

"Guns and ships, but does the balance shift? The impact of naval balance of power on China's maritime disputes"

By

© 2022

Jeremy Ross

B.A., University of Colorado-Boulder, 2015

Submitted to the graduate degree program in Global and International Studies and the Graduate Faculty of the University of Kansas in partial fulfillment of the requirements for the degree of Master of Arts.

Chair: Jiakun Zhang, PhD

John Kennedy, PhD

Nazli Avdan, PhD

Date Defended: 8 April 2022

The thesis committee for Jeremy Ross certifies that this is the approved version of the following thesis:

"Guns and ships, but does the balance shift? The impact of naval balance of power on China's maritime disputes"

Chair: Jiakun Zhang, PhD

Date Approved: 25 April 2022

Abstract

Previous research suggests that the makeup of a state's naval power plays a significant role in the likelihood of the state to enter into militarized disputes (Gartzke and Lindsay 2020, Mitchell 2020, Crisher 2017). Decisionmakers should likewise consider the perceived balance of military power in a crisis bargaining or dispute scenario (Slantchev 2005, Fearon 1995). In the context of maritime disputes, states must rely on capabilities that can project military means into the sea. Naval combat in turn privileges platforms (ships, aircraft, missiles, etc.) by its defining characteristics relative to land combat (Hughes 2018, Vego 2020, Caverley and Dombrowski 2020). Even states with nominally weaker navies may be capable of inflicting significant damage on relatively strong opponents (Hughes 2018, Biddle 2004). To date, studies of the impact of navies on militarization of disputes and militarized episodes use total tonnage displacement and broad ship-type data from the Crisher and Souva (2014) dataset. In this study, I propose a different measure of naval capability using the relative proportion of a state's fleet that is equipped with missiles. I examine the utility of this more nuanced measure of naval capability in the context of China's maritime Militarized Interstate Disputes (MIDs) from the Correlates of War Dyadic MIDs dataset (Maoz et al. 2018) with Vietnam, the Philippines, and Japan between 1987 and 2018. I find that using a technology-based capability measure offers at least the same degree of explanatory power - and in some cases additional insight - to the pattern of initiation and hostility of MIDs that occur between China and its dispute partners relative to using tonnage or total defense expenditure. My results support findings by Fravel (2007) that China tends to engage in higher levels of militarization when its dispute position is threatened by a rival whose military is increasing in capability, and Mitchell's (2020) finding that disputes are more stable in militarization trend when the balance of naval power is lopsided versus when it is moving towards parity. My results suggest that a capability-based measure of naval power should be especially considered in a case of a relatively weak navy that is rising in capability relative to a stronger rival, such as the case between Vietnam and China over the last 20 years.

Acknowledgements

First, thanks above all to my wife, Samantha, for her support throughout this process. Earning this degree was a lot more work than I anticipated it would be, and I truly appreciate the sacrifices you made of your time and interests to enable me to complete it. You are an amazing wife and mother. Thank you. I'd also like to thank my children for their patience and understanding while I worked to earn this degree, and my parents and brothers and sisters for the many times that you gave your time to help Sam and I make it through such a busy time.

Second, thanks to my advisor, Dr. Jiakun Zhang, for all of your time and patience. I had next to no idea of what I was doing most of the time, so I truly appreciate your calm and unflappable support. Whenever I was feeling uncertain about the prospects of completing this project, a visit with you was enough to set me back on course and feeling great about where I was at with it. Thanks as well to Dr. Avdan and Dr. Kennedy for setting aside time from your schedules to help support the project via committee work.

Contents

Abstract	iii
Acknowledgements.....	iv
List of figures.....	vi
Chapter 1 Introduction	1
Chapter 2 The importance of measuring naval power in maritime disputes.....	4
Chapter 3 Assessing militarized action in China’s maritime disputes	11
Chapter 4 Theory and Research Design.....	15
Chapter 5 Tonnage and spending vs capability measures: a first broad cut	18
Chapter 6 Case studies and testing of H1 and H2.....	22
China and Vietnam	22
China and the Philippines	32
China and Japan	38
Chapter 7 Discussion	43
Chapter 8 Conclusion.....	47
Appendix.....	49
References.....	51

List of figures

Figure 1: Tonnage of select navies from 2000-2011 (Source: Crisher and Souva 2014)	18
Figure 2: Defense expenditure in 2019 US Dollars of select countries. (Source: SIPRI 2021).....	19
Figure 3: Difference between proportion of warships armed with missiles between China and Vietnam, 1985-2018 (Source: data compiled from The Military Balance)	20
Figure 4: Difference between proportion of warships armed with missiles between China and Japan, 1990-2018 (Source: data compiled from The Military Balance)	20
Figure 5: Role of PRC in maritime MIDs with Vietnam, 1987-2018 (Source: COW Dyadic MIDs 4.02) (NOTE: 1 = initiator, 3 = target).....	22
Figure 6: Highest level of hostility by PRC in maritime MIDs with Vietnam, 1987-2018 (Source: COW Dyadic MIDs 4.02) (NOTE: 1 = no response, 2 = threat, 3 = display of force, 4 = use of force)	23
Figure 7: Highest level of hostility by Vietnam in maritime MIDs with China, 1987-2018 (Source: COW Dyadic MIDs 4.02) (NOTE: 1 = no response, 2 = threat, 3 = display of force, 4 = use of force)	23
Figure 8: Role of PRC in maritime MIDs with the Philippines, 1990-2018 (Source: COW Dyadic MIDs 4.02) (NOTE: 1 = initiator, 3 = target).....	32
Figure 9: Highest level of hostility by PRC in maritime MIDs with the Philippines, 1990-2018 (Source: COW Dyadic MIDs 4.02) (NOTE: 1 = no response, 2 = threat, 3 = display of force, 4 = use of force)....	32
Figure 10: Highest level of hostility by the Philippines in maritime MIDs with China, 1990-2018 (Source: COW Dyadic MIDs 4.02) (NOTE: 1 = no response, 2 = threat, 3 = display of force, 4 = use of force)....	33
Figure 11: Role of PRC in maritime MIDs with Japan, 1990-2018 (Source: COW Dyadic MIDs 4.02) (NOTE: 1 = initiator, 3 = target).....	38
Figure 12: Highest level of hostility by PRC in maritime MIDs with Japan, 1990-2018 (Source: COW Dyadic MIDs 4.02) (NOTE: 1 = no response, 2 = threat, 3 = display of force, 4 = use of force)	39
Figure 13: Highest level of hostility by Japan in maritime MIDs with China, 1990-2018 (Source: COW Dyadic MIDs 4.02) (NOTE: 1 = no response, 2 = threat, 3 = display of force, 4 = use of force)	39

Chapter 1 Introduction

Does relative naval combat capability explain maritime dispute behavior by states? Does considering the differences in combat at sea against combat on land inform significant differences in explaining dispute behavior based on balances of forces? Maritime disputes have been shown to be potentially more salient and intractable than disputes on land (Mitchell 2020, Fravel 2014). Both crisis bargaining theories of war and rationalist explanations for war include expectations that the military balance of power in a given dispute will enter into the calculations each state makes of the payoffs and costs for a possible confrontation and decision points once a dispute has been entered. Discrete manipulations in the capability of military and all other available implements at hand to gain advantage in a dispute should be endogenous to the bargaining calculations of each contestant (Slantchev 2005). When a state decides to press its claims against a rival in a maritime dispute, decisionmakers should therefore consider the likelihood of prevailing should the claim be militarily challenged.

When states enter such a militarized or coercive dispute in a maritime environment, the military options available to them will be inherently maritime or naval in character. Theories of naval tactics argue that combat at sea is inherently different than that on land. This argument is based on a preference to attrition (Hughes 2018, 64), prevalence of weapons and detection ranges that dramatically favor an effective initiator (Hughes 2018, 64), and the relatively high sunk financial and political costs that go into creating capable navies (Caverley and Dombrowski 2020, 679). Warfare at sea is conducted to a greater extent by platforms, privileging the role of technical capability to a greater extent than that on land (Vego 2020, 17, Caverley and Dombrowski 2020, 682-683). Previous measures of naval power have focused on general typologies of vessel types or total and proportional tonnage of a navy versus its potential rivals (Crisher and Souva 2014, Gartzke and Lindsay 2020). A previous evaluation of the current East Asian regional and dyadic security environment argues that lack of increases in relative military spending may indicate that states are not threatened by their security environment (Kang 2017).

However, these existing measures of power may be inadequate when examining the role of naval power in maritime disputes. Navies – even those with similar types and proportions of platforms under their tonnage calculations – are not uniformly capable and trained for all security objectives. Measuring functional military power must consider the purposes and nuances of composition (Biddle 2007, 208), which cannot be determined simply by the tonnage and types of vessels within a state’s maritime arsenal (Congressional Research Service 1974, 3-4). State A’s navy may wield immense blue water power through hundreds of thousands of tons of hulls but be designed for control of the high sea and maritime strategic terrain. State B’s navy may be relatively small but focused on posturing a credible threat of significant damage to a large enemy’s fleet. Considering the role of balance of naval power on maritime disputes where the military dimension is based solely on total tonnage of the navies involved or defense spending may miss important nuance on the credibility of the fleets in question.

In this study I use an original dataset compiled from issues of *The Military Balance* to log the proportion of a state’s major warships (corvettes, frigates, and larger) that are missile-equipped year-to-year. This simple method, while still imperfect, provides a reasonable proxy for the advancement of a navy over time. Not only does such a measure show a momentary increase in firepower, but it can reveal information on trends of how modern a navy is. This in turn may imply trends in doctrine, personnel quality and training, and other measures that are more important to assessing what a fleet can do than simply how many hulls it has and how large the ships are.

Better understanding what a navy may be capable of is important in turn to analyzing maritime disputes. Evidence from previous studies offers strong support theoretically and empirically for the idea that balance of naval power plays an important role in stabilizing maritime disputes. When one navy in a dyad has a significant power advantage on the other, the dyad is likely to be stable: there is little for the stronger state to gain by pushing militarily for what it might accomplish through negotiation from a strong position. The weaker state may feel the need to be more assertive to assure its position in the dispute provided the issue is salient. On the flip side, when the balance of naval power is more

ambiguous, the dispute is likely unstable as each contestant has incentives to advance its claims in the dispute (Mitchell 2020, 656-657). Overall, larger navies are shown to be associated with more frequent involvement in MIDs (Gartzke and Lindsay 2020, 634) and more frequent entry of maritime claims (Mitchell 2020, 656).

China is involved in several ongoing maritime disputes. A recent study of maritime disputes between China and its South China Sea neighbors finds that China's much-described assertiveness in the South China Sea likely began much earlier than previously thought, with discernible actions in the 1970s and noticeable increases in intensity and types of assertiveness into the 2010's. This finding is based on a number of factors, including military power as a necessary pre-condition (Chubb 2020). Chinese military doctrine and strategic directives focused on "informatized" modern warfare and deterrence of US interventions in its near-abroad waters (Fravel 2019, Caverley and Dombrowski 2020, McDevitt 2020) emphasize the importance of the maritime domain repeatedly to China in terms of core interests, national security, and national sovereignty.

I will show that naval capability within maritime dispute dyads is likewise significant, if not more significant than the size of the navy itself, in the cases of China's maritime disputes with Vietnam, Japan, and the Philippines from 1990-2018. I make use of an original dataset based on the proportion of each state's navy that is equipped with missiles. By using proportion of the fleet armed with what is more or less the state-of-the-art of naval combat power in the late-20th Century as a proxy for capability, I show that capability offers similar insight into the role of military power as tonnage and even adds explanatory power in some cases. Measuring only in tonnage, hulls, and dollars may miss the true balance of capability at a point in time and draw incomplete or misleading conclusions in assessing dispute actions at sea.

I proceed first by arguing why naval capability should be more closely measured in maritime territorial disputes. Second, I discuss the utility of measuring naval capability in the context of China's

maritime territorial disputes. Third, I describe a new dataset of naval combat capability based on proportion of a navy that are equipped with missiles. Fourth, I consider China's maritime disputes in the cases of Vietnam, the Philippines, and Japan from 1990-2018 and examine the explanatory power of my proposed measure of military power in the context of Militarized Interstate Disputes (MIDs) from the Correlates of War project Dyadic MIDs dataset in the time period. I then discuss my findings. I show that using overly broad measures of military power in maritime disputes may miss important aspects of what is actually going on under the hood with military power and its impacts on a maritime dispute.

Chapter 2 The importance of measuring naval power in maritime disputes

Territorial disputes are an important topic to consider in foreign policy and international relations scholarship due to their widely cited relevance to militarized conflict risk. A statistical analysis of militarized disputes from 1816-1992 finds that territorial disputes have a higher probability of being associated with the causes of war than other underlying factors (chance, regime change, etc.) (Vasquez and Henehan 2001). One way to analyze militarization in a dispute is a crisis bargaining model. Under this premise, risk of conflict between rational actors can be exacerbated (and override "better off" scenarios of non-conflict) under conditions where states feel compelled to guard against an expected future situation where payoffs will be even worse, and when incentives favor a strike to preempt an expected attack by an opponent with a perceived advantage (Fearon 1995). The theories of naval tactics outlined below show that combat at sea favors the initiator and privileges attritional considerations relative to combat on land (Hughes 2018, 53). Therefore, these conditions in which war may occur even with rational actors, owing to reduced bargaining ranges (Fearon 1995), may be expected to be especially prevalent in maritime disputes relative to other territorial contests. As discussed below, territorial dispute militarization may be explainable under the rational preventive war explanation (Fravel 2007, 51).

A bargaining model of dispute behavior in a dyadic pair should consider military balance of power as one of the most significant inputs. If states feel that they are more likely to lose, unless the

dispute in question is exceptionally salient or they have no other choice, they should be expected to seek means of resolution other than fighting. How states evaluate the military balance of power should be based on what can be observed and perceived about willingness and capacity to use particular military capabilities. However, when evaluating the balance of power, states will not simply base their calculations on what they can discern externally. They will likewise perform endogenous calculations about the capability of the respective balance of forces. For example, the forward basing of troops may not simply be effective as a costly signal of sinking costs but should also impact a crisis bargaining scenario through the perception of the effectiveness of those deployed forces, whether via logistics, readiness, or geographic factors (Slantchev 2005).

States with powerful navies, as measured by total tonnage of ships in the navy at a point in time, tend to participate in more MIDs (Crisher 2017, 3, Gartzke and Lindsay 2020, 634) and they tend to fight more far from home (Crisher 2017, 3, Gartzke and Lindsay 2020, 620). The types of ships that compose powerful navies produce significantly different impacts in the likelihood of a naval state entering disputes. While most submarines and battleships are associated with destabilizing effects (more conflict), aircraft carriers lead to fewer disputes as a highly capable form of signaling that also enjoys stand-off distance from threats (Gartzke and Lindsay 2020, 632).

