(Agree=1)*W(1))*
+
*(Pr(Nomid5=1)*W(2))*
+
*(Pr(Agreeall=1)*W(4))*
+
*(Pr(clmendall=1)*W5)*
+
(pr(Concstr3=1) *W(6))
+
(Pr(conceshi=1)*W7)

Figure 15: Equation for Weighted Average Performance Ranknings

Results

Factor Name	Settlement Attempt Type		
	Bilateral	Non-Binding 3rd Party Attempt	Binding 3rd Party Attempt
Agree	0.569	0.477	0.899
Nomid5	0.82	0.74	0.896
Agreeall	0.911	0.834	1
Clmendall	0.177	0.194	0.645
Strong Concession	0.1	0.109	0.119

Major Concession	0.108	0.097	0.435

Table :- (Pr) Results by Method- Selected Appendix C Factors

Application

For the purposes of illustration, I assign an equal value of W to each factor. The following results are therefore obtained:

Unweighted Results

Factor Name	Settlement Attempt Type		
	Bilateral	Non-Binding 3rd Party Attempt	Binding 3rd Party Attempt
Agree	0.569	0.477	0.899
Nomid5	0.82	0.74	0.896
Agreeall	0.911	0.834	1
Clmendall	0.177	0.194	0.645
Strong Concession	0.1	0.109	0.119
Major Concession	0.108	0.097	0.435

Table 90: Unweighted Results

For the purposes of application, it is more useful to apply an equal weighting:

Sample: Equally Weighted Results for each Factor

Factor Name	Weighting	Weighted Results		
		Bilateral	Non-Binding 3rd Party Attempt	Binding 3rd Party Attempt
Agree	0.17	0.09673	0.08109	0.15283
Nomid5	0.17	0.1394	0.1258	0.15232
Agreeall	0.17	0.15487	0.14178	0.17
Clmendall	0.17	0.03009	0.03298	0.10965
Strong Concession	0.17	0.017	0.01853	0.02023
Major Concession	0.17	0.01836	0.01649	0.07395

I also propose weighting based on particular purposes, such as:

Table 91: Equally Weighted Results

Sample: Double Weighting for 'finality' factors ('Agreeall, Clmendall')

Factor Name	Weighting	Weighted Results		
		Bilateral	Non-Binding 3rd Party Attempt	Binding 3rd Party Attempt
Agree	0.125	0.071125	0.059625	0.112375
Nomid5	0.125	0.1025	0.0925	0.112
Agreeall	0.25	0.22775	0.2085	0.25
Clmendall	0.25	0.04425	0.0485	0.16125
Strong Concession	0.125	0.0125	0.013625	0.014875
Major Concession	0.125	0.0135	0.012125	0.054375

Table 92 - Finality Weighting

Sample: Triple Weighting for Concession by Stronger Power and Double Weighting for 'some progress' ('Agree*2, Stong Concession *3)

Factor Name	Weighting	Weighted Results		
		Bilateral	Non-Binding 3rd Party Attempt	Binding 3rd Party Attempt
Agree	0.22	0.12518	0.10494	0.19778
Nomid5	0.11	0.0902	0.0814	0.09856
Agreeall	0.11	0.10021	0.09174	0.11
Clmendall	0.11	0.01947	0.02134	0.07095
Strong Concession	0.33	0.033	0.03597	0.03927
Major Concession	0.11	0.01188	0.01067	0.04785

Table 93: Progress and Stronger Power Weighting

As seen below, the results show a clear preference on each proposed weighting for the use of binding arbitration. However, the margin and degree to which the results are of significance vary dramatically.

Weighting	Weighted Totals			Best Method
	Bilateral	Non-Binding 3rd Party Attempt	Binding 3rd Party Attempt	
Equal Weighting	0.45645	0.41667	0.67898	Binding 3rd Party Attempt

Finality Weighting'	0.471625	0.434875	0.704875	Binding 3rd Party Attempt
Strong Concession Weighting'	0.37994	0.34606	0.56441	Binding 3rd Party Attempt

Table 94: Weighted Totals

A further option is to consider the avoidance of escalation- Nomid5- as *vastly more* important that any other factor, such that a 50% weighting is applied:

Sample: 5 times weighting for avoidance of militarisation

Factor Name	Weighting	Weighted Results		
		Bilateral	Non-Binding 3rd Party Attempt	Binding 3rd Party Attempt
Agree	0.1	0.0569	0.0477	0.0899
Nomid5	0.5	0.41	0.37	0.448
Agreeall	0.1	0.0911	0.0834	0.1
Clmendall	0.1	0.0177	0.0194	0.0645
Strong Concession	0.1	0.01	0.0109	0.0119
Major Concession	0.1	0.0108	0.0097	0.0435
Weighted Totals		0.5965	0.5411	0.7578

Table 95: Avoidance of MID weighting

These results are illustrative only, as particular states may apply unique factors- the value of territory could be a factor, as could the level of loss of life.

Appendix E: Comparative Efficiency Index

This appendix contains the summary results for a series of queries of the ICOW data. Generally, except where indicated otherwise, the queries utilised the following process:

1. Case selection using Typesett3 to measure by settlement attempt type
2. Frequency and basic statistics analysis using frequency for each factor listed
3. Presentation of summary results in both table format and box-plot
4. Cross-tabulation by Typesett3 variable with the listed efficiency factor to produce an overall probability ranking

The variables examined are contained in Table 72, extract reproduced below

Category	Empirically Measurable?	ICOW Factors
(1) Finality of the Resolution	Y	Clmendma; Clmendall; Effect4
(2) Speed of the Resolution	Y	Combination variable- Endsett-Begsett
(6) Probability of Recidivism Following Resolution	Y	Intersection of Clmendatt=2 and Nomid5 Intersection of Clmendatt=2 and Nomid10

To the Category 2 queries, I created a transformational variable 'Settlengthmonths' using the following process:

1. Copy all 'Begsett' data to Microsoft Excel to column 'A'
2. Copy all 'Endsett' data to Microsoft Excel to column 'B'
3. Input formula '=(LEFT(B2,4)-LEFT(A2,4))*12+RIGHT(B2,2)-RIGHT(A2,2)+1' into all cells in column 'C'
4. Delete fields with 'value' error
5. Copy data into SPSS workfile under new variable name 'Settlengthmonths'

Negative results indicate errors in the ICOW data, as previously noted

A. Performance of Arbitration

Category 1: Finality of Resolution-

Statistics

		clmendma	clmendall	effect4
N	Valid	62	62	62
	Missing	8	8	8
Mean		.742	.645	3.500
Median		1.000	1.000	4.000
Std. Deviation		.4411	.4824	.9876

Variance		.195	.233	.975
Percentiles	25	.000	.000	3.000
	50	1.000	1.000	4.000
	75	1.000	1.000	4.000

clmendma

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	16	22.9	25.8	25.8
	Yes	46	65.7	74.2	100.0
	Total	62	88.6	100.0	
Missing	System	8	11.4		
Total		70	100.0		

clmendall

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	22	31.4	35.5	35.5
	Yes	40	57.1	64.5	100.0
	Total	62	88.6	100.0	
Missing	System	8	11.4		
Total		70	100.0		

effect4

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agreement reached but at least one did not ratify	7	10.0	11.3	11.3
	Both ratified, at least one did not comply	1	1.4	1.6	12.9
	Both Complied, Claim not ended	8	11.4	12.9	25.8
	Agreement ended claim	46	65.7	74.2	100.0
	Total	62	88.6	100.0	
Missing	System	8	11.4		
Total		70	100.0		

Tables Grouped as 96- Finality Results

Category 2: Speed of Resolution

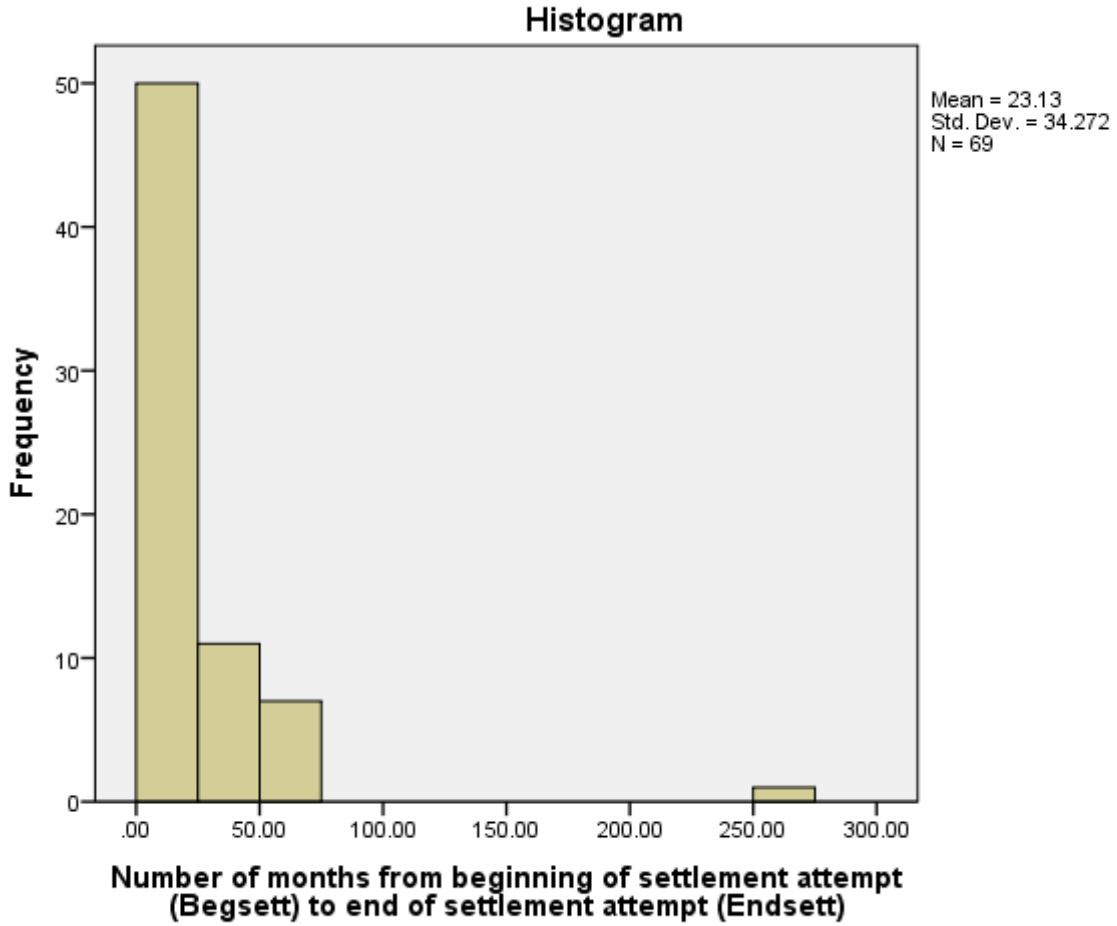
Number of months from beginning of settlement attempt (Begsett) to end of settlement attempt (Endsett)

