The Influence of Seapower on Politics:
Domain- and Platform-Specific Attributes of Material Capabilities

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Abstract: Students of world politics have long shown a special interest in seapower. International relations, however, tends to treat the means of power as homogeneous and interchangeable. Are military capabilities largely undifferentiated goods, or do specific assets matter for politics? We argue that the characteristics of naval power offer distinctive tradeoffs in terms of the causes of war. Naval presence, firepower, and mobility enable naval nations to fight farther from home and obtain more diplomatic recognition. At the same time, mobility and stealth introduce ambiguity about national priorities and contribute to errors in assessing the local balance of power and resolve. We find empirically that disproportionate investment in seapower is associated not only with heightened diplomatic recognition and power projection across greater distances, but also with increased instability in the form of a higher risk of dispute initiation. Disaggregating seapower by platform type— battleships, submarines, aircraft carrier—reveals similar tradeoffs across platforms as for naval power generally. Navies empower political leaders to intervene in distant locales, where their interests are more peripheral, and to reconsider their commitments, where their interests do not justify the risk. This suggests that "offshore balancing" strategies may, counterintuitively, be destabilizing.

Keywords: seapower, maritime strategy, force structure, strategic stability, political influence

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Introduction

Thucydides credits Pericles with the argument that seapower enabled Athens to offset Spartan military prowess: "For our naval skill is of more use to us for service on land, than their military skill for service at sea."[1] Pericles offers four reasons for his claim. First, commercial wealth and offshore holdings enabled Athens to prosecute a long war, while Sparta had to conclude wars quickly to protect its agriculture: "the desolation of the whole of Attica is not the same as that of even a fraction of Peloponnese; for they will not be able to supply the deficiency except by a battle, while we have plenty of land both on the islands and the continent."[2] Second, Spartan land victories could not prevent Athens from imposing costs by sea: "a mere post might be able to do some harm to the country by incursions and by the facilities which it would afford for desertion, but can never prevent our sailing into their country and raising fortifications there, and making reprisals with our powerful fleet."[3] Third, high barriers to maritime competence prevented Sparta from mounting a serious naval challenge: "the restraint of a strong force will prevent their moving, and through want of practice they will grow more clumsy, and consequently more timid."[4] Fourth, sea control offered Athens an "impregnable position" safe from "battle with the numerical superiority of the Peloponnesians."[5] In short, the dispersion, mobility, and capability of its fleet expanded strategic options for Athens relative to Sparta. As Pericles summarizes, "The rule of the sea is indeed a great matter"[6]

Yet the international relations field tends to treat material capabilities as undifferentiated goods.

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[1] Thucydides, *The History of the Peloponnesian War*, trans. Richard Crawley (New York: E. P. Dutton, 1910), 1.142.5.
[2] Thucydides, 1.143.4.
[3] Thucydides, 1.142.4.
[4] Thucydides, 1.142.8.
[5] Thucydides, 1.143.5.
[6] Thucydides, 1.143.5. See also Joshua Rovner, "Sea Power Versus Land Power—Cross-Domain Deterrence in the Peloponnesian War," in *Cross-Domain Deterrence: Strategy in an Era of Complexity*, ed. Jon R. Lindsay and Erik Gartzke (New York: Oxford University Press, 2019), 163–85. Rovner argues that Athens and Sparta each used their domain-specific advantages to discourage war, but shifting alliances muddied perceptions of the balance of power. Ironically, their respective advantages then prolonged the contest because both nations were deterred from engaging in decisive offensive operations in their opponent's favored domain.

Work on deterrence, coercion, and war often considers military capabilities as raw inputs to national power that do not merit careful assessment because they are not subject to strategic interaction, are equivalent in their effects, or both. While policymakers and military commanders may fret about the details of force structure and the minutia of acquisitions and arms control agreements, these are often considered mere technical problems in the implementation of aggregate military power. At the same time, students of international politics have also had an enduring interest in how nations use the maritime domain and what offshore power means for foreign affairs, fashioning influence, projecting power, or deterring aggression. This preoccupation with the strategic features of the maritime domain is presumably unnecessary if details of the production and exercise of power are both ubiquitous and indistinct. Is seapower a specific asset with distinct political advantages and liabilities, or are the means of war politically fungible?

We offer an argument and evidence about the distinct influence of seapower on international politics. We build on the common assumption that strategy is a relationship between political ends and military means.[7] Yet political actors have many ends and many means. Military force can be used for distinct political objectives such as protecting or revising the status quo, deterring potential aggressors, or reassuring allies.[8] Politicians and commanders can also choose from a growing portfolio of different forces in different operational domains (land, sea, air, space, cyberspace), each more or less suitable for enhancing the credibility, effectiveness, or efficiency of national policy.[9] One of the defining characteristics of seapower is its special role in projecting power. Navies enable countries to influence politics in more places, more decisively, farther from home. At the same time, however, the heightened mobility and stealth of warships and submarines create ambiguity about where, and for how long, naval

[7] Inter alia, Barry R. Posen, *The Sources of Military Doctrine: France, Britain, and Germany between the World Wars* (Ithaca, NY: Cornell University Press, 1984), 13; Richard K. Betts, "Is Strategy an Illusion?," *International Security* 25, no. 2 (2000): 5–50.
[8] Robert J. Art, "To What Ends Military Power?," *International Security* 4, no. 4 (1980): 3–35, https://doi.org/10.2307/2626666.
[9] Jon R. Lindsay and Erik Gartzke, "Politics by Many Other Means: The Comparative Strategic Advantages of Operational Domains," *Journal of Strategic Studies*, Forthcoming.

power will be concentrated. This creates uncertainty for political actors that undermines signals of commitment, which increases the risk of conflict. The operational characteristics of seapower have two important strategic implications. First, naval nations are tempted intervene in more places, especially where seapower can be used to create locally favorable concentrations of power. Second, it is not clear whether they will intervene in any given place, especially where there is a heightened risk of losing the fleet. While proponents of "offshore balancing" strategies expect navies to bolster deterrence,[10] seapower may in fact undermine strategic stability.

We find empirically that countries with disproportionately large navies, controlling for military spending, tend to receive more diplomatic recognition and project power further from home.[11] This in itself is not surprising, but it is helpful to validate navalist expectations.[12] Yet maritime nations also tend to be involved in more militarized disputes, which runs counter to conventional wisdom about the stabilizing influence of seapower. We also extend the process of disaggregating capabilities to assess heterogeneous effects on the scope and scale of influence and stability to specific naval platforms. Ship classes differ in their ability to improve military effectiveness or provide credible signals of intent. Submarines—emblematic of stealth—should be better at projecting power than exerting influence, also leading to increased uncertainty about the intensity or permanence of national interests. Aircraft carriers are considered to be especially good at providing "presence"—Huntington Ingalls Industries thus describes the USS Gerald R. Ford as "100,000 tons of diplomacy." Yet aircraft carriers may or may not do more for power projection than other types of warships, which travel equivalent speeds and distances. We explore these and other implications of platform diversity as indicative of a larger process in which

[10] Eugene Gholz, Daryl G. Press, and Harvey M. Sapolsky, "Come Home, America: The Strategy of Restraint in the Face of Temptation," *International Security* 21, no. 4 (April 1, 1997): 5–48; Robert J. Art, "Geopolitics Updated: The Strategy of Selective Engagement," *International Security* 23, no. 3 (1998): 79–113; Barry R. Posen, *Restraint: A New Foundation for U.S. Grand Strategy* (Ithaca, New York: Cornell University Press, 2014); John J. Mearsheimer and Stephen M. Walt, "The Case for Offshore Balancing," *Foreign Affairs*, June 19, 2016, https://www.foreignaffairs.com/articles/united-states/2016-06-13/case-offshore-balancing.

[11] Extensive checks appear in an unpublished appendix, available from the authors.

[12] This is consistent with findings reported by Brian B. Crisher, "Naval Power, Endogeneity, and Long-Distance Disputes," *Research & Politics* 4, no. 1 (January 1, 2017): 2053168017691700, https://doi.org/10.1177/2053168017691700.

different means have strategic qualities that differentially affect national security.

Literature on the Strategic Significance of Seapower

Athenians, Carthaginians, Vikings, the British and others have long used the seas to rapidly deploy forces across great distances. The ocean remains the most efficient way to transport large volumes of goods or war material. Over 80% of global trade moves by sea, while seaborne tonnage has increased 3% annually on average since 1974.[13] At the same time, maritime travel is also hazardous and capital-intensive, even in peacetime. In wartime, enemy patrols, blockades, and shore defenses make commerce and expeditions even riskier. The ocean is thus described as both highway and barrier. Navalists like Sir Walter Raleigh draw a sweeping conclusion: "Whoever commands the sea commands the trade; whosoever commands the trade of the world commands the riches of the world and consequently the world itself."[14]

The most famous modern naval strategist, Alfred Thayer Mahan, argues that the core purpose of a navy is to enable maritime commerce and economic growth.[15] The high seas, according to Mahan, are a "great commons" which no one owns, and so long as enemy warships cannot be excluded from it, friendly commerce can be interdicted and dispersed warships can be defeated in detail. Mahan thus urges commanders to concentrate forces and seek decisive battle to achieve command of the sea, which enables the victor to blockade enemy ports, choke off enemy commerce and supply to land armies, and dictate terms ashore. Julian Corbett argues by contrast that the vastness of the sea enables navies to advance national interests even if they cannot or choose not to defeat the enemy fleet in battle.[16] Naval assets can

[13] United Nations, "Review of Maritime Transport 2017," Technical report, *United Nations Conference on Trade and Development* (New York: United Nations, 2017).
[14] Quoted in Robert C. Rubel, "Command of the Sea: An Old Concept Resurfaces in a New Form," *Naval War College Review* 65, no. 4 (2012): 21. See also Beatrice Heuser, "Regina Maris and the Command of the Sea: The Sixteenth Century Origins of Modern Maritime Strategy," *Journal of Strategic Studies* 40, no. 1–2 (January 2, 2017): 225–62, https://doi.org/10.1080/01402390.2015.1104670.
[15] Alfred Thayer Mahan, *The Influence of Sea Power Upon History, 1660-1783* (Boston: Little, Brown, and Co., 1890). See also Jon Tetsuro Sumida, *Inventing Grand Strategy and Teaching Command: The Classic Works of Alfred Thayer Mahan Reconsidered* (Baltimore, MD: Johns Hopkins University Press, 1997).
[16] Julian Stafford Corbett, *Some Principles of Maritime Strategy* (London: Longmans, Green and Co., 1911).

be inserted at specific places and times to raid merchant shipping (guerre de course), land expeditionary marines, escord merchant convoys routed around enemy concentrations, or assert local naval supremacy when an enemy fleet is occupied elsewhere. Seapower also enables a nation to fight limited wars far away from vital interests at home without risking a more general conflict. Corbett argues that seapower ultimately serves the objectives of terrestrial states: "Since men live upon the land and not upon the sea, great issues between nations at war have always been decided—except in the rarest cases—either by what your army can do against your enemy's territory and national life or else by the fear of what the fleet makes it possible for your army to do."[17]

Mahan and Corbett inferred strategic verities from the age of sail, but they wrote in an era of major technological upheaval (steam propulsion, armor plating, big guns, submarines, aircraft, etc.). Other contemporaries speculated that these developments revolutionized naval warfare.[18] In the mid-twentieth century, Bernard Brodie charted a middle path between the historical and materiel schools: "naval strategy remains relatively unchanged over a long period of time and is only moderately altered by changes in weapons, [but] tactics change almost from day to day and tend to become constantly more complicated."[19] Brodie argued, along with Corbett, that "Naval warfare differs from land warfare in the objectives aimed at, the implements used, and the characteristics of the domain on which it is used."[20] Yet he also points out that specific platforms have contrasting effects on classic naval missions. Submarines undermine close blockade by surface vessels but facilitate commerce raiding even with enemy control of the surface. Aircraft extend the range of naval power projection but also increase the vulnerability of warships to aircraft. Radio facilitates fleet concentration but also undermines the secrecy of maneuver when the enemy intercepts transmissions. An important consequence of technological improvements in speed, range, lethality, and stealth is the increasing importance of naval intelligence. As Norman

[17] Corbett, 16.
[18] Beatrice Heuser, *The Evolution of Strategy: Thinking War from Antiquity to the Present* (New York: Cambridge University Press, 2010), 206.
[19] Bernard Brodie, *A Guide to Naval Strategy* (Princeton, NJ: Princeton University Press, 1944), 247.
[20] Brodie, 12.

