Claimability in International Relations:

Oil Discoveries, Territorial Claims, and Interstate Conflicts

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Abstract

War is rare not primarily because states settle disputes peacefully but because they have nothing to dispute. To address this simple but oft-neglected reality, I propose the concept of claimability, defined as the appropriateness of making a claim. Focusing on three international norms that emerged after the world wars (territorial integrity, self-determination, and maritime sovereignty), I construct a new dataset of states' claimable areas from 1946 to 2024. I illustrate the usefulness of this concept by applying it to oil and conflict. By leveraging the records of over 600,000 wildcat drills, natural experiments, and difference-in-differences, I demonstrate that fuel resources increase interstate conflicts only when discovered in areas claimable to multiple states. The extensive analyses of validity, heterogeneity, and mechanisms, as well as the "most-similar" case study, provide further evidence. These findings reveal the crucial role of claimability; states claim and dispute only when international norms permit such actions.

Keywords: Claimability, Territorial dispute, Oil, Gas, Interstate conflict, War.

War is rare, but, in larger parts, it is not because states strike bargains over disputes (Fearon 1995), but because they have nothing to dispute. Among 2,519 "politically relevant" dyads from 1946 to 2001 available in the Issue Correlates of War dataset (ICoW; Frederick, Hensel, and Macaulay 2017; Hensel et al. 2024; Mitchell 2020),[1] only 1.5% had military conflicts, including military threats, displays, clashes, and wars. Among 98.5% of the observations with no military conflicts, only 6% had disputes in the ICoW dataset, and 94% had no disputes.[2] Apparently, most states did not fight because they had nothing to dispute.

These stylized facts highlight a crucial but oft-neglected aspect of peace: the absence of dispute. While many studies have addressed this issue only with ad hoc approaches, such as subsampling to "politically relevant" dyads, other studies have theoretically and empirically analyzed why states dispute in the first place (Frederick, Hensel, and Macaulay 2017; Goertz and Diehl 1995; Hensel et al. 2008; Hensel and Mitchell 2005; Toft 2014). They examine the roles of power balance (Schultz and Goemans 2019), political regimes (Gibler 2007; Hutchison and Gibler 2007; Markowitz et al. 2020; Tir 2010), economic ties (H. Lee and Mitchell 2012), strategic and economic interests (S. Lee 2024; Schultz 2017), and alliances (Gibler 1997) among many other factors.

Although all those factors are important, the literature tends to dismiss the critical roles of international norms (Forsberg 1996). While Castile and Portugal claimed the entirety of the Earth and signed the Treaty of Tordesillas in 1494, the European powers disputed and

[1] The politically relevant dyads include contiguous countries and all pairs with major powers.

[2] Currently, the ICoW dataset is globally available only for territorial, maritime, and identity disputes. Because states can dispute over other issues, the number of disputes is understated. However, this will not change the big picture; many dyads had nothing to dispute. This fact should be even more evident with the sample of all dyads.

partitioned Africa in 1884, and similar attempts were made for China in the early 20th century, those actions are even unimaginable in the present world. Such a drastic change cannot be explained without referring to the emergence of anti-colonialism and territorial integrity norms after the world wars (Altman 2020; Altman and Lee 2022; Zacher 2001).

It is therefore crucial to ask the question of *claimability*: what makes certain territorial claims appropriate while making other claims inappropriate? Although claimability can be defined for any claim, I especially focus on territorial claims—claims over terrestrial lands and waters. A territory is *claimable* if the claim is consistent with international norms such as international laws, practices, and customs. A territory is *disputable* if it is claimable for more than one state. When a territory is claimable, it reduces subjective costs for making a claim, and through strategic interactions (Fearon 1995), it can trigger a military conflict.

To be clear, the logic of claimability—a theory that explains how claimability links to actual claims, disputes, and conflicts—is incomplete. The theory states that claimability reduces the subjective costs of making territorial claims. This statement is incomplete as an explanation of military conflicts, as it does not explain why states cannot peacefully settle the disputes (Fearon 1995). Moreover, the concept of claimability is empty without measurement (Abramson and Carter 2021; Huth 1996; Karreth, Tir, and Gibler 2022). Indeed, without measurement, it is even tautological to argue that states claim territories because they are claimable. Claimability must be measured independently of actual claims.

I address those issues by providing a new claimability dataset. Built on the literature (Branch 2017; Schultz 2015; Simmons 2005; Simmons and Goemans 2021), I consider three sets of international norms: territorial integrity (i.e., claims over current and former territorial lands; Abramson and Carter 2016, 2021; Carter 2017; Carter and Goemans 2011, 2014), self-determination and irredentism (i.e., claims over foreign co-ethnicities; Cederman et al. 2024; Goemans and Schultz 2017; Müller-Crepon, Schvitz, and Cederman 2024; Siroky and Hale

2017), and sovereignty over marine areas (i.e., territorial waters, continental shelves, and exclusive economic zones; Mitchell 2020). The new dataset captures the geographical extent of the claimable and disputable areas from 1946 to 2024, allowing me to quantify which states can potentially claim and dispute which areas. Importantly, unlike existing datasets (Frederick, Hensel, and Macaulay 2017; Karreth, Tir, and Gibler 2022; Sarkees and Schafer 2000; Schultz 2017), my measurement is not directly based on actual claims or disputes and, thus, can be used as a predictor of disputes.

Moreover, because the logic of claimability is incomplete as an explanation of military conflicts, I incorporate a direct trigger of bargaining failures: discoveries of giant oil and gas fields (Caselli, Morelli, and Rohner 2015; Chisadza et al. 2024; Schultz 2017; Strüver and Wegenast 2018). Among many factors, fuel discoveries are particularly illustrative as they have explicit geographical locations, allowing me to measure which states can claim which oil/gas fields. Moreover, theoretical studies have formalized the mechanisms; fuel discoveries cause a power shift, commitment problem, and thus military conflict (Bell and Wolford 2014; Carey et al. 2022; Fearon 1995; Langø, Bell, and Wolford 2022; Powell 2006). Therefore, I posit that when an oil/gas field is discovered in an area that is claimable to multiple states, it creates the potential for a bargaining failure, thereby increasing the likelihood of military conflicts.

I test the hypothesis by combining the dataset of claimable areas with a fine-grained dataset of over 600,000 wildcat drills. For causal identification, I leverage as-if random variation in fuel discoveries conditional on wildcat drills. I further harness the design by integrating the staggered difference-in-differences (DiD) and its recent refinements (Xu 2023). The empirical analysis indicates that although fuel discoveries in general did not significantly affect military conflicts, they increased the likelihood of military conflicts by eight percentage points when the oil/gas fields were discovered in areas claimable for multiple states. The effect persisted for several decades. Moreover, the analyses of causal mechanisms indicate that while fuel discoveries in disputable areas did not increase fuel production or government revenues, they increased the military capabilities of relevant states, thereby widening the gap in their respective capabilities. These results suggest the fuel discoveries increased the salience of disputes, incentivized the states to expand their militaries, and thus escalated the disputes into military conflicts. I illustrate the mechanism with a “most similar” case study of two gas fields—Pinghu and Chunxiao—in the East China Sea.

These findings advance our understanding of both territorial norms and resource conflicts. Although many studies have analyzed territorial norms,[3] they examine either a particular set of norms (e.g., former territorial boundaries or irredentism) or have limited geographical and temporal scope (e.g., Europe or Africa), and overlook marine areas (Mitchell 2020). The narrow focus not only compromises the external validity but also masks possible inconsistencies across different norms (Findley, Kikuta, and Denly 2021). Although territorial norms can facilitate cooperation by reducing uncertainties and transaction costs (Abramson and Carter 2016, 2021; Carter 2017; Carter and Goemans 2011, 2014; Simmons 2005), their multiplicity and inconsistency create room for different interpretations and manipulations. My dataset explicitly accounts for those inconsistencies across different norms, highlighting the political aspects of international norms.

The concept of claimability also helps us understand the mixed findings about oil and conflict. While ample evidence exists for the effects of oil on intrastate conflicts (e.g., civil

[3] Abramson and Carter 2016, 2021; Branch 2017; Carter 2017; Carter and Goemans 2011; Cederman et al. 2024; Goemans and Schultz 2017; Müller-Crepon, Schvitz, and Cederman 2024; Schultz 2015; Simmons 2005; Simmons and Goemans 2021; Siroky and Hale 2017.

wars; Koubi et al. 2014),[4] the evidence for interstate conflicts remains mixed.[5] Although Colgan (2010, 2011, 2014) finds that petrostates are more likely to fight a war when they have revolutionary origins, Jang and Smith (2021) show that Iran and Iraq drive the results. While Hendrix (2017) finds that high oil price is associated with interstate conflict, Blankenship et al. (2024) find the opposite results. Other studies indicate that the effects vary across resource types (Reuveny and Barbieri 2014), measurement (Strüver and Wegenast 2018), and locations of oil fields (Caselli, Morelli, and Rohner 2015).[6] Reviewing the literature and historical cases, Meierding (2016b) even concludes that "there is little empirical support for the idea that countries fight over control of oil fields" (442). I suggest that one reason for the mixed findings stems from the inattention to claimability. States do not claim every oil and gas field; only when international norms permit it, can they claim oil/gas fields. Thus, without accounting for

[4] Andersen, Nordvik, and Tesei 2022; Anyanwu 2014; Arezki and Gylfason 2013; Asal et al. 2016; Basedau and Lay 2009; Basedau and Pierskalla 2014; Bell and Wolford 2014; Bodea, Higashijima, and Singh 2016; Carey et al. 2022; Chisadza et al. 2024; Cotet and Tsui 2013a; Denly et al. 2022; O. Dube and Vargas 2013; Hong and Yang 2020; Hunziker and Cederman 2017; Langø, Bell, and Wolford 2022; Lei and Michaels 2014; Lujala 2010; Nwokolo 2022; Paine 2016; Wegenast 2016.

[5] Bareis 2023; Blankenship et al. 2024; Caselli, Morelli, and Rohner 2015; Chisadza et al. 2024; Colgan 2010, 2011, 2014; Hendrix 2017; Jang and Smith 2021; Koubi et al. 2014; Meierding 2016b, 2016a; Reuveny and Barbieri 2014; Schultz 2017; Strüver and Wegenast 2018.

[6] Caselli et al. (2015) argue that oil fields near national borders increase interstate conflicts, as states can easily conquer those fields. However, they do not consider the possibility that their findings are driven by oil fields in disputable areas, which tend to exist near borders. In a later validity check, I show that my findings are not driven by fuel discoveries near national borders.

claimability, the empirical models overpredict disputes. The lack of model fit, coupled with weak causal identification, can explain the mixed findings in previous studies.

This points to the last but not least contribution of this study: refinement of causal identification. Although earlier studies have naively regressed conflicts on oil dependency (e.g., oil revenues per GDP) and production amounts, it is widely recognized that they are endogenous to confounders and conflicts themselves (Cotet and Tsui 2013a; Hunziker and Cederman 2017; Paine 2016). Recent studies use oil deposits and discoveries as more exogenous predictors. However, as acknowledged by several authors (Bell and Wolford 2014; Carey et al. 2022), oil deposits and discoveries depend on the frequency of wildcat drills (i.e., exploratory drilling of oil and gas fields) and thus are endogenous to investments, energy policies, political regimes, and, potentially, conflicts themselves (Bohn and Deacon 2000; Brunnschweiler and Poelhekke 2021; Cust and Harding 2020; Meserve 2014). I address those limitations by conditioning on the number of wildcat drills.[7] That is, *given a certain number of wildcat drills*, it is as-if random whether a giant oil or gas deposit is discovered. Although this design is widely used in economics and other fields, to the best of my knowledge, it has not

[7] An alternative approach is to use the characteristics of sedimentary basins as instrumental variables for oil reserves (Cassidy 2019; Hunziker and Cederman 2017). Although this approach is promising, it cannot explain changes over time and hinges on the exclusion restriction. Another approach is to use global oil price as an exogenous predictor (Andersen, Nordvik, and Tesei 2022; Blankenship et al. 2024; Denly et al. 2022; Nwokolo 2022). However, as Bueno de Mesquita (2020) argues, global oil price affects nearly all countries, making it difficult to find appropriate control units. Moreover, a study shows that even the anticipation of conflicts can affect global oil prices, indicating a potential for reverse causality (C. C. Lee, Olasehinde-Williams, and Akadiri 2021).

been applied to political science (Arezki, Ramey, and Sheng 2017; Cavalcanti, Da Mata, and Toscani 2019; Cotet and Tsui 2013a, 2013b; Cust et al. 2023; Lei and Michaels 2014). I also address biases due to anticipatory behaviors (i.e., the anticipation of oil discoveries may affect conflicts; Basedau, Rustad, and Must 2018) by applying the staggered DiD, event study, and their recent refinements (Hassell and Holbein 2024; Xu 2023). The research design, together with the new dataset, helps us understand the effects of fuel discoveries on interstate conflicts.

Theory: Claimability in International Relations

Claimability refers to the appropriateness of making a certain claim. Thus, it sets potential conditions for making a claim. Although appropriateness ultimately depends on policymakers' subjective evaluations, it also rests on common knowledge (Finnemore and Sikkink 1998; Wendt 1999). Whether one state considers an act appropriate depends on whether other states consider it appropriate. Thus, while admitting potential roles of leaders' preferences (e.g., ideologies) and domestic politics (Colgan 2010, 2011, 2014), I focus on the international aspects of claimability: whether international norms designate particular territorial claims as appropriate or not (Forsberg 1996). International norms refer to "standard[s] of appropriate behavior" (Finnemore and Sikkink 1998, 891), including international laws, states' actual practices, and customs.

I particularly focus on claimability over territories including terrestrial lands and waters.[8] If a state's claim over a territory is consistent with international norms, the territory is *claimable* to the state. If a territory is claimable to more than one state, the territory is *disputable* to those states. Importantly, claimability and disputability refer to *potentials* for claims and disputes and thus conceptually differ from actual claims and disputes. Finally, while a claim and dispute refer to verbal actions and interactions, a *conflict* involves military actions such as

[8] See footnote 3 for reference.

a threat, force display, clash, and war. The theoretical question that I ask is how claimability links to international conflicts.

Logic of Claimability

My answer to the question is straightforward: when a territory is claimable to multiple states, it lowers the subjective costs for making claims, incentivizing the states to claim and dispute the territory. Because military conflict does not occur without disputes, claimability sets a necessary condition for military conflicts. Although this does not mean that claimability necessarily triggers conflicts, discoveries of fuel resources escalate the disputes to military conflicts through mechanisms proposed by previous studies (Bell and Wolford 2014; Carey et al. 2022; Powell 2006; Strüver and Wegenast 2018). Although I theoretically and empirically consider the mechanisms of escalation, the logic of claimability abstracts away from the mechanisms of escalation; it states that when a territory is claimable, states claim it.

