

 Open access • Journal Article • DOI:10.1007/S11558-015-9217-9

## Dispute settlement mechanisms and maritime boundary settlements — [Source link](#)

Áslaug Ásgeirsdóttir, Martin C. Steinwand

**Institutions:** Bates College, Stony Brook University

**Published on:** 04 Mar 2015 - Review of International Organizations (Springer US)

**Topics:** Dispute resolution, Dispute mechanism, Settlement (litigation), Law of the sea and Maritime boundary

Related papers:

- [Reforming Dispute Settlement in Trade: The Contribution of Mega-Regionals](#)
- [Between law and politics: Explaining international dispute settlement behavior](#)
- [Dispute settlement as rule clarification or enforcement?: evidence from the World Trade Organization](#)
- [Indisputably Essential: The Economics of Dispute Settlement Institutions in Trade Agreements](#)
- [Mapping the Scope of Dispute Settlement in Regional Trade Agreements: Implications for the Multilateral Governance of Trade](#)

Share this paper:    

View more about this paper here: <https://typeset.io/papers/dispute-settlement-mechanisms-and-maritime-boundary-3t6yrt0cm4>

6-2015

# Dispute settlement mechanisms and maritime boundary settlements

Áslaug Ásgeirsdóttir

*Bates College*, [aasgeirs@bates.edu](mailto:aasgeirs@bates.edu)

Martin Steinwand

*Stony Brook University*

Follow this and additional works at: [https://scarab.bates.edu/faculty\\_publications](https://scarab.bates.edu/faculty_publications)

---

## Recommended Citation

Ásgeirsdóttir, Á. & Steinwand, M. (2015). "Dispute settlement mechanisms and maritime boundary settlements." *Review of International Organizations*, 10(2), pp.119-143. <https://doi.org/10.1007/s11558-015-9217-9>

This Article is brought to you for free and open access by the Departments and Programs at SCARAB. It has been accepted for inclusion in All Faculty Scholarship by an authorized administrator of SCARAB. For more information, please contact [batesscarab@bates.edu](mailto:batesscarab@bates.edu).

## **Conflict Resolution Mechanisms and Maritime Boundary Settlements**

Authors:

Áslaug Ásgeirsdóttir

Associate Professor

Department of Politics

Bates College

Email: [aasgeirs@bates.edu](mailto:aasgeirs@bates.edu)

Martin Steinwand

Assistant Professor

Department of Political Science

Stony Brook University

Email: [martin.steinwand@stonybrook.edu](mailto:martin.steinwand@stonybrook.edu)

## **ABSTRACT**

The literature on the institutionalization of international cooperation argues that states include dispute settlement procedures in their agreements to “tie the hands” of states. This paper reverses this thinking and shows that when a regime provides institutionalized dispute settlement, states sometimes seek to undo it. The settlement of maritime boundaries is a case in point. Governed by the Law of the Sea regime, which provides four institutional mechanisms for states to solve disputes, the vast majority of agreements specify bilateral negotiations as the only way to deal with future conflicts. The reason for this is that states pay attention to both the cost and flexibility of conflict resolutions mechanisms. We find that poorer states are more likely than wealthy states to specify bilateral negotiations, the cheapest and most flexible conflict resolution mechanism. Wealth differentials are also associated with greater demands for flexibility.

## I. INTRODUCTION

The study of how states settle disputes in multilateral and bilateral agreements has proliferated over the past 30 years. These Dispute Settlement Mechanisms (DSMs) vary in the degree of legalization or to what extent states have third-parties adjudicate disputes. The traditional view is that states use institutionalized dispute settlement as commitment mechanisms in their agreements to “tie the hands” of states party to the agreement. This ensures compliance and minimizes defection. The threat of using third-party dispute settlement is argued to constrain states by increasing the cost of non-compliance and reducing the flexibility that states have when they seek negotiated solutions to their conflicts (Goldstein, Kahler, Keohane, & Slaughter, 2000; Koremenos 2001, 2007; McCall Smith 2009).

Empirically, the study of the inclusion of dispute settlement mechanisms<sup>1</sup> has focused on bilateral agreements covering trade and finance, where institutionalized dispute settlement has proliferated (Allee and Peinhardt 2014; Davis 2012; Jo and Namgung 2012). This paper extends the study of DSMs to the settling of maritime boundary disputes, where states have to decide how and where to draw the line dividing adjacent or overlapping maritime areas. The Third UN Convention on the Law of the Sea opened for signature in 1982, created 200-mile Exclusive Economic Zones in the coastal waters of signatory states. This institutional change increased the number of competing maritime claims as it either extended the boundary between adjacent maritime claims or created new overlapping areas where states were less than 400-miles apart. Between 1960 and 2008, states signed 186 such treaties, primarily through bilateral negotiations.

Given the proliferation of institutionalized dispute-settlement mechanisms in bilateral trade and finance treaties, maritime boundary agreements present two interesting puzzles. First, of the 186 bilateral agreements analyzed here, only 76 or 41% include any mention of DSMs. Second, of the 76 agreements that include DSMs, 56 agreements – or 74% – specifically spell out bilateral negotiations as the preferred way to settle future conflicts. This is particularly remarkable since the LOS establishes four institutional venues for conflict resolution, including the International Tribunal for the Law of the Sea (ITLOS). We discuss these options in detail below.

---

<sup>1</sup> Dispute Settlement Mechanisms (DSMs) range from explicit mention of negotiations (low institutionalization) to the use of international courts (high institutionalization).

The fact that these agreements specify negotiations as a starting point for dispute settlement challenges the notion that DSMs only serve as hand-tying mechanisms and reveals a more nuanced approach of states to future conflicts. Hence we ask: Under what conditions will states seek to untie a previous agreed upon commitment to legalization? We argue that in the context of the well-established multilateral regime of the Law of the Sea (LOS), states seek to untie their hands in bilateral agreements settling joint maritime boundaries to ensure flexibility and to minimize costs from future conflicts. We call this approach to encoding flexibility in dispute resolution mechanisms the Agree to Negotiate Option (ANO). ANOs represent an underappreciated element in the study of international institutions.

The Law of the Sea acknowledges that states often have conflicting interests over maritime uses. LOS encourages the peaceful settlement of conflicts (Article 279), but leaves the choice of how to solve disagreements to the states (Article 280). The agreement also establishes four formalized and binding ways to solve conflicts. According to Article 287, states can send disputes to the International Tribunal for the Law of the Sea (ITLOS), to the International Court of Justice in The Hague, appoint an arbitral tribunal as laid out in Annex II or appoint a special arbitral tribunal as laid out in Annex III when the dispute relates to fisheries, protection of the marine environment, marine scientific research or navigation. Specifying an Agree to Negotiate Option as the preferred way to settle future disputes implicitly rules out any of these institutionalized venues for conflict resolution. The majority of DSMs in our data follow this logic, effectively reversing the usual account that institutionalized dispute settlement serves to tie hands by delegating conflict resolution to third parties.

DSMs vary a great deal along two interdependent dimensions: flexibility and costs. We argue that in deciding how to specify future dispute settlement, states consider both. Negotiations provide the most flexibility for states, while courts and tribunals diminish flexibility. These different institutional arrangements also have different costs associated with them. Flexible mechanisms, such as negotiations, tend to be less costly than the use of courts. Courts also provide less flexibility because their rulings are binding. The use of courts requires lawyers, elaborate legal preparation and representation at a court or tribunal that often is seated overseas. All of this is costly. Hence in deciding on how to handle future conflicts over a settled maritime

boundary, states consider both costs and flexibility. This then helps states reach an agreement on the boundary despite uncertainty about future contingencies. This is in line with the literature on incomplete contracts which argues that often detailing and enforcing more specific contracts is too costly (Hart & Moore, 1999; Tirole, 1999). In addition, negotiations are often quicker (Davis, 2009). To summarize, negotiations are the lowest cost option and the option that retains the most flexibility. Less flexible mechanisms such as the use of courts and tribunals are costly and risk binding states to particular outcomes they might not like.

Overall, little attention has been paid to the costs of using different DSMs and we argue that states consider these costs when signing bilateral agreements. As work on the use of the WTO Dispute Resolution Mechanism has shown, costs influence the ability of states to access conflict resolution (Davis & Bermeo, 2009; Guzman & Simmons, 2005). Conversely, states should be less sensitive to costs if future conflicts threaten to do greater harm. The value of cooperation over maritime boundaries can vary widely depending on what economic or strategic interests are involved (Hensel et al. 2008; Ásgeirsdóttir and Steinwand, 2015). Together, the interplay between costs, flexibility and issue salience should influence the choice of dispute settlement mechanisms, i.e. more salient boundaries (for example where oil is present) should lead states to emphasize speed and flexibility. We discuss this in more detail below.

This study advances our understanding of international institutions on a number of fronts. The Law of the Sea is an understudied area within political science, despite its well-developed body of rules and its nearly universal acceptance among states worldwide.<sup>2</sup> Our work demonstrates how states can use bilateral agreements to preserve autonomy when dealing with conflicts within the framework of a strong and well institutionalized multilateral regime. The study of dispute settlement mechanisms has paid much attention to the role of institutionalized dispute settlement in creating credible commitments by providing institutions that can adjudicate in the case of conflict. This article shows that costs and issue salience also affect the choice of dispute

---

<sup>2</sup> Law of the Sea is a multilateral agreement that primarily seeks to advance productive use of ocean spaces and the maritime boundary agreements studied here are just one area of concern for states. It is not clear from the literature why states agreed to institutionalized DSMs during the decade-long negotiations in the 1970s, but since the agreements we study here were largely made necessary by the creation of the 200-mile EEZ allowed by the Law of the Sea, the study of the decision to include DSMs into the multilateral agreement in the first place is beyond the scope of this paper.

settlement. In the context of the Law of the Sea, these two factors drive the desire of states to ‘untie’ their hands, effectively reversing the usual logic. To our knowledge, this article is the first to identify and provide evidence for this relationship.