Friedman argues "Naval combat is usually about attacks on particular moving ships or groups of ships, and merely finding those targets is an important theme."[21] The targeting problem has been transformed, but definitely not eliminated, by improved reconnaissance (air, space, cyber) and communication networks and "network-centric warfare" doctrine to integrate distributed platforms on, over, and under the sea.[22]

Political scientists have also explored the political utility of seapower. Barry Posen builds on the Mahanian concept of "command of the sea" to explain the geopolitical significance of the network-centric revolution in military power, arguing that the United States enjoys "command of the commons"—the ability to project power globally as sea, in the air, and in space, and to prevent other states from doing the same.[23] Command of the commons enables American hegemony, but its influence is limited in littoral and terrestrial "contested zones" where resolved challengers can impose costs on the U.S. military. Posen advocates for a grand strategy of "selective engagement" or "restraint," which would preserve command of the commons but avoid costly foreign commitments where U.S. vital interests are not at stake, foregoing the activist foreign policy and alliance commitments of "primacy" or "liberal hegemony."[24] Several scholars argue that U.S. command of the commons is eroding due to rising Chinese military power and growing technological threats in space and cyberspace,[25] although the relative potency of Chinese "anti-access/area-denial" (A2/AD) is disputed.[26]

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[21] Norman Friedman, *Seapower as Strategy: Navies and National Interests* (Annapolis, MD: Naval Institute Press, 2001), 41.
[22] Norman Friedman, *Network-Centric Warfare: How Navies Learned to Fight Smarter Through Three World Wars* (Naval Institute Press, 2009); Christopher Ford and David Rosenberg, *The Admirals' Advantage: U.S. Navy Operational Intelligence in World War II and the Cold War* (Annapolis, MD: Naval Institute Press, 2005).
[23] Barry R. Posen, "Command of the Commons: The Military Foundation of U.S. Hegemony," *International Security* 28, no. 1 (2003): 5–46.
[24] Posen, *Restraint*.
[25] Abraham M. Denmark and James Mulvenon, eds., *Contested Commons: The Future of American Power in a Multipolar World* (Washington, DC: Center for a New American Security, 2010); Evan Braden Montgomery, "Contested Primacy in the Western Pacific: China's Rise and the Future of U.S. Power Projection," *International Security* 38, no. 4 (2014): 115–49; Andrew S. Erickson, "Rising Tide, Dispersing Waves: Opportunities and Challenges for Chinese Seapower Development," *Journal of Strategic Studies* 37, no. 3 (April 16, 2014): 372–402.
[26] Stephen Biddle and Ivan Oelrich, "Future Warfare in the Western Pacific: Chinese Antiaccess/Area Denial, U.S. AirSea Battle, and Command of the Commons in East Asia," *International Security* 41, no. 1

Why has the United States managed thus far to avoid counter-balancing coalitions and remain hegemon? Jack Levy and William Thompson argue that balance of power theory is underspecified in that it fails to account for differences between continental and maritime hegemons.[27] Land-based powers inherently threaten the core interests of neighboring states via control of an adversary's territory and/or resources. Maritime-powers, which benefit from and protect freedom of navigation, are less likely to challenge other states' core interests. Access to the liberal public goods provided by the maritime hegemon outweigh the costs of conceding control of the sea. The strategic nature of the maritime domain thus undergirds more general arguments about the stabilizing effects of liberal hegemony.[28] John Mearsheimer by contrast argues that limitations on maritime hegemons have less to do with bandwagoning liberal interests and more with "the stopping power of water."[29] Naval wisdom, often (mis)attributed to Horatio Nelson, holds that "a ship's a fool to fight a fort." Amphibious invasions must solve difficult logistical challenges and penetrate littoral defenses before tangling with shore powers. Mearsheimer thus concludes, "Great powers separated by water are likely to fear each other less than great powers that can get at each other over land."[30] The United States, surrounded by vast oceans, is fortunate in this respect. East Asia's complex "geography of the peace" may also blunt incentives for military conquest.[31] At the same time, oceans have facilitated conquest since antiquity.[32] Differences today may have more to do with commerce as the core basis for both power and limited motives for

(July 1, 2016): 7–48; Andrew S. Erickson et al., "Correspondence: How Good Are China's Antiaccess/Area-Denial Capabilities?," *International Security* 41, no. 4 (April 1, 2017): 202–13; Michael Beckley, "The Emerging Military Balance in East Asia: How China's Neighbors Can Check Chinese Naval Expansion," *International Security* 42, no. 2 (November 1, 2017): 78–119, https://doi.org/10.1162/ISEC_a_00294.

[27] Jack S. Levy and William R. Thompson, "Balancing on Land and at Sea: Do States Ally against the Leading Global Power?," *International Security* 35, no. 1 (July 1, 2010): 7–43.

[28] E.g., G. John Ikenberry, *After Victory: Institutions, Strategic Restraint, and the Rebuilding of Order after Major Wars* (Princeton: Princeton University Press, 2001); Stephen G. Brooks and William C. Wohlforth, *America Abroad: The United States' Global Role in the 21st Century* (New York: Oxford University Press, 2016).

[29] John J Mearsheimer, *The Tragedy of Great Power Politics* (New York: Norton, 2001), 237.

[30] Mearsheimer: 44.

[31] Robert S. Ross, "The Geography of the Peace: East Asia in the Twenty-First Century," *International Security* 23, no. 4 (April 1, 1999): 81–118, https://doi.org/10.1162/isec.23.4.81.

[32] J.C. Sharman, "Power and Profit at Sea: The Rise of the West in the Making of the International System," *International Security* 43, no. 4 (April 1, 2019): 163–96.

conquest, rather than with military might.[33] Scholars have also linked navalism with liberal politics (and disproportionate reliance on armies with autocracy).[34]

Disagreements over the origins of instability reflect classic tensions between characterizing oceans as barriers or highways, and are a point of departure for our efforts here. The oceans are as important as ever for economic globalization, which is often thought to be stabilizing, and global power projection, which may or may not be stabilizing. One (of many) disagreements between the restraint and primacy camps in the U.S. grand strategy debate is the efficacy of naval and air power (offshore balancing) versus basing troops on foreign soil. Renewed Sino-U.S. strategic antagonism invites a reassessment of arguments about the use of naval power, its characteristics, and its effectiveness as a political and economic tool. Different attributes of military power have different implications for different political objectives.

A Theory of Political Tradeoffs in the Maritime Domain

Our argument builds on the widely used bargaining model of war.[35] This perspective assumes that broadly rational actors (individuals, organizations, or nations) compete over some disputed good (rights, resources, prerogatives) while worrying about the costs of competition. Much of politics is captured by the paired dynamics of distribution and efficiency. If fighting directly over the distribution of benefits is

[33] Richard Rosecrance, *The Rise of the Trading State: Commerce and Conquest in the Modern World* (New York: Basic Books, 1985); Erik Gartzke, "The Capitalist Peace," *American Journal of Political Science* 51, no. 1 (January 1, 2007): 166–91.

[34] Eric Heginbotham, "The Fall and Rise of Navies in East Asia: Military Organizations, Domestic Politics, and Grand Strategy," *International Security* 27, no. 2 (2002): 86–125; Etel Solingen, "Pax Asiatica versus Bella Levantina: The Foundations of War and Peace in East Asia and the Middle East," *The American Political Science Review* 101, no. 4 (November 1, 2007): 757–80; Tobias Böhmelt, Ulrich Pilster, and Atsushi Tago, "Naval Forces and Civil-Military Relations," *Journal of Global Security Studies* 2, no. 4 (October 1, 2017): 346–63, https://doi.org/10.1093/jogss/ogx012. While mindful of the need to incorporate domestic (second image) dynamics in a full account of the influence of seapower on politics, our initial focus here is on systemic (third image) factors.

[35] Geoffrey Blainey, *Causes of War, 3rd Ed.* (New York: Simon and Schuster, 1988); James D. Fearon, "Rationalist Explanations for War," *International Organization* 49, no. 3 (1995): 379–414; Robert Powell, "Bargaining Theory and International Conflict," *Annual Review of Political Science* 5, no. 1 (2002): 1–30; Dan Reiter, "Exploring the Bargaining Model of War," *Perspectives on Politics* 1, no. 01 (2003): 27–43; Charles L. Glaser, *Rational Theory of International Politics: The Logic of Competition and Cooperation* (Princeton, NJ: Princeton University Press, 2010).

costly, then competitors have incentives to forge bargains that avoid unnecessary military contests. But costly force is unnecessary only if competitors can agree on the likely distributional effects of fighting. In any given dispute, actors may be mistaken about relative resolve (the willingness to pay for a preferred outcome) or capabilities (the balance of power). Important information might be deliberately hidden (secrecy, deception, disinformation) or inherently hard to interpret (cognition, culture, complexity).[36] Signaling strategies attempt to convey credible information to encourage the opponent to accept a deal rather than fight.[37] Unfortunately, actors may not share some salient information, either because they deliberately misrepresent their diplomatic position (the weak claim to be strong, the irresolute feign determination, revisionists claim to be satisfied), or because disclosure would degrade battlefield performance (war plans, order of battle, secret capabilities). Any factor that makes it harder for competitors to jointly and accurately assess the evolution or outcome of a contest prior to fighting tends to increase the likelihood of a contest.[38]

Most bargaining scholarship focuses on political variables or aggregate capabilities and costs.[39] But the effect of capabilities on uncertainty is unlikely to be homogeneous. If components of military power differ in their transparency or ease of interpretation, then these capabilities or platforms will differentially affect bargaining failure. Just as keeping war plans secret to preserve them from enemy

[36] E.g., Christopher P. Twomey, *The Military Lens: Doctrinal Difference and Deterrence Failure in Sino-American Relations* (Ithaca, NY: Cornell University Press, 2011).
[37] James D. Fearon, "Signaling Foreign Policy Interests: Tying Hands versus Sinking Costs," *The Journal of Conflict Resolution* 41, no. 1 (February 1, 1997): 68–90; Erik A. Gartzke et al., "Signaling in Foreign Policy," *Oxford Research Encyclopedia of Politics*, August 22, 2017, https://doi.org/10.1093/acrefore/9780190228637.013.481.
[38] Erik Gartzke, "War Is in the Error Term," *International Organization* 53, no. 03 (1999): 567–87; Adam Meirowitz and Anne E. Sartori, "Strategic Uncertainty as a Cause of War," *Quarterly Journal of Political Science* 3, no. 4 (December 31, 2008): 327–52; Branislav L. Slantchev, "Feigning Weakness," *International Organization* 64, no. 3 (July 1, 2010): 357–88; Alexandre Debs and Nuno P. Monteiro, "Known Unknowns: Power Shifts, Uncertainty, and War," *International Organization* 68, no. 1 (January 2014): 1–31, https://doi.org/10.1017/S0020818313000192; Kristopher W. Ramsay, "Information, Uncertainty, and War," *Annual Review of Political Science* 20, no. 1 (2017).
[39] Inter alia, Darren Filson and Suzanne Werner, "A Bargaining Model of War and Peace: Anticipating the Onset, Duration, and Outcome of War," *American Journal of Political Science* 46, no. 4 (2002): 819–37, https://doi.org/10.2307/3088436; Ramsay, "Information, Uncertainty, and War"; James D. Morrow, "Capabilities, Uncertainty, and Resolve: A Limited Information Model of Crisis Bargaining," *American Journal of Political Science* 33, no. 4 (1989): 941–72, https://doi.org/10.2307/2111116; William Reed et al., "War, Power, and Bargaining," *The Journal of Politics* 70, no. 4 (2008): 1203–16, https://doi.org/10.1017/s0022381608081152.

countermeasures increases the risk that war will become necessary as a result of enemy ignorance of the war plan, so too other, more tangible elements of military power may reflect an often entirely reasonable tradeoff between influence and credibility, or "winning" versus "warning." It is not just the over-all military balance, but the specific qualities of force structure and posture, that affect whether any given bargain is achieved efficiently or through costly conflict.