The balance of naval power has been found to be significant to the likelihood of dispute militarization episodes. Where the balance of naval power is one-sided, maritime claims that overlap are less likely to be disputed by the weaker parties. The more even the balance of naval power in the maritime dispute dyad, the more doubt exists about the outcome of fighting and the more likely that both states will pursue claims of various levels of contestation in the dispute (Mitchell 2020, 21). This finding by Mitchell echoes a previous study about China's use of military force in its territorial disputes (Fravel 2007). When the balance of military power in China's territorial disputes is stable (that is it is tilted toward China and not moving towards parity), China is less likely to engage in assertive behavior to signal its positions in the dispute or to advance its dispute positions through military force (47). Fravel

finds that this refutes a core assumption of offensive realism, which would predict that an overwhelmingly powerful navy would seek to use military force to dominate disputes and advance interests when the opportunity presents itself (45).

One of the defining features of navies is that they are expensive and politically visible. Fleets may be especially challenging to use as signaling devices of resolve to fight, regardless of their latent power, because they are both movable, and because risking them may be perceived as too costly. According to this argument, navies may therefore be destabilizing because, while they can display latent military power, they cannot be everywhere at once and their mobility (and presumed high value to their owners) presents a cap on credibility in signaling resolve and intentions (Gartzke and Lindsay 2020, 634). On the other hand, navies may occupy a middle ground of signaling resolve between land-power commitments on the high-end of signaling value and air power on the low end (Post 2019, 875-876). It also seems likely that a state with scarce number of naval assets – such as Vietnam and the Philippines in this study – may be able to strongly signal its resolve to fight for the status quo by committing these scarce resources into harm's way or by designing a small fleet using scarce defense expenditures for a specific purpose (such as threatening incursions to territorial waters with a high risk of destruction).

The platform-centric aspect of naval power, and the long lead times and capitalization required to field ships, presents a problem to many fleets, including those belonging to powerful navies. To use the United States Navy (USN) as an example, the design of a fleet meant to maintain sea control – or the assurance of maritime trade and ability to dominate potential challengers in blue water combat – may look different from a fleet optimized for coastal sea denial (Vego 2009). Fleets are the product of naval policy, a term that may be thought of as a corollary to domestic politics, much as naval strategy should be a corollary to a state's foreign policy (Vego 2003). This presents an inherent dilemma for powerful navies seeking capability in multiple strategic ends. Returning to the above example of the USN, there are possible tensions in a fleet whose operations and training schedules are driven largely by deterrence and diplomatic activity; the fleet cannot be all places and do all things (Hughes 2018, 234-235, Gartzke and

Lindsay 2020, 634). Therefore, even powerful navies, such as the USN or China's People's Liberation Army Navy (PLAN), may be challenged by a rival that is capable "enough" – particularly if the challenge comes in a domain or setting where the more powerful navy may be wrong-footed by superseding force design or political limitations.

Smaller navies with fewer priorities have the option to pursue asymmetric advantages against powerful navies. In this way, a relatively small navy can "win" in a military confrontation against an ostensibly more powerful opponent by convincing the opponent that a sufficient amount of cost can be inflicted in the case of escalation, and that the small navy will risk the fight (Hughes 2018, 232). A large force with numerical preponderance in a dispute context only matters to the extent that it is survivable or significantly more capable than its smaller opponent. A less numerous but skilled and technologically capable navy may be capable of – or be perceived as being capable of – inflicting high costs on a nominally superior fleet in battle (this is especially possible in the modern naval environment, as discussed below in the section about naval tactics). Preponderance of total naval ship counts for little if one side is smaller but happens to be "good enough" or effectively gets the drop on the larger force (Hughes 2018, 300, Vego 2009, 4, Biddle 2007, 208).

Although the scope of the strategic issues that a smaller navy must be able to confront will be less relative to hegemonic and blue water navies, small navies face their own problem set. Limitations of manpower, financial resources, and the long lead times necessary to acquire and field naval platforms are even harder for small navies to grapple with than they are for large ones (Mallia and Xuereb 2020). Coastal naval powers incur necessary risk with their naval strategies and ensuring fleet designs by having to "[put] all of their financial and political goodwill eggs in a single basket" (Mallia and Xuereb 2020, 44).

One example from this study is the navy of the Philippines. Despite being an archipelagic state with a coastline nearly double that of the United States¹, the Philippine navy is tiny by virtually any measure. This is attributable in large part that the Philippines must balance the military demands of securing such a large maritime area with a bevy of constabulary roles and missions related to policing its territorial waters (Despi 2017, 591).

Many recent studies examining the role of naval power on foreign policy outcomes are based on measures such as total and proportional tonnage of capable or modern warships (Crisher 2017, Mitchell 2020, Gartzke and Lindsay 2020), or the make-up of fleets by types of warships (Gartzke and Lindsay 2020). In their 2014 paper describing their comprehensive Power at Sea dataset (which most of the papers cited in this review draw their measure of naval power from), Crisher and Souva explain that while tonnage is not a perfect proxy for capability, larger warships are more likely to be powerful. Crisher and Souva note that measuring the characteristics and quantities of individual naval combat platforms at a more specific level would likely be more insightful, however they argue that this would not be practical (608).

Assessing naval capability at a more granular level than ship counts and tonnage is more challenging, but there are compelling reasons to believe that making this effort to be more discrete is imperative to understanding what a navy is actually capable of in certain contexts. As a 1974 Congressional Research Service (CRS) report put it: “In practice...the characteristics of fighting ships differ so sharply that total tonnage at best is not a very meaningful gauge, and at worst can be quite misleading. A carrier task force, for example, displaces far more than a missile patrol boat squadron, but to rate it superior solely on the basis of tonnage would create a dangerously false impression” (CRS 1974, 3-4).

¹ “Countries with the longest coastline,” World Atlas, accessed 3/1/2022.
<https://www.worldatlas.com/articles/countries-with-the-most-coastline.html>

An analyst's handbook to post-Cold War evaluations of military power recommends that evaluations of military power consider not just capabilities, but also those aspects of state power that interact to create military power. This approach advocates considering both defense resources (defense infrastructure, defense budgets, military manpower, and a state's access to technology that enables detection of targets and synthesis of that information to shooters) and capacity to convert those resources to actionable combat power (doctrine, strategy, training, and foreign military interactions) (Tellis et. al 2000, 143-144). A similar approach to evaluating naval competence in the modern age notes that even historical measures of naval power such as numbers of guns and broadsides available have emphasized the need to consider these inputs as part of a larger whole when assessing naval power potential. In the modern age, such inputs may include a navy's ability to operate satellites (for detection, communication, and navigation), command and control and intelligence technology, and the capacity of the navy's personnel (Polmar 1999, 129).

Another reason to examine the components of naval combat capability specifically more closely is that combat at sea is inherently different from combat on land. Historically, success in naval combat has privileged the offense to a greater extent than combat on land. A primary reason for this is that, although weather and terrain certainly impact naval combat, they do not do so nearly to the extent that physical terrain impacts land warfare. In land warfare in particular, the impact of geography and terrain has always been an essential factor to consider in assessing battles and conflict, so much so that it is the ability to use terrain and environmental factors to survive and gain advantage relative to the opponent that frequently separates winners from losers in battle (Biddle 2004). Indeed, Biddle argues that in a scenario where both combatants are exposed to the other's effects, that incremental increases in capability will be important to determining the outcome (Biddle 2004, 67).

In contrast, in many ways, combat at sea resembles combat in open desert – there are impacts from terrain and weather, but they are less pronounced in most cases (Hughes 2018, 66). In combat at sea, other variables such as platform capability assume greater significance and should therefore be more

carefully considered and not assumed away as part of macro measures of capability. Naval tactics, based on operations research and modelling, emphasize the importance of “attack effectively first” (Hughes 2018, 64). In this way, even an inferior opponent who is capable “enough” in terms of weapons, detection of targets, and implementation or dissemination of target information, can devastate a nominally superior naval force provided the weaker side detects and engages the stronger force effectively before the stronger side can launch its own attack (Hughes 2018, 331).

A final argument for measuring naval power in greater detail than tonnage and ship counts is the need to consider the design and organization of the navy and its components. What individual ships and fleets can accomplish is constrained by many factors related to their nation’s maritime strategy and naval organization. The power of a large navy against a small navy is relative to the context and commitments of both; the smaller may have a local advantage depending on the competing priorities of the larger (Hughes 2018, 232). Equally important when measuring the strength of a fleet is the “nature and intensity of national interests and objectives, which in turn shape naval missions” (CRS 1974, 11).

An example of the importance of design in considering the capability within a dispute is Vietnam’s discernable push to recapitalize its navy toward a sea denial strategy (Wu 2017). Simply examining tonnage of Vietnam’s fleet, which actually decreases by 30% between 2006 and 2007² as Vietnam began a transition toward a sea denial strategy and a rapid increase in the capability of its major warships, would not inform an analyst of the capability being acquired by the fleet at that time. Changes in defense expenditure at that time likewise reveal little reason to expect a change³. Examining the fleet from a discrete capability measure, such as that proposed in this study, would help to reveal this shift better than a measure such as tonnage.

² Crisher, Brian Benjamin, and Mark Souva. "Power at sea: A naval power dataset, 1865–2011." *International Interactions* 40, no. 4 (2014): 602-629.

³ SIPRI Military Expenditure Database. 2021, <https://www.sipri.org/databases/milex>

Chapter 3 Assessing militarized action in China's maritime disputes

Fravel (2007) finds in his examination of China's broad set of territorial disputes that its dispute behavior is supportive of both preventive war and rising power explanations of conflict (Fravel 2007, 47). China will be more likely to fight it out when it sees the military component of its dispute status threatened, with such a slip in capability advantage arising from dispute rivals gaining capacity or capability in projection of power at sea. This finding echoes a similar conclusion by Mitchell (2020, 21) on the conditions in which dispute contestants will enter or advance claims in disputes and highlights the importance of understanding the role of naval balance of power in China's maritime disputes. Naval balance of power is apparently a necessary, if not necessarily sufficient, component in assessing likelihood of conflict in China's ongoing disputes at sea.

China has been involved in 23 territorial disputes since 1945, and although it has resolved the majority of its land border disputes (the border with India being a notable exception), the remaining disputes are intractable owing to their maritime nature and high domestic political and strategic salience. These disputes include those with Japan (the Senkaku/Diaoyu Islands), Taiwan, and with several states over the South China Sea (SCS) groups (the Paracel and Spratly Islands) (Fravel 2014).

One way to examine disputes is through dispute positioning. In the "negative shifts in bargaining power" model, Fravel (2007) argues that China's dispute behavior reinforces aspects of preventive war theory (use of force to preempt realization of expected worse outcomes) and power transition theory (China tends to use force when its position is threatened with decline) (47). In defining bargaining position in disputes, Fravel outlines two components. The first is the ability of the state to control territory in the dispute. The second, which is of particular importance for this study, is the ability of the state to project military power in the context of the dispute itself (48). When a state is in a strong position in a dispute – it controls key territory to the dispute and has a military balance of power advantage – its leaders should be content to press maintenance of the dispute in diplomatic and institutional avenues.

On the other hand, when a state perceives that its position is inferior in territory or military power, it can either acquire more territory, which Fravel (2007) argues is common at the start of a dispute period, or militarize to buttress its position (50). The push to acquire more territory is seen in the disputes examined in this study in the rapid build-up of claims in the SCS in the 1970s-1980s and perhaps in China's wave of militarizing its occupied features in the 2010s. The other way a state in an inferior dispute position can seek to assuage its concerns is by signaling resolve through taking militarized or assertive actions in the dispute. Given that most territorial disputes feature more or less baked in territorial claims, if states perceive that their dispute position is weak, under threat of erosion, or both, they are more likely to opt for militarized action (50).

China's ongoing maritime disputes are important to understand because of their likelihood of being the location of future conflict. Maritime disputes themselves are intractable, and disputes are more likely to see violent conflict when previously militarized, when they cross-cut other issues, or when they involve strategic resources (Fravel 2014, 3-4, Mitchell 2020, 657). When maritime states have previously fought, the odds of additional naval MIDs erupting between them are more likely in a sort of path-easing of conflict (Mitchell 2020, 3-4). In the case of China's maritime disputes, each of these aspects apply in at least some degree – the disputes manifest many indicators associated with militarized conflict and escalation.

Many previous studies have sought to measure and examine China's so-called assertiveness from the late-20th Century to today. A 1998 review of the Correlates of War Militarized Interstate Dispute (MIDs) dataset of Chinese-involved MIDs between 1949 and 1992 supported an argument that China had not become significantly confrontational despite increases in economic and military measures (Johnston 1998). A review of China's assertiveness at a later point by the same author sounded similar notes of caution and a need to consider Chinese actions and China's words in context to previous postures. This latter study concluded that in most areas China was not necessarily as assertive as some might think.

However, the study also concluded that an exception to the tone of caution about a Chinese assertiveness narrative seemed to be located in China's maritime disputes (Johnston 2013, 45).

Alternative views of China's dispute behavior are less sanguine. One proposed model based on process tracing and interviews shows that Chinese tendencies in its foreign policy actions in the context of its disputes become coercive and militarized depending on the environment. For example, when the international environment poses minimal geopolitical constraints, perceived economic costs for militarization are low, and the salience of the issue is high, China will use militarized coercion. When the opposite is present, China will opt for a more nuanced approach of coercion (Zhang 2019). A similar possibility to explain China's foreign policy actions as a function of environment but from the domestic political perspective provides a similar finding. When China's government finds itself in a time of domestic political upheaval, it tends to batten down the hatches in its disputes, opting for steps toward territorial dispute resolution to avoid facing dueling external-internal pressures. However, the remaining disputes that China faces are mostly in the maritime realm (the land border with India being a notable exception) and may thus prove to be intractable owing to their extensive domestic, strategic, and economic cost valuations (Fravel 2014).