To be concrete, let me consider a stylized model. States A and B decide whether they claim a certain territory worth a value of 1. Importantly, claiming a territory requires costs $c_A, c_B \geq 0$, representing subjective costs for making a claim. Claimability is inversely related to c_A and c_B (e.g., low costs mean high claimability). If neither claim, the status quo is maintained. If only one state claims, the state gains the territory without a dispute. However, if both make claims, they dispute and thus enter into a bargaining subgame G. I intentionally abstract away from the exact protocol of G, assuming that the bargaining gives expected payoffs of $u_A(\mathrm{G}), u_B(\mathrm{G}) \leq 1$ and fails with a probability of $p \in [0, 1]$. As common in bargaining models, a bargaining failure is assumed to result in a military conflict (Fearon 1995). Furthermore, based on previous studies and a later discussion about mechanisms (Bell and Wolford 2014; Carey et al. 2022; Strüver and Wegenast 2018), I assume a bargaining failure is more likely when an oil/gas field is discovered in the disputed territory: $p(\text{fuel}) = \overline{p} > \underline{p} = p(\neg\text{fuel})$. Table 1 summarizes the structure of the game.

Table 1. Model of Territorial Claims

		B	
		$claim$	$\neg claim$
A	$claim$	$u_A(\mathrm{G}) - c_A, u_B(\mathrm{G}) - c_B$	$1 - c_A, 0$
	$\neg\ claim$	$0, 1 - c_B$	$0, 0$

The table shows the expected payoffs of States A and B. G refers to a subgame of a bargaining model (Fearon 1995).

At the Subgame Perfect Equilibrium, States A and B claim and thus dispute the territory if and only if $c_A < u_A^*(\mathrm{G})$ and $c_B < u_B^*(\mathrm{G})$, where $u_\cdot^*(\mathrm{G})$ is an expected utility at the equilibrium of bargaining subgame G.[9] The small costs allow the states to claim and thus dispute the territory. This leads to a *supplementary* hypothesis that is used to check the construct validity of claimability data;

Hypothesis 0: When a territory is disputable, states are more likely to dispute the territory.

Although this hypothesis is unsurprising, a more important insight is that states bargain only when they dispute the territory, and the bargaining is more likely to fail with a fuel discovery. Thus, States A and B dispute and are unable to strike a bargain when a fuel resource is discovered in mutually claimable (aka. disputable) areas. This leads to the *main* hypothesis;

Hypothesis 1: When a fuel resource is discovered in a disputable territory, states are more likely to engage in a military conflict.

A caveat is that the likelihood of a dispute itself does not directly depend on a fuel discovery in disputable areas. While a fuel discovery can raise $u_\cdot^*(\mathrm{G})$ by increasing the salience of the territory, it can also reduce $u_\cdot^*(\mathrm{G})$ by increasing the likelihood of a bargaining failure, military conflict, and associated costs. Depending on which effect prevails, a dispute becomes more or less likely. In short, claimability increases the likelihood of disputes, and a fuel

[9] The solution of the game is provided in Appendix A1.

discovery *escalates* the dispute into a military conflict. Taken together, fuel discoveries in disputable areas increase the likelihood of military conflicts.

Mechanisms: Commitment Problem and Increased Salience

Although the model abstracts away from the mechanism of escalation (i.e., subgame G), it is worthwhile to explain what causes a bargaining failure. Based on Fearon (1995) and later studies, I posit two mechanisms: *commitment problem* and *increased salience* (Bell and Wolford 2014; Blankenship et al. 2024; Hendrix 2017; S. Lee 2024; Strüver and Wegenast 2018). To be clear, I do not argue that those mechanisms are the only causes of bargaining failures or escalation. The main contribution of this study lies in the concept of claimability, and future studies should more comprehensively test the mechanisms.

The first possibility is a *commitment problem*; a fuel discovery causes a differential power shift and thus incentivizes a weakening state to initiate a preventive conflict (Bell and Wolford 2014; Fearon 1995; Powell 2006). A fuel resource can provide additional revenue and thus allow military expansion. Consequently, if States A and B divide the oil/gas revenue based on their current power balance, a stronger side receives more revenues and thus more rapidly expands its military forces. As a result, a weaker side has no incentive to accept such a settlement and, instead, initiate a military conflict to obtain full control over the territory. The bargaining fails because a peaceful settlement unevenly benefits a stronger side, incentivizing a weaker side to refuse the deal and thus enter into a military conflict.

Another possibility is *increased salience*; a fuel discovery increases the salience of a territory, which in turn incentivizes states to engage in military conflicts (Hensel et al. 2008). States usually experience minor power shifts or asymmetric information (i.e., their powers are always changing, and no state has complete information about other states). However, those factors do not cause conflicts because the costs of a military conflict outweigh its expected benefits. Indeed, a power shift results in a bargaining failure only when the degree of the power shift is sufficiently large relative to the costs of a military conflict. Discoveries of fuel resources increase the salience of territorial claims and hence decrease the relative costs for military actions. Even worse, fuel discoveries can flare petro-nationalism, pressuring leaders to take expansionist policies (Chiozza and Goemans 2004; Goemans and Fey 2009; Park, Abolfathi, and Ward 1976). The increased salience exacerbates the existing bargaining problems and thus results in a military conflict.

While the logic of a commitment problem is well specified, it may not explain military conflicts between major powers, where fuel revenues comprise only a small fraction of total revenues. Given the sheer size of military budgets, it is difficult to argue that fuel discoveries greatly affect the power balance of major powers.[10] By contrast, while the salience mechanism is rather abstract, it can explain a broader set of military conflicts. I later explore the causal mechanisms by analyzing whether fuel discoveries increased government revenues and conducting the "most similar" case study of gas fields in the East China Sea.

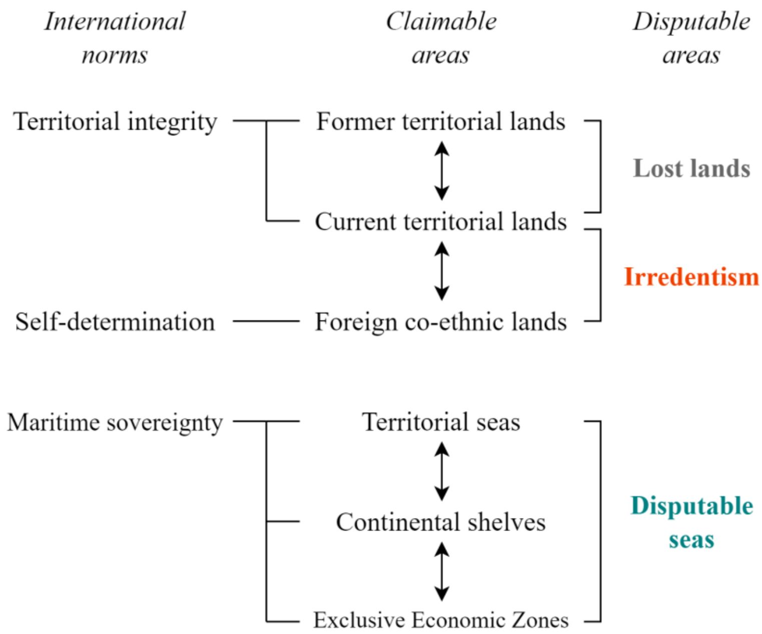
Measurement: Claimable and Disputable Areas from 1946 to 2024

While the logic of claimability is straightforward, its measurement is nontrivial; it requires careful attention to international norms. Based on previous studies, I focus on three sets of international norms that emerged after the world wars; territorial integrity (Abramson and Carter 2016, 2021; Carter 2017; Carter and Goemans 2011, 2014), self-determination (Cederman et al. 2024; Goemans and Schultz 2017; Müller-Crepon, Schvitz, and Cederman 2024; Siroky and Hale 2017), and maritime sovereignty (Mitchell 2020). Although other norms might be relevant as well, these are arguably the strongest territorial norms since the world

[10] Oil revenues are important for minor powers, such as Armenia and Azerbaijan. However, variation in the outcome variables (i.e., MIDs) comes most from major powers.

wars (see the above citations). Figure 1 is an overview of the conceptualization and measurement, which I detail in this section.

Figure 1. Concepts and Measurement



The figure maps international norms (left) onto corresponding claimable (center) and disputable (right) areas. A disputable area is an intersection of claimable areas between different countries. The possible intersections are denoted by the double-headed arrows.

Territorial Integrity

The first and foremost is the norm of territorial integrity, which refers to the states' rights to defend their borders and their obligations to respect the borders of other states. Obviously, states can validly claim their control over their current territorial lands. The territorial integrity norm emerged after the Treaty of Westphalia and was established after World War I (Zacher 2001). However, the norm has also been subject to multiple interpretations. Territorial integrity norm can justify the restoration of lost territories (Murphy 1990). This implies that the integrity of *previous* territories can potentially belie the integrity of *current* territories.

Thus, for the period of analysis (1946–2024), I include all current and past territorial lands as claimable areas. The disputable areas are those in which the current territorial lands overlap the past territorial lands of other states. Because the end of World War II marked a new territorial status quo, proscribing the restoration of prewar territories (Altman 2020; McDonald 2009; Zacher 2001), I define past territories as lost territories after World War II. Given the limited number of territorial changes after World War II, the areas are rather limited (Altman 2020). I exclude former colonial lands (e.g., the UK's claim over British India after its independence), as the norm of anti-colonization barred the restoration of colonial empires.[11]

Self-determination

The territorial integrity norm, however, has been challenged by the norm of self-determination (Cederman et al. 2024; Forsberg 1996; Goemans and Schultz 2017; Müller-Crepon, Schvitz, and Cederman 2024; Siroky and Hale 2017; Zacher 2001). Although self-determination refers to the rights of ethnic or national groups to form their own states, the states have used it to justify irredentism—claims over foreign co-ethnicities and their lands. Although the idea of self-determination is traced back to the French Revolution in 1789, it emerged as an international norm after World War I when Woodrow Wilson announced the Fourteen Points in 1918. After World War II, the UN Charter referred to self-determination as one of the purposes of the United Nations.

Therefore, I include lands of co-ethnicities in foreign countries as claimable areas for 1946–2024. The information about the geographical distribution of ethnic groups is derived from the GREG dataset, which is based on the Soviet Atlas Narodov Mira (Weidmann, Rød,

[11] India's claimability over the former British Raj is also excluded. The data on country boundaries and colonial lands are derived from the CShapes dataset (Weidmann, Kuse, and Gleditsch 2010). CShapes dataset assigns disputed areas to the effective controller of the areas (Weidmann, Kuse, and Gleditsch 2010). I follow their coding rule and include all lost territories where states exercised effective control. This means that disputed areas are not always coded as disputable areas, and thus, the dataset does not directly depend on actual disputes.

and Cederman 2010).[12] Because the population sizes are not available in the GREG, I use the geographical extents to identify co-ethnic groups of each country. For each country, I identify co-ethnic groups as (i) an ethnic group of the largest geographical extent within the country compared to other groups, or (ii) ethnic groups whose geographical extents are the largest in the country compared to their extents in other countries.[13] The geographical extents of the co-ethnic groups comprise claimable areas. Finally, I limit the claimable areas to those contiguous to the main lands of a country to exclude the claims over diasporas (e.g., overseas Chinese), who are only dispersedly populated across remote areas. Although states may act for the protection of foreign diasporas, they can hardly claim control over the lands of diasporas.

Maritime Sovereignty

Finally, although the term "territory" is often interchangeably used with lands, territory also includes water areas (e.g., "territorial sea"; Mitchell 2020). Even compared to the norms about territorial lands, the maritime norms are ambiguous and inconsistent. Indeed, territorial water is a relatively new concept. In the 19th century or earlier, different states set different extents of territorial seas, ranging from 4 to 12 nautical miles from the coast, often reflecting the reaches of cannons. The interwar periods saw several attempts to codify territorial seas (e.g., the 1930 League of Nations Codification Conference), but states failed to agree on the exact extent of territorial seas.

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[12] I do not use the GeoEPR dataset (Wucherpfennig et al. 2011) because the political inclusion/exclusion of ethnic groups is not relevant to irredentism and is endogenous to conflict.

[13] Although (i) and (ii) are often identical, they can differ. In China, for instance, Han has the largest geographical extent, but there are many other minorities unique to China. If I only use criterion (i), the co-ethnicities include only Han. Criterion (ii) ensures that the other minorities unique to China are also included.

The situation was further complicated in 1945 when President Harry S. Truman unilaterally declared “the exercise of jurisdiction over the natural resources of the subsoil and sea bed of the continental shelf by the contiguous nation” (1945). The Truman Proclamation was a direct challenge to existing practices; while customary laws set territorial seas as areas within a fixed distance from the coast, continental shelves depend on geographical characteristics and can potentially extend to vast areas. While many countries quickly adopted the Truman Proclamation, three Latin American countries—Chile, Ecuador, and Peru—responded differently; they proposed 200 nautical miles of territorial seas (they had long coastal lines but not continental shelves). While the 1958 Geneva Convention defined the legal properties of territorial seas, states still failed to agree on the exact extent.

The situation changed in 1982 when 183 states signed the United Nations Convention on the Law of the Sea (UNCLOS). Territorial seas were defined as 12 nautical miles from the coast. The UNCLOS also defined exclusive economic zones (EEZ) as 200 nautical miles from the coast, granting coastal countries exclusive rights to extract resources. However, even the UNCLOS did not unequivocally define maritime sovereignty. The UNCLOS did not clearly define how to delimit the border when a country’s continental shelf or EEZ overlaps those of other countries. Although the International Court of Justice (ICJ) referred to the principle of equity, citing various factors such as the length of coastlines, marine geology, and culture and history, there is no universally accepted way to delimit maritime borders.[14]

Given those historical developments, I operationalize claimable areas in the following manner, which accounts for both international laws and states’ de facto practices;

[14] See North Sea, Libya-Malta, Libya-Tunisia, Greenland-Jan Mayen Continental Shelf cases.

a) *Territorial sea*: From 1946 to 2024, the claimable areas include the territorial seas of 12 nautical miles from the coast. Even without the UNCLOS, 12 nautical miles have long been the *maximum* extent of territorial seas;

b) *Continental shelf*: For the period after the Truman Proclamation (1946–2024), I include continental shelves as claimable areas. I operationalize a continental shelf as marine areas of less than 500-meter depth that are contiguous to the closest coastal country;[15]

c) *Exclusive economic zone (EEZ)*: For the period after the UNCLOS (1983–2024), the EEZs are included as claimable areas. The EEZs are measured as marine areas within 200 nautical miles of the closest coastal country.[16]

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[15] While Truman did not provide a concrete definition of a continental shelf, the 1958 Convention on the Continental Shelf defined it as "the seabed and subsoil of the submarine areas adjacent to the coast but outside the area of the territorial sea, to a depth of 200 meters or, *beyond that limit, to where the depth of the superjacent waters admits of the exploitation of the natural resources*" (United Nations 1958, 2). Until the 1980s when the 1958 Convention was replaced by the UNCLOS, the exploitation of offshore oil and gas had been technologically limited to a water depth of less than 500 meters (see Figure 1 of Lunne 2012). Therefore, I use 500m instead of 200m water depth. Because the continental shelf is an extension of a continent and thus cannot start from remote islands, I do not include remote islands when I measure the continental shelves. The bathymetry data are derived from GEBCO (2024).