The Political Attributes of Seapower

Seapower, like all power, represents the potential to punish or plunder, coerce or conquer, reassure or renege. But being mobile, navies also possess the ability to exert force in more places. This has obvious advantages but also some unrecognized drawbacks.

Imagine for a moment removing the massive cannon and turrets from a battleship and placing them instead in a concrete casemate somewhere on land.[40] The main guns will be devastating to anything within range. Fixed in place, there can be little doubt what consequences confront an adversary, should they wander into the field of fire. However, the fixed turret can only dominate territory at a given radius around it. Now imagine that we again mount these guns on a warship. Afloat, their devastating firepower can go anywhere there is sufficient water beneath the keel. Unopposed, the battleship can dominate the same area as the fixed guns, but it can do so in a nearly infinite number of locations, massively increasing the geography over which force can be applied. However, the same attributes that enable seapower to exert influence in more places also make it possible that one's forces will be moved or withheld. Perhaps the captain will be afraid to risk the ship and withdraw, or the admiral will call for his guns elsewhere. A specific platform cannot be at more than one location at any one time. The likelihood that military power will be exercised, influencing the local balance of power, must decline in the number of places a capability can be deployed.

While states may contest travel on or under the high seas, they do not conquer and control oceans

[40] For example, a turret from the German battleship Gneisenau was installed ashore near Trondheim, Norway, in 1944.

in the same way as territory. Where armies can occupy ground, naval vessels can only pass through trackless ocean from one point to another. Whereas terrestrial lines of communication are canalized by roads and terrain, ships at sea have the freedom to vary routes to avoid detection, except where they must pass through geographic choke points like the Straits of Hormuz or Malacca. Oceanic mobility ensures that the influence acquired from force can be used in more places. Mobility also facilitates the massing of fires, which concentrates the impact of a nation's military might, even when that nation faces an adverse overall military balance. Mobility thereby allows sovereigns greater discretion to decide where they will act to protect, punish, or plunder. Naval forces might intervene anywhere along a contested coastline, which imposes a sort of "virtual attrition" on landbound foes who must preposition many slow units to hedge against the sudden arrival of a few fast ships.[41] A weaker but capable "fleet in being" can tie up a stronger fleet—in effect deterring its use to project power elsewhere—without actually engaging in decisive battle.[42] Navies also enable maritime nations such as Great Britain in its heyday to punch above their weight in coalition strategies, for instance by aiding local allies who will do the fighting on land while shielding the maritime power from cost and risk.[43] Stealth further supports discretion and mobility by making it harder to respond to concentrated firepower with counter-concentrations. Victory at sea thus becomes a function of strategy and maneuver rather than just brute strength.

Yet the capability, mobility, and stealth of naval assets come with two important political liabilities. First, the ability to project power in more places with less risk creates the temptation to intervene in more places. Navies can create locally favorable balances of power, for instance by deploying a carrier strike group to threaten a distant dictator. The target, however, might be willing to absorb some punishment rather than make concessions. Coercion by stronger but less resolved actors

[41] Friedman, *Seapower as Strategy*, 43.
[42] "Most men were in fear that the French would invade; but I was of another opinion . . . that whilst we had a fleet in being, they would not dare to make the attempt," Torrington to Queen Mary II, quoted in Brodie, *A Guide to Naval Strategy*, 94.
[43] Paul M. Kennedy, *The Rise And Fall of British Naval Mastery*, Revised (London: Penguin Random House, 2017).

often fails when they miscalculate against weaker but more resolved actors.[44] Once the process of fighting makes the unfavorable terms of the conflict more apparent, the naval power can more easily cut its losses. Second, naval power projection can be very risky indeed, if countered by littoral defenses or an enemy fleet. Warships are expensive to maintain, limited in number, and vulnerable to sinking, making them attractive targets. Yet warships can usually sail away in unfavorable circumstances to preserve valuable capital assets for later actions that might be more successful or decisive. Competitors may thus reasonably wonder whether a naval power will be willing to risk its most valuable assets in any given dispute, especially if the stakes are limited. In the first case, the ability to project power creates risks of miscalculation about interests, even as there may be less uncertainty about the local balance of power (yet questions about how long it will be maintained). In the second case, the ability to relocate power undermines signals of commitment, precisely because the local balance is mutable.

A central challenge of deterrence involves credibility.[45] The mere ability to move enables abandonment. Even actors that intend to fight or intervene will have more difficulty proving their intentions to allies and adversaries with platforms that can easily be moved away from a crisis or a contest. Seapower expands political options, but deterrence works best when options are limited. Metaphors of "tying hands," "sinking costs," "burning bridges," and "throwing out the steering wheel" speak to the importance of voluntary and visible constraints on action for credibly signaling an intention to carry out a threat.[46] Land armies, by contrast, are less able to reduce their exposure to danger. As Francis Bacon observed, "he that commands the sea is at great liberty, and may take as much and as little of the war as he will. Whereas those that be strongest by land are many times nevertheless in great

[44] Todd S. Sechser, "Goliath's Curse: Coercive Threats and Asymmetric Power," *International Organization* 64, no. 4 (October 2010): 627–60, https://doi.org/10.1017/S0020818310000214; Phil M. Haun, *Coercion, Survival, and War: Why Weak States Resist the United States* (Stanford, CA: Stanford University Press, 2015).
[45] Robert Powell, *Nuclear Deterrence Theory: The Search for Credibility* (Cambridge University Press, 1990).
[46] Thomas C. Schelling, *Arms and Influence: With a New Preface and Afterword* (New Haven, CT: Yale University Press, 2008); Fearon, "Signaling Foreign Policy Interests."

straits."[47] The tactical disadvantages of immobility and vulnerability become political features that improve the credibility of commitments to fight if attacked.[48] For example, NATO's Cold War doctrine of "forward defense" placed allied armor close along the inter-German border, even as defense in depth throughout Western Europe would have improved allied combat effectiveness in the event of war.[49] Yet the same deployment provided a costly signal of NATO's commitment to defending West Germany in its entirety, especially as the loss of frontline troops would have triggered a wider, likely nuclear, war.

The same features that make seapower useful for "winning" (influence) become liabilities for "warning" (credibility). The ability to easily relocate military power is in direct tension with the objectives of commitment. Reducing the stealth or mobility of naval platforms for the sake of credible signaling, moreover, would greatly reduce their performance and increase their vulnerability.[50] Navies want their firepower to be highly mobile, to ensure its greatest potential impact. In short, even as the inherent flexibility of seapower increases a nation's influence, it also heightens uncertainty about where, when and what action will take place. Uncertainty about intentions, in turn, raises the likelihood that opponents will miscalculate about resolve or underestimate the local balance of power. Different expectations about whether and how long an actor will stay or go (or never arrive) can generate asymmetric information about power and resolve, which heightens the risk of war, escalation, or

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[47] Francis Bacon, *Essays, Civil and Moral: And The New Atlantis* (New York: P.F. Collier & Son, 1909), 83.

[48] Emphasizing the coercive benefits of land power see, Michael Allen Hunzeker and Alexander Lanoszka, "Landpower and American Credibility," *Parameters* 45, no. 4 (2015): 17–26; Erik Gartzke and Koji Kagotani, "Being There: U.S. Troop Deployments, Force Posture and Alliance Reliability" (Working Paper, 2017). Berber tribesmen are said to have occasionally dismounted their horses to tie one ankle to a thigh while facing the enemy; immobilized in this way, and thus highly motivated to fight, dismounted riflemen became a temporary deterrent that covered the tribe's retreat.

[49] "The allied effort had begun, because of lack of forces in 1948, as an impossible forward conventional defense; it had evolved into a more practical mobile defense by 1952; but then it had regressed into an impossible forward conventional defense again," James A. Blackwell, "In the Laps of the Gods: The Origins of NATO Forward Defense" 15, no. 4 (1985): 74. See also Alexander Lanoszka, *Atomic Assurance: The Alliance Politics of Nuclear Proliferation* (Ithaca New York: Cornell University Press, 2018), 48–78.

[50] On the restrictive conditions for signaling with sensitive assets see Brendan Rittenhouse Green and Austin Long, "Conceal or Reveal? Managing Clandestine Military Capabilities in Peacetime Competition," *International Security* 44, no. 3 (January 1, 2020): 48–83.

protraction.[51] This general claim has several testable empirical implications.

Power Projection—Fighting Farther from Home

The interests of powerful actors are less likely to be disputed where they are highly salient and/or close to home—these attributes are highly correlated. Tertiary interests in distant locales raise questions about whether the powerful care enough to make the necessary effort to have their way, given that they will still shoulder non-negligible costs and risks in military action abroad, especially when territory or the issues involved are much more salient to local actors. This environment suggests a political geography in which power is projected farther by capable states and less so by the weak. The military "loss of strength gradient"[52] thus tends to be correlated with a gradient of political interest. A "balance of place" occurs where distance, interests and disparate capabilities cancel each other out.

Rather than creating peace and stability, a balance of this type could be associated with increased conflict.[53] As one moves from locations in which one nation is predominant and challenges cannot be contemplated (core) to places where power is disputed and capabilities—attenuated by distance—are comparable (periphery), one should see an increase in uncertainty about which actor would win a contest, should one occur. The empirical implication of this argument is that conflict should be much more common at the geographical extremities of power, where the greatest uncertainty exists about whether conditions favor one side or the other, and whether capable actors actually care.

Seapower comes into special focus because the effects of navies on power projection are so distinctive. Controlling for overall capabilities, a given country's naval power should increase the geographical distance between its contests and its core. Put another way, countries with navies that are

[51] We do not empirically test the effects of platform diversity in land warfare here, but a similar logic should apply. On land, cavalry, armor, or airborne units supply the attributes of mobility, observation and shock that most naval platforms exhibit at sea. These mobile land elements often prove decisive in battle, either by concentrating against enemy vulnerabilities, deterring the enemy from concentrating in strength, or by failing to engage or fleeing the battlefield, thus rendering one side weaker than expected.
[52] Kenneth Ewart Boulding, *Conflict and Defense: A General Theory* (New York: Harper & Row, 1962).
[53] William Reed, "Information, Power, and War," *The American Political Science Review* 97, no. 4 (2003): 633–41.

disproportionately large relative to national capabilities or the defense effort of these countries should tend to project power further than comparable countries without disproportionate navies, in turn ensuring that disputes occur at greater distances from core centers of power. This implies a direct test of the classic notion of power projection, at least in the incarnation conceived here.