An even more recent review of China's coercive actions in the SCS specifically brings additional considerations for analysis (Chubb 2020). This review, which conducted detailed re-examination of all examples of coercion within the SCS disputes between 1970-2015, made several key findings that future studies of China's maritime disputes should consider. First, the review found that the first order trend in Chinese dispute behavior in the SCS is China sought to increase its dispute position in the SCS some capacity in every year after 1970 (92). Second, that these dispute behavior escalations are not accelerating uniformly, but rather turn significantly on noticeable points where the behaviors become defined by an increase in intensity and/or type of coercive behavior observed (92-93). Third, that the behavior uptick from 2007-onward (the most recent uptick observed in the data) is defined by a proclivity toward militarized coercion as an implement and intensity of administrative buildups (93). Finally, and perhaps

most intriguingly, is the conclusion that institutional path-easing and lagged effects of previous policy may explain China's dispute behavior trajectory in the SCS (120). China's administrative and military expansion into the SCS was incentivized by its own advances in those areas, the US military focus shifting to Southwest Asia in the post-9/11 era, and the roll out of institutions (especially the United Nations Convention on the Law of the Sea) centered on developing legal and administrative means to control waters (Chubb 2020). This conclusion that the role of administrative and institutional path-easing in China's maritime capacity supports and provides additional causal explanation for many of the other studies cited above about China's patterns of maritime dispute behaviors. However, from a military domain perspective it also serves as a plausible example of military power and capability – naval in this case - diffusing and increasing in a self-sustaining feedback loop of capacity and institutions.

The above findings show that China's maritime disputes continue to be intractable and of high salience. Additionally, the implications of recent analyses of China's dispute behaviors show increasing attention toward the maritime domain. Finally, the literature (especially Mitchell (2020), Chubb (2020), and Fravel (2007)) suggests that naval power should be considered a necessary – if not a sufficient – condition to explain when and why China employs militarization to some extent in its maritime dispute episodes.

Understanding the crisis bargaining behavior in these disputes is thus especially important. A key component of those bargaining sessions is evaluations of the balance of naval power capability. Existing measures of naval power – while offering insights into larger foreign policy questions – lack inclusion altogether of the current paradigm of naval combat. The attritional nature of naval tactics suggests that states involved in maritime disputes, such as those between China and its East Asian neighbors, should privilege the balance of naval power within the context of a particular dispute as a key issue. When small navies develop capability relative to larger ones, current measures of naval power may miss implications for dispute bargaining. The importance of naval power to assessing dispute militarization in turn demands a more nuanced measure of naval capability than tonnage and defense spending.

Chapter 4 Theory and Research Design

In this study I propose to explore the relationship between balance of naval power between China and its maritime territorial dispute dyad rivals and the initiation and intensity of MIDS within the dispute. I advance a modest improvement on existing studies examining the impact of naval balance of power on China's maritime dispute behaviors and outcomes. I do not use pure tonnage – or an even cruder metric, such as defense spending as a percentage of total government spending – as the independent variable, as previous studies have done (Crisher and Souva 2014, Gartzke and Lindsay 2020, Mitchell 2020).

Instead, I argue that a more granular measure of capability should be used: the proportion of the navy that is equipped with missiles. This affords a measure that is eminently countable but should say more about the overall capacity of the navy in question. Simply put, the measure gives a more comprehensive picture of what the fleet can do at a point in time than how large the fleet is. It informs on the design of the fleet (an increasing rate of missile-capable ships may hint at a shift toward a sea denial strategy versus maintaining a constabulary navy, for example), which in turn sends its own signal of resolve to observer states on what conditions a state may use its navy to fight in the dispute in case of escalation. It seems likely that the rate and nature of increase in the proportion of the fleet that is armed with modern weapons may inform on topics such as training, doctrine, and research and design advancement. Missiles are at the end of the day a capability measure just as total number of hulls by ship type and tonnage are, but the measure may offer additional insight into broader changes under the hood with a navy at a particular point in time.

Taking the totality of the above arguments and those outlined in the literature, I believe that the following hypotheses can be made about the relationship between naval combat capability and maritime dispute behavior:

(H1) When the naval capability gap between China and its competitors is relatively large, the maritime dispute will tend to be stable (Fravel 2007, Mitchell 2020). A stable dispute will still have some maritime

MIDs occurrences (it is an ongoing dispute, after all), but the role of initiator and target in these MIDs should tend to alternate and tend to feature lower levels of hostility by China in the dispute.

(H2) when the naval capability gap between China and its dispute partners begins to shrink, the dispute will become less stable (Fravel 2007, Mitchell 2020). Greater naval combat parity between China and its maritime dispute partners, especially in the case of a rising navy (such as Vietnam's), will be associated with more frequent MIDs, they will tend to be initiated by China, and China will pursue greater levels of hostility within the dispute. China will feel more compelled to prevent a loss of dispute position by signaling resolve through greater application of militarization in its maritime disputes.

The independent variable – balance of naval power – will be measured by the difference in proportion of China's major warships (corvettes and frigates or larger) that are missile-equipped with the proportion of the dispute partner's navy that is missile equipped. Major warships are chosen because these vessels are more versatile and durable at extended distance into the primary dispute area – the South China Sea – for all parties than other missile-equipped small crafts, which may not be able to range disputed areas equally (although this may be an area of improvement for future study on this capability variable).

The number of major warships of corvette classification and larger from each state examined in the study was charted in a dataset using the 1987 to 2018 issues of *The Military Balance*. The dataset captures the total number of these major warships in the dyad year for each navy, and the total number of major warships from each fleet that is equipped with missiles. The proportion of the dyad partner's navy that is missile equipped is then subtracted from the PLAN's proportion for that year. This gives a normalized measure of level of capability parity between the fleets at that point in time.

There are two dependent variables: MID hostility by the PRC and the dispute partner in all maritime MIDs from 1987 to 2018, and the role of the PRC and the dispute partner in all maritime MIDs from 1987 to 2018 (i.e., initiator versus target). The coding for the dependent variables is taken from the

Correlates of War Dyadic MIDs dataset 4.02 (Maoz et al., 2018). MIDs are considered to be maritime if the MID is carried out over water or by naval vessels or possessions. In two cases annotated in the appendix, minor adjustments were made to the COW coding when additional reading in the progress of this study revealed what appeared to be inaccurate coding. See the appendix for details.

It bears noting that China's actions in its territorial disputes are likely to be colored heavily by recency bias. As disputes such as those in the SCS have become more salient to international audiences, and as China becomes more economically and militarily powerful, it follows that it should receive more coverage in Western press. This is likely to be especially true as narratives take on a competition-oriented frame in Western media. Therefore, studies on China's maritime disputes that rely on English-language and Western-sourced accounts are likely to be inherently biased (Chubb 2020, 91). This would manifest in this study as a greater description and capture of MIDs more recently.

I will test each hypothesis using descriptive statistics and descriptive analysis of the narratives available for each MID considered in the study window (1987-2018) between China and its dispute partners. The years in question were chosen because 1987 marked the first MIDs between China and one of the examined dyad partners (Vietnam) before the rise of a period of assertive Chinese actions in the SCS associated with widespread claiming of features by many states in the 1990's. 2018 marked the last year that I had access to *The Military Balance*.

I expect that there will be at least some symmetry between the tonnage measure and the more specific analysis of naval power advanced here. Tonnage should be a useful first order trend in evaluating relative naval power. However, as described above, several sources of naval theory explicitly state that tonnage is a suboptimal individual metric to evaluate naval power. Therefore, where the ability to more closely consider actual capability of the forces involved in a maritime dispute is possible, the more micro measure should be used. It may well be that tonnage and defense spending coincides with expected results as discussed below, but examining capability of the fleets involved at the time of a given dispute will

more affirmatively reveal the role of naval power in the outcome of the dispute as opposed to simple totals of tonnage or even the number of vessels of a particular type (ex: there are many years where Vietnam’s navy has several frigates, but legacy hulls are gradually phased out or rearmed in favor of missile-armed frigates and even smaller corvettes).

Chapter 5 Tonnage and spending vs capability measures: a first broad cut

Figure 1 shows the total tonnage of navies examined in this study from 2000-2011 (the only years each was available in the Crisher and Souva (2014) tonnage dataset).

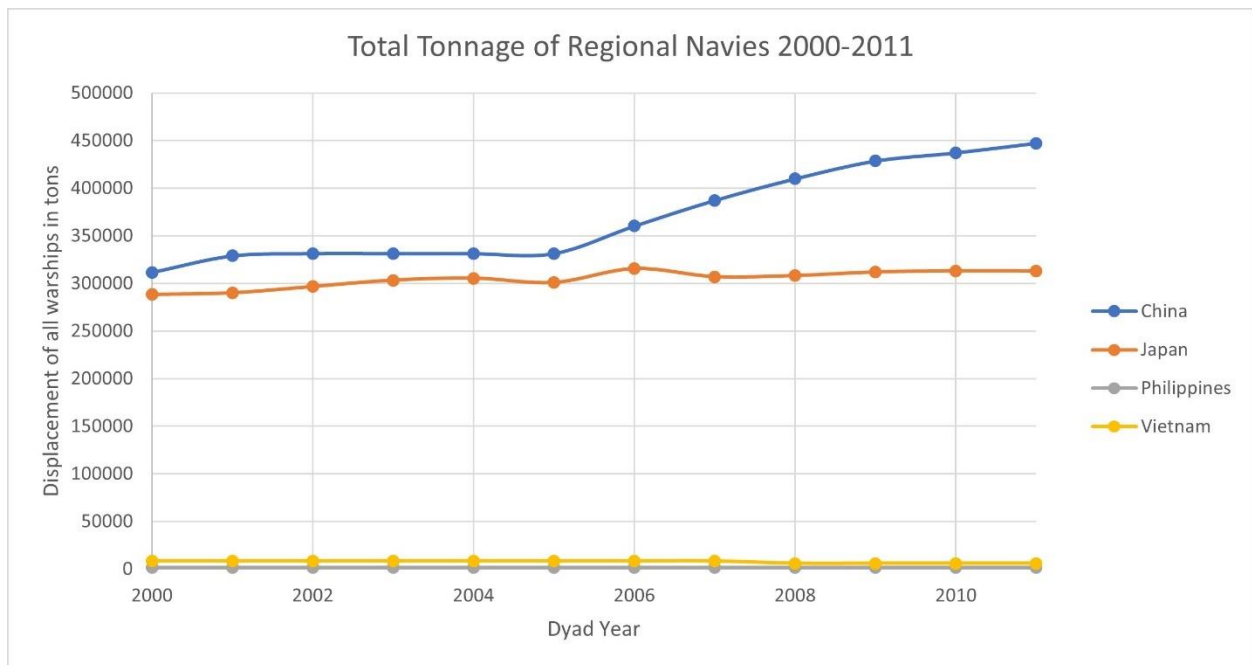


Figure 1: Tonnage of select navies from 2000-2011 (Source: Crisher and Souva, 2014)

This shows that between 2000 and about 2005, China and Japan had navies of roughly equal size. The Philippines and Vietnam are relative minnows. Of note, there is no significant change in this data until 2005, when both China and Japan began to grow their navies (most likely as they add new classes of warships before retiring old ones). China’s fleet continues to grow until the end of the dataset (this trend continues in the form of numerical ship counts according to data from *The Military Balance* used to build my own dataset). Meanwhile, Japan’s fleet settles back to near the size it was before the 2005 bump as it

retires old ships that were temporarily active alongside new hulls. In contrast, the only change in the case of the Philippines and Vietnam is a slight drop in the tonnage of the Vietnamese navy between 2007 and 2008. The Philippines' tonnage of warships is the same (1,620 tons) in every year displayed.

Figure 2 shows military expenditure between 1990 and 2018 in 2019 US dollars for each of the countries examined.

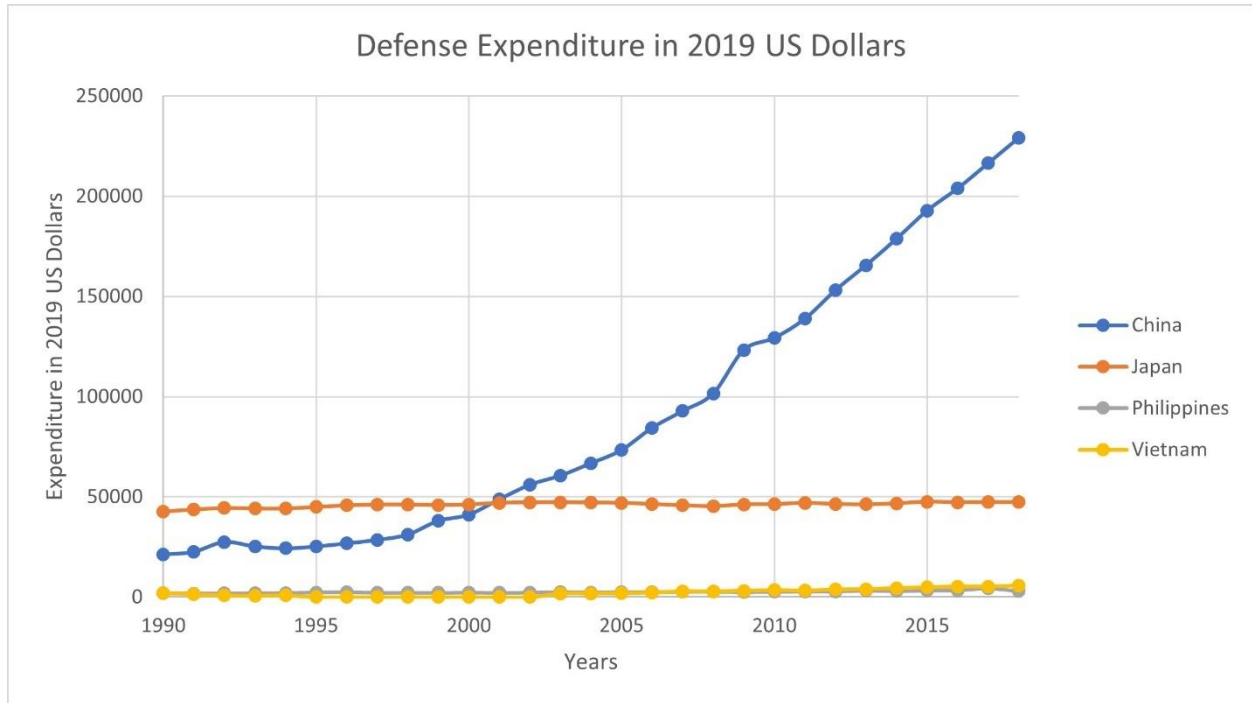


Figure 2: Defense expenditure in 2019 US Dollars of select countries. (Source: SIPRI 2021)

This figure shows what David Kang persuasively argues in his 2017 survey of East Asian regional security: from a defense spending perspective, regional states do not appear to be alarmed at China's military rise (Kang 2017). Military expenditures alone do not appear to indicate any sort of arms race or competition to be occurring.

Figures 3 and 4 show the independent variable of this study: the difference between China's proportion of major warships that are armed with missiles and two of the dispute partners examined in this study (i.e., the proportion of China's fleet that are equipped with missiles minus the proportion of Japan's fleet and Vietnam's fleet that are armed with missiles).