[16] Although few states, such as Chile and Peru, declared sovereignty over the 200 nautical miles after the Truman Proclamation, the EEZs were hardly considered international norms (Carroz 1987). In the 1940s to 1960s, Western and Asian countries instead adopted sovereignty over continental shelves, and only a handful of countries in Latin America adopted the EEZs. In the 1970s, the newly independent African countries supported the notion of the EEZs (e.g., the

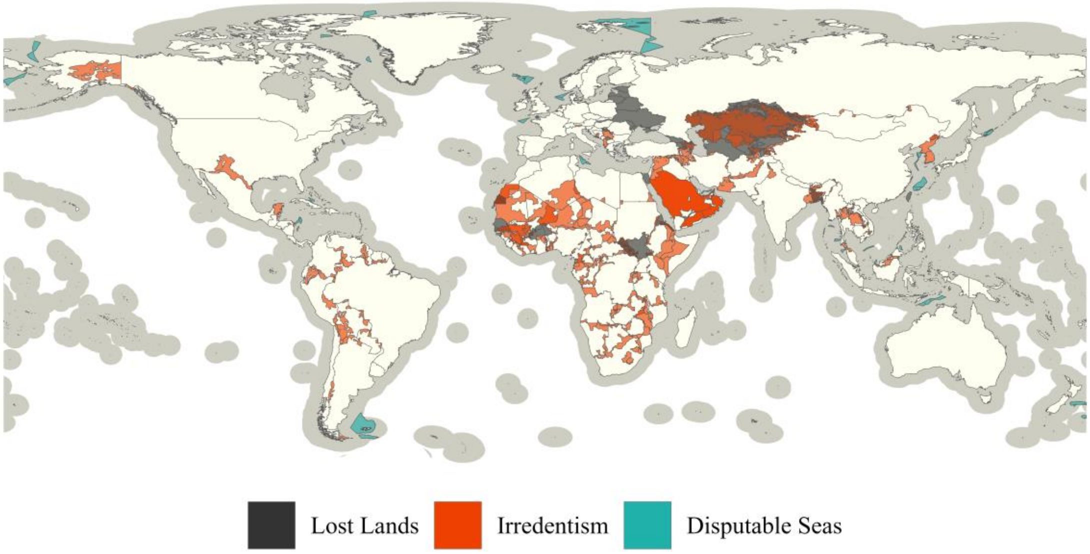
Importantly, territorial seas and continental shelves can potentially overlap other countries' EEZs. The overlapping areas constitute disputable areas, and I call them *disputable seas*.

Figure 2 presents the extent of claimable and disputable areas in 2012. The claimable areas on lands and seas are denoted as light and dark ivory colors. The disputable areas include the intersections of current and past territorial lands (gray zones), current territorial lands and foreign ethnic minorities (red zones), and territorial seas or EEZs and continental shelves (blue zones). Although disputable seas are rare, there are a modest number of lost lands, especially in the former Soviet region (Altman 2020; Mitchell 2020). Foreign ethnic minorities are widespread in Africa, reflecting their artificial national borders (Goemans and Schultz 2017; Michalopoulos and Papaioannou 2016).[17] In the main analysis, I combine lost lands, irredentism, and disputable seas, and later disaggregate them.

1971 meeting of the Asian-African Legal Consultative Committee, and the 1973 Addis Ababa Declaration), but, even at that moment, it is difficult to argue that the norm was widely accepted. It was the nine years of fierce negotiation at the UNCLOS III meetings (1973–1982) that set the EEZ as one of the basic principles regarding maritime sovereignty (Carroz 1987). For these reasons, I consider the period from 1983 to 2024. I use the year of signature (1982) instead of the years of ratifications to remove possible selections by signatory states. Because the EEZs can start from remote islands, I added remote islands to the CShapes dataset. The data on remote islands are derived from Natural Earth (2024), which contains small islands down to 10 meters. However, due to the data limitation, tiny islands smaller than 10 meters are not included in the dataset (e.g., Okinotori-Shima in Japan).

[17] Irredentism is also widespread in the Arabian Peninsula as people are classified as Arabs. Removing Arabian countries does not change the results of the main analysis.

Figure 2. Claimable and Disputable Areas in 2012



The figure shows claimable areas on lands (light ivory) and seas (dark ivory). The land areas of lost territories and foreign co-ethnic groups are denoted as Lost Lands and Irredentism, respectively (gray and red zones). When a continental shelf overlaps other countries' territorial seas or EEZs, the area is denoted as a disputable sea (blue zone).

Design: Natural Experiment with Fuel Discoveries

To demonstrate the usefulness of the new dataset, I analyze the effects of fuel discoveries on interstate conflict and how the effect differs between fuel discoveries in disputable and other areas. Fuel discoveries are especially illustrative as they have explicit geographical locations, allowing me to identify disputable and non-disputable discoveries.[18] However, causal identification poses a challenge; fuel discoveries depend on wildcat drills, which are endogenous to investment, energy policies, and conflicts themselves (Bohn and Deacon 2000;

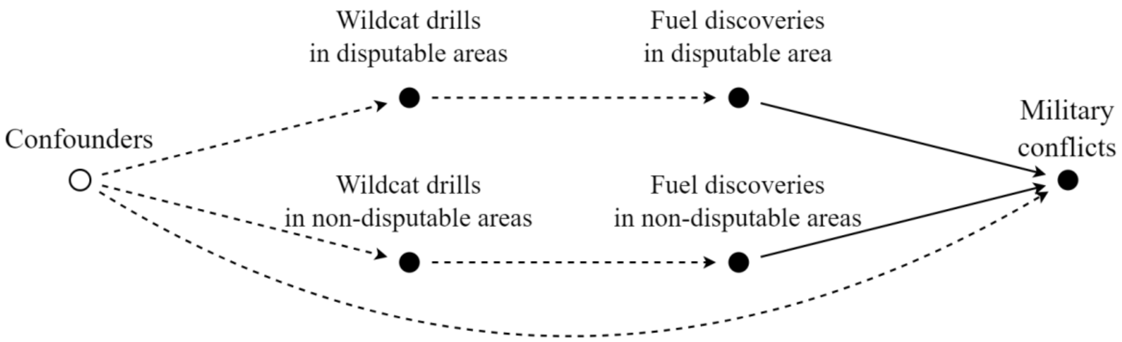
[18] Although it is possible to extend the analysis to non-fuel resources, no data about exploratory mining are available, making it difficult to use the same research design (Balestri 2012; Denly et al. 2022; Gilmore et al. 2005). Moreover, much less attention has been paid to the effects of non-fuel resources on *interstate* conflicts (Koubi et al. 2014). Other factors such as mass mobilization, military expansion, leadership turnover, trade, and economic sanction do not have explicit geographical locations, making it difficult to use the claimability dataset.

Brunnschweiler and Poelhekke 2021; Cust and Harding 2020; Meserve 2014). I address this problem by conditioning on the number of wildcat drills.

Figure 3 illustrates the research design with a Directed Acyclic Graph (DAG).[19] The quantities of interest are the effects of fuel discoveries in disputable and non-disputable areas on military conflicts (solid lines). The research design *does not* assume that fuel discoveries are unconditionally exogenous or that the number of wildcat drills is exogenous. It instead assumes that the number of fuel discoveries is exogenous *conditional on the number of wildcat drills* (dashed lines). Although geological surveys, investments, politics, disputability, and conflicts can affect whether a country conducts or permits wildcat drills, given a certain number of wildcat drills, their *results*—whether wildcat drills discover giant fuel reserves—are plausibly exogenous. This implies that by "blocking" wildcat drills in Figure 3, fuel discoveries become independent of confounders. This design is valid unless confounders affect fuel discoveries *other than their effects through the number of wildcat drills* (i.e., no arrows from confounders to fuel discoveries in Figure 3). Because confounders affect fuel discoveries only through their effects on the *quantity* or *quality* of wildcat drills, this assumption holds unless confounders affect the quality of wildcat drills (i.e., drilling technologies). In a later validity check, I consider possible violations of the assumption.

[19] For brevity, possible arrows from wildcat drills to military conflicts are dropped as they are substantively and empirically inconsequential.

Figure 3. Directed Acyclic Graph



The black and white dots are the observed and unobserved variables, respectively. The solid and dashed arrows represent the quantities of interest and causal effects assumed to exist, respectively. For causal identification, confounders should not affect fuel discoveries other than their effects through the number of wildcat drills (i.e., no arrows from confounders to fuel discoveries).

Furthermore, I combine the natural experiment with the DiD to account for static confounders. Although oil and gas are more likely to be found in areas of certain geological characteristics (Cassidy 2019; Hunziker and Cederman 2017), those static features cannot explain changes over time. Therefore, I compare the *changes* in the likelihood of military conflicts with and without giant fuel discoveries. Moreover, the event study describes the changes in the likelihood of military conflicts before and after the treatment, allowing me to check anticipatory behaviors. In my setup, the years of giant fuel discoveries vary across units, and thus the design is a *staggered* DiD (Goodman-Bacon 2021; Xu 2023). Thus, although the analysis may still be subject to limitations, I believe the research design, together with extensive additional analyses, improves the existing approaches in political science.

Sample and Unit

The unit of analysis is a dyad-year (i.e., a pair of countries i and j in year t). The sample includes all contiguous dyads between 1946 and 2012.[20] There are 30,525 observations

[20] The sample includes both directly and indirectly contiguous dyads. I limit to contiguous dyads as the ICoW data are available only for "politically relevant" dyads. The main results with MIDs are robust to the inclusion of non-contiguous dyads, and the exclusion of micro-

comprised of 763 dyads, 197 countries, and 67 years. The summary statistics are available in Table A 2-1 of Appendix A2.

Outcome Variables

The main outcome variable for testing Hypothesis 1 is the incidence of military conflicts. The data are derived from the Militarized Interstate Disputes (MID) dataset by the Correlates of War (CoW) project—a standard dataset of interstate conflicts (Sarkees and Schafer 2000). The outcome variable $Y_{MID,ijt}$ takes 1 if there is any MID between country i and j in year t.[21] The MIDs include any disputes involving military actions, such as threats, displays, clashes, and wars. About 4.43% of observations experienced MIDs. I later analyze each type of military actions and check the robustness to different measurements (Braithwaite and Lemke 2011).

The supplementary outcome variable for testing Hypothesis 0 is the incidence of disputes. The data are derived from the ICoW dataset (Frederick, Hensel, and Macaulay 2017; Hensel et al. 2024; Mitchell 2020). The ICoW dataset is available only up to 2001, resulting in a smaller sample size ($n = 16{,}366$). The outcome variable $Y_{ICoW,ijt}$ takes 1 if there is any dispute over lands, seas, or identity groups between country i and j in year t.[22] Note that,

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states. See later robustness checks. The sample starts from 1946 as the claimability dataset is based on the norms that emerged after the world wars. Although the sample could be extended to the interwar period, it adds highly heterogenous observations (i.e., WWII). The sample ends in 2012 as the MID dataset is available only up to 2012.

[21] The results are robust to using MID count and the Militarized Interstate Confrontation dataset (Gibler and Miller 2024; Gibler, Miller, and Little 2016). See later robustness checks.

[22] The ICoW datasets of river and regime claims are available only for a limited number of countries and hence not used.

unlike the main outcome variable, $Y_{ICoW,ijt}$ includes both militarized and non-militarized disputes. About 26.0% of the observations experienced disputes.

Treatment and Control Variables

The treatment variable is the discovery of giant oil and/or gas fields in disputable areas. The information about the locations and years of fuel discoveries is derived from two sources: Cust et al. (2022) and Enverus (2024). Cust et al. (2022) extend the dataset of Horn (2003) to 2018. The dataset contains information about the locations and years of giant fuel discoveries (>500 million barrels of oil equivalent). Because this dataset contains only wildcat drills related to giant fields, I supplement it with the industry-standard dataset compiled by Enverus (2024), which contains the records of over 600,000 wildcat drills for the period of analysis.[23]

With those data sources, I calculate the number of giant fuel discoveries and wildcat drills in disputable areas. The main treatment variable $discovery_{disputable,ijt}$ takes 1 if a giant fuel was discovered in areas that are disputable between country i and j.[24] This variable takes 1 for all years after a giant fuel discovery until the location of the oil/gas field ceases to be

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[23] I define a fuel discovery as a discovery of oil or gas fields based on wildcat drills, and hence exclude geological surveys, which provide only imprecise estimates of fuel reserves. I do not use the PETRODATA (Lujala, Ketil Rod, and Thieme 2007). The dataset contains no information about the size of oil deposits. Thus, the tiny oil fields in inland Japan are treated equally as the giant oil fields in the Middle East. As I later show, discoveries of minor fuel resources have no impact on military conflicts.

[24] Because the fuel deposits can extend to surrounding areas, I include all wildcat drills and discoveries within 30km from disputable areas. The distance is based on the average size of oil/gas fields available in the Enverus database. The results are robust when using the count of fuel discoveries in disputable areas. See a later robustness check.

claimable for country i or j. The corresponding control variable $drill_{disputable,ijt}$ is the cumulative number of wildcat drills in areas disputable for country i and j up to year t. I use the *cumulative* number of wildcat drills because the assignment probability of $discovery_{disputable,ijt}$ depends on the number of all wildcat drills up to year t.[25] I also create corresponding variables for giant fuel discoveries and wildcat drills in all claimable areas for country i and j ($discovery_{all,ijt}$, $drill_{all,ijt}$), and for giant fuel discoveries and wildcat drills in areas claimable to either country i or j ($discovery_{\neg disputable,ijt}$, $drill_{\neg disputable,ijt}$).[26]

Finally, I create an indicator variable $disputable_{ijt}$ that takes 1 if country i and j possess any disputable areas in year t. Except for those variables, I do not include other covariates (e.g., democracies and GDP per capita) and leave the analysis with additional control variables for a later robustness check. As far as $discovery_{disputable,ijt}$ is randomly assigned conditional on $drill_{disputable,ijt}$, there is no need to include additional control variables. Indeed, because those endogenous variables can be affected by fuel discoveries, controlling for them can induce post-treatment control biases (Angrist and Pischke 2009).

Specification

With those variables, I use the two-way fixed-effects (TWFE) model. While acknowledging the problems of TWFE models (Goodman-Bacon 2021; Xu 2023), I prefer not to rely on

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[25] The results are robust when controlling for the number of contemporaneous drills. See a later robustness check.

[26] While $discovery_{all,ijt}$ and $drill_{all,ijt}$ are based on the *union* of claimable areas for country i and j, $discovery_{disputable,ijt}$ and $drill_{disputable,ijt}$ are based on the *intersection* of the claimable areas. $discovery_{\neg disputable,ijt}$ and $drill_{\neg disputable,ijt}$ are based on the *symmetric difference* (i.e., union minus intersection) of the claimable areas.

particular methods and, instead, show the results with the standard model. I later extensively analyze the recent DiD methods and show their robustness.[27] The baseline specification is:[28]

$$Y_{MID,ijt} = \alpha_{ij} + \mu_t + \delta\ discovery_{all,ijt} + \beta\ drill_{all,ijt} + \gamma\ disputable_{ijt} + \varepsilon_{ijt}. \qquad ①$$

The parameter of interest is δ, which represents the effect of giant fuel discoveries on MIDs. The model contains the dyad- and year-fixed effects α_{ij} and u_t as well as the control variables $drill_{all.,ijt}$ and $disputable_{ijt}$. The control variable $drill_{all.,ijt}$ is the frequency of wildcat drills, accounting for the non-random variation in fuel discoveries. With the fixed effects, $disputable_{ijt}$ accounts for changes in disputable areas (e.g., UNCLOS in 1982).