Hypothesis 1*: Countries with disproportionately large naval capabilities tend to fight farther from home.*

Influence—Presence in More Places

If power involves possessing greater discretion in where to fight and the ability to intervene in more places, then influence is being heard. The capability to fight at greater distance from one's capital means that there should be more places on the globe where a given nation is influential, even without exercising force. The naval term for this process is "presence."[54] Navies seek to continually remind other nations friend and foe alike—that they can act with relatively little warning to protect or harm. This kind of influence should manifest in terms of increased political access and attention. If diplomacy often operates in the shadow of power, then the shadow cast by naval power covers more nations than other forms of military capabilities. One indication of increased naval presence (influence) is then the number of countries that seek out and attend to a given country's concerns. Diplomatic recognition has also proven useful in assessing the presence of influence in previous research.[55]

Diplomatic recognition, while increasingly common, is not universal. Countries that recognize one another are more likely to be able to influence one another through normal political discourse, negotiation, patronage or development, and intelligence activities run from diplomatic installations. At the same time, the possibility of military assistance or intervention must play an important role in local

[54] Related, though distinct, notions of social ordering through implied punishment or reward exist in social science. "Prestige" involves a social hierarchy where some actors defer to others due to obligation or underlying power relations. "Identity" organizes actors that self-identify in terms of subjective sameness, creating cleavages and a balance of power.

[55] Charles Boehmer, Erik Gartzke, and Timothy Nordstrom, "Do Intergovernmental Organizations Promote Peace?," *World Politics* 57, no. 1 (October 2004): 1–38.

officials deciding which nations merit their limited time and attention. Evidence of influence can be gleaned from looking at which nations send diplomatic representation to one another.[56]

The influence of naval power on politics can be inferred by the degree to which maritime capabilities achieve a special impact on diplomatic recognition. Naval nations have disproportionate influence because of their ability to exercise presence. Unlike other forms of military influence, navies can "show the flag" without necessarily being based in a particular region. Navies also affect critical components of national prosperity through control and protection of commerce. Because diplomatic recognition is an imperfect measure of influence, it paradoxically constitutes an especially demanding test. Since the threshold for recognition is relatively low, many countries will have some level of representation in other nations' capitals, regardless of influence. There is thus considerable "noise" in our chosen measure. If diplomatic recognition proves to be affected by national emphasis on naval power despite this bias against significance, our findings may increase confidence in the theory.

Hypothesis 2*: Countries with disproportionately large naval capabilities are more likely to be recognized diplomatically.*

Access to the sea is also a critical delimitating factor for naval influence. Navies project power across bodies of water. Innovations in firepower have steadily increased the ability of naval platforms to direct fires inland. Yet a navy is still fundamentally a maritime asset. Kyrgyzstan, for example, should be less affected by naval power than Japan, Cyprus, Bahrain or the United Kingdom. A country's exposure to naval power depends on the extent of its coastline. Nations with no frontage on the sea are least exposed to influence by naval capabilities. Conversely, countries with extremely long coastlines might be less vulnerable to influence than countries with moderate coastlines but considerable civilian coastal development. Blockades, a major tool of naval coercion, depend on the ability of one nation to bottle up

[56] Diplomatic recognition is not an ideal measure of influence, but there are few available alternatives. Official visits, basing agreements, and participation in joint naval exercises may say more about the geographic and material endowments of a state than its diplomatic pliability. This area of scholarship could benefit from further attention.

an adversary, cutting off access to maneuver and to world markets. Long coastlines tend to diffuse the potential concentration that makes threats from the sea effective. The influence of seapower may thus be curvilinear, varying with the length of a country's coastline.

Hypothesis 3*: The influence of a country's naval capabilities should be curvilinear and concave to the origin, initially increasing and then decreasing in impact with respect to the length of a target's coastline.*

Uncertainty—More Militarized Disputes

Naval capabilities are flexible, dynamic and possibly pivotal in more places, advantaging maritime powers by increasing their influence in world affairs. But as emphasized previously, naval power also has a quixotic aspect, namely increased risk of uncertainty or miscalculation. Competitors that reasonably imagine that a naval adversary won't intervene, or will do so in a limited fashion, or will disengage shortly after intervening, will be tempted to talk and act more aggressively. Knowing that seapower could prove pivotal, but not knowing whether an adversary will act, may cause a leader to make mistakes. Conversely, a naval nation that can quickly deploy to a crisis area with less apparent risk to itself may miscalculate about target resolve. The increased number of ways that navies can become relevant to localized conflicts, over and above land forces, greatly increases the ways that opponents can misperceive or simply err in assessing the risk of facing a particular adversary. Uncertainty associated with the willingness to commit naval assets to battle, initially or indefinitely, implies that naval power is destabilizing for crisis bargaining. Naval power thus acts as a "wild card" in diplomatic terms, increasing uncertainty and thus heightening the propensity of nations with disproportionate naval capabilities to experience behavioral conflict.

Yet another way to think about this issue is in terms of leverage. A key tradeoff of naval mobility is that while one can mass (concentrate) military power against a particular target or place, massing can still only occur somewhere (not everywhere). It follows that naval power is leveraged, committed like cash in most modern banking systems to more places than it can actually inhabit. The ability to target

more potential opponents means that any given opponent is proportionately less likely to be an actual target at any particular time. At sea, no enemy is the focus of attention all of the time. Instead, concentrating forces for victory means that conflict is episodic. Adversaries contemplating aggression against or involving naval nations may be tempted by the fact that they are less likely to be targeted even if, should they be targeted, the consequences may be more severe. Choice under increased risk is inherently more uncertain, producing the possibility of miscalculation and error.[57]

Hypothesis 4*: States with disproportionately large naval capabilities endure more militarized disputes.*

Stealth is particularly potent in causing adversaries to underestimate intent. Submarines should therefore play an especially prominent role in increasing the propensity for militarized conflict. By their nature, submarines are not ideal platforms for signaling or "showing the flag." The "silent service" optimizes the ability to attack through stealth and concealment. Deterrence requires a clear quid pro quo; enemy submarines must signal their presence and display their capabilities. However, this is inconsistent with the wartime role of submarines and the culture of submariners. Given their extreme vulnerability to anti-submarine warfare countermeasures once detected and their advantages while submerged, submarine tactics emphasize stealth. Submarines are an important intelligence collection and special operations platform, optimized for surprise (winning) as opposed to deterrence or compellence (warning). States with disproportionally large submarine forces should thus be more likely to experience conflict. This does not mean that submarines are more likely to be used in military disputes (which would be difficult to test because nations do not share location data on submarines), but simply that they cannot be used to signal interests.[58]

[57] We do not differentiate here between forms of uncertainty that are more temporal—whether the naval power will disengage after intervention—or spatial—whether the naval power will intervene at all. The former may be more associated with miscalculations about target resolve while the latter may be more associated with miscalculations about coercer credibility.

[58] Nuclear missile submarines (SSBNs) provide an exception that proves the rule. SSBNs improve the credibility of nuclear deterrence by protecting weapons from preemption. Transparency about the existence of deployed and ready SSBNs together with tactical uncertainty about their location improves political certainty that retaliatory forces will remain available. At the same time, allies and adversaries may question whether a nuclear patron will be as willing to use SSBNs for extended deterrence as it would more vulnerable—committed—forces. See Rupal N. Mehta,

Hypothesis 5*: Countries with more submarines experience a greater number of militarized disputes.*

It is also possible to detail additional hypotheses regarding specific naval platform types based on the theory. For brevity, we discuss these at an appropriate point in the empirical sections below.

Empirical Analysis of the Effects of Naval Tonnage and Platform Type

The special political salience of seapower has long been an accepted fact. Nations spend vast sums to equip ocean going vessels designed to play a major role in international politics. Yet, faith in the utility of naval power is largely underpinned by logic and anecdote (and at times by institutional interest), not by systematic evaluation. Nor has there been a careful examination of the possible tradeoffs imposed by exploiting the maritime domain. Such an examination is possible, given available data. After reviewing these data and discussing research designs, we detail our findings demonstrating the destabilizing effects of naval power.

Research Design and Data

We conduct multivariate tests of three dependent variables on a range of possible causal variables using in most cases directed dyad years as the unit of analysis. Directed dyads allow us to differentiate between factors affecting initiators and targets. Data and regressions are discussed below.

Dependent Variables

Militarized Disputes: The Correlates of War (COW) project's Militarized Interstate Dispute (MID) dataset identifies conflict events involving at least two internationally recognized states.[59] We code annualized observations of at least one MID between pairs of states, ignoring multiple MIDs. Since

"Extended Deterrence and Assurance in Multiple Domains," in *Cross-Domain Deterrence: Strategy in an Era of Complexity*, ed. Jon R. Lindsay and Erik Gartzke (New York: Oxford University Press, 2019), 234–56.

[59] Glenn Palmer et al., "Updating the Militarized Interstate Dispute Data: A Response to Gibler, Miller, and Little," *International Studies Quarterly*, accessed May 25, 2020, https://doi.org/10.1093/isq/sqz045.

subsequent-year disputes do not occur independently, we code only the first year of a dispute. For each dispute we code an initiator and target to distinguish possible precipitant and deterrent effects associated with effects of maritime capabilities.

Geographic Location: Distance is coded from the geolocation of each MID to the capital of each participant.[60] Great circle distances from initiator or target to MID are used interchangeably, since statistical significance and substantive effects are similar.

Diplomatic Recognition: The COW Diplomatic Exchange Dataset lists directed bilateral deputations at the chargé d'affaires, ministerial, or ambassadorial level (at five year intervals).[61] Note that this measure likely underestimates the influence of naval power.

Independent Variables

Naval Power: We draw on cross-national naval order of battle data from 1865 to 2011.[62] These data seek to measure overall national naval power (tonnage, proportional tonnage), counts of naval platform types by country (battleships, aircraft carriers, submarines), and subtypes (diesel and nuclear attack subs, nuclear ballistic missile submarines). Variables are presented in a country year format, making it possible to list tonnages or counts for each country in a dyad. We use both counts and tonnages at different points in the analysis.

Capabilities: The Composite Index of National Capabilities (CINC) contains six components: military

[60] MID locations are coded by Alex Braithwaite, "MIDLOC: Introducing the Militarized Interstate Dispute Location Dataset:," *Journal of Peace Research*, January 20, 2010, https://doi.org/10.1177/0022343309350008.
[61] Reşat Bayer, "Diplomatic Exchange Data Set, V2006.1," 2006, https://correlatesofwar.org/data-sets/diplomatic-exchange.
[62] Brian Benjamin Crisher and Mark Souva, "Power at Sea: A Naval Power Dataset, 1865–2011," *International Interactions* 40, no. 4 (August 8, 2014): 602–29, https://doi.org/10.1080/03050629.2014.918039.

spending and personnel, total and urban population, iron/steel production and energy consumption.[63] These data have been widely used elsewhere.[64] Data coverage extends from 1816 to 2000. Controversy persists about how to measure power,[65] but there is no reason to suspect these data favor our hypotheses. Indeed, to the degree that capabilities are homogeneous and disaggregating them is uninteresting, CINC constitutes a direct challenge to our claims.[66] We code nominal capabilities as each state's CINC score. We also add a measure for the dyadic interaction between CINC scores, coded as $[{}^{CINC}A_{CINCA} - CINC_B]$. We use CINC military spending interchangeably with the composite measure as the results are equivalent.