N	Valid	69
	Missing	1
Mean		23.1304
Median		13.0000
Std. Deviation		34.27180
Variance		1174.556
Percentiles	25	5.0000
	50	13.0000
	75	28.0000

Number of months from beginning of settlement attempt (Begsett) to end of settlement attempt (Endsett)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	2	2.9	2.9	2.9
	2.00	7	10.0	10.1	13.0
	3.00	4	5.7	5.8	18.8
	4.00	3	4.3	4.3	23.2
	5.00	2	2.9	2.9	26.1
	6.00	2	2.9	2.9	29.0
	7.00	1	1.4	1.4	30.4
	8.00	1	1.4	1.4	31.9
	9.00	2	2.9	2.9	34.8
	10.00	2	2.9	2.9	37.7
	11.00	3	4.3	4.3	42.0
	12.00	3	4.3	4.3	46.4
	13.00	3	4.3	4.3	50.7
	14.00	2	2.9	2.9	53.6
	15.00	2	2.9	2.9	56.5
	17.00	1	1.4	1.4	58.0
	18.00	3	4.3	4.3	62.3
	19.00	2	2.9	2.9	65.2

	20.00	2	2.9	2.9	68.1
	24.00	3	4.3	4.3	72.5
	25.00	1	1.4	1.4	73.9
	28.00	2	2.9	2.9	76.8
	29.00	3	4.3	4.3	81.2
	32.00	1	1.4	1.4	82.6
	36.00	1	1.4	1.4	84.1
	38.00	1	1.4	1.4	85.5
	44.00	1	1.4	1.4	87.0
	47.00	1	1.4	1.4	88.4
	63.00	1	1.4	1.4	89.9
	66.00	1	1.4	1.4	91.3
	67.00	1	1.4	1.4	92.8
	68.00	1	1.4	1.4	94.2
	70.00	2	2.9	2.9	97.1
	71.00	1	1.4	1.4	98.6
	254.00	1	1.4	1.4	100.0
	Total	69	98.6	100.0	
Missing	System	1	1.4		
Total		70	100.0		



Tables Grouped as 97: Speed Results

Category 6- Probability of Recidivism Following Resolution

Statistics

nomid5

N	Valid	38
	Missing	2
Mean		.974
Median		1.000
Mode		1.0
Std. Deviation		.1622
Variance		.026
Range		1.0
Percentiles	25	1.000
	50	1.000
	75	1.000

nomid5

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	1	2.5	2.6	2.6
	Yes	37	92.5	97.4	100.0
	Total	38	95.0	100.0	
Missing	System	2	5.0		
Total		40	100.0		

Statistics

nomid10

N	Valid	37
	Missing	3
Mean		.946
Median		1.000
Mode		1.0
Std. Deviation		.2292
Variance		.053
Range		1.0
Percentiles	25	1.000
	50	1.000
	75	1.000

nomid10

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	2	5.0	5.4	5.4
	Yes	35	87.5	94.6	100.0
	Total	37	92.5	100.0	
Missing	System	3	7.5		
Total		40	100.0		

Tables Grouped as 98: Recidivism Results

B. Comparative Efficiency

Category 1 Finality of the Resolution

Clmendma;

Descriptives

	typeset3			Statistic	Std. Error
clmendma	Bilateral	Mean		.195	.015
		95% Confidence Interval for Mean	Lower Bound	.165	
			Upper Bound	.226	
		5% Trimmed Mean		.162	
		Median		.000	
		Variance		.157	
		Std. Deviation		.3968	
		Minimum		.0	
		Maximum		1.0	
		Range		1.0	
		Interquartile Range		.0	
		Skewness		1.540	.09
		Kurtosis		.372	.19
	Non-Binding 3rd Party Attempt	Mean		.207	.027
		95% Confidence Interval for Mean	Lower Bound	.153	
			Upper Bound	.262	
		5% Trimmed Mean		.175	
		Median		.000	
		Variance		.165	
		Std. Deviation		.4064	
		Minimum		.0	
		Maximum		1.0	
		Range		1.0	
		Interquartile Range		.0	
		Skewness		1.454	.16
		Kurtosis		.114	.32
	Binding 3rd Party Attempt	Mean		.742	.056
		95% Confidence Interval for Mean	Lower Bound	.630	
			Upper Bound	.854	
		5% Trimmed Mean		.769	
		Median		1.000	
		Variance		.195	
		Std. Deviation		.4411	
		Minimum		.0	

Maximum	1.0	
Range	1.0	
Interquartile Range	1.0	
Skewness	-1.133	.30
Kurtosis	-.740	.59

clmendma Stem-and-Leaf Plot for
typeset3= Bilateral

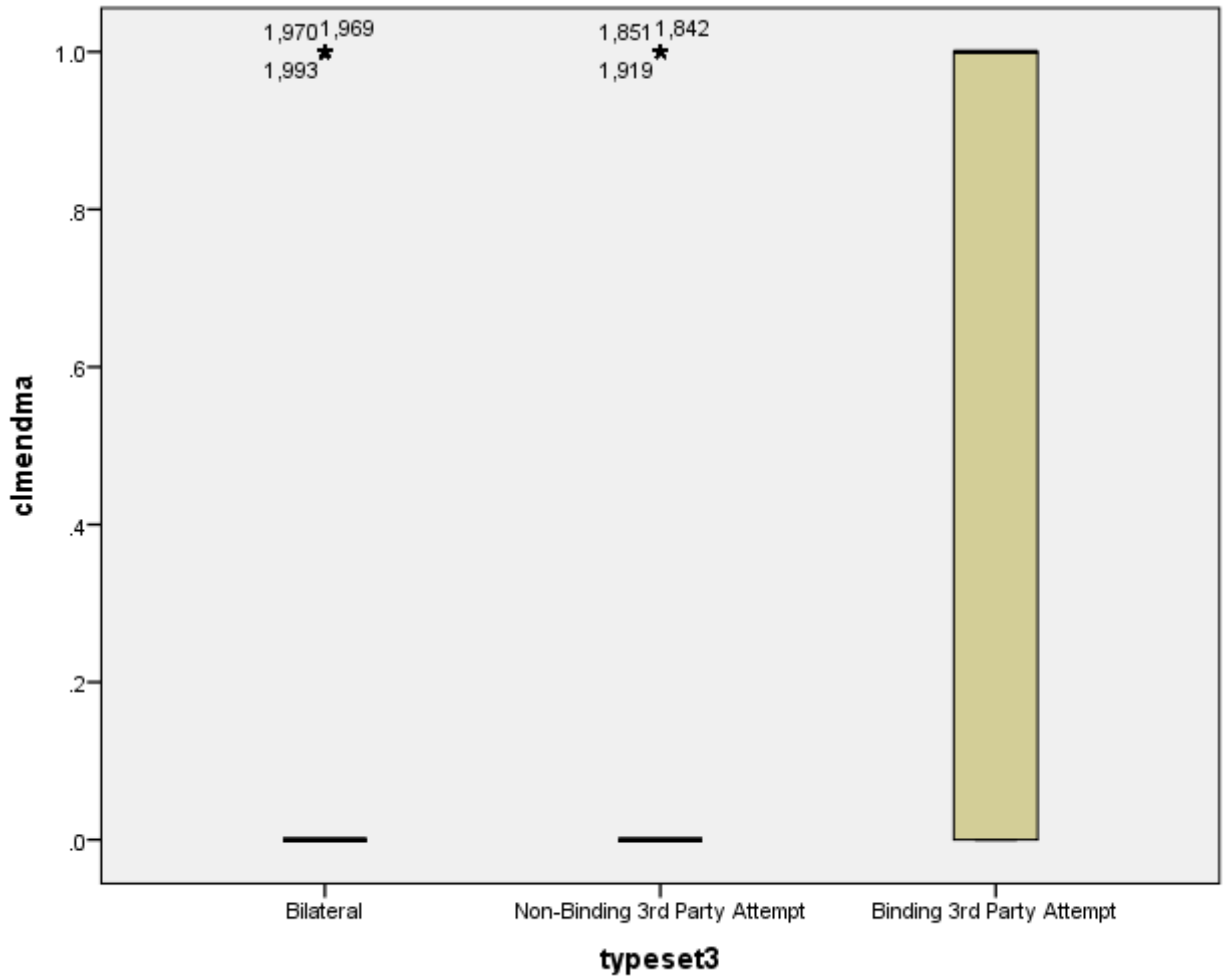
```
 Frequency    Stem &  Leaf

   527.00        0 .
00000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000
0000000000000
   128.00 Extremes    (>=1)

 Stem width:      10.0
 Each leaf:       6 case(s)
```

clmendma Stem-and-Leaf Plot for
typeset3= Non-Binding 3rd Party Attempt

```
 Frequency    Stem &  Leaf

   172.00        0 .
00000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000
00000000000
    45.00 Extremes    (>=1)

 Stem width:      10.0
 Each leaf:       2 case(s)
```

clmendma Stem-and-Leaf Plot for
typeset3= Binding 3rd Party Attempt

```
 Frequency    Stem &  Leaf

    16.00        0 .  0000000000000000
      .00        0 .
      .00        0 .
      .00        0 .
      .00        0 .
    46.00        1 .  0000000000000000000000000000000000000000000000

 Stem width:       1.0
 Each leaf:       1 case(s)
```