The baseline specification, however, dismisses an important heterogeneity between oil discoveries in disputable and non-disputable areas. I thus disaggregate Equation ① to the following model:

$$\begin{aligned} Y_{MID,ijt} = a_{ij} + u_t &+ \delta_1 discovery_{disputable,ijt} + \beta_1 drill_{disputable,ijt} \\ &+ \delta_0 discovery_{\neg disputable,ijt} + \beta_0 drill_{\neg disputable,ijt} \\ &+ \vartheta\ disputable_{ijt} + \epsilon_{ijt}. \end{aligned} \qquad ②$$

In this main model, the treatment variable $discovery_{all,ijt}$ and control variable $drill_{all,ijt}$ are disaggregated to those in disputable and non-disputable areas. The parameters of interest are $\delta_{disputable}$ and $\delta_{\neg disputable}$, which represent the effects of giant fuel discoveries in disputable and non-disputable areas, respectively.

Finally, I test the auxiliary Hypothesis 0 by using the following regression:

$$Y_{ICoW,ijt} = \mathrm{a}_{ij} + \mathrm{u}_t + \eta\ disputable_{ijt} + e_{ijt}. \qquad ③$$

[27] The results are also robust to a lagged dependent variable model and the control for cohort-specific time trends. See later robustness checks.

[28] For the purpose of causal identification, the linear probability model poses no problem (Angrist and Pischke 2009). I later check the robustness to generalized linear models.

The model describes whether disputability is associated with actual disputes. That is, it tests whether country i and j are more likely to have a dispute when an area is claimable for both countries. Unlike Equation ① and ②, Equation ③ does not identify causality; it instead checks the construct validity of $disputable_{ijt}$.

Following Liu et al. (2024) and others, I exclude "always-treated" dyads, where $discovery_{disputable,ijt}$ is 1 for the entire period of the sample (e.g., giant fuel discoveries in disputable areas prior to 1946). I also exclude years after treatment reversal, where oil/gas fields ceased to be disputable for countries i and j (e.g., the UK after the independence of its colonies). In the staggered DiD, those observations are inappropriate control units. The treated dyads, for instance, should be compared to the never-treated dyads (i.e., the dyads without any giant fuel discoveries in disputable areas) or the not-yet-treated units (i.e., the dyads before giant fuel discoveries in disputable areas), instead of the always-treated or once-treated units (Goodman-Bacon 2021). Across all specifications, the standard errors are two-way clustered by country i and j.[29]

Results: Fuel Discoveries Do Cause Interstate Conflicts

Table 2 shows the results of the main analysis. As shown in Column 1 of Table 2, I do not find any effect of giant fuel discoveries on MIDs. Indeed, the point estimate is nearly zero. Moreover, the presence of disputable areas is not associated with a higher or lower likelihood of MIDs at conventional significance levels, implying that disputability is insufficient as a predictor of military conflicts.

[29] The results are robust to using one-way clustering by dyad, and dyad-robust standard errors (Aronow, Samii, and Assenova 2015).

Table 2. Effects of Giant Fuel Discoveries on MIDs

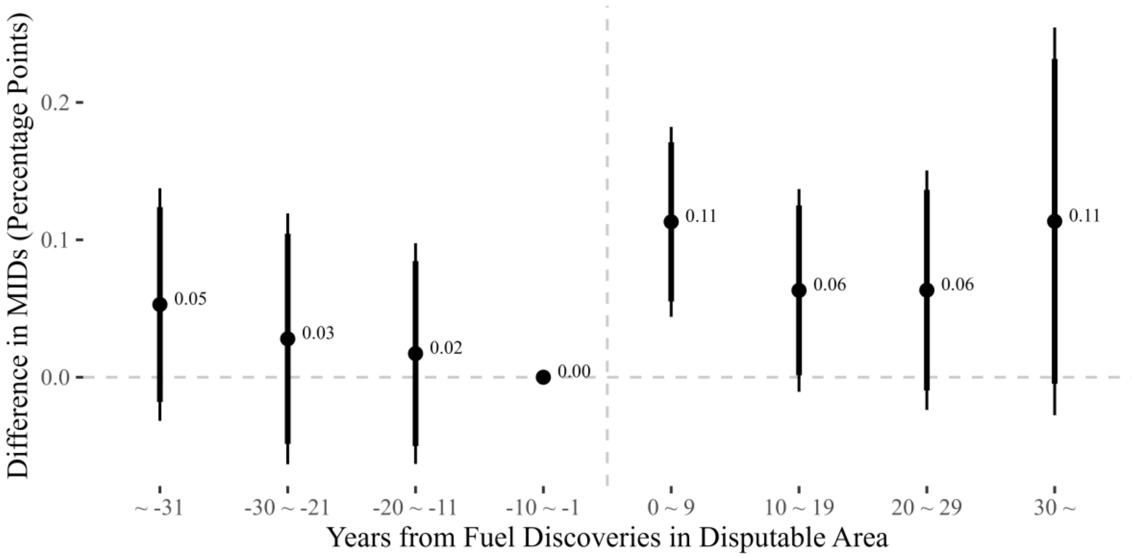
	1	2
Fuel Discoveries	0.00	
(All)	(0.01)	
Fuel Discoveries		0.08*
(Disputable)		(0.03)
Fuel Discoveries		0.00
(Non-disputable)		(0.01)
Drills	0.00†	
(All)	(0.00)	
Drills		0.00*
(Disputable)		(0.00)
Drills		0.00†
(Non-disputable)		(0.00)
Disputable Areas	-0.03	-0.04†
	(0.03)	(0.02)
N	30,525	30,525

The outcome variable is the incidence of Militarized Interstate Disputes (MIDs). The models include dyad- and year-fixed effects. The standard errors two-way clustered by country i and j are in parentheses. $** p < 0.01$; $* p < 0.05$; $\dagger\ p < 0.1$.

However, the baseline specification masks important heterogeneity. As shown in Column 2 of Table 2, giant fuel discoveries in disputable areas increased the likelihood of MIDs by eight percentage points, which is equivalent to about an 80% increase from the sample average (4.43%). By contrast, discoveries in non-disputable areas lack significant effect, and the point estimate is close to zero. These findings are consistent with Hypothesis 1, highlighting the critical role of disputability.

Figure 4 shows the results of the event study. The difference in the likelihoods of MIDs between the treated and control dyads is displayed for each decade from giant fuel discoveries in disputable areas.[30] As seen in Figure 4, the MIDs increased in the treated dyads after fuel discoveries in disputable areas, and the effect persisted for a long time. Moreover, there were no significant differences before the treatment, implying that the states' anticipatory behaviors were, if any, negligible. These results imply that giant fuel discoveries in disputable areas have long-lasting effects on interstate conflicts.[31]

Figure 4. Event Study



The figure shows the results of an event study, where the treatment variables $discovery_{disputable,ijt}$ and $discovery_{\neg disputable,ijt}$ are decomposed to dummies for each decade from giant fuel discoveries in disputable and non-disputable areas, respectively. A decade before giant fuel discovery is used as a reference group. The thick and thin vertical bars are 90% and 95% confidence intervals, respectively. The standard errors are two-way clustered by country i and j.

In Table 3, I test Hypothesis 0 by examining whether disputability is indeed associated with actual disputes in the ICoW dataset. As shown in Column 1 of Table 3, the presence of disputable areas increased the likelihood of disputes by 14 percentage points, and the relationship is statistically significant. From Columns 2 to 4, I disaggregate disputes into those

[30] The treatment variables $discovery_{disputable,ijt}$ and $discovery_{\neg disputable,ijt}$ are decomposed to dummies for each decade from the treatment year. A decade before giant fuel discovery is used as a reference category.

[31] The rollout of treatment is presented in Figure A 2-1 of Appendix A2.

about lands, identity, and seas, and also disputable areas into those related to lost lands, irredentism, and marine areas. Foreign co-ethnicities and disputable seas increased land disputes (Column 2), reflecting the fact that maritime disputes often involve disputes over remote islands (e.g., Senkaku/Diaoyudao islands between Japan and China). While no predictors are associated with identity disputes due to the extreme rarity of the outcome (Column 3),[32] disputable seas increased maritime disputes (Column 4). A rather unexpected finding is that lost lands are negatively associated with land and maritime disputes. Since the model includes the fixed effects, the estimate captures the changes in the likelihood of disputes before and after land losses. Because land losses often mark dispute settlements or ends of war, they temporarily reduce disputes. Indeed, without fixed effects, lost lands are positively and significantly associated with land disputes.

Table 3. Correlation Between Disputability and Actual Disputes

	1 All Disputes	2 Land Disputes	3 Identity Disputes	4 Maritime Disputes
Disputable Areas	0.14^{*}			
	(0.07)			
Lost Lands		-0.45^{**}	0.00	$-0.09^{\dagger}$
		(0.04)	(0.01)	(0.05)
Irredentism		0.29^{**}	0.00	0.09
		(0.07)	(0.01)	(0.10)
Disp. Seas		0.15^{*}	0.00	0.15^{*}
		(0.06)	(0.01)	(0.07)
N	15,220	15,220	15,220	15,220

The outcome variables are the incidences of land, maritime, and/or identity disputes in the ICoW dataset. The models include dyad- and year-fixed effects. The standard errors two-way clustered by country i and j are in parentheses. $** \, p < 0.01$; $* \, p < 0.05$; $\dagger \, p < 0.1$.

[32] Only 0.7% of the observations had identity disputes. This is about one sixth of the land or maritime disputes.

In Table A 3-1 of Appendix A3, I also analyze the effects of giant fuel discoveries in disputable and non-disputable areas on disputes. Although the theoretical relationship is indeterminate (see a caveat on p.9), the analysis indicates that giant fuel discoveries increased the likelihood of disputes, implying that the dispute-inducing effects of fuel discoveries outweighed their soothing effects.

Validity Checks

I check the covariate balance first by regressing the treatment variable on covariates, including alliance, military capabilities, democracies, state ownership of the economy, GDP per capita, and population size with control for the number of wildcat drills in disputable areas. As shown in Table A 4-1 of Appendix A4, only one—alliance—among ten predictors is significantly associated with fuel discoveries in disputable areas, which is not surprising given the multiple hypothesis testing. To be sure, I control for the covariates and find similar results in a robustness check.

In Figure A 4-1 of Appendix A4, I also conduct placebo tests by using failed wildcat drills (i.e., no discoveries of fuel resources) and minor discoveries (discoveries of less than 500 million barrels or unknown amounts) as placebo treatments. Because those placebos are unlikely to cause power shifts or increase the salience of the territory, they should not affect MIDs. The estimates are indeed null and close to zero.

However, there are remaining concerns. Unobserved confounders can affect not only the *quantity* but also the *quality* of wildcat drills. For example, restrictions on foreign direct investment may not only reduce the number of wildcat drills, but they may also hamper the use of the latest drilling technologies. I address this concern in three additional analyses. First, in Table A 4-2 of Appendix A4 (Column 1), I control the average underground depth of wildcat drills (km) as a proxy of drilling technologies. Second, in Table A 4-2 of Appendix A4 (Column 2), I change the estimand to the *difference* between the effects of giant fuel discoveries in disputable and non-disputable areas (i.e., triple differences; DDD).[33] The difference cancels out the confounding effects if a country uses similar drilling technologies in disputable and non-disputable areas. Third, in Table A 4-2 of Appendix A4 (Column 3), I relax the assumption; given the number of wildcat drills and *discoveries of certain amounts of fuel resources*, it is random whether those discoveries are small or giant.[34] This addresses the concern as far as drilling technologies affect the discovery rates but not discovery amounts. The results are robust to any of those changes.

Another concern is that disputable areas are not randomly assigned. Because disputable areas are often located near national borders, the results might reflect the effect of giant fuel discoveries near national borders. States, for instance, may fight for fuel fields around national borders, because it is tactically easier to conquer those fields (Caselli, Morelli, and Rohner 2015). I account for this possibility by excluding giant fuel discoveries within 100km of national borders from the treatment and control variables. As shown in Table A 4-2 of Appendix A4 (Column 4), the results are robust to this change.

Similarly, disputable and non-disputable areas may have different geographical and other characteristics. Disputable seas, for instance, concentrate on shallow waters. Foreign ethnic minorities are also more common in ethnically diverse regions (e.g., Africa). In Table A 4-2 of Appendix A4 (Column 5), I alleviate this concern by controlling the indicator of giant fuel discoveries within 300km of disputable areas (excluding disputable areas).[35] These fields

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[33] To this end, I substitute $discovery_{all,ijt}$ and $drill_{all,ijt}$ for $discovery_{\neg disputable,ijt}$ and $drill_{\neg disputable,ijt}$ in Equation ②.

[34] To this end, I add the indicators of (minor or giant) fuel discoveries in disputable and non-disputable areas to Equation ②.

[35] 300km is ten times of the threshold used in footnote 24.

are not disputable, but the proximity implies that their geographical and other characteristics are similar to those in disputable areas. The results remain robust to this change.

Finally, I extensively implement the recent methods for staggered DiD. The TWFE model does not estimate the average treatment effect on the treated when the effects are heterogeneous across units and over time (Goodman-Bacon 2021). Recent studies propose alternative estimators that are valid even with heterogeneous effects (see Chiu et al. 2024; Xu 2023 for reviews). In Table A 5-1 of Appendix A5, I implement those methods and find similar results across eight estimators.[36] These results are consistent with the findings by Chiu et al. (2024); heterogeneous treatment effects are less concerning than violating more critical assumptions. In Figure A 5-1 of Appendix A5, I also conduct a sensitivity check proposed by Rambachan and Roth (2023), showing that the event-study estimates (i.e., Figure 4) are robust to minor violations of the common trend assumption.

Robustness Checks

I conduct an extensive set of robustness checks, summarized in Table 4 and detailed in Table A 6-1 of Appendix A6. The main results are robust to the changes in the sample, measurement, specifications, and standard errors. In Figure A 6-1 of Appendix A6, I also remove each treated dyad from the sample and estimate δ_1 in Equation ②. The main results are robust to the omission of any treated dyad.

[36] Borusyak, Jaravel, and Spiess 2024; Callaway and Sant'Anna 2021; de Chaisemartin and D'Haultfœuille 2024; A. Dube et al. 2023; Gardner 2022; Imai, Kim, and Wang 2023; Liu, Wang, and Xu 2024; Sun and Abraham 2021.