In the next section, we discuss existing works on DSMs. We then develop testable hypotheses explaining why states seek to untie their hands from previously agreed-upon institutionalized dispute settlement using ANOs. We then discuss the nature of boundary agreements in more detail after which we address methodological issues and then present the results of our analysis. We conclude with a discussion of the implications of our findings for future research.

## **II. VARIATION IN DISPUTE SETTLEMENT**

States establish international institutions to lower transaction costs (Keohane, 1984), and the deepening of this institutionalization helps to coordinate expectations and overcome commitment problems. Part of this trend of growing institutionalization of international cooperation is that states increasingly specify dispute settlement mechanisms in their agreements. DSMs range in their levels of legalization, from diplomatic talks as being the most flexible mechanism to standing tribunals or courts as tying the hands of states the most and thus being the least flexible DSM for states (McCall Smith 2009). Examples include the binding World Trade Organization’s Dispute Resolution Mechanism, the dispute resolution mechanism in The North American Free Trade Agreement, the European Court of Justice and the International Tribunal for the Law of the Sea (ITLOS) in Hamburg. These courts also vary in strength and jurisdiction (Johns 2012; Gilligan et al. 2010).

While these are multilateral dispute settlement mechanisms, increasingly scholars are looking at the proliferation of DSMs in bilateral agreements, which constitute the bulk of examples of cooperation between states (Koremenos, 2007). Currently, the scholarship has three main strands. The first one focuses on the variation in the inclusion of DSMs in international agreements (Guzman & Simmons, 2005; Guzman, 2005; McCall Smith 2009), the second one explores the design and development of DSMs (Goldstein et al., 2000; Keohane, Moravcsik, & Slaughter, 2000; Koremenos, 2001; Koremenos, Lipson, & Snidal, 2001a; Jo & Namgung, 2012; T. Allee & Peinhardt, 2014) and a third strand seeks to explain why and how states use DSMs to



solve disputes (T. L. Allee & Huth, 2006; Davis, 2012). Since this paper seeks to explain the conditions under which states untie their hands from stricter forms of legalization, this third strand of research is less relevant to our discussion.

One important area of the study of institutionalization has focused on whether or not states include detailed DSMs in their agreements, and if so to what extent they bind states to specific future actions. Depending on the design of DSMs, states can limit their flexibility of how to solve disagreements. In investigating the inclusion of DSMs in bilateral treaties, scholars have chiefly focused on DSMs in Free Trade Agreements (FTAs) (McCall Smith 2000; Jo & Namgung, 2012) or in Bilateral Investment Treaties (BITs). For example, in the case of BITs, Allee and Peinhardt (2014) argue that when states do not specify the venue for dispute resolution, they ensure maximum flexibility in settling their conflicts. At the same time though, this flexibility can lengthen the time it takes to solve conflicts (Jo & Namgung, 2012; Allee & Peinhardt, 2014).

International agreements also vary in their degree of legalization. In the case of FTAs, the choice of a DSM lies along a continuum from bilateral negotiation, to arbitration, to the use of courts. McCall Smith (2009) finds that the greater economic asymmetry between trade partners fosters the desire for less legalistic dispute settlement. Jo and Namgung (2012) show that pairs of democracies are more likely than autocracies to prefer moderately strict DSMs. They also find that trading partners emulate each other by adopting similar DSMs and finally that the development of the multilateral trading system has led to the diffusion of DSMs. With regards to BITs, all of which include DSMs, Allee and Peinhardt (2014) identify three categories of dispute settlement. Some agreements provide advanced consent to international arbitration, others provide several options for conflict resolution and finally they note that some agreements call for using more formalized venues for conflict resolution. Their explanation for this variation lies in the preferences of key interest groups as well as the power differential between states, i.e. the more powerful states dictate the type of DSM. These choices influence flexibility and speed of resolution. If states commit to international arbitration, it speeds up the process of solving the conflict compared to trying a case in a home court, but at the same time, it can also increase the uncertainty for both states.

Scholars who study the variation in DSMs have proposed explanatory mechanisms that fall into two main camps. There are those who focus on rational institutional design (Keohane et al., 2000; Koremenos, 2007), while others argue that policy diffusion explains institutional variation, i.e. that states adapt and learn from actions by other states (Simmons & Elkins, 2004; Elkins, Guzman, & Simmons, 2006). Maritime boundary agreements are governed by the Law of the Sea, which after 1982 became the best developed body of international law we have. We argue that states react to the incentives provided by this regime when they try to preserve flexibility and reduce the costs of conflict resolution. While we do not test for diffusion effects, it is plausible that states learn from each other how to design DSMs in order to cope with these incentives effectively.

Advocates of rational design identify five sources of institutional variation: membership rule, scope of issues covered, centralization of tasks, rules for controlling the institutions and the flexibility of arrangements. Focusing on DSMs, Koremenos argues that “proponents of rational design, believing that agreements are tailored to the problems they are trying to solve, would expect more centralized or formalized dispute resolution provisions when at least one of the above highlighted cooperation problems is present” (2007). The explanatory variables they identify are the distribution problem faced, enforcement (incentive to cheat), the number of actors and asymmetries among them, as well as three types of uncertainty – about behavior of other states, about the state of the world and about the preferences of other states (Koremenos, Lipson, & Snidal 2001b). The main driver for drawing a maritime boundary is to reduce legal uncertainty that prevents the exploitation of economic resources, particularly oil. The bilateral delineation of competing maritime claims reflects a settlement of a distributional issue.

Maritime boundary agreements solve a cooperation problem that is similar across cases, and all of the agreements are framed by the same regime. Since we do not have variation in the sense of the rational design literature, it has few insights to offer for our analysis.

Settling maritime boundaries differs from negotiating FTAs and BITs in a number of ways. For one, not all maritime boundary agreements contain provisions for conflict resolution, whereas hand-tying DSMs are a universal part of all BIT and most FTAs. In addition, instead of more institutionalized ways of settling disputes found in FTAs and BITs, the range of options states include in maritime boundary agreements include bilateral negotiations, as well as either arbitration or use of courts as specified in the Law of the Sea. A third difference lies in how pairs

of states are selected into an agreement. When it comes to trade and investment treaties, states can choose with whom to cooperate and each state can theoretically cooperate with every other state in the system. Maritime boundary agreements, on the other hand, have a geographic dimension that restricts the choice to whether or not to cooperate with your neighbor. An example of this includes the Netherlands and Germany in the North Sea and Mexico and the United States in the Caribbean and in the Pacific Ocean. The only exception to the neighborhood option is when states negotiate on behalf of their dependencies, which can be far away from the “main land”. Four states have the vast majority of dependencies in this category: the United Kingdom, the United States, France and the Netherlands. An example of such an agreement would be the boundary agreement between the United States and Niue, a small island in the Pacific Ocean. Finally, the maritime boundary agreements are all guided by a common legal regime, the Law of the Sea. There exists no such overarching legal framework for either FTAs or BITs and identifying viable conflict resolution mechanisms is one of the main objectives of such treaties. Hence when states settle a maritime boundary and do not include language about solving future conflicts, the LOS still provides for several legalized conflict-resolution mechanisms. Therefore when maritime boundary agreements agree on an ANO, it effectively rules out that the states will avail themselves of the institutionalized venues provided for by the Law of the Sea.

Negotiations are less expensive than legal proceedings and have the additional feature of the outcome being more flexible than using courts or arbitration. The courts do not have a good track record in providing predictable outcomes. Legal scholars who study the Law of the Sea have complained that court procedures do not create precedents for future decisions, leaving outcomes shrouded in uncertainty (Prescott, 1986). In addition, the costs of using more formal judicial channels to solve conflicts can be significant. For example, in the literature on the use of DSMs in the WTO it is well-established that high legal costs deter less developed states from availing themselves of these mechanisms (Davis & Bermeo, 2009; Guzman & Simmons, 2005). High legal costs can also become an issue during litigation. For example in a case pitting Saint Vincent and the Grenadines against Spain involving the arrest of the MV Louisa, both parties to the suit requested that the other state be made to pay legal costs. Saint Vincent and the Grenadines estimated their costs to be 500,000 Euros, while Spain estimated its costs to be 500,000 USD (International Tribunal for the Law of the Sea, 2013). While the legal costs may not make much of a difference for Spain, a country with a 1.35 trillion GDP, 500,000 Euros is

more significant for Saint Vincent and the Grenadines, whose GDP is only about 700 million dollars. Together, these examples illustrate how committing to negotiations as DSM can help to both reduce costs and preserve flexibility.