Contiguity and Distance: States that are far apart fight less often.[67] Rather than conflate the effects of naval power or capabilities with distance, we add a standard measure. Capital-to-capital distance is correlated with capital to MID location distance. Distance thus tends to compete for statistical significance with our hypotheses. Contiguity has a separate, distinct effect on conflict, independent of distance.[68] Nations with colonial possessions or other dependent territories in close proximity to a target

[63] J. David Singer, "Reconstructing the Correlates of War Dataset on Material Capabilities of States, 1816–1985," *International Interactions* 14, no. 2 (May 1, 1988): 115–32, https://doi.org/10.1080/03050628808434695.
[64] See, for example, Bruce Bueno de Mesquita and David Lalman. 1988. "Empirical Support for Systemic and Dyadic Explanations of International Conflict." *World Politics* 41(1):1–20. Stuart Bremer. 1992. "Dangerous Dyads: Conditions Affecting the Likelihood of Interstate War." *Journal of Conflict Resolution* 36(2):309–341. Zeev Maoz and Bruce Russett. 1993. "Normative and Structural Causes of the Democratic Peace, 1946-1986." *American Political Science Review* 87(3):624–638.
[65] Michael Beckley, "The Power of Nations: Measuring What Matters," *International Security* 43, no. 2 (November 1, 2018): 7–44.
[66] J. David Singer, "Inter-Nation Influence: A Formal Model," *The American Political Science Review* 57, no. 2 (1963): 420–30, https://doi.org/10.2307/1952832; Frank W. Wayman, J. David Singer, and Gary Goertz, "Capabilities, Allocations, and Success in Militarized Disputes and Wars, 1816-1976," *International Studies Quarterly* 27, no. 4 (1983): 497–515, https://doi.org/10.2307/2600558.
[67] Stuart A. Bremer, "Dangerous Dyads: Conditions Affecting the Likelihood of Interstate War, 1816-1965," *Journal of Conflict Resolution* 36, no. 2 (1992): 309–41, https://doi.org/10.1177/0022002792036002005; Zeev Maoz and Bruce Russett, "Alliance, Contiguity, Wealth, and Political Stability: Is the Lack of Conflict among Democracies a Statistical Artifact?," *International Interactions* 17, no. 3 (February 1, 1992): 245–67, https://doi.org/10.1080/03050629208434782; Halvard Buhaug and Nils Petter Gleditsch, "The Death of Distance? The Globalization of Armed Conflict," in *Territoriality and Conflict in an Era of Globalization*, ed. Miles Kahler and Barbara F. Walter (New York: Cambridge University Press, 2006), 187–216.
[68] Paul F. Diehl, "Contiguity and Military Escalation in Major Power Rivalries, 1816-1980," *The Journal*

may also be better able to initiate or participate in conflict. We use the COW metropole contiguity measure or colonial contiguity data that codes countries and dependencies that share borders, or that are separated at various ranges of water interchangeably.[69]

Coastline: We measure of the length of a country's coastline (in kilometers) using the CIA World Factbook.[70]

Military Alliances: It is reasonable to expect alliances to affect conflict. Some regressions add COW alliance status as a control.[71]

Major Power Status: We code major power status for each state in a dyad as a dummy variable where "1" is a major power according to the COW list. Since a logic of distinguishing major powers is lacking and COW coding rules are opaque, we only include these variables in some models.

Democracy: Regime type is widely-used in assessments of interstate conflict.[72] We construct annual democracy scores as the difference between the Polity IV project's democ and autoc variables.[73]

Land Area: Geographical size may cause nations to fight at different distances from their capitals.

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of Politics 47, no. 4 (1985): 1203–11, https://doi.org/10.2307/2130814; Paul D. Senese, "Territory, Contiguity, and International Conflict: Assessing a New Joint Explanation," *American Journal of Political Science* 49, no. 4 (2005): 769–79, https://doi.org/10.2307/3647696.

[69] Corrolates of War Project, "Colonial Contiguity Data, 1816-2016. Version 3.1," n.d., https://correlatesofwar.org/data-sets/colonial-dependency-contiguity/colonial-dependency-contiguity-1816-2002-v3-0. Equivalent results are achieved without contiguity.

[70] Central Intelligence Agency, *The World Factbook* (Langley, VA: Central Intelligence Agency, 2013).

[71] Douglas M. Gibler and Meredith Reid Sarkees, "Measuring Alliances: The Correlates of War Formal Interstate Alliance Dataset, 1816–2000:," *Journal of Peace Research*, July 1, 2016, https://doi.org/10.1177/0022343304041061.

[72] Bruce M Russett and John R Oneal, *Triangulating Peace: Democracy, Interdependence, and International Organizations* (New York: Norton, 2001).

[73] Keith Jaggers and Ted Robert Gurr, "Tracking Democracy's Third Wave with the Polity III Data," *Journal of Peace Research* 32, no. 4 (1995): 469–82.

Since capable countries also tend to be larger geographically, this might bias upward the apparent significance of our findings. To address this and other effects of territory, we include annual statistics on the size of each country in millions of square kilometers.[74]

Temporal Effects: Conventional practice is to include controls for temporal dependence when estimating MID initiation.[75] We include splines in all models of dispute initiation, but omit them to save space. It is less obvious how to address non-independence for dispute location or diplomatic recognition. We include linear, quadratic and cubic year count variables to capture trends in these data. Quadratic and cubic year variables are collinear for diplomatic recognition. Only the linear year variable is included in these regressions.

Results

Findings are reported below in four tables and seven figures or graphs (other information in an appendix).

Power Projection

Table 1 reports estimates of the determinants of the distance of a dispute from the capital of a potential initiator or possible target. All models in Table 1 include total defense spending for each country (Mil. Expend). We also include distance between capitals. Controls are added for temporal dependence, but are not reported. Given that distance is continuous, we use OLS with controls for clustering in dyads.

< Table 1 about here >

[74] David A. Lake and Angela O'mahony, "The Incredible Shrinking State: Explaining Change in the Territorial Size of Countries," *Journal of Conflict Resolution* 48, no. 5 (October 1, 2004): 699–722, https://doi.org/10.1177/0022002704267766.

[75] Offering a technique to absorb correlation across MIDs in time-series, see David B. Carter and Curtis S. Signorino, "Back to the Future: Modeling Time Dependence in Binary Data," *Political Analysis* 18, no. 3 (ed 2010): 271–92, https://doi.org/10.1093/pan/mpq013.

Table 1: Naval Capabilities on the Locations of Disputes (OLS, MID-LOC)

	Model 1 Initiator	Model 2 Target	Model 3 Initiator	Model 4 Target	Model 5 Initiator	Model 6 Target	Model 7 Initiator	Model 8 Target	Model 9 Initiator	Model 10 Target
Naval Tonnage A (total, million tons)	0.578***	−0.312***								
	(0.032)	(0.032)								
Naval Tonnage B (total, million tons)	−0.351***	0.614***								
	(0.031)	(0.031)								
Naval Tonnage A (Proportion)			6.935***	−3.667***	8.237***	−4.381***	5.857***	−2.378***	6.030***	−4.098***
			(0.380)	(0.379)	(0.439)	(0.439)	(0.598)	(0.596)	(0.409)	(0.410)
Naval Tonnage B (Proportion)			−4.099***	7.964***	−4.143***	8.297***	−2.780***	8.143***	−4.040***	7.307***
			(0.385)	(0.384)	(0.495)	(0.495)	(0.729)	(0.727)	(0.416)	(0.416)
Battleships A					−0.055***	0.030**				
					(0.009)	(0.009)				
Battleships B					0.002	−0.013				
					(0.012)	(0.012)				
Aircraft Carrier A							0.013*	−0.017**		
							(0.006)	(0.006)		
Aircraft Carrier B							−0.012*	−0.002		
							(0.006)	(0.006)		
Submarines A									0.003***	0.001
									(0.0005)	(0.0005)
Submarines B									−0.001	0.003***
									(0.001)	(0.001)
Mil. Expend. A (10 billion USD)	0.068***	−0.064***	0.043***	−0.051***	0.028***	−0.043***	0.052***	−0.063***	0.032***	−0.052***
	(0.007)	(0.007)	(0.008)	(0.008)	(0.008)	(0.008)	(0.009)	(0.009)	(0.008)	(0.008)
Mil. Expend B (10 billion USD)	−0.078***	0.090***	−0.064***	0.052***	−0.064***	0.047***	−0.079***	0.049***	−0.055***	0.038**
	(0.011)	(0.011)	(0.012)	(0.012)	(0.013)	(0.013)	(0.014)	(0.014)	(0.012)	(0.012)
Distance (1000 km)	0.538***	0.484***	0.534***	0.484***	0.529***	0.486***	0.534***	0.487***	0.533***	0.481***
	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)
Intercept	778.060***	25.493	595.616***	24.524	507.307***	62.219	614.260***	−27.307	768.763***	188.584
	(113.383)	(113.718)	(110.830)	(110.494)	(111.546)	(111.632)	(112.403)	(112.078)	(118.649)	(118.803)
Observations	3,280	3,280	3,280	3,280	3,280	3,280	3,280	3,280	3,280	3,280
R^2	0.592	0.562	0.592	0.566	0.596	0.568	0.593	0.567	0.597	0.568

Note: *p<0.05; **p<0.01; ***p<0.001

Models 1.1 (Initiator) and 1.2 (Target) report the effect of naval tonnage on *where* nations fight, should a contest occur. As such, the analysis reflects the geopolitical notion of shatter belts, places where the national power of one state comes up against the power of other states. Power projection is shaped by many factors, but presumably the impact of naval power should be relevant. Indeed, we find countries that spend disproportionately more on naval power are more likely to challenge, and to be challenged, farther from their own capitals than counties that spend proportionately less on naval power.

These results could conceivably result from co-trending of the key variables over time. Nations behave differently in the late twentieth century, even as naval tonnage has increased over time. To address this, Models 1.3 (Initiator) and 1.4 (Target) and subsequent regressions weight naval tonnage for each state by total annual world tonnage. Figure 1 details the substantive effects of naval tonnage. Results do not appear to depend on variable construction, but are clearly influenced by whether distance is measured from the initiator or target's capital. Initiators with proportionately larger navies experience disputes at greater distances from their capitals (Hypothesis 1), while targets with capable navies are more likely to fight at stand-off distances, regardless of overall military capacity. The effect of naval tonnage in projecting power is not explained away by proximity (distance) or by either country's defense spending.