Clmendall;

Case Processing Summary

		Cases					
		Valid		Missing		Total	
	typeset3	N	Percent	N	Percent	N	Percen
clmendall	Bilateral	655	56.7%	500	43.3%	1155	100
	Non-Binding 3rd Party Attempt	217	47.0%	245	53.0%	462	100
	Binding 3rd Party Attempt	62	88.6%	8	11.4%	70	100

Descriptives

	typeset3			Statistic	Std. Error
clmendall	Bilateral	Mean		.177	.014
		95% Confidence Interval for Mean	Lower Bound	.148	
			Upper Bound	.206	

	5% Trimmed Mean		.141	
	Median		.000	
	Variance		.146	
	Std. Deviation		.3820	
	Minimum		.0	
	Maximum		1.0	
	Range		1.0	
	Interquartile Range		.0	
	Skewness		1.696	.095
	Kurtosis		.878	.191
Non-Binding 3rd Party Attempt	Mean		.194	.0269
	95% Confidence Interval for Mean	Lower Bound	.141	
		Upper Bound	.247	
	5% Trimmed Mean		.159	
	Median		.000	
	Variance		.157	
	Std. Deviation		.3960	
	Minimum		.0	
	Maximum		1.0	
	Range		1.0	
	Interquartile Range		.0	
	Skewness		1.562	.165
	Kurtosis		.444	.329
Binding 3rd Party Attempt	Mean		.645	.0613
	95% Confidence Interval for Mean	Lower Bound	.523	
		Upper Bound	.768	
	5% Trimmed Mean		.661	
	Median		1.000	
	Variance		.233	
	Std. Deviation		.4824	
	Minimum		.0	
	Maximum		1.0	
	Range		1.0	
	Interquartile Range		1.0	
	Skewness		-.622	.304
	Kurtosis		-1.668	.599

Extreme Values

	typeset3			Case Number	Value
clmendall	Bilateral	Highest	1	20	1.0
			2	31	1.0
			3	69	1.0
			4	74	1.0
			5	93	1.0[a]
		Lowest	1	1992	.0
			2	1989	.0
			3	1981	.0
			4	1975	.0
			5	1974	.0[b]
	Non-Binding 3rd Party Attempt	Highest	1	72	1.0
			2	78	1.0
			3	80	1.0
			4	103	1.0
			5	214	1.0[a]
		Lowest	1	1980	.0
			2	1976	.0
			3	1965	.0
			4	1952	.0
			5	1951	.0[b]
	Binding 3rd Party Attempt	Highest	1	105	1.0
			2	107	1.0
			3	136	1.0
			4	306	1.0
			5	307	1.0[a]
		Lowest	1	1966	.0
			2	1945	.0
			3	1647	.0
			4	1646	.0
			5	1585	.0[b]

a. Only a partial list of cases with the value 1.0 are shown in the table of upper extremes.

b. Only a partial list of cases with the value .0 are shown in the table of lower extremes.

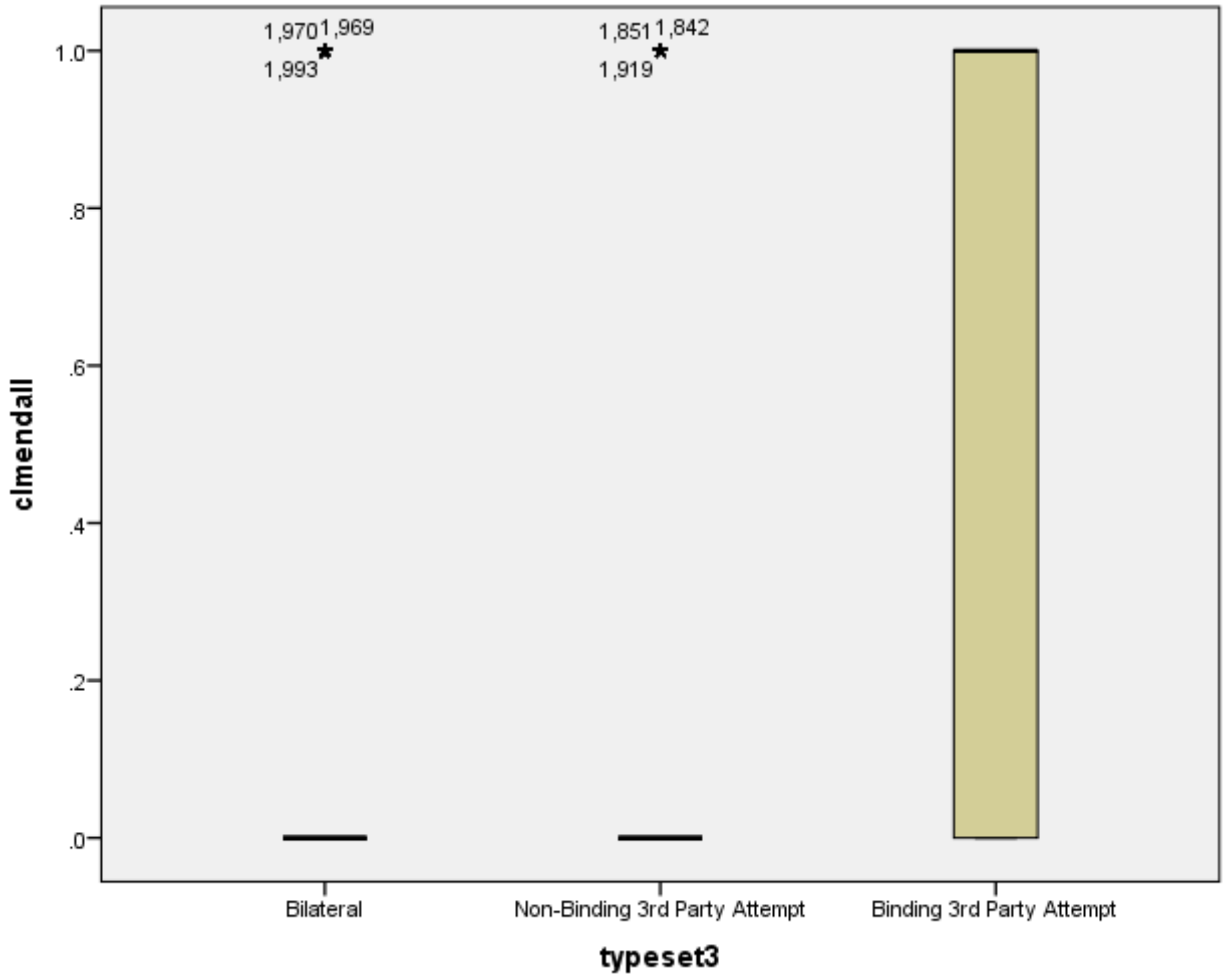
clmendall

Stem-and-Leaf Plots

```
clmendall Stem-and-Leaf Plot for
typeset3= Bilateral

 Frequency    Stem &  Leaf

   539.00        0 .
00000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000
000000000000000
   116.00 Extremes    (>=1)

 Stem width:      10.0
 Each leaf:       6 case(s)
```

```
clmendall Stem-and-Leaf Plot for
typeset3= Non-Binding 3rd Party Attempt

 Frequency    Stem &  Leaf

   175.00        0 .
00000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000
000000000000
    42.00 Extremes    (>=1)

 Stem width:      10.0
 Each leaf:       2 case(s)
```

```
clmendall Stem-and-Leaf Plot for
typeset3= Binding 3rd Party Attempt

 Frequency    Stem &  Leaf

    22.00        0 .  0000000000000000000000
      .00        0 .
      .00        0 .
      .00        0 .
      .00        0 .
    40.00        1 .  0000000000000000000000000000000000000000

 Stem width:       1.0
 Each leaf:       1 case(s)
```



Effect4

Case Processing Summary

		Cases					
		Valid		Missing		Total	
	typeset3	N	Percent	N	Percent	N	Percent
effect4	Bilateral	655	56.7%	500	43.3%	1155	100.0%
	Non-Binding 3rd Party Attempt	217	47.0%	245	53.0%	462	100.0%
	Binding 3rd Party Attempt	62	88.6%	8	11.4%	70	100.0%

Descriptives

	typeset3			Statistic	Std. Error
effect4	Bilateral	Mean		2.797	.0363
		95% Confidence Interval for Mean	Lower Bound	2.726	
			Upper Bound	2.868	