Table 4. Validity and Robustness Checks

		Appendix
Validity checks		
1. Randomization check	✓	Table A 4-1
2. Placebo tests with failed drills and minor fuel discoveries	✓	Figure A 4-1
3. Control for the average depth of wildcat drills	$+^{**}$	Table A 4-2
4. Triple differences	$+^{*}$	Table A 4-2
5. Control for the indicators of any fuel discoveries	$+^{\dagger}$	Table A 4-2
6. Removal of fuel discoveries within 100km of national borders	$+^{**}$	Table A 4-2
7. Control for the indicator of giant fuel discoveries adjacent to disputable areas	$+^{**}$	Table A 4-2
DiD methods		
8. Multi-period DiD (Callaway and Sant'Anna 2021)	$+^{1}$	Table A 5-1
9. Cohort-wise DiD (Sun and Abraham 2021)	$+^{*1}$	Table A 5-1
10. Panel matching (Imai et al. 2023)	$+^{*1}$	Table A 5-1
11. Multiple DiD (de Chaisemartin and D'Haultfœuille 2024)	$+^{*1}$	Table A 5-1
12. Local projections DiD (Dube et al. 2023)	$+^{*1}$	Table A 5-1
13. DiD imputation (Borusyak et al. 2024)	$+^{*1}$	Table A 5-1
14. Two-stage DiD (Gardner 2022)	$+^{*1}$	Table A 5-1
15. Fixed-effect counterfactual (Liu et al. 2024)	$+^{1}$	Table A 5-1
Sample		
16. Inclusion of all dyads	$+^{\dagger}$	Table A 6-1
17. Exclusion of microstates	$+^{*}$	Table A 6-1
18. Subset to dyad-years that had disputes in the ICoW dataset	$+^{\dagger}$	Table A 6-1
19. Leave-one-treated-dyad-out tests	$+^{*2}$	Figure A 6-1
Measurement		
20. Count of MIDs as an outcome variable	$+^{**}$	Table A 6-1
21. MIC as an outcome variable	$+^{*}$	Table A 6-1
22. Count of giant fuel discoveries as a treatment variable	$+^{*}$	Table A 6-1
23. Control for the contemporaneous number of wildcat drills in t	$+^{**}$	Table A 6-1
Specifications		
24. Additional control variables[3]	$+^{*}$	Table A 6-1
25. Lagged dependent variable model	$+^{**}$	Table A 6-1
26. Control for cohort-specific time trends	$+^{\dagger}$	Table A 6-1
27. Logit model	$+^{**}$	Table A 6-1
28. Poisson model with the count of MIDs	$+^{**}$	Table A 6-1
29. Negative binomial model with the count of MIDs	$+^{4}$	Table A 6-1
Inference		
30. SE one-way clustered by dyad	$+^{*}$	Table A 6-1
31. Dyad robust SE	$+^{\dagger}$	Table A 6-1

Summary of validity and robustness checks in the appendix. $** \, p < 0.01$; $* \, p < 0.05$; $\dagger \, p < 0.1$.
Note 1: Only a 5% significance level is used. Several methods produce significance only at a 5 % level.
Note 2: Statistically significant at a 1% level in 4 out of 29 cases.
Note 3: The additional control variables include alliance, and the maximum and minimum of military capabilities, democracies, state ownership of the economy, GDP per capita, and population sizes.
Note 4: The standard errors and thus p-values are not calculated due to the lack of convergence.

Heterogeneous Effects

I explore the heterogeneity by first disaggregating the MIDs to each type of military action: non-military actions, military threats, displays, use of military forces (i.e., minor clashes), and war.[37] As seen in Table 5, the main results are mostly driven by military clashes. By contrast, although the point estimate for military display is relatively large, those for non-militarized actions, military threat, and war are close to zero. These results are consistent with Meierding (2016b); fuel resources did not cause war but only caused "oil spats" (442).

Table 5. Heterogeneous Effects by MID Categories

	1 Non-militarized	2 Military Threat	3 Military Display	4 Use of Force	5 War
Fuel Discoveries	0.00	0.00	0.03	0.06**	0.00
(Disputable)	(0.00)	(0.00)	(0.02)	(0.02)	(0.00)
Fuel Discoveries	0.00	0.00	0.00	0.00	0.00
(Non-disputable)	(0.00)	(0.00)	(0.00)	(0.01)	(0.00)
Drills	0.00	0.00	0.00	0.00*	0.00
(Disputable)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Drills	0.00	0.00	0.00*	0.00	0.00
(Non-disputable)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Disputable Areas	0.00	0.00	-0.02	-0.03†	-0.01†
	(0.00)	(0.00)	(0.02)	(0.02)	(0.00)
N	30,525	30,525	30,525	30,525	30,525

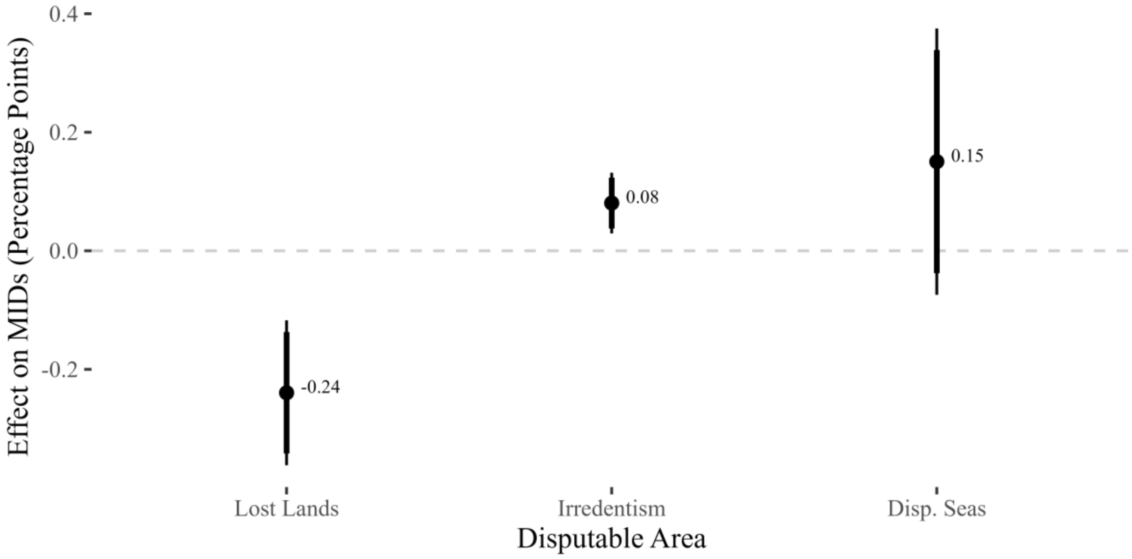
The outcome variable is the incidence of each type of Militarized Interstate Disputes (MIDs). The models include dyad- and year-fixed effects. The standard errors two-way clustered by country i and j are in parentheses. $** p < 0.01$; $* p < 0.05$; $\dagger\ p < 0.1$.

Second, I disaggregate fuel discoveries in disputable areas to those in lost lands, foreign co-ethnic lands, and disputable seas. As shown fuel discoveries in foreign co-ethnic lands increased MIDs. Although the point estimate for fuel discoveries in disputable seas is the largest, the standard error is also large. The sample contains only a few cases of fuel discoveries in disputable seas, resulting in large standard errors. Finally, while fuel discoveries in lost lands increased land disputes (Table A 3-1 in Appendix A3), they reduced MIDs (first column of

[37] As Gibler et al. (2016) point out, the "Militarized" Interstate Dispute dataset contains a few cases of non-military actions.

Figure 5). These results imply that even though fuel discoveries reignited disputes over lost lands, states avoided re-escalation, possibly because they learned from their previous experiences of military conflicts that had led to the losses of their territories.

Figure 5. Heterogeneous Effects by Disputability Types



The figure shows the effects of giant fuel discoveries in lost lands, foreign co-ethnic lands (irredentism), and disputable seas on the incidence of MIDs, respectively. The thick and thin vertical bars are 90% and 95% confidence intervals, respectively. The standard errors are two-way clustered by country i and j.

In Appendix A7, I examine other sources of heterogeneity. The treatment effects are larger for dyads of revolutionary and non-revisionary states (Colgan 2010, 2011, 2013, 2014). By contrast, the estimates do not depend on oil price, suggesting that financial gain from fuel production was not a primary driver of military conflicts (BP 2022). The results are also similar across political regimes, implying that even democracies can fight for fuel resources (Coppedge et al. 2021). Finally, I find that the effects are larger for gas discoveries and no different between onshore and offshore discoveries. Unlike rebel groups in intrastate conflicts, governments can exploit offshore resources, which can explain why the effects are similar between onshore and offshore discoveries (Andersen, Nordvik, and Tesei 2022).

Mechanism Checks

In the theory section, I have postulated two mechanisms: *commitment problem* and *increased salience*. Although directly testing the mechanisms is difficult, I provide indirect evidence.

First, I analyze whether discoveries of giant fuel resources increase military capabilities and alter the power balance. Because the unit of analysis is a dyad, I use the sum and difference in the military capabilities within a dyad (denoted by $\sum$ and Δ, respectively). I log-transform the original variables, calculate the sum and difference, and standardize them.[38] The data on military capabilities are derived from the Composite Index of National Capability (CINC) by the CoW and the Material Military Power (MMP) index by Souva (2023).[39]

Table 6 provides suggestive evidence that giant fuel discoveries in disputable areas increased the total amount of military capabilities and their differences. Although the estimates are imprecise with the MMP data, the estimates are positive across all specifications. These results imply that giant fuel discoveries in disputable areas resulted in military expansion and differently affected the states. This is consistent with the commitment problem (i.e., fuel resources provide revenues for military expansion) and salience mechanisms (i.e., increased salience incentivizes the states to expand their militaries).

[38] Although the log-transformation alters the identification assumption of DiD (McConnell 2023), it is necessary to log-transform the outcomes as they are very skewed.

[39] The MMP index is not available for microstates.

Table 6. Effects of Giant Fuel Discoveries on Military Capabilities

	1	2	3	4
	ΣCINC	ΣMMP	ΔCINC	ΔMMP
Fuel Discoveries	0.23†	0.18	0.19*	0.11
(Disputable)	(0.12)	(0.11)	(0.09)	(0.10)
Fuel Discoveries	0.12	0.09	0.13	0.11
(Non-disputable)	(0.08)	(0.07)	(0.09)	(0.07)
Drills	0.00	0.00†	0.00	0.00†
(Disputable)	(0.00)	(0.00)	(0.00)	(0.00)
Drills	0.00	0.00	0.00	0.00
(Non-disputable)	(0.00)	(0.00)	(0.00)	(0.00)
Disputable Areas	-0.01	-0.06	0.13**	-0.02
	(0.12)	(0.09)	(0.04)	(0.07)
N	30,525	30,318	30,525	30,318

The outcome variables are the sums (∑) or differences (Δ) in military capability indexes (CINC or MMP). The coefficients are standardized. The models include dyad- and year-fixed effects. The standard errors two-way clustered by country i and j are in parentheses. $**\ p < 0.01$; $*\ p < 0.05$; $\dagger\ p < 0.1$.

Second, I analyze whether giant fuel discoveries in disputable areas increased the amounts of oil production and resource revenues. The data on fuel production and resource revenues are derived from Ross and Mahdavi (2015) and the Government Revenue Dataset (GRD; McNabb, Oppel, and Chachu 2023), respectively. Like Table 6, I calculate, log-transform, and standardize the sums and differences in the production amounts and resource revenues in each dyad.[40] Note that the GRD is available only in a limited number of countries after 1980, resulting in many missing values.

Table 7 provides no evidence. While fuel discoveries in non-disputable areas increased fuel production, resource revenues, and their differences within dyads (the second row of Table 7), I do not find similar evidence for fuel discoveries in disputable areas (the first row of Table 7). Although the point estimates for fuel production are similar between discoveries in

[40] See footnote 38.

disputable and non-disputable areas, they are even negative for resource revenues. These results suggest fuel discoveries in disputable areas did not provide financial resources for military expansion. A more likely scenario is that fuel discoveries in disputable areas increased the salience of the territory, which in turn incentivized the states to expand military capabilities. Because stronger states can more rapidly expand their militaries, the arms races can result in differential growth in military capabilities.

Table 7. Effects of Giant Fuel Discoveries on Fuel Production and Revenue

	1 ΣFuel Production	2 ΣResource Revenue	3 ΔFuel Production	4 ΔResource Revenue
Fuel Discoveries	0.15	-0.55	0.16	-0.50
(Disputable)	(0.10)	(0.65)	(0.15)	(0.67)
Fuel Discoveries	0.19*	0.17*	0.16†	0.15*
(Non-disputable)	(0.08)	(0.07)	(0.08)	(0.06)
Drills	0.00	0.01**	0.00	0.01**
(Disputable)	(0.00)	(0.00)	(0.00)	(0.00)
Drills	0.00	0.00	0.00	0.00
(Non-disputable)	(0.00)	(0.00)	(0.00)	(0.00)
Disputable Areas	0.08	-0.06	0.05	-0.06
	(0.10)	(0.50)	(0.12)	(0.53)
N	23,673	4,029	23,673	4,029

The outcome variables are the sums (∑) or differences (Δ) in the logged amounts of fuel production or resource revenue. The coefficients are standardized. The models include dyad- and year-fixed effects. The standard errors two-way clustered by country i and j are in parentheses. $** p < 0.01$; $* p < 0.05$; $\dagger p < 0.1$.

Finally, I consider the possibility that fuel discoveries escalated disputes into conflicts *regardless of their locations*. When two states have a disputable area, and one state discovers fuel resources in non-disputable areas, they have sources of a dispute (i.e., disputable area) and escalation (i.e., fuel discovery). I test this possibility by interacting $discovery_{all,ijt}$ and $disputable_{ijt}$ in Equation ①, and find null results (Table A 3-2 of Appendix A3). This result implies that the locations of fuel discoveries—whether they are discovered in disputable areas—are crucial for understanding their effects on interstate conflicts.