### **III. WHY DO STATES SEEK TO UNTIE HANDS?**

This section discusses under which circumstances states will seek to untie their hands from legalized mechanisms prescribed in the Law of the Sea. Building on the literature discussed above, we identify several factors that influence demand for flexibility and illustrate the sensitivity to the costs of different conflict resolution mechanisms. We begin with the sensitivity to costs. Perhaps the most important factor influencing how much cost a state is willing to incur in future conflicts is the salience of the issue at hand. Hensel et al. (2008) identify six indicators that affect saliency in maritime claims: “(1) maritime borders extending from homeland rather than colonial or dependent territory; (2) a strategic location of the claimed maritime zone; (3) fishing resources within the maritime zone; (4) migratory fishing stocks crossing into and out of the maritime zone; (5) the known or suspected presence of oil resources within the maritime zone; and (6) relation of the maritime claim to an ongoing territorial claim (involving maritime areas extending beyond either claimed coastal territory or a claimed island)” (Hensel, Mitchell, Sowers II, & Thyne, 2008). According to Gilligan et al. (2010), increasing the saliency should increase the likelihood of the willingness to use courts. Given the preponderance of maritime boundaries being settled using negotiations, this does not seem to apply. Highly salient boundary settlements might, however increase the willingness to bear higher costs in the future, but as we argue below there are good reasons this might not be the case. We address these important points as we develop our argument.

#### *Explaining the Sensitivity to the Cost of Dispute Settlement*

An important underlying driver of sensitivity to cost is a state’s wealth. As our example of Saint Vincent and the Grenadines showed, the monetary costs of solving a boundary dispute through a tribunal or the use of international courts can be substantive for a poor country. For richer states those monetary costs should play less of a role in the decision how to structure future conflict resolution mechanisms. We therefore expect that poorer states prefer flexible DSMs whereas richer states do not have such a preference. Our straightforward prediction is that boundary

agreements that involve a pair of poor states are more likely to include a flexible DSM whereas pairs of rich states are less likely to do so.

What about boundary agreements that pairs wealthy and poor states? We argue that economically weaker states have relatively higher stakes in securing the possible economic benefits from resource exploration in the EEZ, lowering their sensitivity to the costs of conflict resolution. In addition, wealth differentials also carry with them strong implications for political power. Weaker states might be wary of the influence that richer neighbors are able to exercise when future conflicts are dealt with through negotiations. Together, this suggests that poor states would prefer not to include an ANO when dealing with a wealthy counterpart. However, from the perspective of the wealthy state the situation presents itself in a different light. As we argue in more detail below, powerful states prefer to preserve flexibility for future conflicts. Including an ANO allows them to achieve this goal, while reaping the benefits from cooperation in the present. In this context it is worth remembering that states enter into joint boundary agreements voluntarily. According to Article 15 of the Law of the Sea, in the absence of an agreement, states can only claim the geographic median line dividing the joint area. We argue that in negotiations between a poor and a rich neighbor, the preferences of the wealthier state win out. This is because relative economic gains from delineating the boundary should be greater for the poor state, while the wealthy state can hold out to achieve its preferred outcome. Similarly to McCall Smith (2009), we expect that differences in wealth increase the probability that an agreement includes an ANO.

Existing and potential resources influence how states think about future cost of conflict. Two key resources are at stake here, petroleum deposits and fisheries resources, which we expect to influence the desire to untie hands, but for different reasons. Off-shore oil exploration, drilling and production are expensive and require high investments. States cannot really make these investments until property rights to the area are clear, i.e. the maritime boundary has been settled. In thinking about future conflicts, given the uncertainty surrounding oil deposits and the high costs associated with extraction, states should desire to minimize the cost and maximize the speed of settling any future conflict. Accordingly, we expect agreements where there is the presence of oil to be more likely to include ANO provisions.

Fisheries have a similar impact on the choice to include flexible DSMs as oil, but for a different reason. Given the mobile nature of fisheries, states can and do cooperate in managing fisheries without settling their maritime boundaries. An example of this was the joint management of cod and capelin stocks in the Barents Sea between Norway and the Soviet Union (later Russia). Unable to agree on a boundary in the late 1970s, the two states jointly managed fish stocks in the area for 30 years. Norway and Russia finally settled their competing claims in 2010. This suggests that fisheries are of relatively low salience for bilateral boundary agreements. Accordingly the costs of conflict resolution weigh more heavily, and we expect that significant fishing nations are more likely to include ANOs.

### *Explaining the Preference for Flexibility*

The second reason for specifying negotiations as the preferred DSM in a maritime boundary agreement is that the partner states want to preserve flexibility in how to deal with future conflicts. Here we identify factors that make states more likely to demand flexibility. We argue that in general, the demand for flexibility increases with opportunity costs that states incur for agreeing to cooperate. Some states stand to gain more from cooperation than others, and those states that could do well without delineating their maritime boundary have more incentives to preserve flexibility should conflict arise in the future.

Examples of this are maritime boundaries between states that have vast differences in economic and military power. Recent work on the genesis of international institutions has demonstrated that powerful states are more willing to tie their hands if institutional arrangements provide a 'safety valve' that allows them to override normal rules of cooperation in circumstances when the vital interests of the most powerful state are at risk (Stone et al 2008; Stone 2011).

Accordingly, we expect power differentials to matter for the inclusion of ANOs. Relatively powerful states might be unwilling to forgo the flexibility of negotiated solutions to conflict. We therefore expect that a larger power differential is associated with a greater chance of an ANO that seeks to untie the hands of states.

Settling a maritime boundary can have important distributional consequences for states because both sides give up some of their coastal waters and Exclusive Economic Zones. In the absence of a bilateral agreement, the Law of the Sea sets the median line as the maximum area that states can claim. The agreements, however, vary greatly in how much they deviate from the median

line. Agreements with an uneven distribution where the negotiated boundary line shifts away from the status quo median line are harder to achieve. In contrast, agreements that fall closer to the median line avoid difficult distributional questions. As a result, we argue that states that settle their boundary closer to the median line prefer to preserve flexibility, should conflict about the gains from cooperation arise in the future. Where the boundary is far from the median line, states already have grappled with the question of distributional gains and flexibility is less important. On the contrary, states might feel compelled to protect their hard fought compromise through a more formal hand tying mechanism.

We next turn to other areas of cooperation that should affect how states deal with the issue of maritime boundaries. Our arguments are in line with classical ideas about complex interdependence (Keohane & Nye 1977). Democratic regimes find it easier to cooperate with each other than pairs of states that include authoritarian regimes. Examples of this include trade deals and other areas of international economic cooperation. In addition, democratic governance is more transparent than governance in authoritarian states, leading to higher levels of trust between democracies (Jo & Namgung, 2012; Russett & Oneal, 1999). Given this interplay between cooperation in different issue areas and mutual trust, we expect that pairs of democracies are more comfortable with legalized DSMs to safeguard their interests in maritime boundary agreements. This is in line with existing work that shows that democracies face pressures to support more legalized venues for conflict resolution (Davis 2012). Since DSMs included in maritime boundary agreements are designed to opt out of the more institutionalized venues of conflict resolution established by the LOS, we would expect democracies to be less likely to include ANOs.

In a similar vein, settling terrestrial boundaries has been shown to increase trade (Elkins et al., 2006; Simmons & Elkins, 2004), and trade in turn is associated with a decreased likelihood of conflict between states (Russett & Oneal, 1999). This suggests that states that trade a lot, also find it easier to cooperate in delineating their EEZs. The mechanisms through which this occurs are similar to those that facilitate cooperation between democracies, including the development of shared norms and trust, as well as internal accountability mechanisms. Regardless of the precise mechanism, our expectations therefore mirror those spelled out above. We would expect that pairs of states with extensive trading ties are more comfortable with legalized venues for conflict resolution and therefore are less likely to opt for ANOs.

Just as cooperation in other areas can affect cooperation over maritime boundaries, existing conflicts also should have important effects. In some maritime boundary areas, states have ongoing territorial disputes. Where there are such disputes, states need to be wary about the consequences that future developments with regard to their territorial claims will have for the derived rights towards their Exclusive Economic Zones (since those rights are based on proximity to territorial possessions). This should result in a high premium on flexibility if the maritime boundary is settled, and we therefore expect that such states are more likely to include ANOs. Other instances of conflict potentially follow a different logic. If the conflict is in the recent past, there is no expectation about future changes to settlements, but there might be more mistrust. We therefore expect that states that have fought wars have a greater need for hand-tying to come to agreement in the first place. Such states should therefore be less likely to prescribe flexibility into their maritime boundary agreements.

Finally, we look at agreements that involve dependencies. While the majority of maritime boundary agreements are signed by independent states, a smaller number includes either one or two dependencies. Dependencies do not negotiate for themselves, since foreign policy typically is a domain of national governments of the colonizing country. Negotiating for a home boundary versus a boundary for a dependency differs, with home boundaries being more salient than boundaries located in far-off dependencies (Hensel et al., 2008). Accordingly, the prospect of settling future conflicts through costly tribunals or international litigation should be less appealing to governments that are negotiating on part of a dependency. We therefore expect boundary agreements that involve one or two dependencies to be more likely to include ANOs.

### *Role of the Law of the Sea*

There is one factor that should have an important effect on the inclusion of ANOs, which is not directly related to demands for flexibility or sensitivity to costs. Our argument builds on the institutional features introduced by the Law of the Sea. This convention, which opened up for signature in 1982, established various legal venues for conflict resolution over maritime boundaries including the International Tribunal for the Law of the Sea in Hamburg. At the core of our argument we maintain that the creation of these institutional DSMs made it necessary for states that wanted to preserve flexibility and lower costs to prescribe negotiations as ANOs in bilateral agreements. 1982 provides a natural test for our argument. If we are correct, states that



settled their boundaries prior to 1982 would have been less compelled to include ANOs into their agreements than those that settled in later years.