	5% Trimmed Mean		2.830	
	Median		3.000	
	Variance		.865	
	Std. Deviation		.9303	
	Minimum		1.0	
	Maximum		4.0	
	Range		3.0	
	Interquartile Range		.0	
	Skewness		-.752	.095
	Kurtosis		-.222	.191
Non-Binding 3rd Party Attempt	Mean		2.802	.0647
	95% Confidence Interval for Mean	Lower Bound	2.674	
		Upper Bound	2.929	
	5% Trimmed Mean		2.835	
	Median		3.000	
	Variance		.910	
	Std. Deviation		.9537	
	Minimum		1.0	
	Maximum		4.0	
	Range		3.0	
	Interquartile Range		.0	
	Skewness		-.757	.165
	Kurtosis		-.286	.329
Binding 3rd Party Attempt	Mean		3.500	.1254
	95% Confidence Interval for Mean	Lower Bound	3.249	
		Upper Bound	3.751	
	5% Trimmed Mean		3.611	
	Median		4.000	
	Variance		.975	
	Std. Deviation		.9876	
	Minimum		1.0	
	Maximum		4.0	
	Range		3.0	
	Interquartile Range		1.0	
	Skewness		-1.899	.304
	Kurtosis		2.206	.599

Extreme Values

	typeset3			Case Number	Value
effect4	Bilateral	Highest	1	20	4.0
			2	31	4.0
			3	69	4.0
			4	74	4.0
			5	93	4.0[a]
		Lowest	1	1975	1.0
			2	1974	1.0
			3	1973	1.0
			4	1870	1.0
			5	1869	1.0[b]
	Non-Binding 3rd Party Attempt	Highest	1	72	4.0
			2	78	4.0
			3	80	4.0
			4	103	4.0
			5	214	4.0[a]
		Lowest	1	1976	1.0
			2	1952	1.0
			3	1951	1.0
			4	1950	1.0
			5	1949	1.0[b]
	Binding 3rd Party Attempt	Highest	1	105	4.0
			2	107	4.0
			3	136	4.0
			4	209	4.0
			5	306	4.0[a]
		Lowest	1	1945	1.0
			2	1646	1.0
			3	1453	1.0
			4	762	1.0
			5	761	1.0[b]

a. Only a partial list of cases with the value 4.0 are shown in the table of upper extremes.

b. Only a partial list of cases with the value 1.0 are shown in the table of lower extremes.

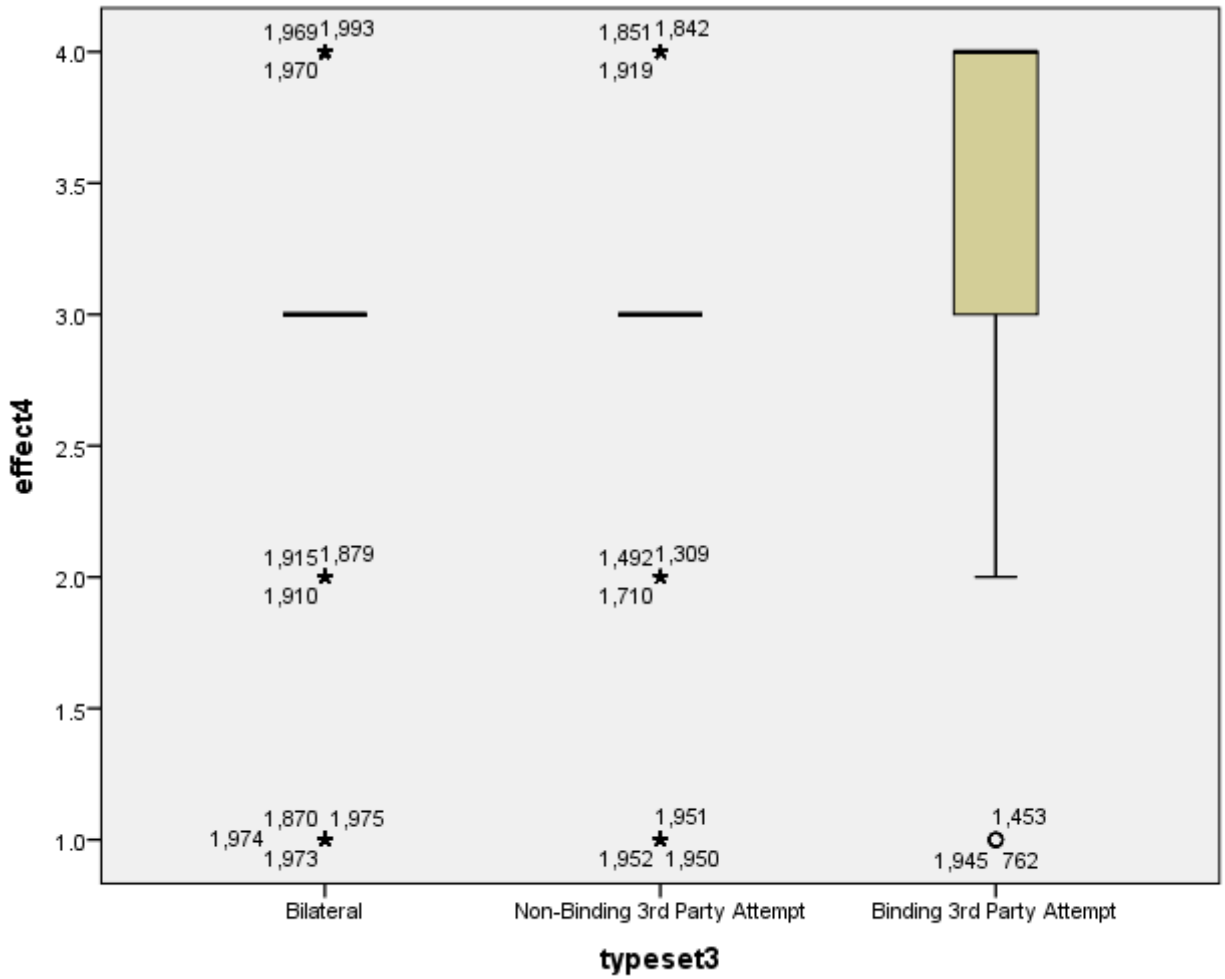
effect4

Stem-and-Leaf Plots

```
effect4 Stem-and-Leaf Plot for
typeset3= Bilateral

 Frequency    Stem &  Leaf

   159.00 Extremes    (=<2)
   368.00        0 .
33333333333333333333333333333333333333333333333333333333333333333333333333333333333333333333333333
33333333333333333
   128.00 Extremes    (>=4)

 Stem width:      10.0
 Each leaf:       4 case(s)
```

```
effect4 Stem-and-Leaf Plot for
typeset3= Non-Binding 3rd Party Attempt

 Frequency    Stem &  Leaf

    52.00 Extremes    (=<2)
   120.00        0 .
33333333333333333333333333333333333333333333333333333333333333333333333333333333333333333333333333
    45.00 Extremes    (>=4)

 Stem width:      10.0
 Each leaf:       2 case(s)
```

```
effect4 Stem-and-Leaf Plot for
typeset3= Binding 3rd Party Attempt

 Frequency    Stem &  Leaf

     7.00 Extremes    (=<1.0)
     1.00        2 .  0
      .00        2 .
     8.00        3 .  00000000
      .00        3 .
    46.00        4 .  00000000000000000000000000000000000000000000000000

 Stem width:       1.0
 Each leaf:       1 case(s)
```



Category 2: Speed of Resolution

Descriptives

	typeset3			Statistic
Number of months from beginning of settlement attempt (Begsett) to end of settlement attempt (Endsett)	Bilateral	Mean		5.5582
		95% Confidence Interval for Mean	Lower Bound	4.8128
			Upper Bound	6.3035
		5% Trimmed Mean		3.4475
		Median		1.0000

	Variance		166.236
	Std. Deviation		12.89327
	Minimum		-7.00
	Maximum		181.00
	Range		188.00
	Interquartile Range		4.00
	Skewness		6.621
	Kurtosis		59.333
Non-Binding 3rd Party Attempt	Mean		5.8593
	95% Confidence Interval for Mean	Lower Bound	4.5460
		Upper Bound	7.1727
	5% Trimmed Mean		3.7424
	Median		2.0000
	Variance		203.214
	Std. Deviation		14.25530
	Minimum		-60.00
	Maximum		137.00
	Range		197.00
	Interquartile Range		4.00
	Skewness		5.868
	Kurtosis		47.809
Binding 3rd Party Attempt	Mean		23.1304
	95% Confidence Interval for Mean	Lower Bound	14.8974
		Upper Bound	31.3634
	5% Trimmed Mean		18.7536
	Median		13.0000
	Variance		1174.556
	Std. Deviation		34.27180
	Minimum		1.00
	Maximum		254.00
	Range		253.00
	Interquartile Range		23.00
	Skewness		4.805
	Kurtosis		30.324

Category 6- Probability of Recidivism Following Resolution

Nomid5:

Case Processing Summary

		Cases					
		Valid		Missing		Total	
	typeset3	N	Percent	N	Percent	N	Percent
nomid5	Bilateral	105	90.5%	11	9.5%	116	100.0%
	Non-Binding 3rd Party Attempt	40	95.2%	2	4.8%	42	100.0%
	Binding 3rd Party Attempt	38	95.0%	2	5.0%	40	100.0%