< Figure 1 about here >

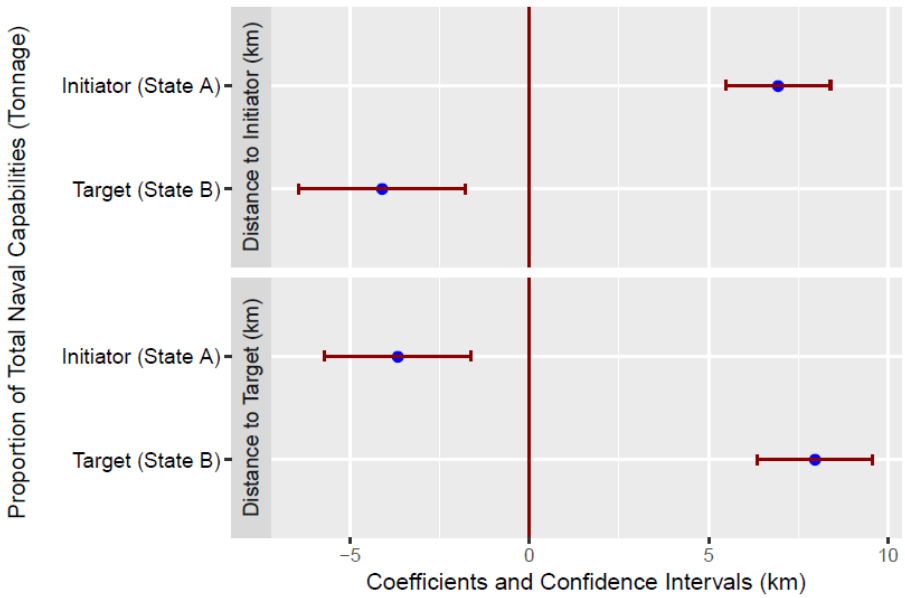

Figure 1: Marginal Effect of Naval Tonnage on MID Location (Models 1.1 and 1.2)

The effect of naval power on the location of militarized contests is further clarified by examining particular classes of capital ships. Models 1.5-1.10 include variables for the number of battleships, aircraft carriers, or submarines fielded by each nation. We provide a pair of regressions for each platform type to again compare the effects for initiators and targets. Each of these platforms is closely identified in naval history and doctrine with power projection. While each platform type demonstrates distinctive effects on the distance at which disputes occur from a nation's capital, the basic effect of tonnage on distance remains. Indeed, the effect of battleships is to significantly *reduce* power projection, below that of equivalent naval tonnage by other platforms. Navies appear more risk averse regarding these expensive platforms. For example, both Britain and Germany appeared to be reluctant to deploy their largest battle wagons close to enemy coastlines or formations in World War I. Model 1.6 again mirrors the regression in 1.5, with the number of battleships for the initiator allowing a target to fight slightly farther from home. Battleships do not directly increase the standoff distance afforded to a target, beyond that achieved by other naval platforms. This lack of symmetry between initiator and target effects on the location of

disputes again appears to reflect risk propensity and incentives to hold back valuable platforms.

Aircraft carriers are different from battleships. The latter must engage enemy platforms at more-or-less visual range, directly confronting an adversary and experiencing proportionate risk of damage or destruction. Aircraft carriers, in contrast, use their aircraft to conduct attacks while (hopefully) remaining obscured from an enemy, using distance and mobility to lower risk of attack. More intense use of aircraft carriers appears to (modestly) increase power projection (the coefficient for Aircraft Carrier A in Model 1.7 is positive and statistically significant). The equivalent coefficient in Model 1.8 is of course negative and significant. In both cases, an initiator with carriers fights slightly farther away from home than we would expect, given overall naval investment, defense spending and other variables. The effect for targets is in the opposite direction, as one would expect, but is not significant. Targets often need to mount counter-ship (as opposed to counter-shore) attacks and rely much more heavily on land-based airpower.

Submarines also appear to significantly increase power projection over nominal naval tonnage (Model 1.7). However, the substantive effect is smaller, as one might expect given the distinctive role of submarines in projecting power. We again see asymmetry in how submarines influence power projection. A target's submarines do not reduce power projection by an initiator, but they do have a significant effect on the distance a dispute occurs from the target. This asymmetry may result from the way that submarines operate and are deployed. Major surface engagements often occur along the boundaries between national spheres of influence. However, rather than contesting the boundaries per se, submarines patrol sea lanes, interdicting ships bound for enemy harbors. While submarines project power, they do not necessarily do so in a linear manner, operating on laterals and denying access, rather than along great circle distances.

Uncertainty

In addition to influencing the location of disputes, seapower also affects the likelihood that nations fight. While a nation may decide to invest in seapower because it expects to fight more often, this does not explain why other actors might also be willing to fight them more often too. We argue that a deficit of mutual information, due to asset mobility, firepower, and stealth, is further required.

Table 2 lists estimates of the causes of MID initiation, using the General Linear Model (GLM). A Maximum Likelihood Estimation (MLE) is indicated by the dichotomous dependent variable. As in Table 1, the first model in Table 2 uses an absolute measure of tonnage, while subsequent models rely on proportional tonnage. Regardless of how overall the naval capabilities are measured, they are closely associated with a significant increase in dispute propensity, beyond that of the nominal investment in military capabilities. Indeed, a state's defense spending is generally positively and significantly associated with conflict.

< Table 2 about here >

Table 2: Naval Capabilities on Dispute Initiation (glm)

	1	2	3	4	5
Tonnage A (absolute, millions)	0.371***				
	(0.012)				
Tonnage B (absolute, millions)	0.370***				
	(0.012)				
Tonnage A (proportion)		5.387***	3.977***	8.360***	4.172***
		(0.145)	(0.199)	(0.264)	(0.175)
Tonnage B (proportion)		4.972***	3.960***	5.812***	3.723***
		(0.163)	(0.223)	(0.300)	(0.195)
Battleships A			0.061***		
			(0.005)		
Battleships B			0.043***		
			(0.005)		
Aircraft Carriers A				−0.035***	
				(0.003)	
Aircraft Carriers B				−0.009***	
				(0.003)	
Submarines A					0.004***
					(0.000)
Submarines B					0.005***
					(0.000)
Mil. Expend. A (10 billion USD)	0.048***	0.021***	0.037***	−0.005	0.001
	(0.003)	(0.004)	(0.004)	(0.004)	(0.005)
Mil. Expend. B (10 billion USD)	0.028***	0.006	0.018***	−0.003	−0.029***
	(0.004)	(0.005)	(0.005)	(0.006)	(0.007)
Mil. Exp. A x B	0.004***	0.004***	0.004***	0.004***	0.005***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Distance (1000 km)	−0.171***	−0.170***	−0.164***	−0.163***	−0.167***
	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
Contiguity	2.048***	2.090***	2.147***	2.125***	2.012***
	(0.044)	(0.043)	(0.044)	(0.043)	(0.043)
AIC	38128.216	37819.023	37605.532	37636.047	37479.253
BIC	38274.725	37965.532	37776.459	37806.974	37650.181
Log Likelihood	-19052.108	-18897.512	-18788.766	-18804.024	-18725.627
Deviance	38104.216	37795.023	37577.532	37608.047	37451.253
Num. obs.	1482262	1482262	1482262	1482262	1482262

$^{***}p < 0.001$, $^{**}p < 0.005$, $^{*}p < 0.01$, $^{\cdot}p < 0.05$

Figure 2 provides a representation of the effects on dispute probability of proportional seapower from Model 2.1 in Table 2. As one can see, the impact of naval capabilities is exponential. Rather than achieving deterrence, big navies (in relative terms) are disproportionately associated with conflict.

< Figure 2 about here >

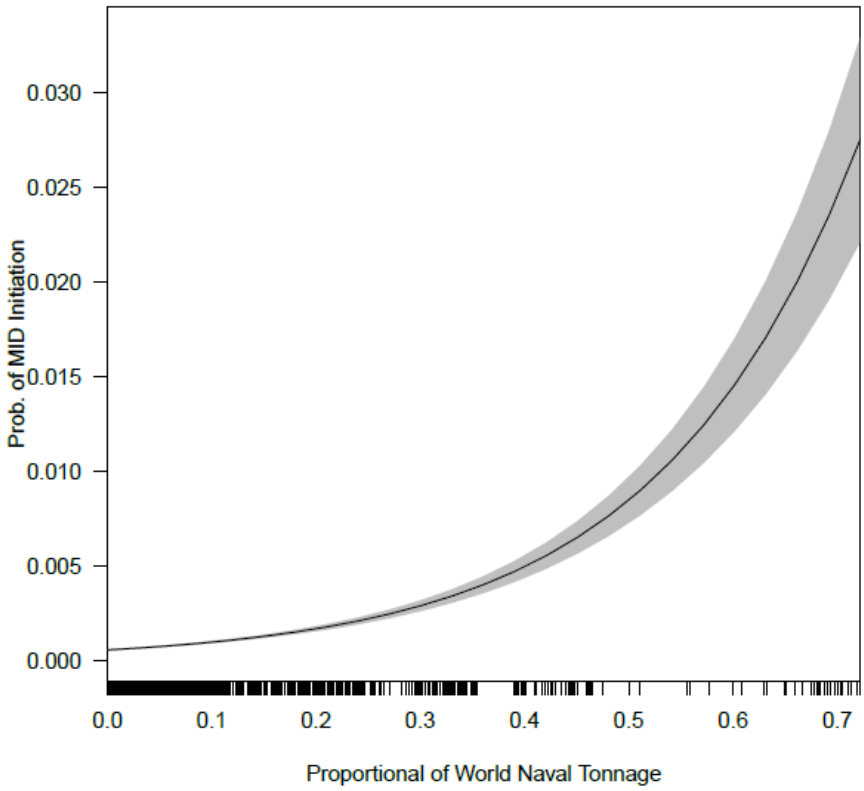

Figure 2: Marginal Effect of Naval Tonnage on MID Initiation (Model 2.2)

Models 2.3 - 2.5 provide more detail by isolating platform types and distinguishing between their effects. Figure 3 provides a graphical representation of the marginal effects of different naval platforms on dispute propensity that may be easier to interpret than tabular data. All three types of platforms significantly impact conflict propensity. However, these effects are not uniform. Battleships and submarines are each associated with a heightened risk of dispute behavior, beyond that attributable to naval tonnage or overall military power. In contrast, aircraft carriers have a slightly lower impact on conflict. This does *not* mean that carriers pacify, quite the converse. Instead, it shows that carriers impose less uncertainty than other platforms, *ceteris paribus*. How could this be? Battleships have to go further

into harm's way, approaching enemy formations or shorelines in order to influence affairs, which makes them riskier to employ. Stealthy submarines are unable to "show the flag." By contrast, the relative visibility, mobility and range of a carrier and entourage make the strike group an attractive platform for coercive diplomacy. The carrier can achieve some influence without having to fire a shot, or by conducting limited strikes. Carriers are able to menace a foreign shoreline at stand-off distances, in international waters.

< Figure 3 about here >

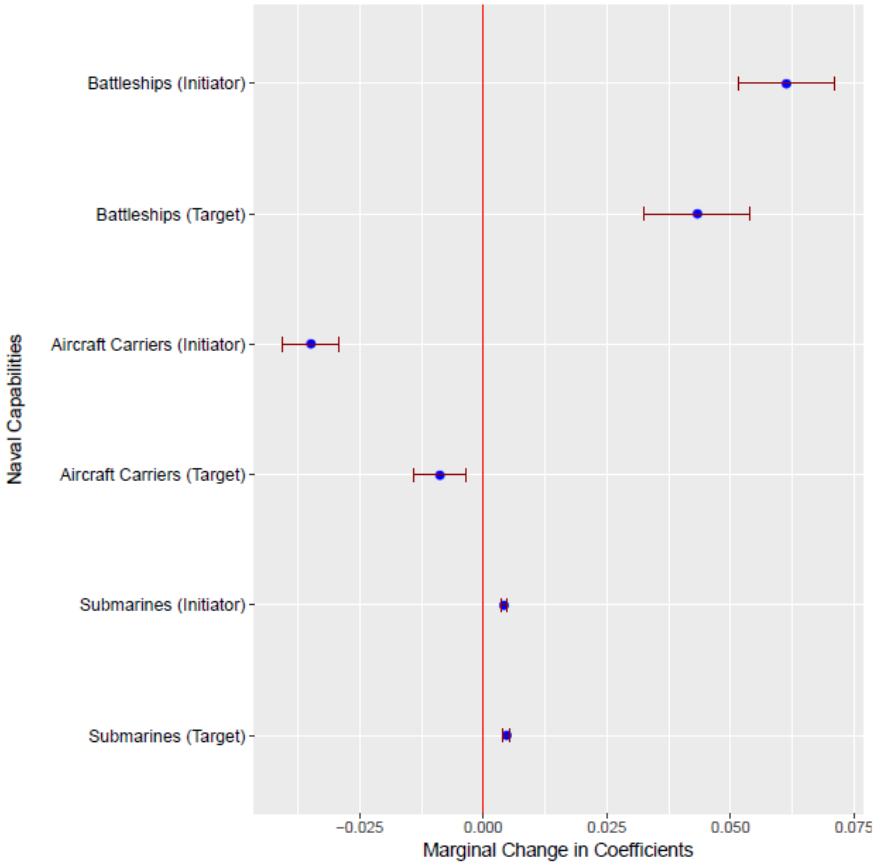

Figure 3: Marginal Effect of Naval Platforms on MID Initiation (Models 2.3 –2.5)

We also replicate Table 2 taking into account the high class imbalance in this sample of rare events (MID initiation). MLEs such as logit with very rare events can yield biased coefficient estimates if one or more covariates come close to perfectly separating positive and negative cases. This can manifest as explosively large coefficients, though we do not observe this in the GLM models provided above. Andrew Gelman and colleagues propose a Bayesian solution of applying a weekly informative Cauchy prior which they implement in the *bayesglm* function in the ARM package.[76] The results of the replication of Table 2 appear in Table 7 in the appendix. None of the findings in Table 7 differ substantively from those in Table 2, giving us confidence that the potential for bias from rare events is not an issue here.