#### **IV. MARITIME BOUNDARY AGREEMENTS**

Our new dataset includes 186 maritime boundary agreements signed between 1960 and 2008. The main goal of the agreements is to agree on specific coordinates that settles the precise location of the maritime boundary. Using the five-volume *International Maritime Boundaries* (Charney and Alexander, 1993a, 1993b, 1998; Charney and Smith 2002; Colson and Smith 2005), the agreements were coded by one of the authors and assisted by two undergraduate students. The coders were trained and supervised by the author. During the time of the coding, the students also did regular validity checks on their coding, discussed any discrepancies with their supervisor before making the final coding decision. In addition to coding for the presence or absence of mention of dispute settlement, the coders also coded for how prescriptive these codes were. For example, did an agreement specify the nature of the DMRs, for example the use of arbitrators, mediators, courts or bilateral bargaining? They also coded for such items as whether or not the agreement mentioned oil and fisheries resources in the area, and if so what (if anything) the states should do with them.

The Third United Nations Convention on the Law of the Sea has been described as the best developed body of international law (Burke 1994) and it currently frames negotiations around ocean areas. LOS came into force on November 16, 1994, a year after Guyana became the 60<sup>th</sup> state to ratify the treaty. As of January, 2015, 166 states have ratified it, with a notable exception being the United States. The number of possible agreements is to a certain extent predetermined by the number of maritime boundaries in the world. In all there are about 417 overlapping and adjacent maritime boundaries and boundary segments in the world, of which 45% were settled by 2008. Figure 1 shows the number of maritime boundary agreements signed each year.

[Figure 1 about here]

The Law of the Sea (United Nations 2014) created the 200-mile EEZ, within which a coastal state has sovereign rights to explore and exploit, conserve and manage natural resources in the water, seabed and subsoil (Articles 56 and 57). The agreement, however, did not settle the question of what states should do when maritime claims overlap because states are less than 400

nautical miles apart or when two nations have adjacent economic zones. The treaty recognized the fact that the creation of the 200-mile EEZ had the potential to create conflicts between nations where the EEZs were less than 400 miles apart and where adjacent countries had to extend their physical boundary into the ocean. Specifically Article 15 allows states to claim the median line as the maximum while states are negotiating. The article also envisions historic claims and special circumstances will influence the final boundary, without specifying exactly how states should apply these principles in practice. Hence, given that LOS does not provide a specific solution as to how to divide overlapping maritime claims, most states have chosen to negotiate treaties bilaterally to settle the property rights to specific areas of the ocean. With only a handful of exceptions, states have negotiated the boundary agreements bilaterally. The exceptions have been settled either by arbitrators, the International Court of Justice in The Hague or more recently the International Tribunal for the Law of the Sea. Table 1 shows the geographic distribution by ocean area of the existing boundary agreements. Not surprisingly, the greatest number of boundary agreements can be found in the Caribbean with its many islands and in the North Atlantic. Interestingly, in many highly contested sea areas such as the South China Sea, only a small number of overlapping Exclusive Economic Zones has been delineated and the area remains one of high tensions. These conflicts are driven by issues that go beyond securing mutual gains from delineating Exclusive Economic Zones, such as security and sovereignty questions and have yet to be settled (Koo 2010). States find it much more difficult to agree on maritime boundaries under these circumstances. Since our analysis only evaluates settled boundaries, it therefore excludes these contested areas.

[Table 1 about here]

Article 15 strongly urges states to cooperate, but leaves the specifics of that cooperation on the shoulders of the states, with vague references to equidistance, equality and history. In essence, this is ideal for solutions based on bargaining, which then fosters agreements that vary significantly. We develop a continuous measure that captures this variation. The measure summarizes the distributional outcomes of the agreements relative to the median line. Recall that absent of an agreement, the LOS allows each state to claim the median line as the extent of its EEZ. We begin with calculating the sea area that each side obtains relative to the median line given the new boundary. Next we compare these gains to the total area that was reallocated. If the result is completely balanced, the ratio of gains is exactly 1 (each side obtained half,

0.5/0.5=1). Where the new boundary runs in its full length to one side of the median line, the ratio of gains for the state that loses territory is zero. Figure 2 shows how the resulting measure of distributional balance is distributed.

[Figure 2 about here]

At their core, maritime boundary agreements are relatively simple agreements as the goal is always for the pair of states to decide where to demarcate a line in the water. But beyond that, the agreements show a remarkable variation in what the agreements contain beyond the geographic coordinates. Some agreements are quite sparse and include only a list of geographic coordinates, while others specify joint monitoring and licensing of fishing resources, how to deal with potential oil development and how future conflicts should be handled.

Even though there is a great deal of variation in the content of the agreements from only listing geographic coordinates to elaborate discussions of future cooperation, they share certain features. Bilateral agreements hold the number of actors constant at two and these agreements seek to settle the same type of conflict – where to draw a line in the ocean that delineates property rights over resources in the water column, below and on the ocean floor.

Settling maritime boundaries differs in several fundamental ways from drawing terrestrial boundaries. First, scholars have found that established administrative frontiers influence the settling of land boundaries. By comparison, the ocean contains no such visible reference points (Carter & Goemans, 2011). Second, most maritime boundaries have been settled by pairs of independent states, as opposed to being drawn by colonial powers. Third, while there are four ways beyond negotiation to solve maritime boundary conflicts, more than 90% of them have been settled through bilateral negotiations. Besides bilateral negotiations, states can refer their case to ITLOS or the ICJ. In addition, the Law of the Sea offers an option for two different uses of arbitration panels. Of the settled boundaries in our study, the ICJ decided eleven boundaries and third-party arbitrators helped negotiate nine agreements. But even when the dispute was settled either by the ICJ, the International Tribunal for the Law of the Sea or through arbitration, the end result is a negotiated agreement. When conflicts involve a third party – the ICJ, ITLOS or a mediator/arbitrator, it happens after negotiations begin and the role of the third party is to foster further negotiations.

## V. DATA AND METHODOLOGY

We begin our discussion of coding with the dependent variable. A sizable number of agreements mention conflict resolution, and specify some form of a strictly bilateral procedure based on an Agree to Negotiate Option. For example, agreements frequently state that conflicts should be solved by “peaceful means”, or through “negotiations”, or refer to Article 33 of the UN charter (which calls on parties to settle differences with peaceful means). We code these cases as 1. Agreements that do not mention any DSM, either an ANO or more codified procedures, we code as zero. The resulting binary variable is our main dependent variable. Only a comparatively small number refers to the four formalized and binding DSMs spelled out in the Law of the Sea. The gamut of diplomatic tools ranges from forming an ad-hoc “commission of experts” or an “arbitration tribunal” to referring the conflict to the International Court of Justice or the International Tribunal for the Law of the Sea.<sup>3</sup> We initially omit these cases from the analysis. Of the 186 agreements in our dataset, 76 agreements, or 40.9%, mention DSMs. Fifty-six out of the 186, or 30.11%, specify an ANO, which means that 74% of all DSMs specified are negotiations. Twenty agreements (10.75%) in our dataset have provisions that spell out a formalized DSM and 110 (59.1%) do not mention any dispute settlement procedure. As we argue above, the implementation of an institutionalized DSM is costly and reduces flexibility when dealing with future disagreements. Accordingly, institutional DSMs are systematically different from ANOs. To test for this notion, we create a second variable that assigns values from 0 to 2 to agreements without mentioning of DSMs (0), those that specify an ANO (1), and agreements with one of the four institutionalized DSMs spelled out in the LOS (2). It should be noted that the order of assigned numbers is incidental because we believe that the different cases are categorically different and do not follow an inherent ordering.

We begin with independent variables that affect how sensitive states are to the costs of conflict resolution. Wealthier countries can better afford institutionally articulated DSMs, whereas poorer nations should prefer flexible and less expensive means to deal with disagreements. As measure of wealth, we take GDP data from the World Development Indicators and calculate the total sum of GDP per capita in the dyad. As alternative specification, we use separate GDP per capita variables for both countries, but deciding which set of countries will be grouped together is an

---

<sup>3</sup> Although we do have the information necessary for constructing a more fine-grained categorization of different forms of conflict resolution mechanisms, there is not enough variation in the data to systematically explore those.

arbitrary choice. For differences in GDP, we rely on the absolute difference in between the countries, normalized by the total sum of their GDPs. This variable can take on values between 0 and 1.

Next, to account for the presence of hydrocarbons in the water column we code a dummy variable that takes on a value of 1 if oil there is potential for oil deposits in or near the disputed area and 0 otherwise. This is a forward looking measure that registers undeveloped but expected oil reserves as opposed to existing oil production. The aim is to capture the need to cooperate over oil exploration. The data is from The Petroleum Dataset (Lujala, Ketil Rod, & Thieme, 2007).

To measure fishery interests, we use the Food and Agricultural Organization's FISHSTAT database. It contains the type and quantity of catch of each state across time (Food and Agricultural Organization, 2012). Unfortunately this dataset does not provide estimates of the value of the catch. Instead we include the volume of both countries' fisheries into the analysis.

As final factor that affects the cost sensitivity of DSMs, we account for agreements that were negotiated by former colonial powers on behalf of a dependency. To this end, we include a dummy variable that takes the value 1 if any of the two countries in a dyad are a dependency and 0 otherwise.