Descriptives

	typeset3			Statistic	Std. Error
nomid5	Bilateral	Mean		.962	.0188
		95% Confidence Interval for Mean	Lower Bound	.925	
			Upper Bound	.999	
		5% Trimmed Mean		1.000	
		Median		1.000	
		Variance		.037	
		Std. Deviation		.1923	
		Minimum		.0	
		Maximum		1.0	
		Range		1.0	
		Interquartile Range		.0	
		Skewness		-4.896	.236
		Kurtosis		22.399	.467
	Non-Binding 3rd Party Attempt	Mean		.975	.0250
		95% Confidence Interval for Mean	Lower Bound	.924	
			Upper Bound	1.026	
		5% Trimmed Mean		1.000	
		Median		1.000	
		Variance		.025	
		Std. Deviation		.1581	
		Minimum		.0	
		Maximum		1.0	
		Range		1.0	

		Interquartile Range		.0	
		Skewness		-6.325	.374
		Kurtosis		40.000	.733
	Binding 3rd Party Attempt	Mean		.974	.0263
		95% Confidence Interval for Mean	Lower Bound	.920	
			Upper Bound	1.027	
		5% Trimmed Mean		1.000	
		Median		1.000	
		Variance		.026	
		Std. Deviation		.1622	
		Minimum		.0	
		Maximum		1.0	
		Range		1.0	
		Interquartile Range		.0	
		Skewness		-6.164	.383
		Kurtosis		38.000	.750

Extreme Values

	typeset3			Case Number	Value
nomid5	Bilateral	Highest	1	104	1.0
			2	204	1.0
			3	254	1.0
			4	268	1.0
			5	367	1.0[a]
		Lowest	1	1757	.0
			2	1291	.0
			3	735	.0
			4	734	.0
			5	1994	1.0[b]
	Non-Binding 3rd Party Attempt	Highest	1	72	1.0
			2	103	1.0
			3	214	1.0
			4	476	1.0
			5	479	1.0[a]
		Lowest	1	1146	.0
			2	1920	1.0
			3	1919	1.0

		4	1851	1.0
		5	1842	1.0[b]
Binding 3rd Party Attempt	Highest	1	136	1.0
		2	306	1.0
		3	307	1.0
		4	309	1.0
		5	475	1.0[a]
	Lowest	1	1084	.0
		2	1984	1.0
		3	1798	1.0
		4	1752	1.0
		5	1727	1.0[b]

a. Only a partial list of cases with the value 1.0 are shown in the table of upper extremes.

b. Only a partial list of cases with the value 1.0 are shown in the table of lower extremes.

nomid5

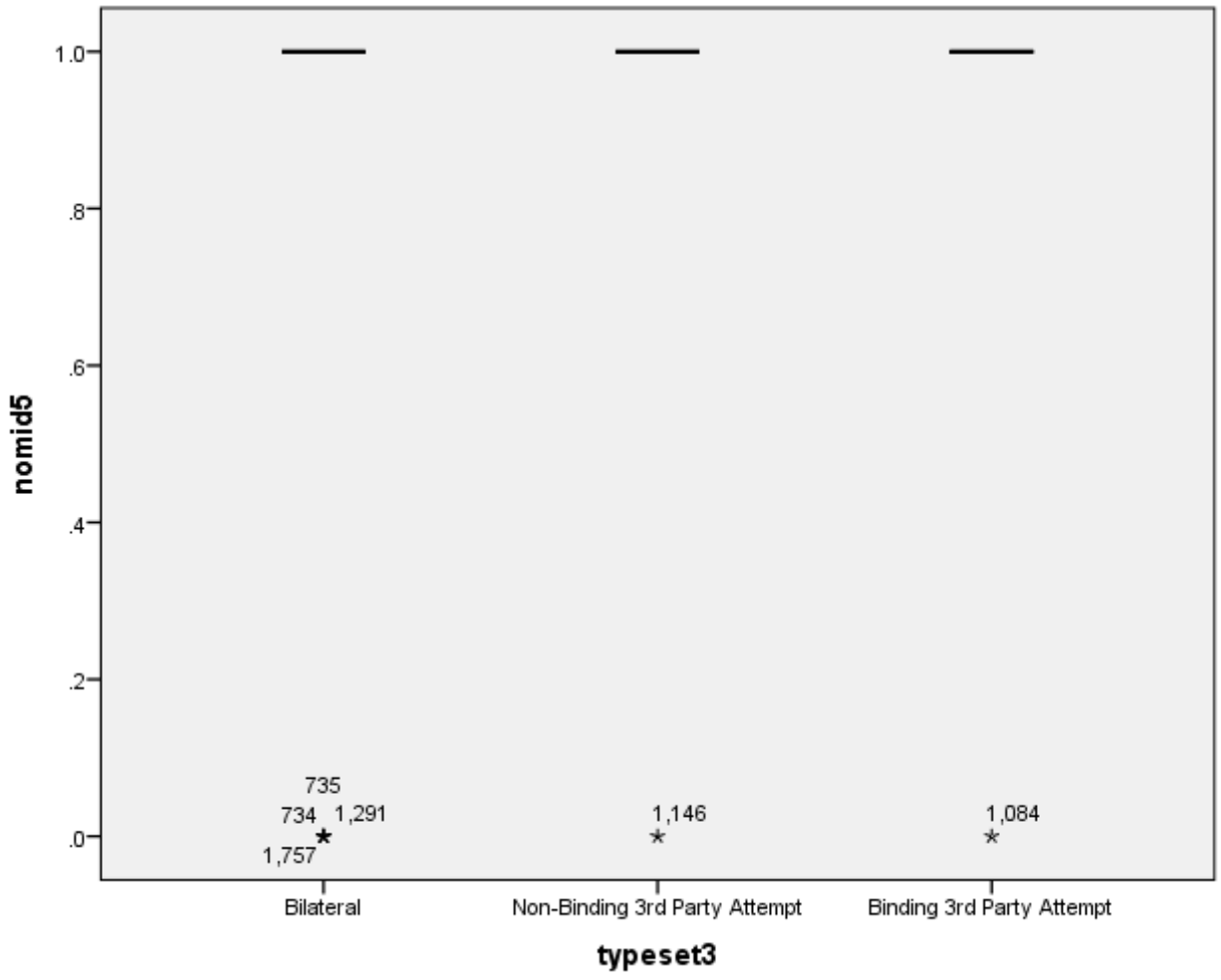
Stem-and-Leaf Plots

```
nomid5 Stem-and-Leaf Plot for
typeset3= Bilateral

 Frequency    Stem &  Leaf

     4.00 Extremes    (=<.0)
   101.00        1 .
00000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000
00000000000000000000000000

 Stem width:       1.0
 Each leaf:       1 case(s)
```

```
nomid5 Stem-and-Leaf Plot for
typeset3= Non-Binding 3rd Party Attempt

 Frequency    Stem &  Leaf

     1.00 Extremes    (=<.0)
    39.00        1 .  000000000000000000000000000000000000000
```

```
 Stem width:       1.0
 Each leaf:       1 case(s)
```

```
nomid5 Stem-and-Leaf Plot for
typeset3= Binding 3rd Party Attempt

 Frequency    Stem &  Leaf

     1.00 Extremes    (=<.0)
    37.00        1 .  0000000000000000000000000000000000000

 Stem width:       1.0
 Each leaf:       1 case(s)
```



Nomid10

Case Processing Summary

		Cases					
		Valid		Missing		Total	
	typeset3	N	Percent	N	Percent	N	Percent
nomid10	Bilateral	101	87.1%	15	12.9%	116	100.0
	Non-Binding 3rd Party Attempt	38	90.5%	4	9.5%	42	100.0
	Binding 3rd Party Attempt	37	92.5%	3	7.5%	40	100.0

Descriptives

	typeset3			Statistic	Std. Error
nomid10	Bilateral	Mean		.960	.0195
		95% Confidence Interval for Mean	Lower Bound	.922	
			Upper Bound	.999	
		5% Trimmed Mean		1.000	
		Median		1.000	
		Variance		.038	
		Std. Deviation		.1960	
		Minimum		.0	
		Maximum		1.0	
		Range		1.0	
		Interquartile Range		.0	
		Skewness		-4.793	.240
		Kurtosis		21.395	.476
	Non-Binding 3rd Party Attempt	Mean		.974	.0263
		95% Confidence Interval for Mean	Lower Bound	.920	
			Upper Bound	1.027	
		5% Trimmed Mean		1.000	
		Median		1.000	
		Variance		.026	
		Std. Deviation		.1622	
		Minimum		.0	
		Maximum		1.0	
		Range		1.0	
		Interquartile Range		.0	
		Skewness		-6.164	.383
		Kurtosis		38.000	.750

	Binding 3rd Party Attempt	Mean		.946	.0377
		95% Confidence Interval for Mean	Lower Bound	.870	
			Upper Bound	1.022	
		5% Trimmed Mean		.995	
		Median		1.000	
		Variance		.053	
		Std. Deviation		.2292	
		Minimum		.0	
		Maximum		1.0	
		Range		1.0	
		Interquartile Range		.0	
		Skewness		-4.113	.388
		Kurtosis		15.767	.759

Extreme Values

	typeset3			Case Number	Value
nomid10	Bilateral	Highest	1	367	1.0
			2	375	1.0
			3	379	1.0
			4	380	1.0
			5	395	1.0[a]
		Lowest	1	1757	.0
			2	1291	.0
			3	735	.0
			4	734	.0
			5	1994	1.0[b]
	Non-Binding 3rd Party Attempt	Highest	1	72	1.0
			2	476	1.0
			3	479	1.0
			4	480	1.0
			5	724	1.0[a]
		Lowest	1	1146	.0
			2	1920	1.0
			3	1919	1.0
			4	1851	1.0
			5	1842	1.0[b]
	Binding 3rd Party Attempt	Highest	1	306	1.0

		2	307	1.0
		3	309	1.0
		4	475	1.0
		5	478	1.0[a]
	Lowest	1	1125	.0
		2	1084	.0
		3	1984	1.0
		4	1798	1.0
		5	1752	1.0[b]

a. Only a partial list of cases with the value 1.0 are shown in the table of upper extremes.

b. Only a partial list of cases with the value 1.0 are shown in the table of lower extremes.