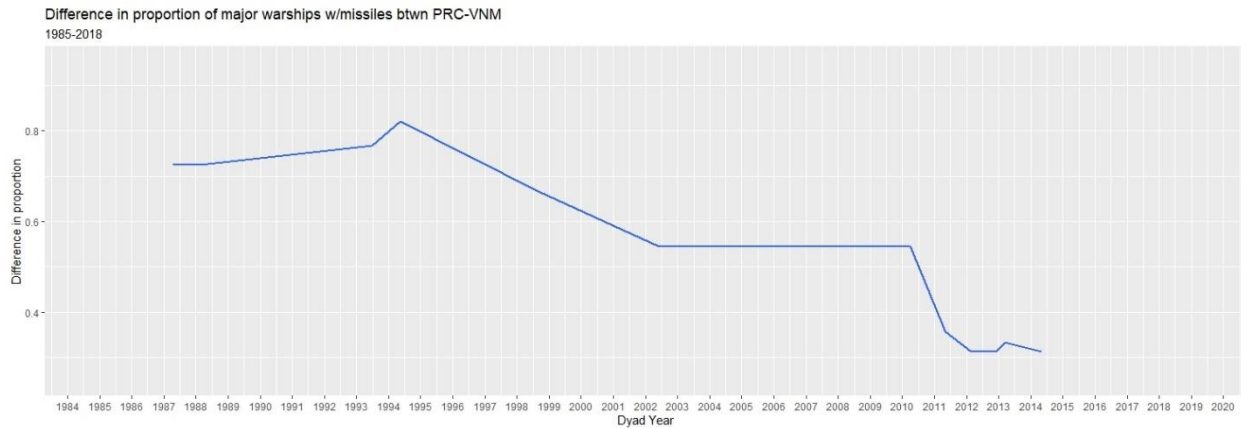


Figure 3: Difference between proportion of warships armed with missiles between China and Vietnam, 1985-2018 (Source: data compiled from *The Military Balance*)

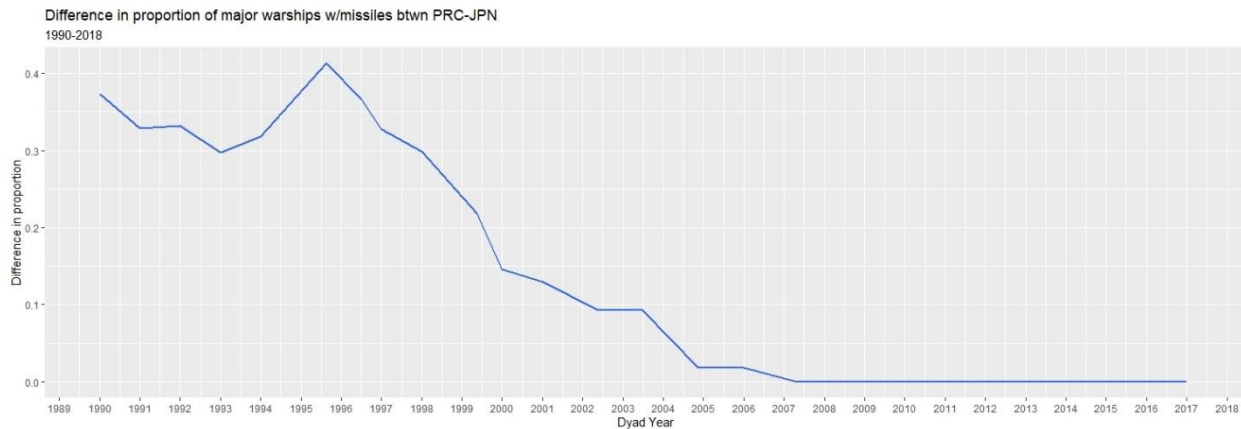


Figure 4: Difference between proportion of warships armed with missiles between China and Japan, 1990-2018 (Source: data compiled from *The Military Balance*)

Figures 3 and 4 show the nuance available from a capability-based approach. The figures show that China enjoyed a proportional advantage in its fleet in terms of this measure of naval combat capability in all years examined in the case of Vietnam, and until 2008 in the case of Japan (at which point both fleets fielded only ships equipped with missiles). Considering Figures 1, 2, and 3 together is instructive. Together these figures show that Vietnam’s navy was in all years a tiny fraction of China’s in terms of tonnage and displacement, and that in all years China spent considerably more than Vietnam on defense. However, Figure 3 shows that by at least some measure of capability, Vietnam began to close the

gap with China beginning around 1995. This gap then begins to close even more considerably after 2010⁴. Applying the theories of dispute behavior based on security status quo (Fravel 2007, Mitchell 2020), we should see an inflection in MIDs at one or both of these points, especially around the 2010 instance.

Because this measure of capability is relative and proportional, it may be misleading absent context. For example, Vietnam fielding its first missile-capable warship in 1987 could have caused a drop in the difference in its proportion of such ships against China's that did not truly change anything in the dispute (China possessed 46 such warships in 1987 by comparison). However, the next sets of reduction in difference of proportions of missile capability in the data (between 1994 and 1995 and 2010 and 2011) come as Vietnam makes relatively substantial changes to its fleet. The period after 2010 is especially instructive as Vietnam rapidly begins to recapitalize and upgrade its fleet.

Returning to Figure 1, however, Vietnam's tonnage has not significantly changed in this period, especially relative to China. Turning to Figure 2, spending does not appreciably change in this period to an extent where one would likely decree an arms race is ongoing. This example shows that relying on such measures would miss the potential significance of a state like Vietnam beginning to field a more capable navy designed for the purpose of sea denial (Wu 2017). Tonnage and defense expenditure would also miss Japan's continued modernization as it reached a fully missile-capable fleet in 2007 (compare Figures 1, 2, and 4). Japan's tonnage does not change versus China's proportionally, and its expenditure stays constant. However, by 2007 an additional measure of modernization has been completed in its entire fleet of warships that is invisible to the other naval power measures.

These initial examples suggest the promise of using a more nuanced, but still practical and easily countable, measure such as missile capability within a navy. To be sure, adding two missile capable frigates to Vietnam's navy in 1995 did not mean that Vietnam could suddenly take on the PLAN in a bid

⁴ Note: the Philippines is not shown in a figure such as this because the Philippines navy does not field a single missile-capable warship at any point in any year examined. The figure depicting the proportional difference between China's missile-capable ships and the Philippines' would be a horizontal line with y-intercept=1

to reclaim the Paracel Islands. What this change in the data signal may suggest better than tonnage, however, is overall capability of the fleet in various measures of modernization to actually employ these new technologies. Because navies are built on relatively small numbers of expensive platforms with high sunk costs, changing the makeup of those platforms deserves attention as it likely signals other less perceptible changes that may be meaningful to the security situation in the dispute.

Chapter 6 Case studies and testing of H1 and H2

For each dyad – China and Vietnam, the Philippines, and Japan – all individual MIDs reported in the Dyadic MIDS 4.02 dataset from COW⁵ are examined in the context of the hypotheses and theories about the role of naval power balance and China’s maritime dispute militarization. In each case, the descriptive statistics of the dependent variables – MID initiations and levels of hostility by each participant – are examined first. Qualitative descriptions and examinations of the MIDs in question are then conducted to try to add context to determinations of whether the cases support or do not support H1 and H2 and the merit of the proposed measure of naval capability.

China and Vietnam

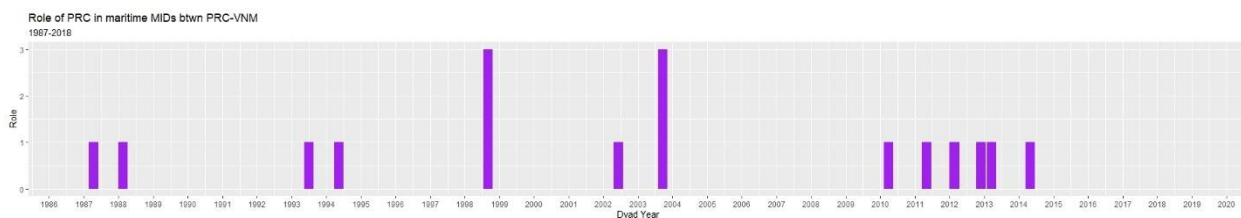


Figure 5: Role of PRC in maritime MIDs with Vietnam, 1987-2018 (Source: COW Dyadic MIDs 4.02) (NOTE: 1 = initiator, 3 = target)

⁵ One additional MID in the Vietnam case from November 2012 that was not contained in the COW data has been added. It is described in the appendix.

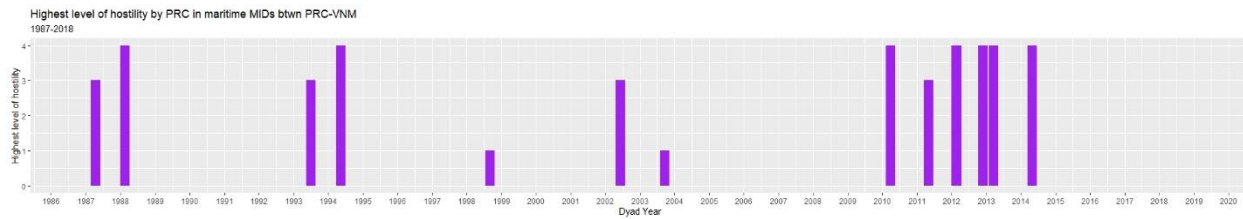


Figure 6: Highest level of hostility by PRC in maritime MIDs with Vietnam, 1987-2018 (Source: COW Dyadic MIDs 4.02)
 (NOTE: 1 = no response, 2 = threat, 3 = display of force, 4 = use of force)

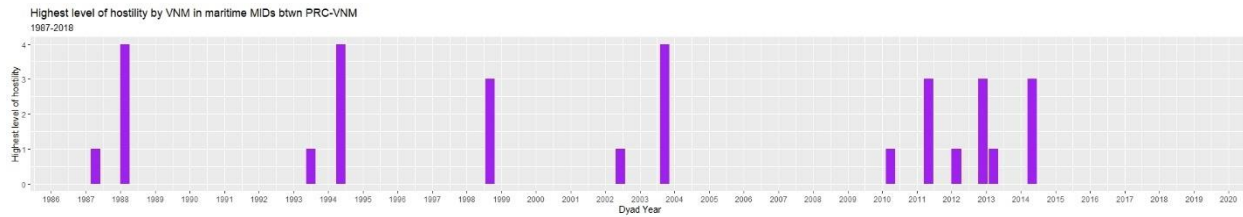


Figure 7: Highest level of hostility by Vietnam in maritime MIDs with China, 1987-2018 (Source: COW Dyadic MIDs 4.02)
 (NOTE: 1 = no response, 2 = threat, 3 = display of force, 4 = use of force)

China and Vietnam’s series of MIDs in their maritime dispute provides the strongest support for the hypotheses in the study. The dispute is more stable in its patterns of initiation and is less militarized by China when naval power is more lopsided toward China, between 1987 and 2004. China initiates five of seven MIDs in this initial period before Vietnamese naval modernization, and China shows a higher threshold of hostility in three instances, Vietnam shows a higher threshold of hostility in two instances, and the pair tie in the remainder. To this point the MIDs pattern resembles the pattern described below in the Philippines case below, which is what would be expected given the lack of capability balance between the two navies. There would be little doubt of who would win if the dispute would come to fighting in any instance (as it did in naval battles in 1974 and 1988).

The pattern of MIDs takes a turn in 2010, with China beginning a sustained period of unilaterally initiated and more militarized MIDs. China initiates six of six MIDs in this period, and reaches a higher level of hostility in five of six, while the pair tie in this category in the sixth MID. This pattern is in turn best explained by Fravel’s (2007) and Mitchell’s (2020) argument that China will more aggressively pursue claims and dispute position when its security dominance is questioned. When there is more doubt of who will win in case of escalation, the odds of fighting are higher.

However, in this period the tonnage of Vietnam's navy actually decreases, while China's continues to increase per the Crisher and Souva (2014) tonnage dataset (Figure 1). China's total defense spending in this period likewise dwarfs Vietnam's per the SIPRI (2021) dataset (Figure 2), and Vietnam's expenditure has not appreciably leapt toward what most would consider an arms race. However, the capability-based assessment of Vietnam's navy advanced in this study shows that at that key juncture, when China begins this sustained period of militarization in the dispute, Vietnam has begun to significantly close the military power gap in terms of relative capability as advanced in this study (Figure 3).

1987-1988 Bojiao and South Johnson Reef: China and Vietnam's maritime disputes in this study begin with the 1987 and 1988 skirmishes over Bojiao Island and Johnson South Reef. In April 1987, China voiced protest that Vietnam had landed forces on to Bojiao, a member of the features that China termed the Nansha Islands and claimed as part of its territorial waters⁶. The 1988 clash at Johnson South Reef was a significant escalation in terms of level of hostility. Vietnam announced that China had dispatched warships to waters Vietnam claimed in the Spratly's in early 1988⁷. A brief naval battle erupted on March 14, involving at least three Chinese frigates and several smaller Vietnamese crafts⁸. Vietnam's forces were driven from the outpost after suffering multiple lost vessels and significant casualties, and China refused to negotiate on terms, claiming full sovereignty over the disputed possessions⁹.

At this point in time, China's navy enjoyed overwhelming advantages in terms of size and capability. Tonnage figures are not provided until 2000 for either country in the Crisher and Souva (2014)

⁶ COW narratives (Gibler, 2018), Redmond (UPI, April 15, 1987) <https://www.upi.com/Archives/1987/04/15/China-warns-Vietnam-on-island-takeover/3545545457600/>, Ministry of Foreign Affairs (April 15, 1987) Letter to United Nations General Assembly (https://digitallibrary.un.org/record/133396/files/A_42_236_S_18818-EN.pdf)

⁷ Gibler (2018)

⁸ Collin and Tri (*The Diplomat*, March 20, 2018) <https://thediplomat.com/2018/03/learning-from-the-battle-of-the-spratly-islands/>

⁹ Gibler (2018)

dataset although China operated nearly eight times the number of principal surface combatants as Vietnam in 1987 (53 for the PLAN versus 7 for the VPN according to *The Military Balance*). By capability metrics, the difference between China's ratio of missile-armed warships and Vietnam's in 1987 was about 73%¹⁰. Trend wise, Vietnam had begun operating a single missile-capable frigate in 1987. It would not adopt another until 1995. Meanwhile, China was in the midst of a steady rise in its rate of missile-equipped ships that saw only three calendar years where the rate decreased from the previous year between 1980 (68.9% of ships equipped with missiles) and 1995 (100% of Chinese warships equipped with missiles). In 1987 China operated dozens of attack submarines, while Vietnam operated no submarines of any type.