Case Study: Pinghu and Chunxiao Fields in the East China Sea

Although the evidence is more consistent with the salience mechanism, the empirical analyses are conjectural. I thus supplement the quantitative analysis with a qualitative case study. To this end, I analyze the territorial dispute between Japan and China over the East China Sea. As shown in Figure A 6-1 of Appendix A6, the Japan-China dyad is the most influential case in the quantitative analysis, constituting the "most likely" case. The case also provides a unique analytical opportunity for conducting the "most similar" comparison. China discovered the Pinghu and Chunxiao fields in 1983 and 1995, respectively. Importantly, the two fields were very closely located, but Chunxiao was marginally closer to the disputable area. This subtle difference allowed Japan to claim Chunxiao but not Pinghu.[41]

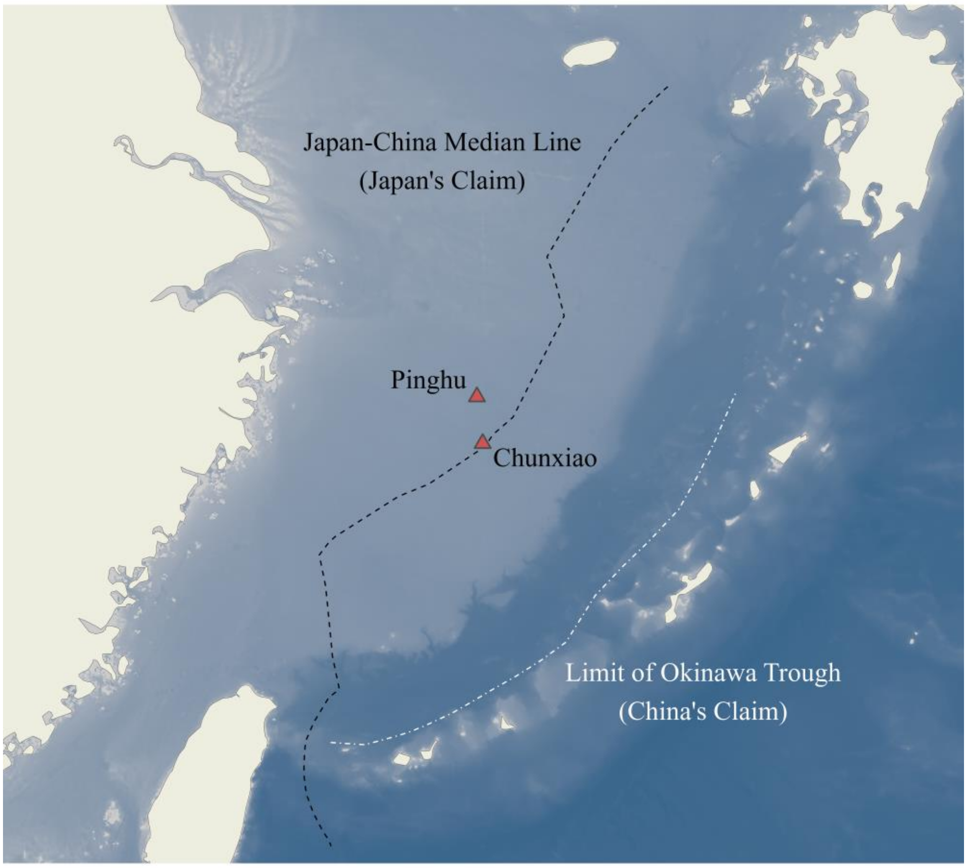
Contexts

The dispute over the East China Sea can be traced back to the geophysical surveys conducted by the Economic Commission for Asia and the Far East in 1968. The survey indicated a potentially vast fuel deposit in the East China Sea (Emery et al. 1969). Although the survey led to territorial disputes over the Senkaku/Diaoyudao islands among Japan, China, and Taiwan, it also set the ground for a dispute over marine areas. While China claimed its control over the continental shelf stretching from the mainland to the Okinawa Trough, Japan claimed to split

[41] China also discovered Tianwaitian in 1986, Baoyunting and Canxue in 1989, and Duanqiao in 1990. Although Tianwaitian and Duanqiao were close to the median line and discovered earlier than Chunxiao, Chine developed those fields at the same time as Chunxiao (Tianwaitian) or later (Duanqiao). Japan claimed them after Chunxiao sparked the dispute.

the EEZs at a median line (Figure 6).[42] The disagreement, however, did not escalate into serious disputes or military encounters until 2003. In fact, Japan and China signed a fishery agreement in 1975 and renewed it in 1997 to manage the disagreement.

Figure 6. Dispute Over the East China Sea



The figure shows Japan's and China's claims for the EEZs in the East China Sea (black and white lines). The triangles indicate the locations of the Pinghu and Chunxiao fields.

Control Case: Pinghu Field

In the 1980s, China started the exploration of oil and gas fields in the East China Sea. The first major discovery was the Pinghu (平湖) field in 1983. The Pinghu field was estimated to produce 170 m^3 of crude oil and 410 thousand m^3 of natural gas per day, and the deposit was

[42] The bathymetry data are derived from GEBCO (2024). The other data come from ESRI. https://www.arcgis.com/home/item.html?id=ab8c5df2093e46fda03a9eafe02b9343 (access on September 27, 2024).

found to be even larger in 1988 (Li 2007). In 1998, China finished the construction of a platform and pipeline, and started production. The production reached 17,610 barrels equivalent per day in 2002 (Takehara 2003).

Despite these developments, Japan did not claim the Pinghu field. The government did not make any statement or protest against the development of the Pinghu field. No representatives mentioned Pinghu in the National Diet before 2004.[43] Moreover, a government-owned bank, Japan Bank for International Cooperation (JBIC), even offered loans of 120 million USD for the construction of pipelines in the Pinghu field (National Diet Library 2024).[44] The government's stance remained the same even after the Chunxiao field sparked the dispute. In 2006, the Minister of Foreign Affairs, Shinzo Abe, emphasized the difference between the two fields; “the Pinghu oil and gas field is located about 70 kilometers from the Japan-China median line on the Chinese side of the border. It is a separate oil and gas field from the Chunxiao (Japanese name: Shirakaba) oil and gas field, which is currently in question” (National Diet Library 2024).[45]

As suggested by Abe’s statement, the absence of Japan’s claim over the Pinghu field was a direct consequence of its location. Because the Pinghu field was 70km inside the median line toward the Chinese side, the field was hardly claimable to Japan. The field was not only located in the area claimable only to China, but it was also far from the areas claimable to Japan. This made it difficult for Japan to claim that the gas deposit extended to its claimable areas.

[43] The only exception was a brief mention of Pinghu in a different context (National Diet Library 2024). https://kokkai.ndl.go.jp/txt/112614379X00719930421/20.

[44] https://kokkai.ndl.go.jp/txt/116214080X00420050318/72.

[45] https://kokkai.ndl.go.jp/txt/116404278X00920060411/170. Translated to English.

Without claimability, Japan did not make any claim, and the disagreement over maritime sovereignty did not escalate into serious disputes before 2004.[46]

Treated Case: Chunxiao Field

In contrast, the Chunxiao (春暁) field, located just 70km south of Pinghu, sparked the dispute over the East China Sea. China discovered the Chunxiao field in 1995. The Chunxiao field was estimated to produce 169 m^3 of crude oil and 161 thousand m^3 of natural gas per day (Li 2007). Although Chunxiao was located less than 5km from the disputed areas, the discovery itself did not cause disputes. China started the platform construction in 2003 and built the basement of the platform in May 2004.

The platform construction, however, triggered a backlash from Japan. A Japanese newspaper, the Tokyo Shimbun, reported the construction of the platform in May 2004, raising widespread concern in Japan (Hiramatsu 2004; Sawa 2005). While no representatives had mentioned Chunxiao before 2004, the platform construction sparked debates in the Diet (National Diet Library 2024).[47] The Japanese government suspected that the Chunxiao field extended beyond the median line and requested China to disclose geological data. China declined this request. In response, Japan conducted a geological survey in July 2004 and, subsequently, authorized a Japanese company to perform exploratory drilling. The Chinese government condemned this action. The tension escalated in September 2005, when a Chinese military vessel pointed its gun barrel at a Japanese marine force aircraft patrolling near the median line (Hiyajyou 2006).[48] Even twenty years later, the territorial dispute over the East

[46] Interestingly, unlike Chunxiao/Shirakaba, Japan did not assign a Japanese name to Pinghu.

[47] https://kokkai.ndl.go.jp/txt/116115261X00220041020/392.

[48] In the CoW's classification, this action corresponds to a military threat and thus constitutes a MID.

China Sea, coupled with the long-standing disagreement over the Senkaku/Diaoyudao islands, continues to strain the relationship between Japan and China.[49]

Thus, unlike Pinghu, the platform construction of Chunxiao triggered a dispute. Although the difference can be attributed to many factors such as the media reports (e.g., Tokyo Shimbun) and partisanship,[50] one critical factor was the location of Chunxiao; unlike Pinghu, which was 70km away from the median line, Chunxiao was located less than 5km from the median line. This enabled Japan to claim its share in the Chunxiao field. The Deputy Minister of Foreign Affairs, Ichiro Aizawa, indeed stated, "I must express concerns that China developed Chunxiao very close to the median line that our country claims, and, depending on the underground structure, our rights and interests are directly violated" (November 24, 2004; National Diet Library 2024).[51] The Japanese claim, in turn, reignited the disagreement over the East China Sea, which eventually escalated into a military confrontation in 2005.

Discussion

The cases of the Pinghu and Chunxiao fields illustrate how claimability sets a condition for interstate disputes. Although the two fields were closely located, Chunxiao was marginally closer to the areas claimable to Japan. This allowed Japan to make a claim, which triggered the dispute over the East China Sea. Theoretically, this story is more consistent with the increased salience, instead of the commitment problem, mechanism. It is difficult to argue that Chunxiao

[49] In June 2008, Japan and China agreed on the joint development of oil and gas fields in the East China Sea. However, the agreement did not entail substantive changes.

[50] At the time of the platform construction in Pinghu, Prime Minister belonged to the mainstream faction of the Liberal Democratic Party (Keisei-kai). By contrast, when the Chunxiao platform was built, Prime Minister came from the conservative faction (Seiwa-kai).

[51] https://kokkai.ndl.go.jp/txt/116104080X00920041124/28. Translated to English.

helped China expand the military; although Chunxiao had a relatively large deposit, its revenue was minuscule compared to the military budgets of China or Japan. A more plausible explanation is that the development of Chunxiao increased the salience of maritime sovereignty and thus escalated the dispute.

The case also provides a few additional insights. First, consistent with the findings in the statistical analysis (Table 5), Chunxiao did not cause war but only entailed “spats” (Meierding 2016b). Although scholars sometimes downgrade such spats, the dispute over the East China Sea has been a major issue between Japan and China for decades, hampering their cooperation. Thus, even though oil or gas does not cause war, the analysis of conflicts over fuel resources continues to have substantive importance. Second, the platform construction of Chunxiao, instead of its initial discovery, triggered the dispute. This implies that the effect of fuel discoveries can arise several years after the discoveries. This is consistent with statistical findings in Figure 4, which indicates that the effects persist for a long time. Third, Tokyo Shimbun’s report triggered a backlash from Japan, implying the potential role of mass media. Although analyzing media contents across countries is beyond the scope of this paper, the empirical results indirectly support this notion. For instance, democracies may fight each other (Figure A 7-1 of Appendix A7), because mass media are not controlled by the government and thus can freely report fuel discoveries to flare petro-nationalism. It is a task of future studies to analyze the roles of mass media more directly.

Conclusion

In this paper, I have proposed a concept of claimability and demonstrated its usefulness by analyzing how claimability sets a condition for fuel discoveries to cause interstate conflicts. Built on a simple model, I have hypothesized that fuel discoveries cause interstate conflicts when the resources are discovered in areas claimable to multiple states. I have tested the hypothesis by compiling the new dataset of claimability, which geo-codes three sets of international norms that had emerged after the world wars: territorial integrity, self-determination, and maritime sovereignty. I have combined the data with a fine-grained dataset of wildcat drills and leveraged natural experiments and DiD. The statistical analysis has indicated that giant fuel discoveries in disputable areas increased the likelihood of MIDs by eight percentage points. The extensive analyses of validity, robustness, and heterogeneity have provided further credence to the findings. I have also explored causal mechanisms with quantitative and qualitative approaches, suggesting that fuel discoveries sparked military conflicts by increasing the salience of disputable territories.

These findings shed light on the crucial roles of international norms. Claimability sets a necessary condition for interstate bargaining. Without claims, states do not dispute. Without disputes, states do not bargain. Without bargaining, states do not fight. These simple but oft-neglected facts force us to consider claimability; under what conditions do states make claims? Answering this question is crucial for understanding the scope condition of bargaining models. Future studies should analyze what motivates states to claim, dispute, bargain, and fight.

This does not mean that we can discard bargaining models or rely on the abstract concept of international norms. International norms define states' preferences and other characteristics (Finnemore and Sikkink 1998; Wendt 1999). The preferences, however, turn into behaviors through strategic interactions. Moreover, the concept of claimability is useless without concrete measurements. I have addressed those issues by integrating the concept of claimability into a bargaining model and providing a new claimability dataset. These theoretical and empirical contributions lay the foundation for further studies on claimability in international relations.

Finally, the statistical analysis indicates that fuel resources cause interstate conflicts only when they are discovered in disputable areas. This finding explains the puzzling asymmetry in the literature; despite ample evidence about the effect of fuel resources on intrastate conflicts, the evidence for interstate conflicts remains mixed. I have shown that the puzzle can partly be explained by claimability. While armed groups can claim control over oil/gas fields in their countries during civil war, states cannot claim every field worldwide. Only when a field is claimable, the states claim, dispute, and fight for it. Although Meierding (2016a, 2016b) argues that fuel discoveries cause only minor clashes, the dispute over the East China Sea suggests that such "spats" are real concerns. Future studies should examine the causes and consequences of conflicts over fuel resources, as well as their implications for the coming transition from fossil fuels (Dizaji 2024; Kamada 2024).

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Data Availability

The replication data will be uploaded to Havard Dataverse upon publication.

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Conflict of Interest

The author has no conflict of interest.

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Online Appendix for

“Claimability in International Relations:

Oil Discoveries, Territorial Claims, and Interstate Conflicts”

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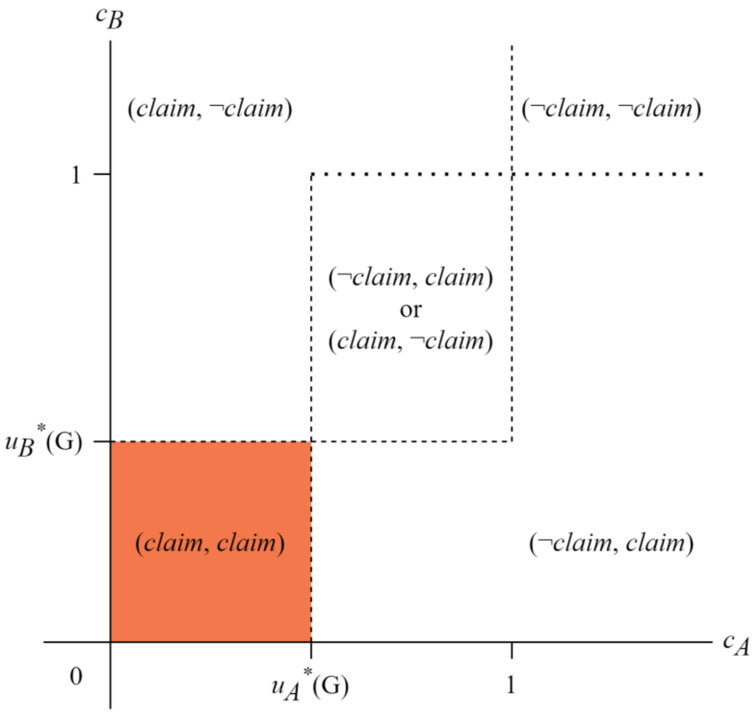
Table of Contents

A1. Proof

The solution concept is the Subgame Perfect Equilibrium (SPE), as the model includes the subgame G. The equilibrium can be obtained by dividing the cases based on the orders of $\{c_A, u_A^*(G), 1\}$ and $\{c_B, u_B^*(G), 1\}$, where $u_\cdot^*(G)$ refers to an expected utility at the equilibrium of subgame G. The SPE are shown in Figure A 1-1. States A and B make claims if and only if $c_A < u_A^*(G)$ and $c_B < u_B^*(G)$. Finally, because a fuel discovery increases the probability of a military conflict from $\underline{p}$ to $\overline{p}$, it follows that a military conflict is more likely with a fuel discovery, $c_A < u_A^*(G)$, and $c_B < u_B^*(G)$ than otherwise.