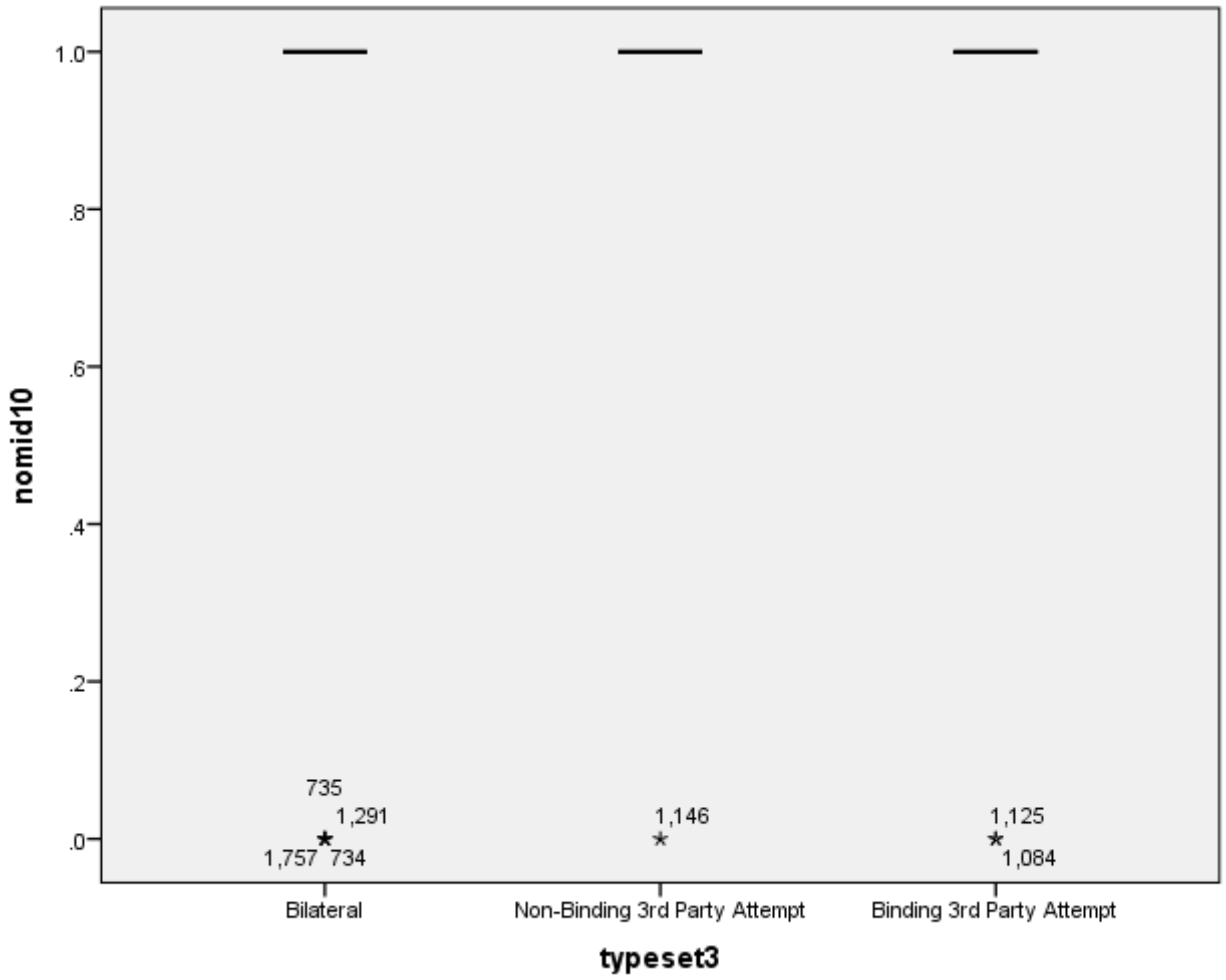
nomid10

Stem-and-Leaf Plots

```
nomid10 Stem-and-Leaf Plot for
typeset3= Bilateral

 Frequency    Stem &  Leaf

     4.00 Extremes    (=<.0)
    97.00        1 .
00000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000
00000000000000000000

 Stem width:       1.0
 Each leaf:       1 case(s)
```

```
nomid10 Stem-and-Leaf Plot for
typeset3= Non-Binding 3rd Party Attempt

 Frequency    Stem &  Leaf

     1.00 Extremes    (=<.0)
    37.00        1 .  0000000000000000000000000000000000000

 Stem width:       1.0
 Each leaf:       1 case(s)
```

```
nomid10 Stem-and-Leaf Plot for
typeset3= Binding 3rd Party Attempt

 Frequency    Stem &  Leaf

     2.00 Extremes    (=<.0)
    35.00        1 .  00000000000000000000000000000000000

 Stem width:       1.0
 Each leaf:       1 case(s)
```



Tables Grouped as 100: Probability of Recidivism Following Resolution

Appendix F- United Nations Treaty Database For Territorial, Maritime and River Treaties

Registration Number	Title	Conclusion Date	Entry into Force Date	Treaty Type
LoN-2131	Convention concerning Territorial Jurisdiction, Bankruptcy and the Authority and Execution of Judgements, Arbitral Awards, and Notarial Acts, with Additional Protocol.	28/03/1925	4/07/1929	Bilateral
II-97	Sino-Canadian Treaty for the relinquishment of extra-territorial rights in China and the regulation of related matters	14/04/1944	3/04/1945	Bilateral
II-95	Treaty between the Republic of China and the Belgo-Luxembourg Economic Union concerning the abolition of the extra-territoriality rights in China and the settlement of questions relating thereto	20/10/1943	1/06/1945	Bilateral
II-66	Treaty between the Republic of China and the United States of America for the relinquishment of Extraterritorial Rights in China and the regulation of related matters	11/01/1943	20/05/1943	Bilateral
II-23	Treaty between the Netherlands and China on the relinquishment of extra-territorial rights in China and the regulation of related matters	29/05/1945	5/12/1945	Bilateral
II-202	Agreement between the Republic of the United States of Brazil and the Republic of Paraguay for the establishment of joint commissions with instructions to study the problems of navigation on the Paraguay River in the territorial waters of the two countries and the creation of a combined Brazilian-Paraguayan merchant fleet	14/06/1941	1/10/1941	Bilateral
I-9925	Exchange of notes constituting an agreement on traditional fishing in the exclusive fishery zones contiguous to the territorial seas of both countries. Washington, 27 October 1967	27/10/1967	1/01/1968	Bilateral
I-9723	Agreement on fishing by Japanese vessels in waters contiguous to the Mexican territorial sea (with memorandum of understanding). Signed at Tlatelolco on 7 March 1968	7/03/1968	10/06/1968	Bilateral
I-9202	Agreement concerning salvage operations and recovery of property from the sea in Danish and Polish internal waters and territorial seas. Signed at Warsaw on 26 February 1968	26/02/1968	10/06/1968	Bilateral
I-859	Exchange of notes constituting an agreement between the United States of America and the United Kingdom of Great Britain and Northern Ireland relating to the delimitation of the area within territorial waters adjacent to the leased naval base at Argentia, Newfoundland	13/08/1947	23/10/1947	Bilateral

I-7874	Exchange of notes constituting an agreement relating to the use of Portuguese ports and territorial waters by the N.S. Savannah . Lisbon, 12 November 1964	12/11/1964	12/11/1964	Bilateral
I-7675	Exchange of notes constituting an agreement relating to the use of United Kingdom ports and territorial waters by the N.S. Savannah London, 19 June 1964	19/06/1964	19/06/1964	Bilateral
I-7661	Exchange of notes constituting an agreement relating to the use of Spanish ports and territorial waters by the N.Sl Savannah Madrid, 16 July 1964	16/07/1964	16/07/1964	Bilateral
I-7573	Agreement on the use of Norwegian ports and territorial waters by the N.S. Savannah . Signed at Oslo, on 1 March 1963Agreement to facilitate the sanitary control of traffic between those countries. Signed at Stockholm, on 19 March 1955	1/03/1963	8/05/1964	Bilateral
I-7477	Convention on the Territorial Sea and the Contiguous Zone	29/04/1958	10/09/1964	Open Multilateral
I-6639	Agreement on the use of territorial waters and ports by the N.S, Savannah .	29/11/1962	29/11/1962	Bilateral
I-6609	Exchange of notes constituting an agreement relating to the use of Greek ports and territorial waters by the N.S. Savannah. Athens, 23 and 24 April 1962.	23/04/1962	24/04/1962	Bilateral
I-54217	Loan Agreement (First Programmatic Territorial Development - Development Policy Loan) between the Republic of Colombia and the International Bank for Reconstruction and Development	21/12/2016	22/12/2016	Bilateral
I-52202	Financing Agreement (Rural Territorial Competitiveness Programme) (Amanecer Rural)) between the Republic of El Salvador and the International Fund for Agricultural Development	9/03/2012	1/06/2012	Bilateral
I-50939	Memorandum of Understanding between the U.S. Geological Survey of the Department of the Interior of the United States of America and the Nicaraguan Institute of Territorial Studies of Nicaragua concerning scientific and technical cooperation in the earth and mapping sciences	4/03/1999	10/03/1999	Bilateral
I-49626	Agreement on the basic principles to settle border and territorial issues between the Socialist Republic of Viet Nam and the People's Republic of China	19/10/1993	19/10/1993	Bilateral
I-49194	Financing Agreement (Territorial Development Project between the passage of Ibarra and San Lorenzo) between the Republic of Ecuador and the International Fund for Agricultural Development	4/03/2011	4/03/2011	Bilateral
I-4861	Protocol (with annexed maps) concerning the delimitation of Polish and Soviet territorial waters in the Gulf of Gdansk of the Baltic Sea. Signed at Warsaw, on 18 March 1958	18/03/1958	29/07/1958	Bilateral