The 1988 naval battle at Johnson South Reef is best explained by Fravel's argument about dispute position, albeit in a dimension that does not account for size or even capability. An argument can be made that the 1987 posting of Vietnamese forces on Bojiao threatened China's military position in the disputed area and that a response that assured its position and signaled resolve to use force in case of further deterioration in its position was required. Thus, despite the fact that China's military power in the dispute was unchallenged, Vietnam's own assertive action in 1987 – a condition that Mitchell (2020) and Fravel (2007) would normally expect to lead to stability in the dispute from a militarization perspective, could explain why the 1988 naval battle at Johnson South Reef occurred.

1993-1998 Impacts of laws and norms and initial Vietnamese modernization: The three MIDs between 1993 and 1998 occur in the context of an important legal and normative advance on the part of China, and Vietnam's initial steps toward naval modernization. There are arguments in these MIDs for assertive behavior occurring because of Vietnam threatening the security balance through its modernization, and of an alternate explanation based on normative and legal space opening room for movement in the dispute position.

¹⁰ See Naval Power Capability Dataset, appendix

The 1993 MID involved China engaging in a show of force by a variety of warships and amphibious capabilities in the Gulf of Tonkin in July. China followed up in August with deployment of resource survey ships escorted by naval vessels, eliciting formal protests from Vietnam¹¹. In May 1994, China engaged in another show of naval force, this time in the Spratly's. This was followed by a blockade of a Vietnamese oil rig in July, to which Vietnam responded by seizing Chinese fishing vessels and using warships to chase a Chinese research ship out of the area¹². In September 1998, Vietnam initiated a MID when it sent warships to the Spratly's and erected structures on two islets. China responded with formal protests¹³.

In terms of naval balance of power, the period began in 1993 with little change since the 1988 naval battle over Johnson South Reef described above. In fact, China's advantage in terms of proportion of warships with missiles had increased to nearly 77% by 1993, with more than nine of every 10 of its major ships equipped with such weapons. Vietnam, in contrast, still fielded just one missile-equipped surface combatant out of seven total warships in its entire navy. By any measure, China's navy was immensely more powerful for the 1993 and 1994 disputes.

However, the 1993 and 1994 series of disputes (along with China's legal advances in the maritime domain described below) helped spur Vietnam's political leadership toward a maritime strategy of its own in the mid-1990s. Beginning in 1994, Vietnam embarked on a sustained period of force modernization for the Vietnamese navy (Thayer 2016, 204). This naval modernization was couched explicitly in terms of defending "sovereignty, national interests, and natural marine resources, while at the same time building a maritime economy" (Secretary General Do Muoi, quoted in Thayer 2016, 207-208).

Thus, the three MIDs between 1993 and 1998 may be considered in two sub-sets. The 1993 and 1994 disputes occurred with the backdrop of a Vietnamese navy that had barely changed in capability or

¹¹ Gibler (2018)

¹² Ibid.

¹³ Ibid.

size measures since the 1980s, even as the PLAN continued to both grow and modernize. In both of these cases, the dispute should be considered militarily stable (i.e., lopsided in favor of China in naval power balance). An explanation for why China would engage in assertive behavior is advanced along the lines of legal and normative lines below.

The 1998 dispute, however, in which Vietnam was the initiator of militarized action according to the COW dataset¹⁴, occurred after Vietnam had begun to modernize and implement its new maritime strategy. By the time of this dispute, Vietnam had purchased and begun operating three new *Tarantul*-class guided missile corvettes. These ships marked the first of a new navy that would be able to project naval power beyond coastal defense and into Vietnam's territorial waters. The modernization initiative of the Vietnamese navy contained myriad other aspects not captured in the proportion of missile-equipped major combatants. In 1996, Vietnam and Russia began co-production of the BPS-500-class missile corvette. In October 1998, Vietnam signed a major defense cooperation agreement with Russia (Thayer 2016). Thus, by the time the 1998 dispute occurred, Vietnam had begun undertaking several concrete steps toward enhancing its naval power projection capabilities in both platforms and capacity.

In terms of the difference in proportions of each navy modernized to wield missiles, the 1995 roll-out of two missile corvettes helped Vietnam close the gap with China in terms of relative capability by nearly 20%. This marked the largest jump in relative capability between the rivals until 2011 when a similar increase in relative Vietnamese capability occurred. This change in relative naval combat capability would have barely registered in naval power measured by tonnage or by total spending (Vietnam retired a non-missile frigate in 1995 at the same time that it deployed two new missile corvettes¹⁵, so tonnage would have barely budged).

¹⁴ Dyadic MIDs 4.02

¹⁵ *The Military Balance* (1995)

The occurrence of all three of these MIDs may gain explanatory power when the role of legal, normative, and policy effects on dispute position are considered. In 1992, China adopted the Law of the People's Republic of China on the Territorial Sea and the Contiguous Zone, which governs islands and waters in the South China Sea. This in turn informed the behavior of China's actions within the maritime dispute with Vietnam to comply with its assertions of law and sovereignty and is one of the key inflection points in the security relationship between China and Vietnam, perhaps on par with the 1974 seizure of the Paracel's in importance (Thayer 2016, 204). As mentioned above, Vietnam had likewise responded to the 1992 law and to the MIDs in 1993 and 1994 initiated by China. Each of these MIDs involved shows of force by the more powerful and capable PLAN by implementing its own maritime policy that was intended to buoy its position in the dispute.

The impact of legal and normative advances in maritime policy provides an alternate explanation for Fravel's preventive war and dispute positioning explanation for China's dispute assertiveness (Chubb 2020). This logic holds that states may act more assertively when they perceive openings in normative or legal frameworks involving the dispute in question. States may perceive threats to their legal and normative standing in a dispute in a similar fashion to challenges to territory itself and respond accordingly. Fravel's theory about dispute positioning holds that states can advance their position by laying claim to new territory or by showing resolve by fighting. He argues that taking territory is rare in most disputes for China because these disputes are mostly old and constrained by long-set facts on the ground. Of course, maritime disputes are likewise challenging because holding control of water (other than building up on possession a state already controls) is difficult and constrained and water itself is hard to hold, requiring incessant patrolling.

However, Chubb's (2020) insight into institutional and normative positions in a dispute adds a dimension on top of physical territorial control itself. If a new legal regime or strategic imperative resets a state's views on the territory in question in a dispute or leads them to take internal actions that enhance their capability or likelihood to project power within the disputed area, it seems likely that the state will

seek to advance a claim to fill the newfound vacuum. Thus, what had been a physical status quo may become destabilized simply by implementation of new legal or normative realities and actions in accordance with them by one party or another. Indeed, administrative actions layered on existing territorial status quo may further the military capability of a belligerent relative to the rival (Chubb 2020). Thus, in this series of cases, openings in the status quo offer an explanation for why China chose to use force in 1993 and 1994 despite a strong dispute position and no major changes in naval balance of power by either tonnage or capability measures. Vietnam has started to modernize its navy at this point, but China would hardly be expected to have felt its military position threatened.

2002-2003: Mutual incursions within the dispute: In June 2002, Vietnam accused China of conducting large-scale naval exercises in its continental shelf area in the Gulf of Tonkin. China denied wrongdoing and insisted on its rights to the waters as well¹⁶ In June 2003, a Vietnam naval or law enforcement patrol pursued and arrested a Chinese fishing vessel in the Gulf of Tonkin. Chinese media and authorities claimed that the boat was fired on by the Vietnamese authorities, and the Chinese crew was released within a week¹⁷.

The balance of naval power in 2000 by tonnage measures and capability measures in both years of the dispute remain tilted heavily in favor of China. However, again the capability measures tell a more nuanced and complex story. While the tonnage measures from 2000 to 2003 do not change other than some slight increases for China's fleet, Vietnam's proportion of the fleet that is equipped with missiles rises again from 33% to 45% as it adds two more missile-equipped corvettes. This brings the difference in proportion of such ships down again.

¹⁶ Gibler (2018), "China dismisses Vietnam protest against naval drill as 'groundless'". *Agence France Presse -- English*. June 11, 2002, Tuesday. <https://advance-lexis-com.www2.lib.ku.edu/api/document?collection=news&id=urn:contentItem:461X-7D80-00GS-K328-00000-00&context=1516831>.

¹⁷ Gibler (2018), "China protests Vietnam's detention of Chinese fishing vessels". *Agence France Presse -- English*. September 28, 2003, Sunday. <https://advance-lexis-com.www2.lib.ku.edu/api/document?collection=news&id=urn:contentItem:49N0-7TD0-00GS-K28P-00000-00&context=1516831>.

Using capability-based measures of naval power brings some of the explanatory theory of Mitchell (2020) and Fravel (2007) to bear on this pair of incidents. Tonnage-based measures of military power would describe the naval balance of power at this time as unchanged and overwhelmingly in favor of China (Crisher and Souva 2014). However, the incremental changes in Vietnam's fleet may have begun to register as part of a larger signal of the state of the dispute. Vietnam fielded 11 major surface combatants in 2001, of which five were now equipped with at least anti-ship missiles. This did not only mark a sizeable improvement in the relative capability of the fleet despite only a modest increase in total numbers of ships. The design of the fleet itself - the expenditure of scarce defense resources in a fleet that would be more capable of defending territorial interests in disputed waters – was articulated as part of national policy (Thayer 2016, 207-208). It seems logical that – counter to some interpretations that naval capabilities may be poor signals of resolve relative to other military signals owing to their cost and mobility (Gartzke and Lindsay 2020, 634) – such a modernization and deliberate design may have had signaling impacts favorable to Vietnam's position.

In summary, the conditions in this period, in which Vietnam's navy was becoming more capable relative to China's navy – that China's security advantage in the territorial waters that define this particular dispute was increasingly under challenge by modernization and policy – would be ripe for China to pursue assertive action in support of H1 and H2. That is indeed what unfolds in this pair of minor actions of militarization. The change in the balance of naval power that would suggest this would be missed if measures that solely relied on the size of the fleets, or the amount of defense spending, were used rather than examining the actual capability of the fleets in question.

2010-2014: A wave of assertive action: The period of MIDs from 2010 to 2014 is altogether different from the previous cases in this dyad. This series of remarkable for three reasons. First, China is coded as the initiator of all six incidents¹⁸. Second, the MIDs occur frequently: at least one MID per year

¹⁸ COW Dyadic MIDs 4.02. A second

for five years, with six MIDs coded. Third, China exhibits the higher level of hostility relative to Vietnam in five of six MIDs and reaches the same level of hostility as Vietnam in the sixth. China reaches the “use of force” level of hostility in five of six MIDs in this set and reaches the demonstration of force coding threshold in the sixth. Vietnam does not reach the use of force threshold in any of the six.¹⁹

This markedly different pattern of MIDs in this period relative to the others offers the strongest evidence of the four series of MIDs in this study for the benefit of measuring naval power by capability rather than broad metrics. Between 2000 and 2010, the tonnage gap between the PLAN and the Vietnamese navy had ballooned from more than 303,000 standard tons of displacement to more than 431,000 tons of standard displacement (Crisher and Souva 2014). If this was to be the measure of naval power in examining disputes, it would suggest China had become even more powerful relative to Vietnam in the ability to project power at sea. Mitchell (2020) and Fravel (2007) would expect that such measures would lead to a period of relative dispute stability because one contestant enjoyed supremacy relative to the other. In such an environment, absent confounding events such as the opening for expansion in the dispute through international or domestic laws or policies, there should be relatively few MIDs. There should be agreement on who would win if the matter escalated to shooting at sea.

However, the story is different when a capability-based measure is used to measure naval capability. By 2010, even though the VPN had shrunk in terms of the displacement of its major warship hulls, it had modernized to an extent that more than 68% of its warships were missile equipped. The fact that its tonnage was shrinking suggests that its fleet was remaining more or less the same size but becoming more capable of participating in the “attack effectively, first” imperative of modern naval combat (Hughes 2018, 64) that its Chinese counterpart had been steadily investing in for decades. Indeed, according to *The Military Balance*, between 2010 and 2012 Vietnam added five major warships to its total count of surface combatants. The difference in proportion of warships armed with missiles between

¹⁹ Ibid.

the PLAN and the VPN had dropped to just over 31% by 2012. Vietnam announced the intention to purchase six *Kilo*-class diesel-electric attack submarines from Russia in 2012 (each of which was armed with highly capable anti-ship missiles) and entered into agreements with Russia to help build its capacity to use submarines²⁰. In the years between 2010 and 2012, Vietnam also acquired significant upgrades to its coastal anti-ship missile batteries and command and control suites and began fielding more capable maritime reconnaissance aircraft and began transferring airframes and personnel from its air force to the VPN's air arm²¹. In 2014, the United States announced that it would permit transfers of maritime security platforms to Vietnam in the near future, such as highly capable maritime reconnaissance and anti-submarine warfare aircraft²².

China and the Philippines

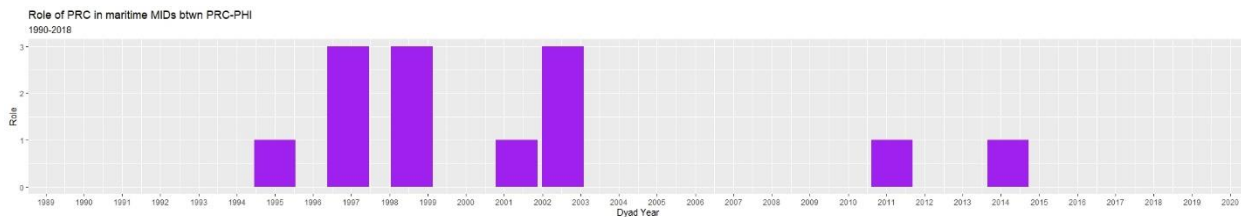


Figure 8: Role of PRC in maritime MIDs with the Philippines, 1990-2018 (Source: COW Dyadic MIDs 4.02) (NOTE: 1 = initiator, 3 = target)

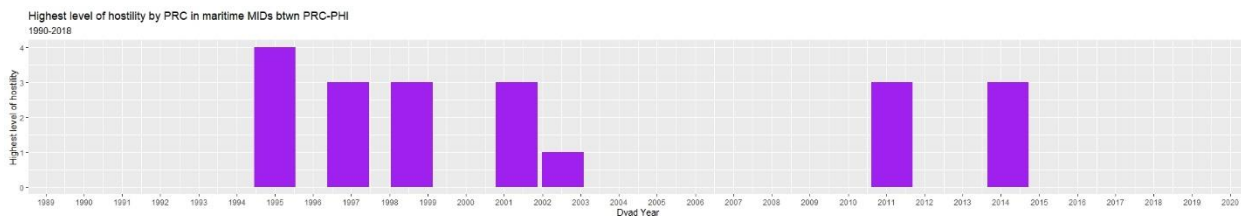


Figure 9: Highest level of hostility by PRC in maritime MIDs with the Philippines, 1990-2018 (Source: COW Dyadic MIDs 4.02) (NOTE: 1 = no response, 2 = threat, 3 = display of force, 4 = use of force)

²⁰ Institute for Strategic Studies. 2012. *The Military Balance*.