Not all submarines are alike. As with platform types, different types of submarines play different roles, leading perhaps to contrasting effects on dispute propensity. Moving below the level of Hypothesis 5 (already substantiated in Table 2), Table 3 disaggregates submarines into attack (diesel, nuclear) and SSBNs. Diesel attack submarines appear to increase dispute propensity (Model 3.1). Attack submarines are aggressive, intended to shape the tide of battle (should nations fight). Submarines are not especially useful for making credible claims about limited objectives with any certainty.

< Table 3 about here >

[76] Andrew Gelman et al., "A Weakly Informative Default Prior Distribution for Logistic and Other Regression Models," *Annals of Applied Statistics* 2, no. 4 (December 2008): 1360–83, https://doi.org/10.1214/08-AOAS191.

Table 3: Effects of Submarine Platforms on Dispute Initiation, by Type (ReLogit, MID)

	1. Attack, Diesel	2. Attack, Nuclear	3. Ballistic Missile
Proportional Tonnage A	2.758***	3.098***	3.017***
	(0.248)	(0.235)	(0.250)
Proportional Tonnage B	1.030***	2.477***	2.529***
	(0.270)	(0.267)	(0.281)
Diesel Submarine A	0.003***		
	(0.001)		
Diesel Submarine B	0.007***		
	(0.000)		
Nuke Attack Sub. A		0.008***	
		(0.002)	
Nuke Attack Sub. B		0.000	
		(0.003)	
Nuke Missile Sub. A			0.011***
			(0.003)
Nuke Missile Sub. B			−0.002
			(0.004)
Mil. Expend. A (10 billion USD)	0.004***	0.002***	0.003***
	(0.000)	(0.001)	(0.000)
Mil. Expend. B (10 billion USD)	0.004***	0.003***	0.003***
	(0.001)	(0.001)	(0.001)
Mil. Exp. A x B	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)
Distance (1000 km)	−0.302***	−0.302***	−0.302***
	(0.007)	(0.007)	(0.007)
Contiguity	−0.046***	−0.050***	−0.050***
	(0.008)	(0.008)	(0.008)
Major Power A	1.382***	1.396***	1.400***
	(0.055)	(0.054)	(0.054)
Major Power B	1.069***	1.198***	1.201***
	(0.056)	(0.054)	(0.054)
Democracy A	−0.048***	−0.049***	−0.049***
	(0.003)	(0.003)	(0.003)
Democracy B	−0.029***	−0.033***	−0.033***
	(0.003)	(0.003)	(0.003)
Democracy A x B	−0.005***	−0.005***	−0.005***
	(0.000)	(0.000)	(0.000)
AIC	30378.228	30547.452	30552.626
BIC	30618.215	30787.439	30792.613
Log Likelihood	-15169.114	-15253.726	-15256.313
Deviance	30338.228	30507.452	30512.626
Num. obs.	1201863	1201863	1201863

$^{***}p < 0.001$, $^{**}p < 0.005$, $^{*}p < 0.01$, $^{\cdot}p < 0.05$

< Figure 4 about here >

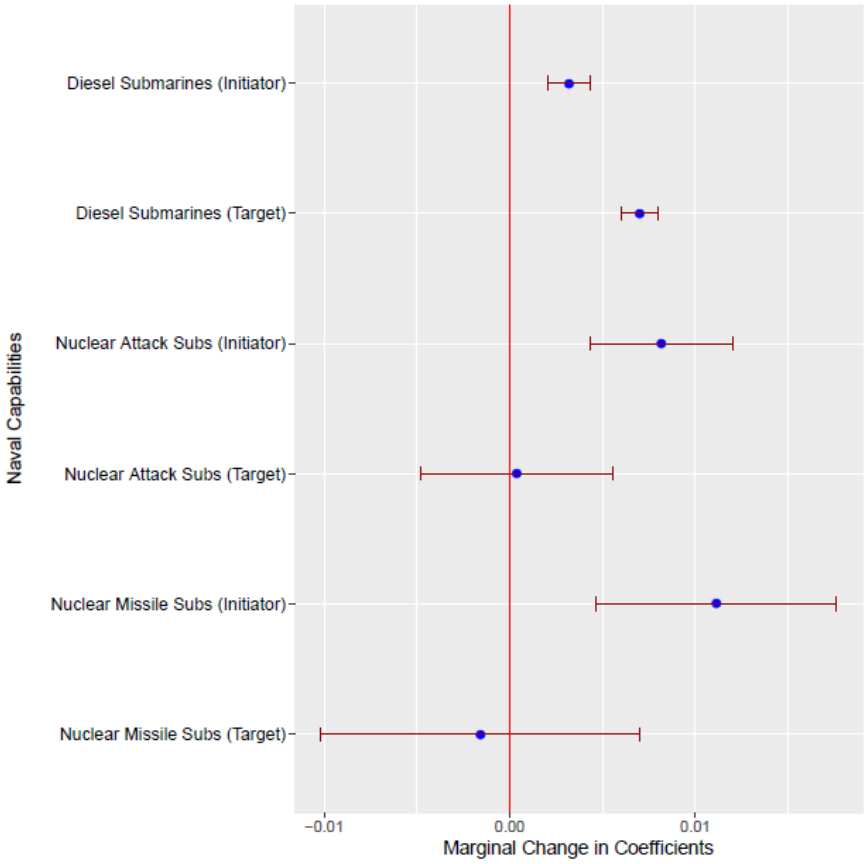

Figure 4: Marginal Effect of Submarine Platforms on MID Initiation (Models 3.1 – 3.3)

These findings are detailed in Figure 4. Diesel attack submarines are rather poor at keeping the peace, precisely because their strengths (stealth and firepower) affect the conduct of battle more than they warn and inform. SSBNs conversely do more to warn, since their impact on war depends much less on their location and more simply on their existence. The effect of nuclear propulsion is not statistically significant, but the sample size is small.

Influence

The final component of the analysis involves estimating the influence of naval power through the proxy indicator of diplomatic recognition. Table 4 lists seven regressions with increasingly complex model

specifications of the relationship between seapower and influence. We use the ReLogit estimator for rare events.[77] The first regression in Table 4 estimates the effect of the naval tonnage variable for the initiator (State A) on the decision by the target (State B) to recognize State A. The key variable is statistically significant, though at the relatively modest 1% level. Countries with disproportionate investments in naval power are more likely to be recognized by other powers than equivalently funded land forces.

Model 4.2 adds a control for coastline. Perhaps the real effect of diplomatic recognition is just an artifact of exposure to the oceans. Both the Naval Tonnage A and Coastline B variables are positive and statistically significant. Countries with longer coastlines are more likely to recognize countries with large navies. High CINC scores increase diplomatic recognition, as does proximity (larger values of distance mean states are farther away from each other), major power status, and democracy. Land area becomes insignificant once we address the impact of coastline, suggesting size itself is not the critical factor.

< Table 4 about here >

[77] Gary King and Langche Zeng, "Logistic Regression in Rare Events Data," *Political Analysis* 9, no. 2 (ed 2001): 137–63, https://doi.org/10.1093/oxfordjournals.pan.a004868.

Table 4: Naval Capabilities on Diplomatic Recognition

	1	2	3	4	5	6	7
Tonnage A (prop.)	0.684*	0.698*	0.662.	2.286***	−1.912***	2.715***	1.257***
	(0.265)	(0.266)	(0.266)	(0.333)	(0.399)	(0.333)	(0.362)
Coastline B (10K)		0.057***	0.244***	0.243***	0.244***	0.244***	0.244***
		(0.003)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)
(Coastline B (10K))^2			−0.010***	−0.010***	−0.010***	−0.010***	−0.010***
			(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Battleships A				−0.069***			
				(0.006)			
Submarines A					0.010***		
					(0.001)		
Carriers A						−0.042***	0.046***
						(0.003)	(0.009)
(Carriers A)^2							−0.001***
							(0.000)
CINC A	18.957***	19.081***	19.214***	18.538***	19.975***	18.859***	19.981***
	(0.452)	(0.453)	(0.453)	(0.456)	(0.463)	(0.455)	(0.465)
CINC B	10.953***	12.320***	11.730***	11.586***	11.641***	11.826***	11.781***
	(0.385)	(0.396)	(0.395)	(0.394)	(0.394)	(0.395)	(0.394)
CINC A x B	−74.490***	−77.680***	−81.014***	−81.566***	−72.826***	−86.619***	−84.964***
	(10.456)	(10.461)	(10.277)	(10.305)	(10.363)	(10.238)	(10.204)
Distance	−0.144***	−0.145***	−0.149***	−0.149***	−0.149***	−0.149***	−0.149***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Contiguity	1.237***	1.256***	1.246***	1.245***	1.245***	1.248***	1.247***
	(0.035)	(0.035)	(0.035)	(0.035)	(0.035)	(0.035)	(0.035)
Major Power A	1.126***	1.125***	1.129***	1.195***	1.043***	1.134***	1.019***
	(0.029)	(0.029)	(0.030)	(0.030)	(0.031)	(0.029)	(0.031)
Major Power B	1.154***	1.105***	0.971***	0.979***	0.971***	0.971***	0.973***
	(0.028)	(0.028)	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)
Democracy A	0.040***	0.041***	0.041***	0.041***	0.041***	0.041***	0.041***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Democracy B	0.035***	0.032***	0.030***	0.030***	0.030***	0.030***	0.030***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Democracy A x B	0.001***	0.001***	0.001***	0.001***	0.001***	0.001***	0.001***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Land Area B (100,000 sq km)	0.003***	−0.000	−0.001.	−0.001.	−0.001.	−0.001.	−0.001.
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Intercept	−9.986***	−10.282***	−10.761***	−10.198***	−10.205***	−11.331***	−11.049***
	(0.443)	(0.444)	(0.445)	(0.448)	(0.450)	(0.449)	(0.451)
AIC	194385.717	194061.470	193682.694	193547.441	193613.613	193576.702	193438.549
BIC	194527.675	194213.568	193844.932	193719.819	193785.991	193749.080	193621.067
Log Likelihood	-97178.858	-97015.735	-96825.347	-96756.721	-96789.806	-96771.351	-96701.275
Deviance	194357.717	194031.470	193650.694	193513.441	193579.613	193542.702	193402.549
Num. obs.	187187	187187	187187	187187	187187	187187	187187

***$p < 0.001$, **$p < 0.005$, *$p < 0.01$, .$p < 0.05$

While positive and significant coefficients for seapower and coastline are indicative of the relationships anticipated, Hypothesis 3 offers specific predictions about the functional form of the coastline variable. Model 3 in Table 4 introduces a second, quadratic term in order to capture the non-linear relationship between coastline and diplomatic recognition predicted by the theory. The results of the second regression equation appear to support Hypothesis 3. Both coastline variables are statistically

significant, in the opposite directions, with the linear term increasing and the quadratic term decreasing.[78]

Figure 5 reports the impact of proportional naval tonnage for State A on B's decision to recognize A diplomatically, taking into account the effect of coastline on this decision, as well as the effects of other independent variables (Model 4.3). Despite controlling for these factors, Naval Tonnage A positively and significantly increases diplomatic recognition of A by B. The effect is variable (increasing confidence intervals at high values are due to small sample size), but always positive. This does not reflect power broadly (included separately in the model), but rather the special role of seapower in creating influence.