I-48026	Treaty between the Republic of Indonesia and the Republic of Singapore relating to the delimitation of the territorial seas of the two countries in the western part of the Strait of Singapore	10/03/2009	30/08/2010	Bilateral
I-47398	Financing Agreement (Additional Financing for the Transport and Territorial Development Project) between the Republic of Haiti and the International Development Association	16/12/2009	11/01/2010	Bilateral
I-45144	Treaty between the Republic of Indonesia and the Republic of Singapore relating to the delimitation of the territorial seas of the two countries in the Strait of Singapore	25/05/1973	29/08/1974	Bilateral
I-44346	Exchange of notes constituting an agreement between the Government of the Republic of Cyprus and the Government of the Kingdom of Norway on the right of presence of military and civilian Norwegian personnel and other employees of Norway in the sovereign territory of the Republic of Cyprus, the sailing of vessels in territorial waters, and the use of airspace and roads by aircraft and ground vehicles, in the framework of supporting the United Nations in the conduct of the United Nations Interim Force in Lebanon (UNIFIL)	28/11/2006	1/12/2006	Bilateral
I-44345	Exchange of notes constituting an agreement between the Government of the Republic of Cyprus and the Government of Sweden on the right of presence of Swedish military and civilian personnel and other employees in the sovereign territory of the Republic of Cyprus, the sailing of vessels in territorial waters, and the use of airspace and roads by aircraft and ground vehicles, in the framework of supporting the United Nations in the conduct of the United Nations Interim Force in Lebanon (UNIFIL)	8/11/2006	17/11/2006	Bilateral
I-44344	Exchange of notes constituting an agreement between the Government of the Republic of Cyprus and the Government of Denmark on the right of presence of military and civilian Danish personnel and other employees of the Kingdom of Denmark in the sovereign territory of the Republic of Cyprus, the sailing of vessels in territorial waters, and the use of airspace and roads by aircraft and ground vehicles, in the framework of supporting the United Nations in the conduct of the United Nations Interim Force in Lebanon (UNIFIL)	31/10/2006	13/11/2006	Bilateral
I-44343	Exchange of notes constituting an agreement between the Republic of Cyprus and the Federal Republic of Germany on the right of presence of military and civilian Bundeswehr personnel and other employees of the Federal Republic of Germany in the sovereign territory of the Republic of Cyprus, the sailing of	12/10/2006	16/10/2006	Bilateral

	vessels in territorial waters, and the use of airspace and roads by aircraft and ground vehicles, in the framework of supporting the United Nations in the conduct of the United Nations Interim Force in Lebanon (UNIFIL)			
I-43400	Financing Agreement (Transport and Territorial Development Project) between the Republic of Haiti and the International Development Association	18/04/2006	13/12/2006	Bilateral
I-41860	Agreement between the People's Republic of China and the Socialist Republic of Viet Nam on the delimitation of the territorial seas, exclusive economic zones and continental shelves of the two countries in Beibu Gulf/Bac Bo Gulf	25/12/2000	30/06/2004	Bilateral
I-41785	Loan Agreement (Infrastructure for Territorial Development Project) between the Republic of Chile and the International Bank for Reconstruction and Development	18/03/2005	16/08/2005	Bilateral
I-41608	Agreement between the Government of the Kingdom of Belgium, the Government of the French Community, the Government of the Walloon Region and the Flemish Government, on the one hand, and the Government of the French Republic, on the other hand, on transfrontier cooperation between territorial communities and other local public bodies	16/09/2002	1/07/2005	Bilateral
I-40977	Arrangement for the implementation of the project "Strengthening of Local Capacities for the Encouragement of Territorial Economies of the Cuban Provinces within the Framework of the Human Development Program of Cuba - PDHL", supplementary to the Agreement on scientific, technical and technological cooperation between the Government of the Federative Republic of Brazil and the Government of the Republic of Cuba	29/10/2004	29/10/2004	Bilateral
I-40520	Agreement between the Kingdom of the Netherlands and the Republic of France to extend the Agreement on mutual assistance in criminal matters done at Strasbourg on 20 April 1959 to the French Overseas Territories and to the French territorial communities	23/01/1991	1/07/1991	Bilateral
I-36472	Exchange of notes between the Government of the Republic of Venezuela and the Government of the Federal Republic of Germany on the project "Cooperation with the Inter-American Center of Development and Environmental and Territorial Research (CIDIAT)"	27/06/1995	21/03/1996	Bilateral
I-362	Exchange of Notes constituting an arrangement between the Governments of Denmark and of Belgium to facilitate the settlement of disputes arising at Sea between Belgian and Danish fishermen outside territorial waters	30/12/1948	1/01/1949	Bilateral
I-35449		18/12/1996	1/01/1999	Bilateral

	Agreement between the Kingdom of the Netherlands and the Kingdom of Belgium relating to the delimitation of the territorial sea			
I-34197	Exchange of letters constituting an agreement extending to the French Overseas Territories and to the French "collectivités territoriales" the application of the European Convention on Extradition of 13 December 1957	10/03/1993	4/03/1996	Bilateral
I-33640	Treaty on transfrontier cooperation between territorial communities.	10/03/1995	24/02/1997	Bilateral
I-33550	Exchange of letters constituting an agreement on the right of Norwegian ships to cabotage within the territorial waters of Finland	2/12/1996	1/01/1997	Bilateral
I-32898	Agreement relating to the development of regional cooperation between the French territorial collectivity of St. Pierre and Miquelon and the Canadian Atlantic Provinces.	2/12/1994	2/12/1994	Bilateral
I-32897	Agreement concerning transfrontier cooperation between territorial communities.	26/11/1993	6/10/1995	Bilateral
I-32539	Agreement concerning transfrontier cooperation between territorial communities and other public agencies	23/05/1991	1/01/1993	Bilateral
I-32534	Agreement concerning the prevention of incidents at sea beyond the territorial sea	27/11/1990	27/12/1990	Bilateral
I-32177	Outline Agreement on transfrontier cooperation between territorial communities	27/01/1993	1/08/1995	Bilateral
I-32125	Exchange of notes constituting an agreement on the procedure to be followed in the modification of the limits of the territorial waters in the Gulf of Finland.	4/05/1994	30/07/1995	Bilateral
I-31353	Agreement concerning the prevention of incidents at sea beyond the territorial sea	2/06/1994	2/07/1994	Bilateral
I-30483	International Agreement on the use of INMARSAT ship earth stations within the territorial sea and ports	16/10/1985	12/09/1993	Open Multilateral
I-30281	Exchange of letters constituting an agreement concerning the extension of the European Convention on mutual assistance in criminal matters to the French Overseas Territories and to the French territorial collectivities	24/02/1993	1/06/1993	Bilateral
I-30280	Exchange of letters constituting an agreement concerning the extension of the European Convention on extradition to the French Overseas Territories and to the French territorial communities	24/02/1993	1/06/1993	Bilateral
I-30268	Exchange of letters constituting an agreement concerning the extension of the European Convention on judicial assistance in criminal matters to the French	23/03/1992	1/08/1993	Bilateral

	Overseas Territories and to the French territorial collectivities			
I-30267	Exchange of letters constituting an agreement concerning the extension of the European Convention on extradition to the French Overseas Territories and to the French territorial communities	23/03/1992	1/08/1993	Bilateral
I-30173	Agreement relating to the delimitation of the territorial sea	8/10/1990	7/04/1993	Bilateral
I-2894	Exchange of notes constituting an agreement between Denmark and the United Kingdom of Great Britain and Northern Ireland abrogating the additional article of the Convention of 24 June 1901 between the Governments of those two countries for regulating the fisheries of their respective subjects outside territorial waters in the ocean surrounding the Faroe Islands	23/07/1954	23/07/1954	Bilateral
I-28891	Exchange of letters constituting an agreement concerning the extension of the European Convention on Mutual Assistance in Criminal Matters to the French overseas territories of French Polynesia, New Caledonia, Wallis and Futuna, as well as to the territorial collectivities of Mayotte and Saint Pierre and Miquelon	23/05/1991	1/08/1991	Bilateral
I-28890	Exchange of letters constituting an agreement concerning the extension of the European Convention on Extradition to the French overseas territories of French Polynesia, New Caledonia, Wallis and Futuna, as well as to the territorial collectivities of Mayotte and Saint Pierre and Miquelon	23/05/1991	1/08/1991	Bilateral
I-28721	Exchange of letters constituting an agreement concerning the extension of the European Convention on Mutual Assistance in Criminal Matters and the Additional Protocol to the French overseas territories of French Polynesia, New Caledonia, Wallis and Futuna, as well as to the territorial communities of Mayotte and Saint-Pierre-et-Miquelon	11/07/1991	1/12/1991	Bilateral
I-28720	Exchange of letters constituting an agreement concerning the extension of the European Convention on Extradition to the French overseas territories of French Polynesia, New Caledonia, Wallis and Futuna, as well as to the territorial communities of Mayotte and Saint-Pierre-et-Miquelon	11/07/1991	1/12/1991	Bilateral
I-28612	Exchange of letters constituting an agreement relating to the extension of the European Convention of 20 April 1959 on mutual assistance in criminal matters to the French Overseas Territories and territorial collectivities	17/07/1991	1/10/1991	Bilateral
I-28611	Exchange of letters constituting an agreement concerning the application of the European	17/07/1991	1/10/1991	Bilateral