²¹ Institute for Strategic Studies. 2013. *The Military Balance*.

²² Institute for Strategic Studies. 2015. *The Military Balance*.

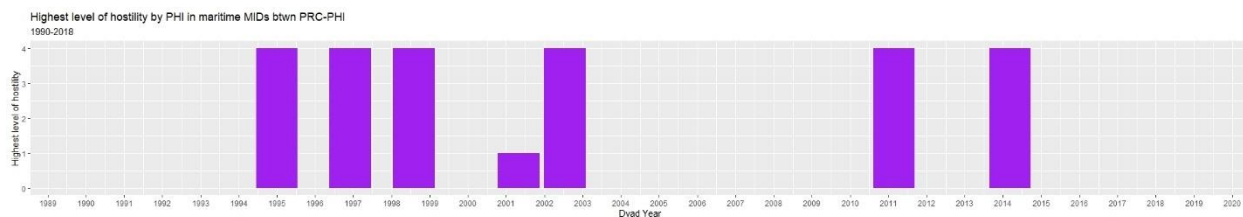


Figure 10: Highest level of hostility by the Philippines in maritime MIDs with China, 1990-2018 (Source: COW Dyadic MIDs 4.02) (NOTE: 1 = no response, 2 = threat, 3 = display of force, 4 = use of force)

In contrast to the China-Vietnam dyad, China’s ongoing dispute with the Philippines serves as almost a control case for exploring the validity of the theory and hypotheses. This is for two reasons, which are somewhat interrelated. First, the Philippines possesses no modern warships in its inventory. By this I mean that, per all issues of *The Military Balance* for all years examined in this study (1987-2018), the Philippine Navy does not operate a single missile-capable warship. Indeed, the Philippines is noteworthy for the paucity of their military dimension of sea power. The military dimension of the Philippine Navy is severely hampered by bureaucratic limitations, a massive constabulary mission befitting an archipelagic nation, and competing security priorities elsewhere in the archipelago (Despi 2017, 591).

An instructive example of the capability of the Philippine fleet is an episode of its incremental improvement in the early 2010s. During the 2011 to 2012 disputes at Reed Bank and Scarborough Shoal, the Philippines announced the acquisition of a *Hamilton*-class high-endurance coast guard cutter from the United States. The vessel was introduced as a replacement for the venerable *Cannon*-class destroyer *Raja Humabon*, “probably one of the world’s oldest warships”²³. The *Hamilton*-class cutter itself began deploying in US service in 1967²⁴.

²³ (March 7, 2011). Philippine navy acquires US patrol ship. *Agence France Presse -- English*. <https://advance-lexis-com.www2.lib.ku.edu/api/document?collection=news&id=urn:contentItem:52BC-SP21-DY93-M0XD-00000-00&context=1516831>.

²⁴ “Hamilton (1967) - U.S. Department of Defense.” United States Department of Defense. U.S. Coast Guard History Program. Accessed March 29, 2022. <https://media.defense.gov/2018/Apr/26/2001908644/-1/-1/0/HAMILTON1967.PDF>.

The results of examining China's MID's with the Philippines from 1990 to 2018 (there were no MID's described between China and the Philippines before 1995 in the COW dataset) are displayed in figures 8 through 10. These results can be argued to support both H1 and H2, albeit with some qualifications and room for alternate explanations.

In keeping with expectations outlined in H1 and H2, the dispute stays relatively stable throughout the period examined. As seen in Figure 8, Chinese actors initiate 4 of 7 MID's in the period examined, although the Philippines initiates 3 of 7. As depicted in Figure 9 and 10, in 6 of 7 disputes the Philippines engages in the highest level of hostility and in 5 of 7 disputes reaches a higher level of hostility in the dispute than China does. On the other hand, China reaches use of force in only one MID: the 1995 confrontation at Mischief Reef.

This pattern of dependent variable outcomes offers support for the hypotheses. China's military capability situation with the Philippines remains superior throughout. The dispute remains stable in its trend of militarization in that there is a relatively even pattern of initiator and target, a kind of back and forth within the dispute once the territorial parameters are locked into a new equilibrium. China does not feel compelled to signal resolve through higher levels of hostility and militarization because it enjoys a dominant position in the dispute as measured by naval capability, and that balance never changes.

1995 to 2002: Emergence of the dispute: The dispute between China and the Philippines begins in January 1995 with China abruptly adjusting the status quo near Mischief Reef in the Spratly's. Philippine fishermen are arrested in January, and subsequent patrols by the Philippine armed forces reveals that China has apparently constructed structures in the area. In March, Philippine authorities seize Chinese fishermen operating in the area. Finally, military forces come into direct proximity as the PLAN blocks a Philippine naval vessel headed to the Spratly's²⁵. This leads the Philippines to mobilize the

²⁵ Gibler (2018)

entirety of its tiny fixed-wing attack aviation capability: five aged F-5s of dubious readiness and ability²⁶. Of note, the Philippines seeks to combine a mix of both proportional military response (within its very limited capability) and a publicity campaign meant to highlight China's actions for the global audience.

The Philippines initiated the next episode in the dispute in December 1996 when its armed forces fortified some of its possessions in the Spratly's in anticipation of additional conflict. This was followed by the PLAN dispatching several ships into the area in Spring 1997. The Philippines in turn increased its patrol presence in the area and added additional troops to the fortified possessions in question. Philippine authorities arrested Chinese fishermen on two occasions in the summer of 1997²⁷. Warning shots were fired at Chinese fishing vessels by a Philippine outpost in the area on at least one occasion²⁸.

The next year, the Philippines initiated another MID in this dispute after several Chinese (and apparently one Vietnamese vessel) entered claimed Philippines waters near Pag-asa in August 1998. This prompted an increased show of naval force in the area by the Philippines. A Philippine naval ship chased and collided with a Chinese fishing boat in May 1999, before a similar episode occurred in July 1999 (with the Philippine vessel firing warning shots before the collision in the second case). Finally, the Philippine navy boarded Chinese fishing vessels in the vicinity of Scarborough Shoal in early 2000 before chasing out additional fishermen in May 2000 in an episode that featured additional use of live fire as a show of force²⁹.

²⁶ Rene Flipo. (May 24, 1995). Philippines will not enter conflict with China over Spratlys, says Ramos. *Agence France Presse -- English*. <https://advance-lexis-com.www2.lib.ku.edu/api/document?collection=news&id=urn:contentItem:3TDD-X400-0031-V039-00000-00&context=1516831>.

²⁷ Gibler (2018)

²⁸ (June 25, 1997, Wednesday). Troops open fire in Spratlys. *THE AUSTRALIAN*. <https://advance-lexis-com.www2.lib.ku.edu/api/document?collection=news&id=urn:contentItem:457Y-KBG0-0197-50V3-00000-00&context=1516831>.

²⁹ Gibler (2018)

In 2001, China initiated a MID when it sent a state research vessel into Philippine waters near Scarborough Shoal, eventually deploying up to 12 ships into Philippine-claimed territory in the episode. A 2002 MID occurred when Filipino authorities seized Chinese fishing vessels near Luzon³⁰.

By the time of the first clashes around the Spratly's near and in Philippine territory, the PLAN had reached a high-level of relative capability. By measures of tonnage and total spending, China dwarfed the Philippines in what naval power could be brought to bear on the dispute. One could make an argument that possessing such an overwhelming edge in naval capability would naturally lead China to seek to dominate the maritime dispute and make gains at the Philippines' expense. However, as Fravel (2007) notes about the limits of such an offensive realism explanation, this does not explain why China did not choose to militarize the overlapping claims before this point.

One way that this period of MIDs can be explained is through those offered above for why China sought to militarize its dispute with Vietnam around the same time period. Zhang (2019) argues that this as a period when China needed to show resolve in its territorial disputes, citing several government sources in support of this argument. Fravel's (2007) theory of relative dispute position may also explain this series of MIDs from another perspective. The internationalization of the dispute by attention and actual claims being entered meant that there was a new imperative and perhaps perception the dispute status quo. As with the Vietnam case above, this may explain a decision to alter the status quo even if the military dynamics had not appreciably altered from previous years.

2011-2014: re-emergence of militarization: In 2011, a Philippines oil survey vessel was harassed by Chinese naval ships in the vicinity of Reed Bank in the Spratly's. The Philippines responded by dispatching naval vessels of its own and at least two combat aircraft to patrol the area³¹. Two months later, a pair of Philippines Air Force planes patrolling the same area was buzzed by a pair of Chinese

³⁰ Gibler (2018)

³¹ Ibid.

attack aircraft³². In October 2011, Filipino authorities seized more than two dozen Chinese fishing craft in the area of Reed Bank³³.

In April of the next year, the dispute escalated significantly again. This time the conflict occurred at Scarborough Shoal once again. After spotting Chinese fishermen in the shoal, the Philippines Navy sent a frigate to the area to confront them. Chinese authorities quickly arrived on the scene as well, and although the Philippines sought to demilitarize the stand-off by replacing its frigate with coast guard and other state vessels lower in the militarization hierarchy, the dispute did not end. Through early June 2012, the two sides alternated between talking about de-escalation of the standoff and sending additional vessels. Eventually the Philippines removed its vessels, but the Chinese did not follow suit. In the end, only Chinese flagged vessels remained, apparently ending the dispute in favor of the Philippines in the immediate aftermath, although the Philippines would later file for international arbitration over the incident (and prevail in international court)³⁴.

Finally, in 2014 China initiated another MID. This time the Chinese coast guard blocked a resupply sortie by Philippines-flagged vessels to a military outpost at Second Thomas Shoal in March 2014³⁵. The Philippines responded by seizing Chinese fishing vessels in the area³⁶.

³² (May 22, 2011, Sunday). Philippines "in no hurry" to file protest against Chinese fighter intrusion. *BBC Monitoring Asia Pacific - Political Supplied by BBC Worldwide Monitoring*. <https://advance-lexis-com.www2.lib.ku.edu/api/document?collection=news&id=urn:contentItem:52XF-1P21-DYRV-31VW-00000-00&context=1516831>.

³³ INQUIRER.net. "Philippines Seizes Chinese Boats." INQUIRER.net, October 20, 2011. <https://globalnation.inquirer.net/15765/philippines-seizes-chinese-boats>.

³⁴ Gibler (2018); Green, Michael, Kathleen Hicks, Zack Cooper, John Schaus, Jake Douglas. "Counter-Coercion Series: Scarborough Shoal Standoff." Asia Maritime Transparency Initiative, June 27, 2017. <https://amti.csis.org/counter-co-scarborough-standoff/>; (June 14, 2012, Thursday). Philippines to take maritime dispute with China to international court. *BBC Monitoring Asia Pacific - Political Supplied by BBC Worldwide Monitoring*. <https://advance-lexis-com.www2.lib.ku.edu/api/document?collection=news&id=urn:contentItem:55WB-W4G1-DYRV-31SY-00000-00&context=1516831>.

³⁵ Gibler (2018).

³⁶ (May 9, 2014, Friday). Philippines/China: PNP Maritime seizes 2 vessels, including Chinese boat carrying turtles in Half Moon Shoal, Palawan. *Thai News Service*. <https://advance-lexis-com.www2.lib.ku.edu/api/document?collection=news&id=urn:contentItem:5C56-4571-JB5P-J4W5-00000-00&context=1516831>.

The set of MIDs in the 2010s shares some characteristics and some differences with the wave of unilaterally patterned assertion seen in the Vietnam case in that China is the initiator in each case. However, the Philippines actually uses force in each case, via seizures of fishermen or vessels or firing warning shots. China never progresses past demonstrating force in the course of this set of MIDs. The pattern of hostility and response to initiation in this dispute evokes Fravel's (2007) observations about dispute position as a driver of decision-making. In these cases, the Philippines' position in the security situation is always weak relative to China in any measure of military capability, so the Philippines should be expected to feel compelled to respond with maximal force short of escalation to signal its resolve to inflict whatever costs it can to mitigate even worse slippage in the dispute status quo.