Figure A 1-1. Subgame Perfect Equilibria



The figure shows the strategic profiles, (State A's choice, State B's choice), at the Subgame Perfect Equilibria with respect to the costs for making claims, c_A and c_B. $u_A^*(G)$ and $u_B^*(G)$ are States A and B's expected utilities in the equilibrium of subgame G. The red area indicates that the probability of a military conflict is 0 or higher.

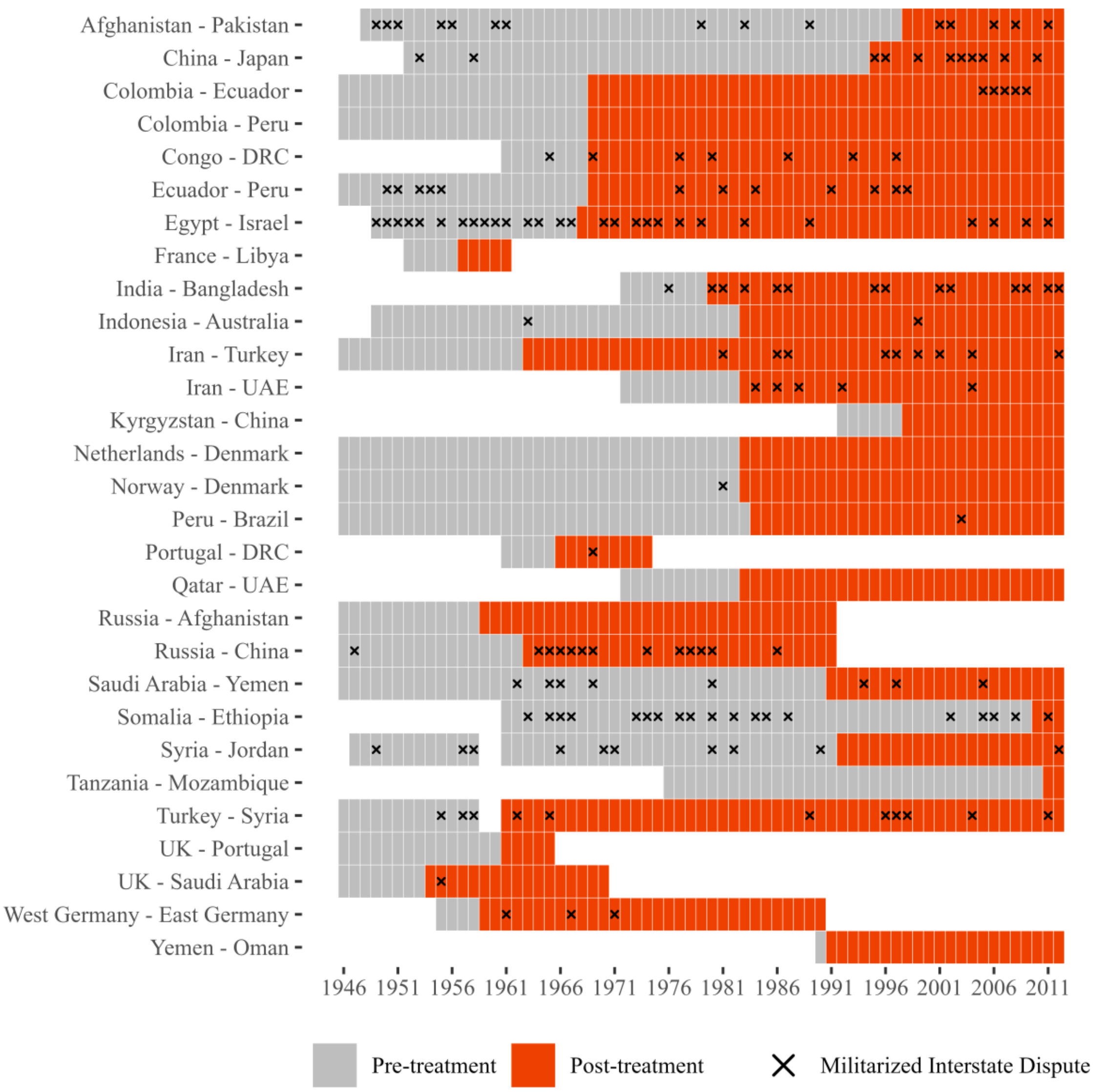
A2. Descriptive Statistics

Table A 2-1. Summary Statistics

	Mean	SD	Min	Median	Max	N
Militarized Dispute	0.04	0.21	0.00	0.00	1.00	30525
Dispute	0.26	0.44	0.00	0.00	1.00	15220
Fuel Discoveries (All)	0.65	0.48	0.00	1.00	1.00	30525
Fuel Discoveries (Disputable)	0.03	0.16	0.00	0.00	1.00	30525
Fuel Discoveries (Non-disputable)	0.64	0.48	0.00	1.00	1.00	30525
Drills (All)	802.31	1464.36	0.00	206.00	12073.00	30525
Drills (Disputable)	7.35	86.94	0.00	0.00	3046.00	30525
Drills (Non-disputable)	794.96	1462.71	0.00	198.00	12072.00	30525
Disputable Areas	0.27	0.45	0.00	0.00	1.00	30525

The table shows the summary statistics of the main variables used in the statistical analysis. The variables related to drills are the cumulative number of wildcat drills in year t. *Dispute* is based on the ICoW and thus available only up to 2001.

Figure A 2-1. Treatment Rollout



The shows the rollout of the treatment (i.e., giant fuel discoveries in disputable areas). The gray and red cells represent the years before and after the treatment. The cross symbols indicate incidences of militarized interstate disputes. The figure present only the treated dyads. Syria was under the union with Egypt and thus is excluded from the sample for 1959–1960.

A3. Supplementary Analyses

Table A 3-1. Effect of Fuel Discoveries on Disputes

	1 All Disputes	2 Land Disputes	3 Identity Disputes	4 Maritime Disputes
Fuel Discoveries (Disputable)	$0.12^{\dagger}$ (0.06)			
Fuel Discoveries (Lost Lands)		0.87^{**} (0.10)	0.15^{**} (0.05)	0.12 (0.08)
Fuel Discoveries (Irredentism)		0.17^{**} (0.06)	0.05^{*} (0.02)	0.04 (0.05)
Fuel Discoveries (Disp. Seas)		-0.03 (0.13)	0.00 (0.00)	0.11 (0.23)
Drills (Disputable)	$0.00^{\dagger}$ (0.00)			
Drills (Lost Lands)		0.00^{**} (0.00)	0.00^{**} (0.00)	0.00 (0.00)
Drills (Irredentism)		0.00 (0.00)	0.00^{**} (0.00)	0.00 (0.00)
Drills (Disp. Seas)		0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Disputable Areas	0.11 (0.07)			
Lost Lands		-0.66^{**} (0.08)	0.02 (0.02)	-0.24^{**} (0.09)
Irredentism		0.24^{**} (0.08)	0.01 (0.01)	0.06 (0.10)
Disp. Seas		0.18^{*} (0.08)	0.00 (0.01)	0.17^{*} (0.08)
Fuel Discoveries (Non-disputable)	0.00 (0.04)	-0.01 (0.04)	-0.01 (0.00)	0.02 (0.03)
Drills (Non-disputable)	0.00^{**} (0.00)	$0.00^{\dagger}$ (0.00)	0.00 (0.00)	0.00^{**} (0.00)
N	15,220	15,220	15,220	15,220

The outcome variable is the incidence of disputes in the ICoW dataset. The standard errors two-way clustered by country i and j are in parentheses. $** \, p < 0.01$; $* \, p < 0.05$; $\dagger \, p < 0.1$.

Table A 3-2. Interactive Effect of Fuel Discoveries and Disputability on MIDs

	1
Fuel Discoveries	0.00
(All)	(0.01)
Drills	$0.00^{\dagger}$
(All)	(0.00)
Disputable Areas	-0.03
	(0.03)
Fuel Discoveries (All)	0.00
×Disputable Areas	(0.02)
N	30,525

The outcome variable is the incidence of Militarized Interstate Disputes (MIDs). The standard errors two-way clustered by country i and j are in parentheses. $** p < 0.01$; $* p < 0.05$; $\dagger\ p < 0.1$.

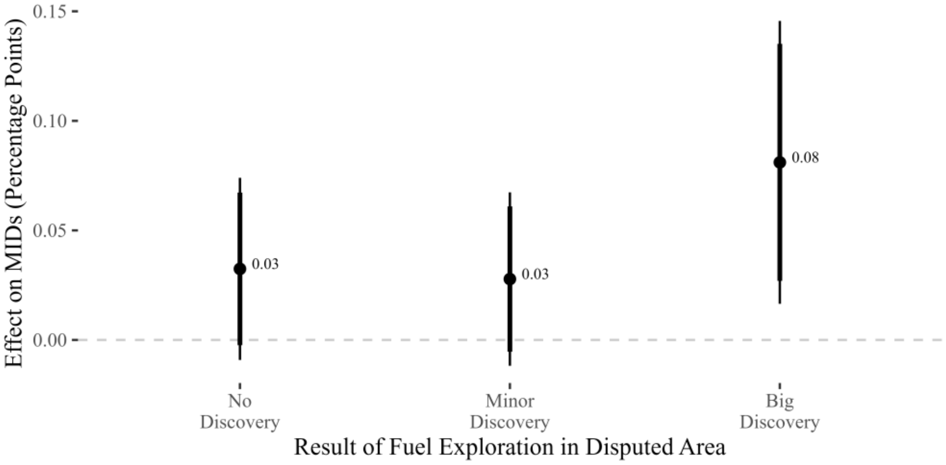
A4. Validity Checks

Table A 4-1. Randomization Check

	1	2
Drills		$0.01^{\dagger}$
(Disputable)		(0.01)
Alliance	0.38^{**}	0.37^{**}
	(0.12)	(0.12)
Power Gap	1.58	1.26
(ln)	(1.84)	(1.88)
Democracy	-0.06	-0.11
(max)	(0.30)	(0.30)
Democracy	-0.06	-0.06
(min)	(0.27)	(0.27)
State Ownership	0.02	0.04
(max)	(0.06)	(0.06)
State Ownership	0.03	0.03
(min)	(0.05)	(0.05)
GDP pc	-0.05	-0.02
(max, ln)	(0.16)	(0.16)
GDP pc	-0.07	-0.07
(min, ln)	(0.21)	(0.20)
Population	0.05	-0.05
(min, ln)	(0.18)	(0.17)
Population	-0.45	-0.42
(max, ln)	(0.36)	(0.35)
N	28,009	28,009

The table shows the estimates of the coefficients when $100 \times discovery_{disputable,ijt}$ is regressed on the covariates with and without control for $drill_{disputable,ijt}$. Both variables are the number of discoveries and drills in year t, instead of cumulative numbers. The models include dyad- and year-fixed effects. The standard errors two-way clustered by country i and j are in parentheses. $** p < 0.01$; $* p < 0.05$; $\dagger\ p < 0.1$.

Figure A 4-1. Placebo Tests: Effect of No or Minor Fuel Discoveries on MIDs



The figure shows the estimated effect of failed drills (left), minor fuel discoveries (center), and giant fuel discoveries on MIDs. Minor fuel discoveries include discoveries of <500 million barrels equivalent or unknown amounts. The thick and thin vertical bars are the 90% and 95% confidence intervals, respectively. The standard errors are two-way clustered by country i and j.

Table A 4-2. Validity Checks

	1 Drill Depth	2 Triple Differences	3 Successful Drills	4 No Fuel in Borders	5 Adjacent Discoveries
Fuel Discoveries	0.08^{**}	0.08^{*}	$0.06^{\dagger}$	0.17^{**}	0.09^{**}
(Disputable)	(0.03)	(0.03)	(0.03)	(0.05)	(0.03)
Fuel Discoveries	0.00		0.00	0.00	
(Non-disputable)	(0.01)		(0.01)	(0.01)	
Drills	0.00^{*}	0.00^{*}	0.00^{*}	0.00^{**}	$0.00^{\dagger}$
(Disputable)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Drills	$0.00^{\dagger}$		0.00^{*}	$0.00^{\dagger}$	
(Non-disputable)	(0.00)		(0.00)	(0.00)	
Disputable Areas	$-0.04^{\dagger}$	$-0.04^{\dagger}$	-0.05^{*}	$-0.06^{\dagger}$	-0.02
	(0.02)	(0.02)	(0.03)	(0.03)	(0.02)
Drill Depth	0.00				
(Disputable)	(0.00)				
Drill Depth	0.00				
(Non-disputable)	(0.00)				
Fuel Discoveries		0.00			
(All)		(0.01)			
Drills		$0.00^{\dagger}$			
(All)		(0.00)			
Sucessful Drills			0.03		
(Disputable)			(0.02)		
Sucessful Drills			-0.01		
(Non-disputable)			(0.01)		
Fuel Discoveries					$-0.04^{\dagger}$
(Near Disputable)					(0.02)
Fuel Discoveries					0.01
(Far Disputable)					(0.01)
Drills					0.00
(Near Disputable)					(0.00)
Drills					$0.00^{\dagger}$
(Far Disputable)					(0.00)
N	30,525	30,525	30,525	30,525	30,525

Column 1: Additional control for the average depth of wildcat drills in disputable and non-disputable areas.
Column 2: The estimator is changed to triple differences, where the difference between the effects of oil discoveries in disputable and non-disputable areas is analyzed.
Column 3: Additional control for the indicators of successful drills in disputable and non-disputable areas.
Column 4: Giant fuel discoveries within 100km of national borders are removed from the measurement of the treatment and control variables.
Column 5: Additional control for the indicator of giant fuel discoveries within 300km of disputable areas.

A5. DiD Methods

Table A 5-1. Results with Recent DiD Methods

Subset-based Approaches

	1 Multi-period DiD Callaway & Sant'Anna 2021	2 Cohort-wise DiD Sun & Abraham 2021	3 Panel Matching Imai et al. 2023	4 Multiple DiD de Chaisemartin & D'Haultfoeuille 2024
Fuel Discoveries	0.09	0.07	0.16	0.18
(Disputable)	[-0.02, 0.19]	[0.02, 0.11]	[0.06, 0.28]	[0.10, 0.26]
N	30,525	30,525	5,744	25,214

Imputation-based Approaches

	5 Local Projections DiD Dube et al. 2023	6 DiD Imputation Borusyak et al. 2024	7 Two-stage DiD Gardner 2022	8 Fixed-effect Counterfactual Liu et al. 2024
Fuel Discoveries	0.12	0.18	0.18	0.13
(Disputable)	[0.03, 0.22]	[0.01, 0.34]	[0.00, 0.35]	[-0.01, 0.26]
N	22,048	30,525	30,525	30,525

The outcome variable is the incidence of Militarized Interstate Disputes (MIDs). The 95% confidence intervals are in brackets.

Column 1: Giant oil discoveries and drills in non-disputable areas are removed from the model. With those variables, the function returns errors.