	Convention of 13 December 1957 on extradition to the French Overseas Territories and to territorial communities			
I-28512	Agreement concerning the prevention of incidents at sea beyond the territorial sea	26/10/1990	10/10/1991	Bilateral
I-28012	Agreement concerning the prevention of incidents at sea outside territorial waters	19/06/1990	10/01/1991	Bilateral
I-27837	Agreement concerning the prevention of incidents at sea outside territorial waters	30/11/1989	31/12/1989	Bilateral
I-27535	Cover Agreement on the Territorial Command Net	24/07/1980	24/07/1980	Bilateral
I-27323	Agreement concerning the prevention of incidents at sea beyond the territorial sea	20/11/1989	20/11/1989	Bilateral
I-26925	Agreement concerning the prevention of incidents at sea outside territorial waters	4/07/1989	4/07/1989	Bilateral
I-26858	Agreement relating to the delimitation of the territorial sea in the Straits of Dover (with joint declaration and map)	2/11/1988	6/04/1989	Bilateral
I-26846	Agreement concerning the prevention of incidents at sea beyond the territorial sea	25/10/1988	25/11/1988	Bilateral
I-26262	Declaration concerning the delimitation of the territorial waters of the Principality of Monaco	20/04/1967	20/04/1967	Bilateral
I-26261	Exchange of letters constituting an agreement on the settlement of problems concerning the delimitation of Monegasque territorial waters, relating to article 4 of the Treaty of 17 July 1918 establishing the relations of France with the Principality of Monaco	18/05/1963	18/05/1963	Bilateral
I-25950	Agreement concerning the prevention of incidents at sea beyond the territorial sea	15/07/1986	15/07/1986	Bilateral
I-24392	Inter-American Convention on extraterritorial validity of foreign judgments and arbitral awards	8/05/1979	14/06/1980	Open Multilateral
I-24378	Convention on territorial asylum.	28/03/1954	29/12/1954	Open Multilateral
I-21753	Exchange of notes constituting an agreement on the project "Establishment of the territorial files in the State of Parana". Brasilia, 9 February 1983	9/02/1983	9/02/1983	Bilateral
I-21750	Exchange of notes constituting an agreement on territorial organization and economic activity of the Central-Western Region of Brazil. Brasilia, 17 January 1983	17/01/1983	17/01/1983	Bilateral
I-215		28/02/1946	8/06/1946	Bilateral

	Treaty between China and France for the relinquishment by France of extra-territorial and related rights in China			
I-21270	Treaty relating to the delimitation of the territorial seas of the two countries.	24/10/1979	15/07/1982	Bilateral
I-20967	European Outline Convention on transfrontier co-operation between territorial communities or authorities	21/05/1980	22/12/1981	Open Multilateral
I-18943	Exchange of notes constituting an agreement concerning the delimitation of the territorial waters between Denmark and Sweden. Copenhagen, 25 June 1979	25/06/1979	21/12/1979	Bilateral
I-18211	Agreement concerning fishing for anchovies and sprats in each other's territorial waters in the Black Sea.	3/10/1978	12/04/1979	Bilateral
I-180	Treaty between the Kingdom of Denmark and the Republic of China for the relinquishment of extraterritorial rights in China and the regulation of related matters	20/05/1946	14/04/1947	Bilateral
I-180	Treaty between the Kingdom of Denmark and the Republic of China for the relinquishment of extraterritorial rights in China and the regulation of related matters	20/05/1946	20/05/1946	Bilateral
I-15766	Agreement concerning the conduct of salvage operations in the inner and outer territorial waters of the Kingdom of Denmark and the German Democratic Republic.	13/10/1976	14/01/1977	Bilateral
I-15603	Exchange of notes constituting an agreement on the territorial sea boundary (with annexed map). Nairobi, 17 December 1975, and Dar es Salaam, 9 July 1976	9/07/1976	9/07/1976	Bilateral
I-14665	Exchange of letters constituting an agreement concerning the practice of seasonal fishing in Belgian and French territorial waters. Paris, 30 September and 23 October 1975	30/09/1975	23/10/1975	Bilateral
I-14592	Convention on the delimitation of the territorial sea and the contiguous zone in the Bay of Biscay (Golfe de Gascogne/Golfo de Vizcaya).	29/01/1974	5/04/1975	Bilateral
I-14475	Protocol concerning the establishment of the maritime boundary between Soviet and Turkish territorial waters in the Black Sea.	17/04/1973	27/03/1975	Bilateral
I-14034	Agreement concerning salvage activities and recovery of property from the sea in Swedish and Polish internal waters and territorial seas (with protocol of signature and exchange of notes). Signed at Warsaw on 5 October 1970	5/10/1970	23/01/1971	Bilateral
I-13492	Agreement relating to performance of rescue operations on the Finnish and Polish territorial waters.	8/03/1973	22/04/1974	Bilateral

I-13427	Agreement concerning co-operation in economic and financial matters (with exchange of letters concerning co-operation in economic and financial matters relating to fishing by French vessels in the Mauritanian territorial waters).	15/02/1973	15/02/1973	Bilateral
I-13299	Protocol to the Agreement on ending the war and restoring peace in Viet-Nam concerning the removal, permanent deactivation, or destruction of mines in the territorial waters, ports, harbours, and waterways of the Democratic Republic of Viet-Nam.	27/01/1973	27/01/1973	Closed Multilateral
I-11133	Agreement on the use of Netherlands territorial waters and ports by the N.S. Otto Hahn (with interpretative exchange of letters dated on 18 February 1971).	28/10/1968	18/03/1971	Bilateral
A-50939	Agreement to amend and extend the Memorandum of Understanding between the U.S. Geological Survey of the Department of the Interior of the United States of America and the Nicaraguan Institute of Territorial Studies of Nicaragua concerning scientific and technical cooperation in the earth and mapping sciences	24/05/2004	25/06/2004	Bilateral
A-50939	Agreement to amend and extend the Memorandum of Understanding between the U.S. Geological Survey of the Department of the Interior of the United States of America and the Nicaraguan Institute of Territorial Studies of Nicaragua concerning scientific and technical cooperation in the earth and mapping sciences	24/05/2004	10/03/2004	Bilateral
A-49194	Letter of amendment to the Financing Agreement (Territorial Development Project between the passage of Ibarra and San Lorenzo) between the Republic of Ecuador and the International Fund for Agricultural Development	10/08/2011	10/08/2011	Bilateral
A-31353	Exchange of notes for the amendment of the Agreement between the Government of the Republic of Korea and the Government of the Russian Federation concerning the prevention of incidents at sea beyond the territorial sea	28/06/1996	5/08/1996	Bilateral
A-2894	Exchange of notes constituting an agreement replacing the Agreement of 22 April 1955 between Denmark and the United Kingdom of Great Britain and Northern Ireland modifying the Convention of 24 June 1901 between the Governments of those two countries for regulating the fisheries of their respective subjects outside territorial waters in the ocean surrounding the Faroe Islands	27/04/1959	27/04/1959	Bilateral
A-2894	Exchange of notes constituting an agreement modifying the Convention of 24 June 1901 between Denmark and the United Kingdom of Great Britain and Northern Ireland regulating the fisheries of their	22/04/1955	1/07/1955	Bilateral

	respective subjects outside territorial waters in the ocean surrounding the Faroe Islands			
A-28613	Agreement concerning the sovereignty, independence, territorial integrity and inviolability, neutrality and national unity of Cambodia	23/10/1991	23/10/1991	Open Multilateral
A-26925	Protocol to the Agreement of 4 July 1989 between the Government of the French Republic and the Government of the Union of Soviet Socialist Republics concerning the prevention of incidents at sea outside territorial waters	17/12/1997	17/12/1997	Bilateral
A-20967	Protocol No. 2 to the European Outline Convention on transfrontier cooperation between territorial communities or authorities concerning interterritorial cooperation	5/05/1998	1/02/2001	Open Multilateral
A-20967	Additional Protocol to the European Outline Convention on transfrontier co-operation between territorial communities or authorities	9/11/1995	1/12/1998	Open Multilateral
A-20967	Protocol No. 3 to the European Outline Convention on Transfrontier Co-operation between Territorial Communities or Authorities concerning Euroregional Co-operation Groupings (ECGs)	16/11/2009	1/03/2013	Open Multilateral
A-1352	Agreement between the Governments of Australia, the French Republic, the Kingdom of the Netherlands, New Zealand, the United Kingdom of Great Britain and Northern Ireland and the United States of America extending the territorial scope of the South Pacific Commission	7/11/1951	7/11/1951	Closed Multilateral
A-10895	Exchange of letters constituting an agreement concerning the territorial application of the above-mentioned Agreement. Rome, 21 October 1959	21/10/1959	2/01/1961	Bilateral