China and Japan

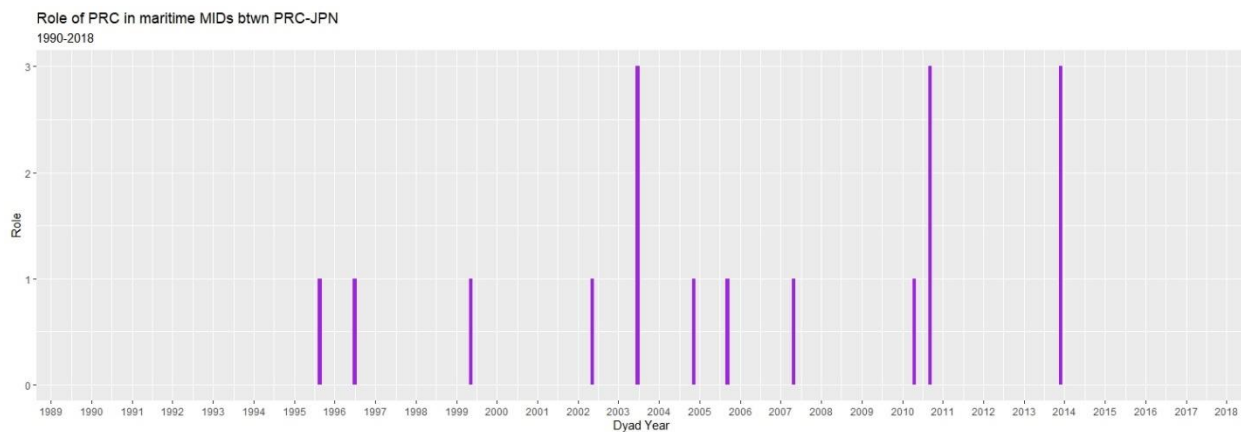


Figure 11: Role of PRC in maritime MIDs with Japan, 1990-2018 (Source: COW Dyadic MIDs 4.02) (NOTE: 1 = initiator, 3 = target)

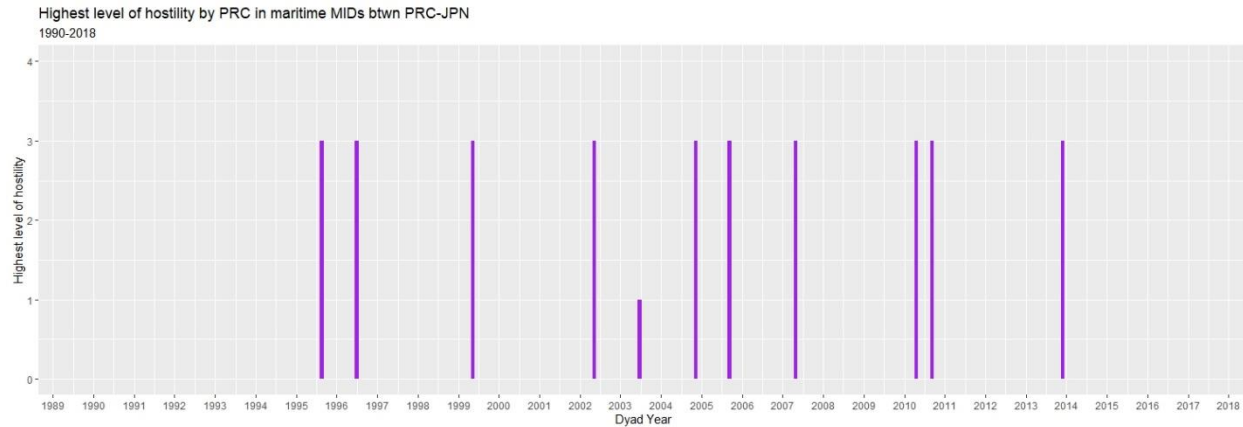


Figure 12: Highest level of hostility by PRC in maritime MIDs with Japan, 1990-2018 (Source: COW Dyadic MIDs 4.02) (NOTE: 1 = no response, 2 = threat, 3 = display of force, 4 = use of force)

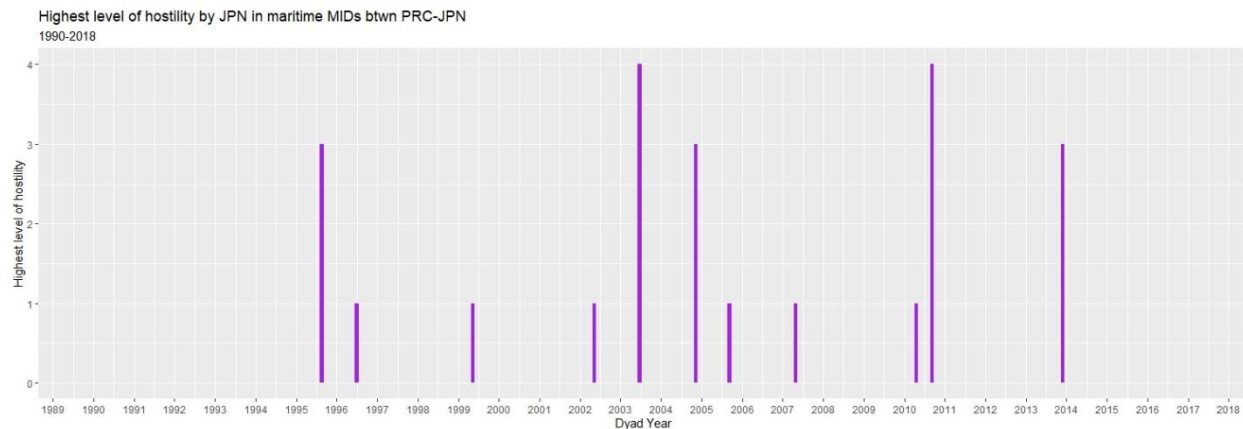


Figure 13: Highest level of hostility by Japan in maritime MIDs with China, 1990-2018 (Source: COW Dyadic MIDs 4.02) (NOTE: 1 = no response, 2 = threat, 3 = display of force, 4 = use of force)

The China-Japan dyad provides qualified support for H1 and H2, but because of the relative parity between the PLAN and the Japanese Maritime Self Defense Force (JMSDF) from the beginning of the period studied it is more difficult to determine if the independent variable presented here is more effective than the tonnage measure at describing capability. Japan represents another compelling test case for the theory of the role of naval balance of power in China's maritime disputes overall, however. Japan's navy is the only other (besides the US or Russian navies) that could boast of being China's peer in East Asia for many of the years examined. Figure 4 shows the trend over time of the difference between China's proportion of missile-equipped warships and Japan's. Unlike Vietnam's, where the PLAN steadily grows and largely maintains an immense proportional modernization advantage, the

PLAN only briefly holds a sizeable edge on the Japanese Maritime Self-Defense Force (JMSDF). The PLAN apparently placed a greater premium on missile technology early-on relative to the JMSDF. However, in addition to hosting sizeable amounts of US forces and enjoying the strongest security ties in the region with the USN, the JMSDF almost immediately began to erode the missile-equipping gap with the PLAN (see Figure 4).

Japan has traditionally emphasized capability in its naval strategy and since World War II has seen maintaining the freedom of its sea lanes as an enduring strategic imperative (Yoshihara and Holmes 2006, 35-36). Whereas Vietnam and the Philippines possess navies that in all dyad years are grossly outweighed by the PLAN in tonnage, and in all dyad years are extensively outspent in defense allocations by China, Japan's navy more or less maintains pace with China's. Even in years when it is smaller than the PLAN in terms of displacement, the JMSDF likely made up for it in sophistication. There are many capability measures by which one could argue Japan possessed naval power advantages over China, especially given the relative parity in the numbers of warships that each can claim. For example, Japan has long privileged submarines as a means to both protect its sea lanes but also threaten the shipping of its adversaries. To that end, Japan's submarine capability developed in intimate proximity to the United States' submarine community over the course of decades (Patalano 2008). While China pursued naval acquisitions that featured nuclear attack submarines and anti-ship missiles, Japan's naval strategy called for focusing on anti-submarine warfare through helicopters and helicopter carriers (Yoshihara and Holmes 2006, 33).

Thus, the balance of military power between Japan and China in naval power can best be described as unstable because it is equal in many respects throughout the period examined. This makes it almost the opposite of the Philippines case, with the Vietnam case serving as a midpoint example on the continuum of naval capability over time. In keeping with H1 and H2, and as seen in Figures 11 through 13, China is fairly aggressive in the dyad with Japan once China's navy begins to assert itself in the 1990's.

There are 11 MIDs in the 1990-2018 period examined in this dyad. Figure 11 shows that China is coded as the initiator in 8 of 11 MIDs. Figures 12 and 13 show that, although neither party every reaches the highest level of use of force in this dispute (that is, no MIDs are coded by COW researchers and coders as involving the actual “use of force”), China reaches demonstration of force, the next highest level, in 10 of 11 MIDs. Meanwhile, Japan reaches that level of hostility on three occasions and exceeds it on two others. China exceeds Japan’s level of hostility in 6 of 11 MIDs in the dispute during the time period examined. This pattern of generally higher levels of hostility, and especially China’s propensity to initiate MIDs in this dyad in the time period examined, lends support for H1 and H2. In this dyad it is ambiguous who would prevail between the PLAN and the JMSDF if a MID were to escalate to a conventional engagement.

There is qualified support for H1 and H2 here. The PLAN begins the period of the study with a slight proportional advantage of about 30% in ratio of warships with missiles, but the difference steadily drops year over year from 1996 onwards as Japan’s new ship classes all feature missile technologies. By the early-1980s, a trend emerges in *The Military Balance* reporting of Japanese naval assets that shows that as legacy vessels are retired, their replacements are missile-capable. However, it is unclear if this is the specific aspect of Japanese naval power, or if it is even naval power at all, that might cause China to perceive the status quo to be in danger and thus proceed to a militarized approach. This is a case where attempts to investigate the impacts of the balance of naval power on the dispute would require deep and nuanced qualitative investigation.

In August 1995, China challenged Japan’s airspace³⁷. In July 1996, after a nationalist Japanese group had erected a coast guard lighthouse on the heavily contested Senkaku-Diaoyu Islands, China dispatched a pair of submarines to patrol the islands. Japan responded with naval vessels of its own and trained maritime reconnaissance patrols on the area. Both contestants then passed laws that codified their

³⁷ Gibler (2018)

respective claims to the hotly contested islands³⁸. In mid-1999, China again sent military forces to the Senkaku-Diaoyu Islands in a show of force, this time in the form of a pair of naval exercises³⁹.

In the summer of 2003, Japan initiated a MID in the dyad with a series of policing actions against Chinese civilian boats seeking to enter the waters around the Senkaku-Diaoyu Islands⁴⁰. The first episode centered around a June 2003 arrest of 13 Chinese sailors seeking to draw attention to the dispute⁴¹. In March 2004, several more Chinese activists landed on one of the Senkaku's before being arrested by the Japanese Coast Guard⁴². In November 2004, more arrests occurred in the area of the islands⁴³ and a Chinese sub was revealed by Japanese naval spotters nearby in waters where China had begun to survey for oil and gas. Japan dispatched additional maritime patrol aircraft and warships to the area to monitor it⁴⁴. In September to November 2005, China again sent warships into Japanese-claimed waters, this time in the East China Sea. This move occurred in the backdrop of the contested Chunxiao gas field in the East China Sea⁴⁵.

In mid-2007, Chinese warships passed through Japanese territorial waters and then along the eastern seaboard of Taiwan⁴⁶. In April 2010, a PLAN helicopter "buzzed" a JMSDF warship in Japanese waters off Okinawa. Reciprocal shows of force occurred again off the Senkaku-Diaoyu Islands in late-2010, with Japanese authorities eventually arresting a Chinese fisherman who rammed a Japanese

³⁸ Ibid.

³⁹ Ibid.

⁴⁰ Ibid.

⁴¹ "Incident off disputed Senkaku (Diaoyuidao) Islands." *TASS*. June 23, 2003, Monday. <https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:602X-HRX1-DYRH-02SW-00000-00&context=1516831>.

⁴² (March 25, 2004, Thursday). 7 Chinese land on Senkaku; Police arrest activists on disputed island, deportation planned. *The Daily Yomiuri (Tokyo)*. <https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:4C11-3GJ0-001X-J2K2-00000-00&context=1516831>.

⁴³ Gibler (2018)

⁴⁴ "'Chinese' sub detected off Okinawa Pref." *The Daily Yomiuri (Tokyo)*. November 11, 2004, Thursday. <https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:4DSB-3RN0-001X-J55V-00000-00&context=1516831>.

⁴⁵ Gibler (2018)

⁴⁶ Gibler (2018).

vessel⁴⁷. In late-November 2013, China reignited tensions in the dispute when it announced an air defense identification zone encompassing the disputed islands⁴⁸.

As is seen in the above narratives, the MIDs between China and Japan occur concurrent with moves within the dispute around the Senkaku/Diaoyu Islands. A likely interpretation of the dispute in the context of this study is that the dispute before the 1990s may have been more similar to that between China and Vietnam, but with Japan in the position of naval hegemon. However, once China's navy had reached burgeoning capability in the 1990s, at that point both navies possessed capability sufficient to threaten the other should a crisis escalate. When events around the disputed islands began to increase in frequency, both sides felt compelled to back their position strongly. Fravel's (2007) argument about dispute position is seemingly strongly supported by this perspective because China's security position in the dispute is in doubt by the latent capability of Japan's forces.

Chapter 7 Discussion

Overall, the cases present varying levels of support for H1 and H2. Vietnam's case appears to strongly favor both hypotheses. The Philippines case can be explained by the naval capability theory presented in this study, but alternative arguments such as institutional and legal domains (Chubb 2020) and needs to show resolve to other potential rivals (Zhang 2019) are persuasive as supplementary or alternative explanations. The Japan case is the most ambiguous, not disproving the hypotheses about the measure of naval capability offered here, and in fact likely suggesting that more than anything naval capability can have many measures and inputs that should be considered.

⁴⁷ Ibid.

⁴⁸ Harlan, Chico. "China Creates New Air Defense Zone in East China Sea amid Dispute with Japan." The Washington Post. WP Company, November 23, 2013. https://www.washingtonpost.com/world/china-creates-new-air-defense-zone-in-east-china-sea-amid-dispute-with-japan/2013/11/23/c415f1a8-5416-11e3-9ee6-2580086d8254_story.html.

One may be able to make an argument in the cases of Japan (owing to the universal capability within both the PLAN and JMSDF after the early 1990s) and the Philippines (owing to its lack of modern warships) that tonnage is a useful measure for assessing the role of naval power in those dyads. It may be then that when comparing two highly capable navies (such as the post 1990s PLAN and JMSDF), or a highly capable navy and a constabulary or coastal navy such as the Philippines', that tonnage performs well as a measure of naval capability.

On the other hand, a measure that captures modernization (such as trend in proportion of the fleet equipped with missiles, as is done in this study) is more appropriate when assessing cases between rising navies or a great power navy and a rising or regional navy. In fact, one may not know what the true status of a navy is without reaching for a capability measure such as that used as the independent variable here. Going directly to tonnage and expenditure in the case of Vietnam's navy relative to China's would lead in a different direction of expectation for approximately half of the MIDs examined. Vietnam's closing of the capability gap was pronounced not in tonnage, but rather in the capability of its ships. Only by examining what the ships themselves (and by extension their crews) are nominally capable of does a more complete picture emerge.

The measure of military power proposed here – to use an easily-counted and relatively ubiquitous indicator of modernity in navies, such as missile-equipped ships – has been shown to at least be equal in its explanatory power in these cases to tonnage, and in some cases to be superior. I have also shown that examining changes in the gap of actual capability of forces is likely a more accurate measure of changes in the security situation in a given context than a measure such as defense spending. Budgets may stay constant, but states can choose to spend the same dollars in more effective (and impactful) ways that will not show up equally in all measures of power and capability.

By far the best support for the argument about using a measure of naval capability like that suggested here is in the Vietnam case. The inflection in pattern of MIDs behavior from 2010 onward

closely tracks with the shift in Vietnam's military capability, if not its size. Vietnam's continued naval inferiority in measures such as tonnage and expenditure would, under the theories advanced by Fravel and Mitchell, suggest that China would only be assertive in situations where the opportunity for expansion on the status quo is available or when Vietnam challenges China's position in the dispute. However, the naval power gap between China and Vietnam does begin to close when naval power is measured using the capability-focused measure introduced in this study. The period when Vietnam begins making steady advances in its naval capability as a part of a deliberate maritime strategy is accompanied by a strikingly uniform pattern of MIDs in which China initiates maritime MIDs at greater frequency and nearly always reaches higher levels of hostility than Vietnam when those MIDs are initiated.