We now turn to factors that affect demand for flexibility of conflict resolution mechanisms. The first variable captures power differentials. Power differentials raise the issue of incomplete contracting, as stronger countries only will be willing to enter into agreement if they can ensure flexibility in future conflicts. To measure power differences we rely on the National Material Capabilities Version 4 data (Ghosn, Palmer, & Bremer, 2004; Singer, Bremer, & Stuckey, 1972)

Next we turn to the distributional outcomes of the new maritime boundary line. We have described the underlying rationale and measurement strategy in the previous section. Gains and losses are in relation to the status quo allocation of sea area, which is determined by the geographic median line. The variable ranges from 0 to 1. Zero represents a complete movement of the boundary to one side of the median line, for a lopsided distributional outcome that gives all gains to one of the two states. On the other end, 1 occurs if any shifts away from the median line are perfectly balanced and both sides have equal gains from the agreement.

Moving on to the effect of cooperation in other areas, to capture joint democracy we rely on Polity IV data. Following the Polity approach, a democracy is defined as having a combined polity score of 5 and higher (Marshall, Jaggers, & Gurr, 2010). We include a dummy when both countries in a dyad meet this cutoff.

To identify trade links, we include a variable that measures total trade per capita of both countries in the dyad. The raw trade data stems from the Correlates of War Project Bilateral Trade (v3) data (Barbieri, Keshk, & Pollins, 2008; Barbieri & Keshk, 2012). In the literature on the link between trade and peace there is some evidence that multilateral trade is less conducive to cooperation than bilateral trade (Martin et al 2008). As alternative specification we therefore use the sum of total exports and imports of both countries, normalized by population size. The data for this come from the UN Comtrade database.

The next set of variables concerns ongoing and past conflicts. We identify territorial conflicts that are located in the maritime area in question, typically involving rocks and islands. We rely on the CIA's World Factbook to code a dummy variable that takes on a value of 1 in the presence of such conflicts and 0 otherwise. Two countries that have fought a war in the past will lack trust, and therefore find it harder to cooperate without institutional safeguards. To tap into the track record of bilateral relations, we use the Correlate of War Project's Militarized Interstate Dispute data (Ghosn et al., 2004) to code a dummy variable as 1 if the two states were involved in a militarized interstate dispute with actual use of force over the last 10 years (as opposed to a mere threat or display of force) and 0 otherwise.

As last independent variable we focus on the Law of the Sea. As we argued above, states should have been more compelled to include ANOs into boundary agreements once the LOS was open for ratification in 1982. To capture this, we include a dummy variable that provides a separate intercept for agreements that were created in 1982 or later. In addition, we also run our main specification separately on subsamples divided by the years prior to 1982 and for later years. The idea is to check whether the coefficients on the other variables remain stable over time, which ensures that we are not missing more complex interactions between the LOS and individual factors driving the inclusion of ANOs.

Table 2 provides summary statistics for the main variables in our analysis. In the next section, we discuss the results of the statistical analysis.

[Table 2 about here]

## VI. RESULTS

Accounting for missing data in the independent variables and without the handful of cases that feature more articulated DSMs, we have 140 agreements in the analysis, covering 111 unique dyads (some countries share several maritime boundaries) and 94 countries. This number drops further to 125 when we include our measure of difference in capabilities. Since the capabilities variable does not substantively change our estimates, and is itself not statistically significant, we show our main results without difference in capabilities. All of our results are robust against outliers.<sup>4</sup> In addition our model achieves good model fit despite a small sample size. A classification table based on our preferred probit model (model 1, see below) shows that our model correctly predicts 34.6 percent of agreements that include a DSM, and 80.7 percent of all agreements that do not have a DSM, for an overall correct classification rate of 63.4 percent (table 3).<sup>5</sup>

[Table 3 about here]

Table 4 gives an overview of the estimation results.<sup>6</sup> We begin with a probit model (model 1) that captures whether an agreement includes an ANO or not, leaving out cases with more institutionalized DSMs. Starting with the results that are strongest and well in line with our theoretical argument, richer pairs of countries are less likely to specify negotiations in boundary agreements. This confirms our expectations that poorer countries seek to prescribe ANOs in an effort to avoid more costly institutional venues specified in the LOS. In the data, as shown in Figure 1, each \$1,000 decrease in GDP per capita is associated on average with a 1 percentage point increase in the probability of including an ANO.<sup>7</sup>

[Table 4 about here]

---

<sup>4</sup> Table 6 in the Supplementary Online Appendix shows results with jackknifed standard errors for the main specifications in the analysis. Despite a relatively small  $n$ , statistical significance is only slightly reduced when compared to the main specification.

<sup>5</sup> Cutoff for classification is the standard 50 percent predicted probability of inclusion of ANO.

<sup>6</sup> All results reflect regular standard errors and are robust to clustering on dyads.

<sup>7</sup> All predicted probabilities are calculated holding the baseline probability of inclusion of an ANO at the observed sample mean, 37.4 percent. Figure 2 shows predicted marginal effects with 90 percent confidence bands.

Cost also plays an important role for dependencies. Agreements that were negotiated by national governments on part of a dependency are more likely to include an ANO. On average, these agreements have a 23 percent greater chance of requiring negotiations as means to address disagreement. Thus, we have evidence that in delegated negotiations, national governments seek to preserve flexibility for the future and try to avoid the costs of implementing a more institutionalized conflict resolution mechanism. Power differentials also play an important role, albeit one that is limited to the economic sphere. For differences in GDP per capita, though the variable only achieves moderate statistical significance ( $p=0.069$ ), a 10 point change in the difference of the two countries' GDP per capita (on a 0-100 scale) is associated with a 2.2 percent increase in the likelihood of having an ANO. For example, when we compare a pair of countries with equal GDP per capita (a 0 point difference) and a pair where one country has double the GDP than the other (a 33 point difference), the uneven pair has a 7.3 percentage point greater likelihood of including a ANO into their agreement. Clearly, if the economic power differential is large, the involved parties seek to preserve more flexibility for the resolution of future conflicts.

[Figure 3 about here]

Turning to the impact of the distributional outcome on the content of agreements, we find that agreements that are closer to the status quo, the geographic median line as mandated by the LOS, tend to include more ANOs. Substantively, for each 10 points move towards the status quo on a 0-100 scale, the probability of an ANO increases by about 2 percentage points. This is in line with our expectation that agreements that changes to the status quo are harder to achieve, making flexibility in future conflicts less desirable. Agreements that are closer to the median have weaker distributional implications, but leave open the possibility for greater adjustments should conflict arise in the future. This explains the demand for more flexibility as agreements fall closer to the median line.

The last variable, a dummy for years after 1982 misses conventional cut-offs for statistical significance by just a bit ( $p=0.057$ ). The effect is positive, and substantively important. After 1982, the likelihood of including ANOs into boundary agreements increased by 13 percent. This is as we expected. With the signature of the Law of the Sea in 1982 the international regime governing maritime boundaries had taken shape. Its menu of institutional conflict resolution



mechanisms established an expectation that conflicts which could not be resolved through bilateral negotiations would be dealt with through binding arbitration, or through sitting courts such as the International Court of Justice and the International Tribunal for the Law of the Sea. Our evidence shows that countries sought to preserve flexibility in dealing with future disagreements by increasingly prescribing negotiations as the only dispute settlement mechanism in their maritime boundary agreements.

A number of variables did not behave as expected. Economic self-interest does not appear to influence the choice of DSM. Neither the probability of oil in the water column, nor the presence of fisheries, nor overall bilateral trade have a statistically discernible effect on including an ANO. Interestingly, the same is true for variables that are either associated with cooperation or directly capture antagonism. Pairs of democracies are not more likely to require negotiations than pairs of countries including one or more non-democracies. In addition, neither competing territorial claims in the affected sea area, nor a history of recent armed confrontation has an influence on choosing an ANO.

We next turn to model 2. In this specification, we add the 20 agreements that prescribe institutional DSMs as envisioned by the Law of the Sea. Thus, the dependent variable takes on a value of 0 if an agreement includes no DSM, and 1 if a DSM of *any kind* is included. Since our main argument is that states seek to increase flexibility and reduce cost, including cases of DSMs that do not encode flexibility should reduce effect sizes of the independent variables that were associated with greater flexibility in model 1. In other words, we expect that model 2 has less explanatory power because the logic that drives the codification of flexibility is different from the more traditional institutional DSMs. This is what we find across the board. Although the number of observations increases, and with it statistical power, all independent variables that were statistically significant in model 1 have smaller absolute coefficients in model 2. This includes deviations from the median line, total GDP, differences in GDP, states bargaining on part of a dependency, and the LOS regime dummy for years after 1982. Importantly, the LOS regime effect is now so small that it loses statistical significance. This is particularly important since we have argued that the Law of the Sea establishes expectations for legalized conflict resolution that in turn drive the need for ANOs. Clearly, this effect is diluted once we include DSMs in the analysis that call for such legal forms of conflict resolution. We should also note that one variable increases in effect size and reaches weak statistical significance. Pairs of

democracies are significantly more likely to include any form of DSM than other combinations of regime types. Irrespective of whether we attribute this effect to internal norms or domestic institutions, democracies appear less concerned with future conflicts when they cooperate with each other over maritime boundaries.

In model 3 we disaggregate the analysis from model 2, treating both types of DSMs and the exclusion of any DSM as unordered categories. That is, we use a multinomial logit setup to investigate what drives whether agreements include no DSM, specify flexibility, or have an institutional DSM.<sup>8</sup> The results confirm the findings from model 1 throughout. All variables that explain the inclusion of an ANO in model 1 are also statistically significant and have similar coefficients in the multinomial setup. In contrast, as expected these variables explain very little when agreements include more institutional DSMs. Settlements closer to the median line are more likely to have an institutional DSM, but the effect is barely statistically significant ( $p=0.095$ ). None of the other variables in the analysis reaches conventional levels of statistical significance.<sup>9</sup> Again, this underlines that the processes that drive the inclusion of ANOs in maritime boundary agreements is fundamentally different from previous arguments about tying-hand mechanisms in legalized DSMs.