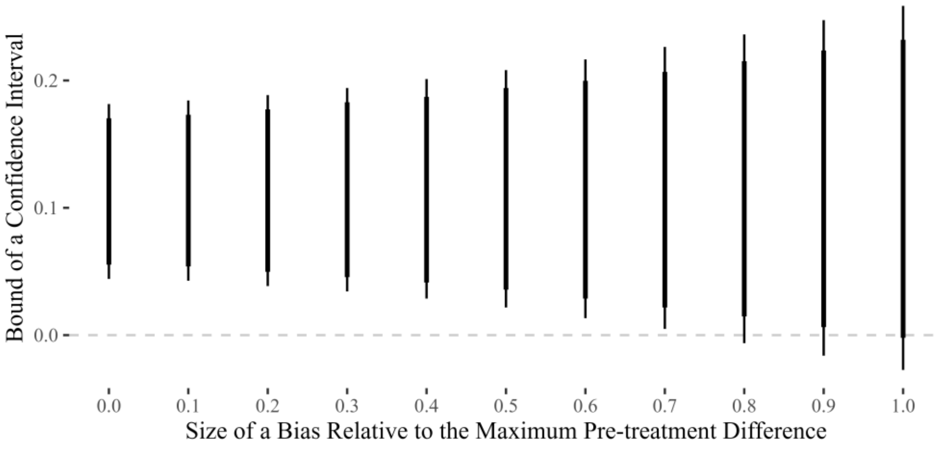
Column 4: Lead of 10 years is used.

Column 5: Time window of -10~10 years is used.

Column 6: Lag and lead of 10 years are used with 1-to-10 matching.

Column 8: The effects are averaged across units.

Figure A 5-1. Sensitivity Check



The figure shows the 90% and 95% confidence intervals for the estimated effect of giant fuel discoveries on MIDs within a decade after the discoveries. Each estimate assumes a certain amount of bias denoted in the horizontal axis. The sizes of the biases are relative to the maximum difference in the outcome variable between the treated and control units in the pre-treatment period.

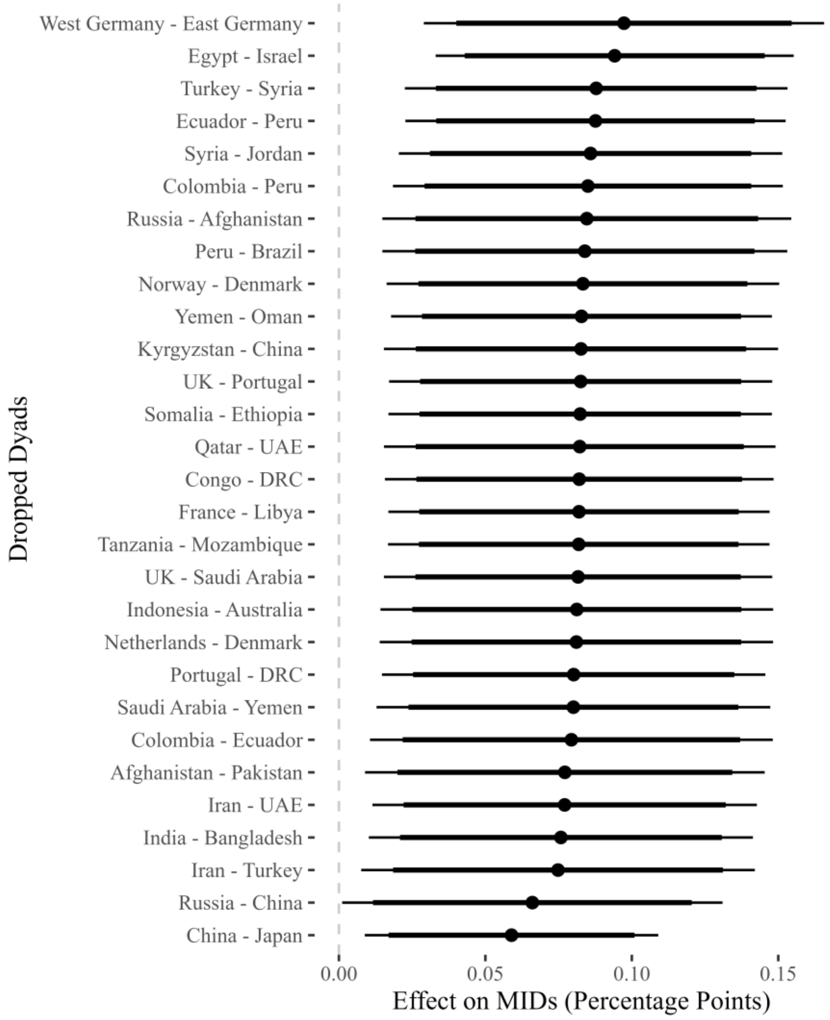
A6. Robustness Checks

Table A 6-1. Robustness Checks

	1 All Dyads	2 No Microstate	3 Only with Disputes	4 Outcome: Count	5 Outcome: MIC	6 Treatment: Count	7 Current Drills	8 More Covariates	9 Lagged Outcome	10 Cohort Trend	11 Logit Model	12 Poisson Model	13 Neg. Bin. Model	14 Oneway Cluster SE	15 Dyad Robust SE
Fuel Discoveries	0.06†	0.08*	0.13†	0.10**	0.07*	0.00*	0.10**	0.08*	0.02**	0.10†	1.14**	0.92**	0.92	0.08*	0.08†
(Disputable)	(0.03)	(0.03)	(0.07)	(0.04)	(0.03)	(0.00)	(0.03)	(0.03)	(0.01)	(0.05)	(0.39)	(0.27)		(0.03)	(0.04)
Fuel Discoveries	0.00	0.00	-0.07†	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.03	-0.03	-0.03	0.00	0.00
(Non-disputable)	(0.00)	(0.01)	(0.04)	(0.01)	(0.01)	(0.00)	(0.01)	(0.01)	(0.00)	(0.01)	(0.25)	(0.20)		(0.01)	(0.01)
Drills	0.00*	0.00*	0.00	0.00*	0.00†	0.00*	0.00**	0.00*	0.00	0.00	0.00**	0.00**	0.00	0.00*	0.00*
(Disputable)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)		(0.00)	(0.00)
Drills	0.00	0.00†	0.00	0.00	0.00*	0.00†	0.00†	0.00†	0.00**	0.00†	0.00†	0.00	0.00	0.00†	0.00†
(Non-disputable)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)		(0.00)	(0.00)
Disputable Areas	-0.02	-0.04†	-0.08†	-0.07†	-0.04†	-0.03	-0.04†	-0.04†	0.02**	-0.04	-0.71†	-0.68*	-0.68	-0.04†	-0.04†
	(0.02)	(0.02)	(0.04)	(0.04)	(0.02)	(0.03)	(0.02)	(0.02)	(0.00)	(0.03)	(0.38)	(0.26)		(0.02)	(0.03)
N	756,142	28,000	3,964	30,525	30,525	30,525	30,525	28,009	30,525	30,525	13,536	13,536	13,536	30,525	30,525

The table shows the results of robustness checks. For brevity, the coefficients of additional control variables are removed. $** \, p < 0.01$; $* \, p < 0.05$; $\dagger \, p < 0.1$.
Column 1: Inclusion of all dyads with additional control for contiguity.
Column 2: Removal of microstates.
Column 3: Subset to dyad-years with disputes in the ICoW dataset.
Column 4: Outcome variable is changed to the count of MIDs.
Column 5: Outcome variable is changed to the indicator of MIC incidence.
Column 6: Treatment variables are changed to the cumulative number of giant fuel discoveries in disputable and non-disputable areas.
Column 7: Additional control for the number of wildcat drills in disputable and non-disputable areas (in addition to the cumulative numbers).
Column 8: Covariates appearing in Table A 4-1 are included as additional control variables.
Column 9: Model is changed to a lagged dependent variable model. Lags up to 20 years before treatment are included.
Column 10: For each group of treated dyads with the same year of treatment (“cohort”), a linear time trend is included.
Column 11: Fixed-effect logit model. This model omits dyads of no variation over time.
Column 12: Fixed-effect Poisson model with the count outcome. This model omits dyads of no variation over time.
Column 13: Fixed-effect Negative Binomial model with the count outcome. This model omits dyads of no variation over time. The standard errors are not calculated due to non-convergence.
Column 14: Standard errors are one-way clustered by dyad.
Column 15: Standard errors are dyad robust (Aronow et al. 2015).

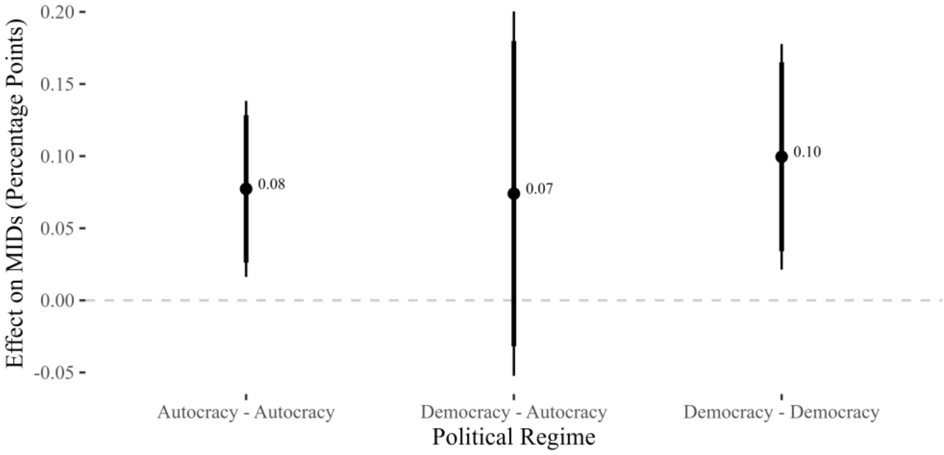
Figure A 6-1. Leave-one-treated-dyad-out Tests



The figure shows the estimated effect of giant fuel discoveries on MIDs when each treated dyad (vertical axis) is removed from the sample. The thick and thin vertical bars are the 90% and 95% confidence intervals, respectively. The standard errors are two-way clustered by country i and j.

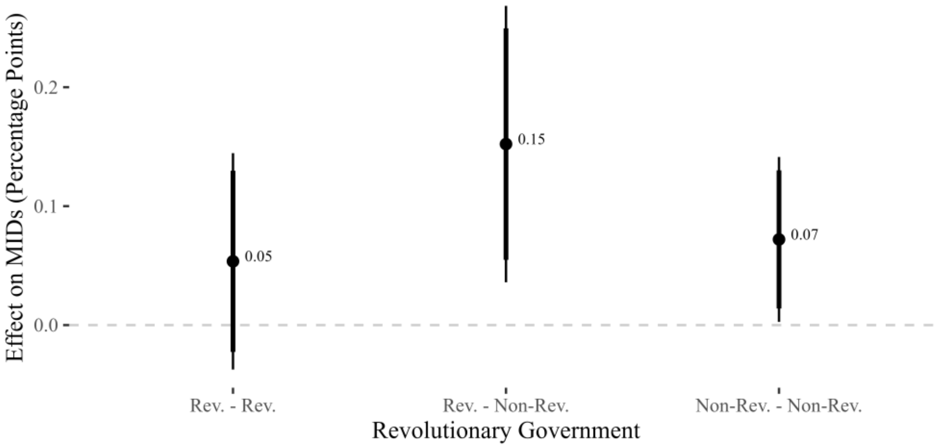
A7. Heterogeneous Effects

Figure A 7-1. Heterogeneous Effects by Political Regimes



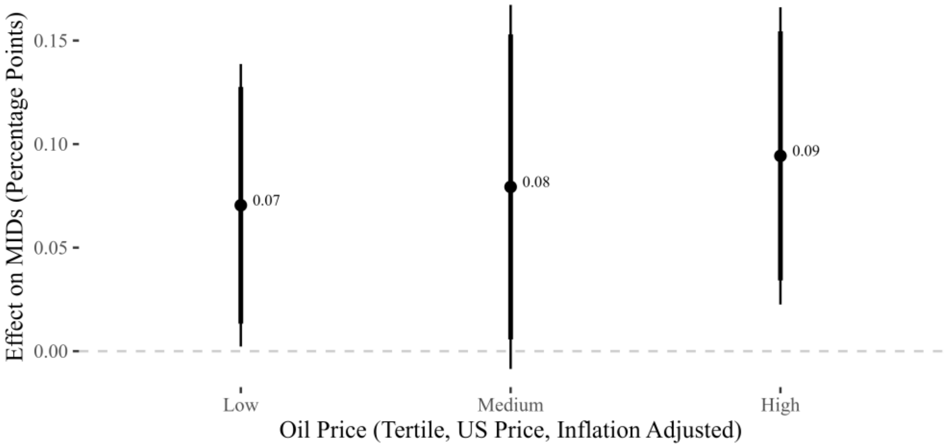
The figure shows the estimated effect of giant fuel discoveries on MIDs by regime types. The data of political regimes are derived from the V-Dem (Coppedge et al. 2021). The thick and thin vertical bars are the 90% and 95% confidence intervals, respectively. The standard errors are two-way clustered by country i and j.

Figure A 7-2. Heterogeneous Effects by Revolutionary Governments



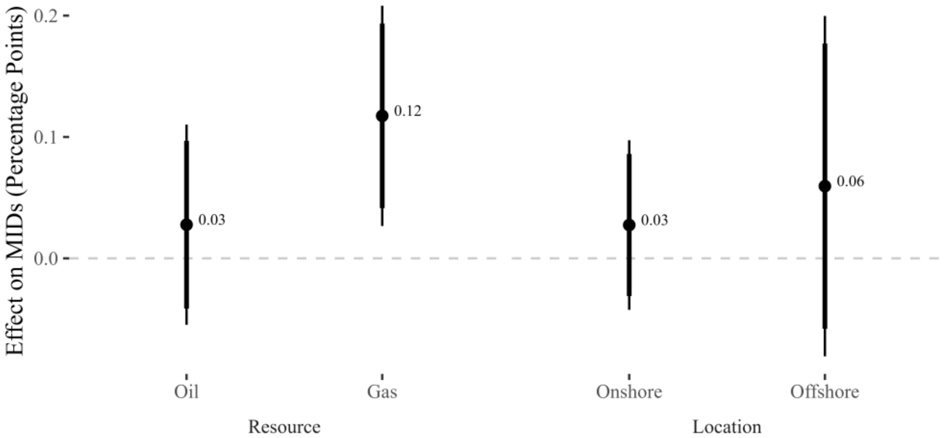
The figure shows the estimated effect of giant fuel discoveries on MIDs by revolutionary and non-revolutionary governments. The data of revolutionary governments are derived from Colgan (2013). The thick and thin vertical bars are the 90% and 95% confidence intervals, respectively. The standard errors are two-way clustered by country i and j.

Figure A 7-3. Heterogeneous Effects by Oil Price



The figure shows the estimated effect of giant fuel discoveries on MIDs by oil price in year t. The data of oil price are derived from BP (2022). The thick and thin vertical bars are the 90% and 95% confidence intervals, respectively. The standard errors are two-way clustered by country i and j.

Figure A 7-4. Heterogeneous Effects by Resource Types



The figure shows the estimated effect of giant fuel discoveries on MIDs by resource type (left pane) and resource location (right pane). The thick and thin vertical bars are the 90% and 95% confidence intervals, respectively. The standard errors are two-way clustered by country i and j.