The importance of the Philippine case to this study is that it shows a different pattern of militarization in the dispute relative to that observed in the dispute with Vietnam. In all dyad-years, the Philippine navy is a fraction of the tonnage of the PLAN, not dissimilar to the naval balance between China and Vietnam. However, the key difference for the purpose of this study is that the Philippine navy never closes the capability gap in any sense. Whereas the gap of relative naval modernization begins to close between Vietnam and China in the 1990s, and especially in the 2010s, and is then accompanied by a notable shift in the patterns of MID initiation and level of hostility in the dispute, the pattern of occurrence of MIDs in the Philippine case does not appear to be affected by the naval balance within the dyad since it does not change. An argument can be made that the key independent variable distinguishing the Philippines and Vietnam cases is naval capability in a measure other than that captured by size or defense spending.

The Japanese case shows that tonnage is not without merit as it performs as well as the IV in this study in explaining dispute militarization in the examined time period. It is beyond the scope of this study to question whether a naval strategy of submarine and anti-submarine warfare (such as that featured by Japan) or a strategy packed with long-range missiles and attack submarines (such as that featured by China) is superior. As alluded to in the China-Japan case study above, the Japan case seems to show more

than anything that naval and maritime power has multiple dimensions and confounding variables that should be considered in a more comprehensive study of maritime disputes.

First, there is the military dimension outlined in this study as relative capability, and by others as measures such as tonnage and counts of vessels of different types (Crisher and Souva 2014) and defense expenditure (Kang 2017). Second, there is the role of existing contours of a dispute and the history between participants (Mitchell 2020, 3-4). Third, there is the role of domestic and international institutions and policies, which may play an outsized role in defining the conditions in which force becomes more permissive in a kind of bureaucratic or political path-easing. Maritime strategies around resources or laws (domestic or international) governing resources and the use of territorial waters are examples, whether by encouraging and normalizing provocative actions by a population or by serving as a signal of how a rival state sees the status quo in a dispute (Chubb 2020, 86, Thayer 2016, 204).

Chubb (2020) identifies that normative and legal inertia in maritime policy provides a compelling explanation for inflection points in assertive behavior by China in the South China Sea disputes (120-121). This concept is reminiscent of arguments from the naval power literature on the “sticky” nature of navies and military culture in general. Because navies are platform-centric and require costly and hard-to-replace assets to project power, once they acquire a certain direction of use, they may be especially difficult to turn toward alternative strategies (Caverley and Dombrowski 2020, 672). In this way, just as legal and normative advances in a state’s maritime policy may create path-easing effects that allow for militarized disputes and responses to occur more easily or to be more likely, a more capable and knowledgeable navy may be more likely to find uses for itself along its preferred modes of employment. Capacity in both non-military and military dimensions of power may thus be significant in explaining why navies fight more as they increase in size and capability.

One direction of subsequent research could be to investigate the relationship between naval or maritime policies that may create path-easing impacts in maritime actions and the occurrence of

militarization and disputes. Another interesting question would be to assess the reach of navies from the land, such as the role of building on to maritime possessions in the SCS or creating bases elsewhere on the capability or effectiveness of a navy. Another aspect that should be considered carefully in studies of maritime security in East Asia (and where this study could be improved) is in accounting for the role of the United States on the security balance. Mitchell (2020) shows that the number of maritime claims increased globally as the USN's proportion of global naval size decreased (654-655). The United States bases the bulk of its military presence in East Asia in Japanese territory, and previously headquartered its Seventh Fleet at Subic Bay in the Philippines until 1992. A thorough assessment of the role of naval power in any dispute involving these states should ideally consider the treaty status of the US allies at the time of the MIDs examined and the balance of US forces in the region at the time.

A final note: some have argued that the impermanence of naval assets (they are highly mobile) and their value may reduce their use as signals of resolve, since an observer may anticipate that bluffing with a powerful, expensive ship will be less likely to stick around to be called. Additionally, signaling may be lessened because ships can only be in one place at once (Gartzke and Lindsay 2020). However, I argue that the literature review in this study has made a compelling case that strong displays of resolve should be possible with a navy. Navies are expensive and hard to replace, shipbuilding infrastructure is not ubiquitous, and replacements may not be available any time soon for vessels that are lost. The design of a navy will also play a role in its credibility. A navy that is designed for sea denial, such as Vietnam's, should be more likely to send a signal of resolve as resources and strategic statements and policy pour into it toward a given purpose. It seems sufficient to conclude that it is unlikely that navies are associated with more MIDs because they are poor signals of resolve generally.

Chapter 8 Conclusion

This study has examined to what extent naval combat capability explains maritime dispute behavior in the context of China's maritime territorial disputes. In pursuit of answering this question

about the role of naval power in maritime disputes, this study has also examined the effectiveness of measuring naval power through a capability-focused measure rather than tonnage or expenditure. The results show that the balance of naval power almost certainly plays a role in at least establishing the structure and bounds within which dispute actions can occur. In support of this investigation, the use of a measure of naval power that compares the relative modernization of navies in a dispute based on their proportion of missile-equipped ships instead of just on the size of the fleets has shown to be at least as effective in two cases and likely superior in another. The use of this more nuanced measure has also shown that use of overly broad measures to assess a security situation can miss important information about what is happening on the ground and perhaps in the eyes of decisionmakers.

The case of Vietnam in the 2010s is most instructive in support of this conclusion because its navy remains small relative to China's in almost any measure. However, a small navy does not need to be dominant relative to a larger navy in every way to credibly project power at sea, it just needs to be capable enough. This type of environment, with one rival's naval power rising relative to the dominant partner's, should lead to a greater likelihood of militarization in the dispute given greater uncertainty of who would win in escalation (Mitchell 2020), updating of costs and benefits of fighting based on endogenous impacts from higher levels of capability (Slantchev 2005), and preventive war theories under rational explanations for war (Fravel 2007, Fearon 1995). The examination of the cases in this study appear to support this theory and recommend using practical capability-based measures where possible over broad measures of military power such as tonnage or defense expenditure.

Appendix

The Naval Power Dataset is a compilation of three sources:

- Counting of number of warships described as corvettes, frigates, and larger vessels in subject navies from *The Military Balance* between 1970 and 2018. The number of such warships was further catalogued as being either equipped with missiles or not equipped with missiles, as armament is included in the reference source.
- Total tonnage for years available in the study range for state's A and B from Crisher and Souva (2014) Power at Sea dataset.
- Militarized Interstate Dispute (MID) data from the Correlates of War project's Dyadic MID 4.02 dataset (Maoz et al., 2018).

The dataset is available by contacting the author at jross9790@gmail.com.

There are two deviations to the straight recording of data from the Dyadic MID 4.02 dataset (Maoz et al., 2018), with rationale given below:

- Dispute no 4699: State A is China, State B is Vietnam. The end date in the COW dataset is given as July 5, 2011. However, in searching news databases for deeper context on the COW narratives (Gibler 2018), I found that a joint statement between China and Vietnam had been released in October that seemed to cap the series of events described by Gibler in this MID. I argue that this MID should have its end date changed to October 11, 2011, which is the day the declaration was announced in the media⁴⁹.
- No dispute number: State A is China, State B is Vietnam. This is a distinct MID that I discovered while looking for evidence of context for discussion of other MIDs in that year. This MID closely resembled a previous MID in that both episodes involved Chinese vessels cutting the cables of

⁴⁹ <https://www.reuters.com/article/china-vietnam/china-and-vietnam-sign-agreement-to-cool-sea-dispute-idUSL3E7LB4D420111011>

Vietnamese petroleum and resource survey ships in disputed waters with a similar response by Vietnam⁵⁰. Therefore, the MID was assigned the same coding as the MID from Dispute Number 4699.

⁵⁰ Brummitt, Chris. "Vietnam: Chinese boats cut seismic cables". Associated Press Online. December 3, 2012, Monday. <https://advance-lexis-com.www2.lib.ku.edu/api/document?collection=news&id=urn:contentItem:5767-6S11-JBKJ-D1KK-00000-00&context=1516831>.

References

- Biddle, Stephen. 2004. *Military power*. Princeton University Press.
- Biddle, Stephen. 2007. "Explaining Military Outcomes." In *Creating Military Power*. Stanford University Press.
- Caverley, Jonathan D., and Peter Dombrowski. 2020. "Cruising for a bruising: Maritime competition in an anti-access age." *Security Studies* 29, no. 4: 671-700.
- Chubb, Andrew. 2020. "PRC Assertiveness in the South China Sea: Measuring Continuity and Change, 1970–2015." *International Security* 45, no. 3: 79-121.
- Congressional Research Service, United States Congress. 1974. "Means of Measuring Naval Power with Special Reference to U.S. and Soviet Activities in the Indian Ocean". *Report to House Committee on Foreign Affairs. Subcommittee on the Near East South Asia*. Washington: U.S. Govt. Print. Off.
- Crisher, Brian B. 2017. "Naval power, endogeneity, and long-distance disputes." *Research & Politics* 4, no. 1.
- Crisher, Brian Benjamin, and Mark Souva. 2014. "Power at sea: A naval power dataset, 1865–2011." *International Interactions* 40, no. 4: 602-629.
- Cunningham, Fiona S. 2020. "The Maritime rung on the escalation ladder: Naval blockades in a US-China conflict." *Security Studies* 29, no. 4: 730-768. <https://doi.org/10.1080/09636412.2020.1811462>
- Despi, Dianne Faye Co. 2017. "Sea Power in the 21st Century: Challenges and Opportunities for the Philippine Navy." *Asian Politics & Policy* 9, no. 4: 583-96.
- Fearon, James D. 1995. "Rationalist explanations for war." *International organization* 49, no. 3: 379-414.
- Fravel, M. Taylor. 2007. "Power Shifts and Escalation: Explaining China's Use of Force in Territorial Disputes." *International Security* 32, no. 3: 44-83. <https://www.jstor.org/stable/30130518>
- Fravel, M. Taylor. 2014. "Territorial and maritime boundary disputes in Asia." In *Oxford handbook of the International Relations in Asia*, edited by Pekkanen, Saadia M., John Ravenhill, and Rosemary Foot. New York, NY: Oxford University Press
- Fravel, M. Taylor. 2019. *Active Defense*. Princeton University Press.
- Gartzke, Erik, and Jon R. Lindsay. 2020. "The Influence of Sea Power on Politics: Domain-and Platform-Specific Attributes of Material Capabilities." *Security Studies* 29, no. 4: 601-636.
- Gibler, Douglas M. 2018. *International Conflicts, 1816-2010: Militarized Interstate Dispute Narratives. Volume 1 and 2*.
- Horowitz, Michael C. 2010. *The diffusion of military power*. Princeton University Press.
- Hughes Jr, Wayne P. 2018. *Fleet tactics and naval operations*. Naval Institute Press.
- Institute for Strategic Studies. 1970-2018. *The Military Balance*.

Johnston, Alastair Iain. 1998. "China's Militarized Interstate Dispute Behaviour 1949–1992: A First Cut at the Data." *The China Quarterly*, 153: 1-30.

Johnston, Alastair Iain. 2013. "How new and assertive is China's new assertiveness?" *International Security* 37, no. 4: 7-48.

Kang, David C. 2017. *American Grand Strategy and East Asian Security in the Twenty-First Century*. Cambridge University Press.

<https://doi-org.www2.lib.ku.edu/10.1017/9781316711620>

Mallia, Andrew and Chris Xuereb. 2019. "Special Effects: Force multipliers and small navies." In *Europe, Small Navies and Maritime Security*, edited by Robert McCabe, Deborah Sanders, and Ian Speller, 36-50. Routledge.

Maoz, Zeev, Paul L. Johnson, Jasper Kaplan, Fiona Ogunkoya, and Aaron Shreve. 2018. The Dyadic Militarized Interstate Disputes (MIDs) Dataset Version 3.0: Logic, Characteristics, and Comparisons to Alternative Datasets, *Journal of Conflict Resolution*,

DOI: <http://journals.sagepub.com/doi/full/10.1177/0022002718784158>.

McDevitt, Michael A. 2020. *China as a Twenty-first-century Naval Power: Theory, Practice, and Implications*. Naval Institute Press.

Mitchell, Sara McLaughlin. 2020. "Clashes at Sea: Explaining the Onset, Militarization, and Resolution of Diplomatic Maritime Claims." *Security Studies* 29, no. 4: 637-670.

Patalano, Alessio. 2008. "Shielding the 'Hot Gates': Submarine Warfare and Japanese Naval Strategy in the Cold War and Beyond (1976–2006)", *Journal of Strategic Studies*, 31:6, 859-895, DOI: [10.1080/01402390802373164](https://doi.org/10.1080/01402390802373164)

Polmar, Norman. 1999. "The Measurement of Naval Strength in the Twenty-First Century." In *The Changing Face of Maritime Power*, pp. 126-136. Palgrave Macmillan, London.

Post, Abigail. 2019. "Flying to Fail: Costly Signals and Air Power in Crisis Bargaining." *The Journal of Conflict Resolution* 63, no. 4: 869-95.

SIPRI Military Expenditure Database. 2021, <https://www.sipri.org/databases/milex>

Slantchev, Branislav L. 2005. "Military coercion in interstate crises." *American Political Science Review* 99, no. 4: 533-547.

Tellis, Ashley J et. al. 2000. *Measuring national power in the postindustrial age*. Rand Corporation. https://www.rand.org/pubs/monograph_reports/MR1110.html

Thayer, Carlyle A. 2016. "Vietnam's Strategy of 'Cooperating and Struggling' with China over Maritime Disputes in the South China Sea." *Journal of Asian Security and International Affairs* 3, no. 2: 200-20.

Vasquez, John, and Marie T. Henehan. 2001. "Territorial disputes and the probability of war, 1816-1992." *Journal of Peace Research* 38, no. 2: 123-138.

Vego, Milan. 2020. *General Naval Tactics: Theory and Practice*. Naval Institute Press.

Vego, Milan. 2009. *Operational Warfare at Sea: Theory and Practice Second edition*. Routledge.

Vego, Milan. 2003. *Naval strategy and operations in narrow seas Second edition*. Cass.

Wu, Shang-su. 2017. "The development of Vietnam's sea-denial strategy." *Naval War College Review* 70, no. 1: 143-61.

Yoshihara, Toshi and James R. Holmes. 2006. Japanese Maritime Thought: If not Mahan, who? *Naval War College Review*. Vol. 59: 3.

Zhang, Ketian. 2019. "Cautious Bully: Reputation, Resolve, and Beijing's Use of Coercion in the South China Sea." *International Security* 44, no. 1: 117-159.