As additional robustness check, we also estimate a number of alternative specifications of model 1, our main model. The results are reported in table 5. First, we disaggregate the GDP per capita variable that summed up across both countries in the sample, and include separate variables for each partner country (model 4). Again we find that poorer countries are strongly sensitive to the costs of formalized DSMs. We estimate these effects with lower levels of statistical significance. This is not unexpected since the recovered effect size for countries in group B is lower, thus reducing our ability to statistically distinguish the effect from zero (i.e. statistical power decreases). In addition, the assignment of countries to side A or B is arbitrary and thus introduces a form of measurement error. In model 5, we replace bilateral trade with total multilateral trade.

---

<sup>8</sup> The multinomial logit assumes independence of irrelevant alternatives (IIA). From our theoretical perspective, the need for flexibility and more institutional forms of DSMs are driven by fundamentally different processes. We hence believe that the IIA assumption is met.

<sup>9</sup> It should be noted though that since there are only 20 cases of institutional DSMs in the analysis, statistical power to recover any effects is small.

The expectation is that multilateral trade is not as conducive to cooperation as bilateral trade, but we have no evidence for either effect.

[Table 5 about here.]

Finally, we separate the sample in years prior to 1982 and years from 1982 onward (models 6 and 7). This allows us to examine whether the estimates effects of our variables are stable between the two time periods. However, since our sample is small to begin with, splitting it further leads to a loss of statistical power and possibly negatively affects the asymptotic properties of our estimator (i.e. the probability of a type II error increases and the central limit theorem might not guarantee normality of errors anymore). In addition, for the pre-1982 period we are losing some cases because of issues with perfect separation affecting the armed conflict dummy (which accordingly is dropped).

We find that all of the significant variables from model 1 retain the previously estimated direction, but many of them lose statistical significance. The coefficients for distributional evenness (deviations from the median line) are similar in magnitude as in model 1 for both time periods, but are not statistical significant anymore. We attribute this to the loss of power to recover what was a small effect to begin with. The negative effect of total GDP per capita is strong enough to emerge at conventional significance levels in both of the sub-samples. The substantive effect is somewhat larger prior to 1982 than in later years, but not dramatically so. Bigger differences between the time periods exist for difference in GDP and the dependency dummy. We find that for the pre-1982 period, their effects are statistically significant and larger than in the full sample. For the time after 1982, these effects are much smaller, though still in the predicted direction, and not statistically significant. This suggests that power differentials and costs concerns involving dependencies played a bigger role prior to 1982, when the LOS was opened for signature. This is not in line with our expectations that the codification of more expensive institutionalized DSMs unfolded its effects only after 1982. The Law of the Sea was a result of a decade of negotiations, and it is possible that states were aware of the future nature of conflict resolution earlier than 1982.

To investigate the source of the discrepancy between the subsamples, we run additional specifications of the full model, including interaction terms between the post 1982 dummy and the difference in GDP as well as the dependency dummy. This alleviates problems with sample

size, and strongly negative interactions would show that these two variables indeed have a weaker effect after 1982. For dependencies, we cannot find any evidence of an interaction (results in table 7 in the Supplementary Online Appendix), but difference in GDP again has a much more pronounced effect in the pre-1982 period. We therefore conclude that for dependencies the unexpected patterns in the sub-samples are likely due to problems stemming from the small size of the divided sample.

Overall, we have a number of robust findings that tie demand for flexibility and cost concerns to the inclusion of ANOs into maritime boundary agreements. Most importantly, poorer countries have a preference for avoiding the costs of more institutionalized DSMs. This effect occurs independent of regime type, as pairs of democracies are less likely to untie their hands. Cost also matters for boundaries negotiated by national government on behalf of dependencies. These arrangements are more likely to include an ANO. Demand for flexibility also arose from power differentials. These were limited to economic discrepancies, not military power, as greater differences in GDP per capita were associated with an increased likelihood of an ANO, whereas differences in national capabilities were not.

## **VII. CONCLUSION**

This paper is the first that studies conflict resolution mechanisms that untie the hands of states, reversing the traditional logic of the use of dispute settlement procedures. Maritime boundary agreements provide a unique testing ground for arguments about bilateral cooperation under the roof of a strong multilateral regime because cooperation around ocean areas is framed by the Law of the Sea. This well-established body of international law establishes the right to Exclusive Economic Zones, structures the interaction of states where EEZs overlap, and creates a number of institutional venues through which states can resolve conflicts over maritime boundaries. Using a new dataset that includes both the distributional outcome as well as content coding for 186 boundary agreements, we show that states solve these conflicts in a variety of ways. Only about 40% of the agreements establish the venue through which future conflicts ought to be settled, but within this group, 74% bind themselves to the cheapest and most flexible DSM: an Agree to Negotiate option that calls for bilateral negotiations.

This raises an intriguing puzzle. Existing works have almost uniformly emphasized that the institutionalization of DSMs serves to reduce the discretion of cooperating parties, often with the

goal of facilitating commitment to an agreement. In contrast, in the case of overlapping maritime spaces, states go to great lengths to untie their hands by prescribing negotiations as conflict resolution mechanism. We have presented a novel argument that ties the choice of conflict resolution mechanism to the costs of different DSMs and to demands for flexibility in future conflicts. In the context of cooperation over maritime boundaries, states concerned about costs and flexibility seek to avoid DSMs created by the Law of the Sea with strong institutional backing, such as the International Tribunal of the Law of the Sea. We show that actors who seek to preserve flexibility and reduce the costs of conflict resolution are more likely to include an ANO that specifies negotiations into maritime boundary agreements.

Our findings raise important issues for the future study of the institutionalization of international cooperation. In particular, researchers need to pay attention to the costs associated with choosing particular conflict resolution mechanisms and how states evaluate those costs. Wealth is an important factor that hinders or facilitates more densely institutionalized cooperation as states think about the costs associated with different institutional design features. In addition, we find that this particularly plays a role when states negotiate on part of a dependency, which raises issues of autonomy in a more encompassing post-colonial world. Second, our evidence indicates that states that share the gains from cooperation in line with a strong norm, such as the median line under the LOS, are reluctant to leave future conflict resolution in the hands of international courts or tribunals. This suggests that more decisive changes to the status quo deviate from this norm and produce more stable outcomes in the long run. We know little about the relationship between distributional outcomes of cooperation and the stability of cooperative arrangements, and this insight opens up an important new agenda for future research. In addition, we do not know if preserving flexibility in future conflicts actually leads to less stability in the future. Although a key insight of our work is that states actively opt out of legalized conflict resolution mechanisms when they are concerned about cost and flexibility, clearly there is demand for more institutionalized venues of conflict resolution if these factors are not present. This calls for a more careful delineation under which circumstances actors seek to tie or untie their hands in other areas of cooperation and for more research on the interaction between states agreeing to institutional DSMs and later seeking to circumvent those commitments.

Table 1: Number of Agreements Classified by Ocean

<b>Ocean</b>	<b>Number of Agreements</b>
<b>Caribbean</b>	33
<b>North Atlantic</b>	21
<b>South Pacific</b>	17
<b>Andaman Sea/ Gulf of Thailand/ Java Sea etc.</b>	16
<b>Baltic Sea</b>	16
<b>North Sea</b>	14
<b>Mediterranean</b>	13
<b>Indian Ocean</b>	12
<b>Persian Gulf</b>	11
<b>South Atlantic</b>	10
<b>Black Sea</b>	6
<b>North Pacific</b>	5
<b>Arctic Ocean</b>	4
<b>Red Sea</b>	3
<b>Sea of Japan</b>	2
<b>South China Sea</b>	2
<b>Barents Sea</b>	1
<b>Total</b>	186

Table 2: Descriptive statistics of the variables in the analysis.

	Mean	Min	Max
<b>DSM</b>	0.371	0	1
<b>Settlement even</b>	30.2	0	100
<b>Two Democracies</b>	0.286	0	1
<b>Oil Discovered</b>	0.214	0	1
<b>Fisheries</b>	0.0692	0.000218	0.730
<b>Bilateral trade</b>	0.0786	0.000	1.67
<b>GDP per capita</b>	15800	806	85400
<b>Difference in GDP, percent</b>	0.290	0.000	0.907
<b>Dependency</b>	0.271	0	1
<b>Territorial Dispute</b>	0.0714	0	1
<b>Armed conflict, last 3 years</b>	0.0714	0	1
<b>1982 and later</b>	0.557	0	1

Table 3: Model classification performance

<b>Prediction</b>	<b>DSM in agreement</b>		<b>Total</b>
	included	not included	
included	18	17	35
not included	34	71	105
<b>Total</b>	52	88	140



Table 4: Probit, inclusion of Agree to Negotiate Option

	1	2	3	
	<b>Probit</b> Including ANO	<b>Probit</b> Any DSM	<b>Multinomial Logit</b> Including ANO      Institutional DSM	
Settlement even, 0 - 100	<b>0.00776</b> (0.00324)	<b>0.00680</b> (0.00289)	<b>0.0119</b> (0.00530)	<b>0.0115</b> (0.00688)
Two democracies	-0.381 (0.298)	<b>-0.453</b> (0.265)	-0.652 (0.487)	-0.754 (0.721)
Oil discovered	0.258 (0.296)	0.174 (0.271)	0.372 (0.485)	-0.00878 (0.693)
Fisheries	-1.01 (1.51)	0.237 (0.985)	-1.62 (2.44)	3.41 (2.25)
Bilateral trade	0.363 (0.854)	-0.328 (0.905)	0.392 (1.61)	-10.6 (8.36)
Total GDP p.c., \$1000s	<b>-0.0402</b> (0.0151)	<b>-0.0307</b> (0.0130)	<b>-0.0624</b> (0.0255)	-0.0107 (0.0317)
Difference in GDP, percent	<b>0.911</b> (0.473)	<b>0.859</b> (0.424)	<b>1.34</b> (0.777)	1.26 (1.09)
Dependency	<b>0.958</b> (0.337)	<b>0.658</b> (0.305)	<b>1.55</b> (0.557)	-0.336 (0.889)
Territorial dispute	0.0144 (0.465)	0.338 (0.388)	0.214 (0.732)	1.09 (0.802)
Armed conflict, last 3 years	-0.362 (0.481)	-0.547 (0.478)	-0.575 (0.785)	-14.7 (1100)
1982 and later	<b>0.539</b> (0.281)	0.331 (0.253)	<b>0.765</b> (0.462)	0.0986 (0.627)
Constant	<b>-0.719</b> (0.295)	<b>-0.418</b> (0.249)	<b>-1.06</b> (0.465)	<b>-1.88</b> (0.613)
<i>n</i>	140	160	160	

Standard errors in parentheses.  $p \leq 0.05$  in **bold**,  $p \leq 0.10$  in *italics*.

Table 5: Alternative specifications

	4	5	6	7
	<b>Probit</b> ANO	<b>Probit</b> ANO	<b>Probit</b> prior to 1982	<b>Probit</b> 1982 onward
Settlement even, 0 - 100	<b>0.00777</b> (0.00324)	<b>0.00750</b> (0.00325)	0.00899 (0.00595)	0.00641 (0.00452)
Two democracies	-0.383 (0.298)	-0.377 (0.298)	-0.957 (0.806)	0.00214 (0.367)
Oil discovered	0.258 (0.295)	0.229 (0.297)	0.199 (0.617)	0.132 (0.379)
Fisheries	-1.02 (1.52)	-1.60 (1.61)	-13.3 (9.95)	1.09 (1.69)
Bilateral trade	0.360 (0.858)	-0.771 (1.18)	14.6 (20.4)	-0.669 (1.07)
Multilateral trade		0.408 (0.0278)		
Total GDP p.c., \$1000s		<b>-0.0575</b> (0.0195)	<b>-0.139</b> (0.0809)	<b>-0.0315</b> (0.0158)
GDP p.c. country A	<b>-0.0430</b> (0.0262)			
GDP p.c. country B	<b>-0.0381</b> (0.0218)			
Difference in GDP, percent	<b>0.918</b> (0.475)	0.867 (0.476)	<b>2.42</b> (0.424)	0.224 (0.584)
Dependency	<b>0.962</b> (0.339)	<b>1.02</b> (0.342)	<b>2.79</b> (0.305)	0.472 (0.446)
Territorial dispute	0.0104 (0.466)	0.0626 (0.478)	-0.559 (0.968)	0.298 (0.645)
Armed conflict, last 3 years	-0.367 (0.483)	-0.0467 (0.497)	-. .-	-0.0342 (0.526)
1982 and later	<b>0.544</b> (0.283)	<b>0.581</b> (0.283)		
Constant	<b>-0.718</b> (0.295)	<b>-0.620</b> (0.304)	<b>-0.558</b> (0.576)	<b>-0.137</b> (0.407)
<i>n</i>	140	140	60	78

Standard errors in parentheses.  $p \leq 0.05$  in **bold**,  $p \leq 0.10$  in *italics*.

Figure 1: Number of maritime boundary agreements signed each year

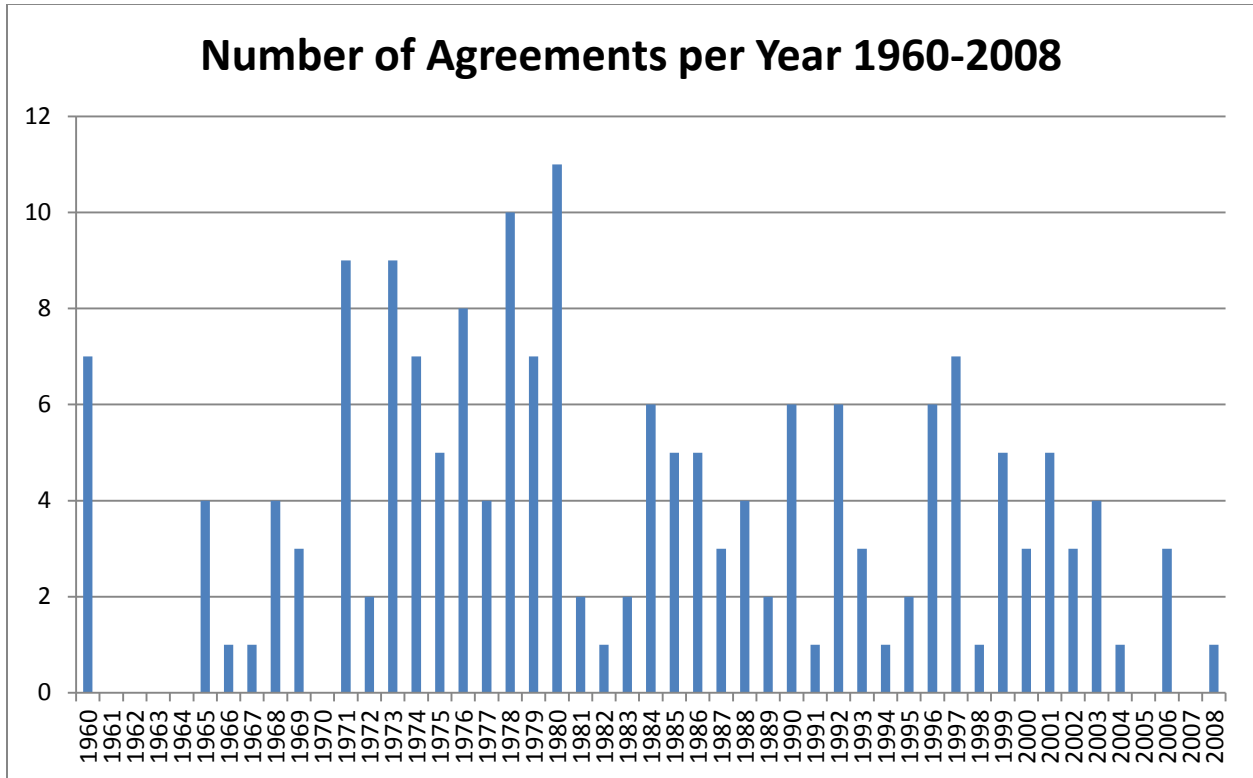


Figure 2: Distribution of Settlement Ratios

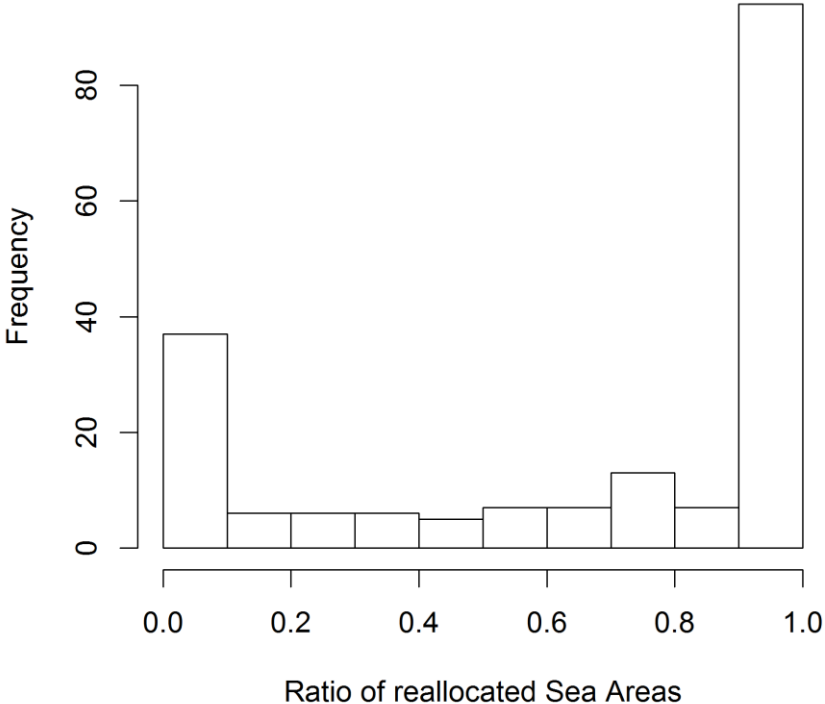
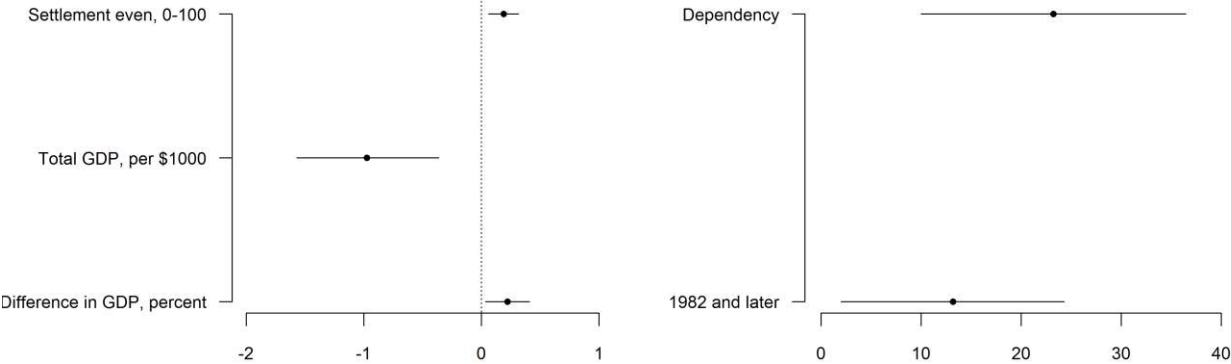


Figure 3: Marginal effect of variables on the probability of including an ANO



Points represent estimates of marginal effects, lines 95 percent confidence bands.

## References

- Allee, T. L., & Huth, P. K. (2006). Legitimizing dispute settlement: International legal rulings as domestic political cover. *American Political Science Review*, 100(2), 219-234.
- Allee, T., & Peinhardt, C. (2014). Evaluating three explanations for the design of bilateral investment treaties. *World Politics*, 66(1), 47.
- Ásgeirsdóttir, Áslaug and Martin Steinwand. (Working Paper 2015). *Delineating Contested Maritime Areas: Outside Options and Distributive Outcomes*.
- Barbieri, K., & Keshk, O. M. G. (2012). Codebook for the correlates of war project's trade data set, version 3.0. Retrieved, 2013, from [http://www.correlatesofwar.org/COW2%20Data/Trade/Trade\\_Codebook\\_3.0.pdf](http://www.correlatesofwar.org/COW2%20Data/Trade/Trade_Codebook_3.0.pdf)
- Barbieri, K., Keshk, O. M. G. & Pollins, B. M. (2008). Correlates of war project trade data set codebook, version 2.01. Retrieved, 2013, from [http://correlatesofwar.org/COW2%20Data/Trade/Trade\\_Codebook\\_2.01.pdf](http://correlatesofwar.org/COW2%20Data/Trade/Trade_Codebook_2.01.pdf)
- Carter, D. B., & Goemans, H. E. (2011). The making of the territorial order: New borders and the emergence of interstate conflict. *International Organization*, 65(2), 275-309.
- Charney, Jonathan I., and Lewis M. Alexander eds. 1993a. *International Maritime Boundaries, Volume I*. Dordrecht, Boston, London: Martinus Nijhoff Publishers.
- Charney, Jonathan I., and Lewis M. Alexander eds. 1993b. *International Maritime Boundaries, Volume II*. Dordrecht, Boston, London: Martinus Nijhoff Publishers.

- Charney, Jonathan I., and Lewis M. Alexander eds. 1998. *International Maritime Boundaries, Volume III*. Dordrecht, Boston, London: Martinus Nijhoff Publishers.
- Charney, Jonathan I., and Robert W. Smith eds. 2002. *International Maritime Boundaries, Volume IV*. Dordrecht, Boston, London: Martinus Nijhoff Publishers.
- Colson, David A. and Robert W. Smith. 2005. *International Maritime Boundaries, Volume V*. Leiden, Boston: Martinus Nijhoff Publishers.
- Davis, C. L. (2009). Overlapping institutions in trade policy. *Perspectives on Politics*, 7(1), 25-31.
- Davis, C. L. (2012). *Why adjudicate? enforcing trade rules in the WTO*. Princeton, NJ: Princeton University Press.
- Davis, C. L., & Bermeo, S. B. (2009). Who files? developing country participation in GATT/WTO adjudication. *Journal of Politics*, 71(3), 1033-1049.
- Elkins, Z., Guzman, A. T., & Simmons, B. A. (2006). Competing for capital: The diffusion of bilateral investment treaties, 1960-2000. *International Organization*, 60(4), 811-846.  
doi:10.1017/S0020818306060279
- Food and Agricultural Organization. (2012). FishStat.
- Gilligan, Michael J, and Leslie Johns. 2012. "Formal models of international institutions." *Annual Review of Political Science* 15:221–243.
- Ghosn, F., Palmer, G., & Bremer, S. (2004). The MID3 data set, 1993–2001: Procedures, coding rules, and description. *Conflict Management and Peace Science*, 21, 133-154.

- Goldstein, J., Kahler, M., Keohane, R. O., & Slaughter, A. (2000). Introduction: Legalization and world politics. *International Organization*, 54(3), 385-399. doi:10.1162/002081800551262
- Guzman, A. T. (2005). The design of international agreements. *European Journal of International Law*, 16(4), 579-612. doi:10.1093/ejil/chi134
- Guzman, A. T., & Simmons, B. A. (2005). Power plays & capacity constraints: The selection of defendants in TWO disputes. *Journal of Legal Studies*, 34(2), 557-598.
- Hart, O., & Moore, J. (1999). Foundations of incomplete contracts. *Review of Economic Studies*, 66(1), 115-138.
- Hensel, P. R., Mitchell, S. M., Sowers II, T. E., & Thyne, C. L. (2008). Bones of contention. *Journal of Conflict Resolution*, 52(1), 117-143.
- International Tribunal for the Law of the Sea. 2013. The M/V "Louisa" Case: Saint Vincent and the Grenadines v. Kingdom of Spain. Judgment.
- Jo, H., & Namgung, H. (2012). Dispute settlement mechanisms in preferential trade agreements: Democracy, boilerplates, and the multilateral trade regime. *Journal of Conflict Resolution*, 56(6), 1041-1068. doi:10.1177/0022002712445731
- Johns, Leslie. 2012. "Courts as Coordinators: Endogenous Enforcement and Jurisdiction in International Adjudication." *Journal of Conflict Resolution*, 56(2), p. 257-289.
- Keohane, R. O. (1984). *After hegemony: Cooperation and discord in the world political economy*. Princeton, NJ: Princeton University Press.



- Keohane, R. O., Moravcsik, A., & Slaughter, A. (2000). Legalized dispute resolution: Interstate and transnational. *International Organization*, 54(3), 457-488. doi:10.1162/002081800551299
- Koo, Min Gyo. 2010. *Island Disputes and Maritime Regime Building in East Asia: Between a Rock and a Hard Place*. Springer Publishers.
- Koremenos, B. (2001). Loosening the ties that bind: A learning model of agreement flexibility. *International Organization*, 55(2), pp. 289-325.
- Koremenos, B. (2007). If only half of international agreements have dispute resolution provisions, which half needs explaining? *The Journal of Legal Studies*, 36(1), pp. 189-212.
- Koremenos, B., Lipson, C., & Snidal, D. (2001a). The rational design of international institutions. *International Organization*, 55(4, The Rational Design of International Institutions), pp. 761-799.
- Koremenos, B., Lipson, C., & Snidal, D. (2001b). Rational design: Looking back to move forward. *International Organization*, 55(4, The Rational Design of International Institutions), pp. 1051-1082.
- Koremenos, B., & Snidal, D. (2003). Moving forward, one step at a time. *International Organization*, 57(2), pp. 431-444.
- Lujala, P., Ketil Rod, J., & Thieme, N. (2007). Fighting over oil: Introducing a new dataset. *Conflict Management and Peace Science*, 24(3), 239-256. doi:10.1080/07388940701468526
- McCall Smith, James. 2000. The Politics of Dispute Settlement Design: Explaining Legalism in Regional Trade Pacts. *International Organization*, 54, 1, p. 137-180.

- Marshall, M., Jaggers, K. & Gurr, T. R. (2010). Polity™ IV project. political regime characteristics and transitions, 1800-2010, dataset users' manual. Retrieved, 2013, from <http://www.systemicpeace.org/inscr/p4manualv2010.pdf>
- Martin, Philippe, Mayer, Thierry & Thoenig, Mathias. 2008. Make Trade not War? *Review of Economic Studies*. 75, 865-900.
- Prescott, J. R. V. (1986). *The maritime political boundaries of the world*. New York: Methuen & Co. Ltd.
- Russett, B., & Oneal, J. (1999). Assessing the liberal peace with alternative specifications: Trade still reduces conflict. *Journal of Peace Research*, 36, 423-442.
- Simmons, B. A., & Elkins, Z. (2004). The globalization of liberalization: Policy diffusion in the international political economy. *American Political Science Review*, 98(1), 171-189.
- Singer, J. D., Bremer, S., & Stuckey, J. (1972). Capability distribution, uncertainty, and major power war, 1820-1965. In B. Russett (Ed.), *Peace, war, and numbers* (pp. 19-48). Beverly Hills,: Sage.
- Stone, Randall W., Slantchev, Branislav & London, Tamar R. (2008). Choosing How to Cooperate: A Repeated Public-Goods Model of International Relations. *International Studies Quarterly*. 52(2), 335-362.
- Tirole, J. (1999). Incomplete contracts: Where do we stand? *Econometrica*, 67(4), 741-781. doi: <http://www.econometricsociety.org/tocs.asp>
- United Nations. (2013). *United Nations Convention on the Law of the Sea*. Retrieved, 2013, from [http://www.un.org/Depts/los/convention\\_agreements/texts/unclos/unclos\\_e.pdf](http://www.un.org/Depts/los/convention_agreements/texts/unclos/unclos_e.pdf)