< Figure 5 about here >

[78] The claim of a relationship between one nation's naval power, the length of a second state's coastline, and the probability that the second state recognizes the first could imply an interaction. To test this, we added interaction terms between Naval Tonnage A and Coastline B and Coastline B^2. Both interaction terms are insignificant, while the component variables are largely unchanged. We thus omit these results.

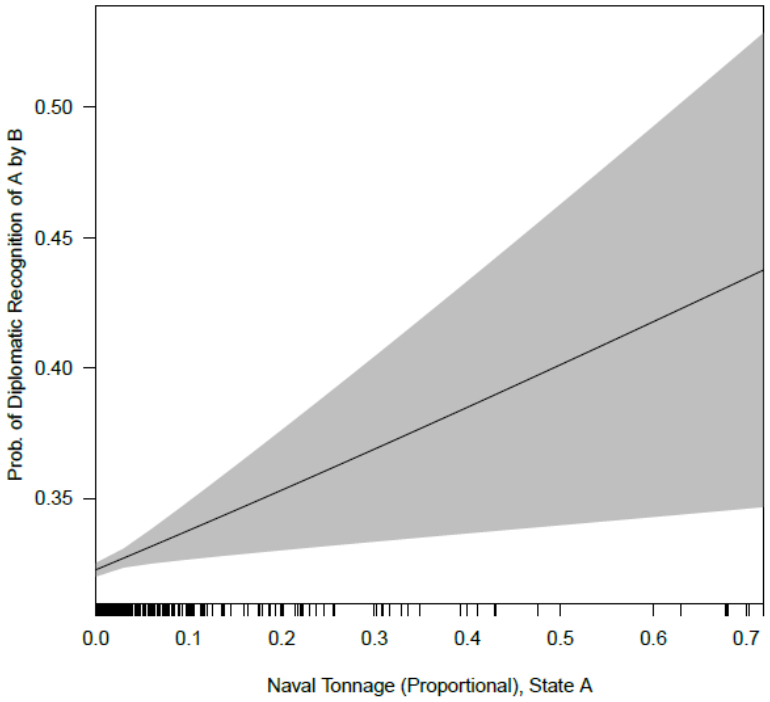

Figure 5: Effect of Initiator's Naval Tonnage on Target's Diplomatic Recognition (Model 4.1)

Recall that Hypothesis 3 suggests a curvilinear relationship between coastline and diplomatic recognition. The actual shape of the curve created by the coastline coefficients in Model 4.3 is in some sense unknown given non-linearities imposed by the logit estimator and other issues. Figure 6 plots these effects on diplomatic recognition of A by B of the two coastline variables from Model 4.3. The relationship does produce a declining upward sloping curve, concave to the x axis. While the influence of naval power is minimal for landlocked nations, this influence increases rapidly, but at a declining rate as national coastlines lengthen. Nations with the longest coastlines are not disproportionately vulnerable, because long coastlines provide additional opportunities to thwart blockades, etc. The function flattens for the longest coastlines, suggesting that long coastlines form a natural defense against naval coercion, in effect diluting potential concentration.

< Figure 6 about here >

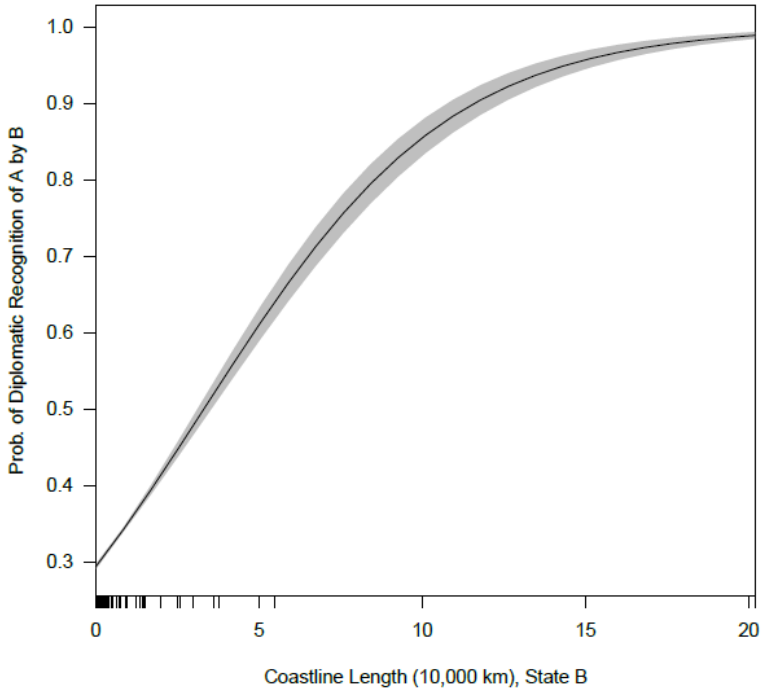

Figure 6: Effect of Length of Target's Coastline on Prob. of Diplomatic Recognition (Model 4.3)

The final four regressions in Table 4 again assess the special impact of particular naval platforms. Countries that rely heavily on battleships get less recognition per tonnage than other platforms. This may be surprising, but the effectiveness of these platforms is limited because they are largely intended for main force naval battle rather than the many other roles of naval power (i.e., Mahan rather than Corbett). Model 4.5 examines the impact of submarines, a cheap and relatively effective method of generating influence. Submarines in a naval force appear to be an advantage in terms of influence. Submarines are traditionally seen as area denial weapons, preventing access to enemies but not ensuring it for friends. Submarines should generate diplomatic leverage, though more with enemies than with friends. This appears to be the case.

Conversely, aircraft carriers appear at first blush to reduce influence.[79] This appears counterintuitive, and may be a result of model specification. To check, we add a non-linear variable to Model 4.7 to capture curvature in the impact of carrier platforms. Traditionally, carriers are seen as having a special role in encouraging other nations to adopt the policies and preferences of a naval power. Nations with aircraft carriers are recognized, and probably listened to, more often than other countries, and more often even than nations with comparable investments in seapower or with equivalent overall national capabilities. This appears to be the case in Model 4.7, though the impact of carrier platforms is declining in numbers.

Figure 7 depicts the effect of a count of aircraft carriers on diplomatic recognition from Model 4.7. The relationship between carriers and influence is positive and concave to the origin. Aircraft carriers enhance the probability that a nation will be recognized by other countries, something that is generally consistent with "showing the flag" but also reflects the special role of carriers as "floating diplomacy." This may help to explain both the historical appeal of aircraft carriers—even in peacetime—as well as the acquisition of flattops by aspiring great powers.

< Figure 7 about here >

[79] The effect of carriers on influence is reversed for extreme values, an artifact of World War II.

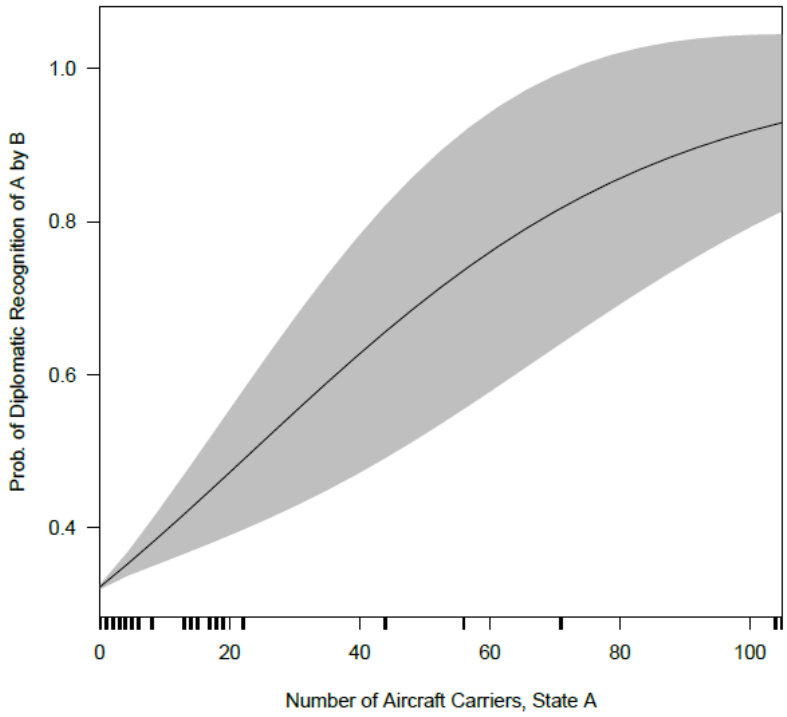

Figure 7: Effect of Number of Aircraft Carriers on Prob. of Diplomatic Recognition (Model 4.5)

In sum, the general effects of seapower on politics—more influence but less stability—are reflected in different naval platforms. Aircraft carriers and submarines tend to increase the distance at which an actor fights from its own territory, should a contest occur. Battleships do the opposite. Indeed, battleships as a platform class do not appear to offer many advantages that cannot be gleaned from naval tonnage generally. Battleships make disputes more likely, without increasing diplomatic recognition or augmenting the projection of power. This may have contributed to their rapid demise, once they proved vulnerable in fleet operations with the advent of more versatile aircraft carriers and submarines. Carriers and submarines have only marginal effects in shortening the distance to disputes, a finding that seems to confirm the traditional distinction between denial and sea control. Submarines are also associated with increased conflict propensity, an effect exacerbated for attack submarines (especially diesels), an effect that is absent for target states with SSBNs. In contrast, aircraft carriers and submarines underperform the

overall influence of naval forces. However, carriers are associated with a significant increase in diplomatic recognition. A carrier-focused navy thus produces a force that maximizes influence and reduces conflict, but counterintuitively does not add significantly to power projection beyond naval investment generally.

The Paradox of Seapower

From combined arms warfare to multi-domain operations, it has long been understood that different military services, branches, and platforms make different contributions to military effectiveness. The political consequences of military heterogeneity, however, have received little analytical attention. We have argued that the specific operational characteristics of naval platforms make a strategic difference for projecting power, pursuing influence, and maintaining stability.

We find strong evidence confirming the widely assumed but rarely substantiated claim that navies enhance global power and presence. The amount (or proportion) of naval tonnage a nation possesses coincides with an increase in the range at which that nation projects power, even when accounting for other military expenditures. Seapower also produces influence that can be measured in terms of diplomatic recognition. Interestingly, countries with longer coastlines are more likely to submit to the influence of seapower, though this effect diminishes as coastlines become extremely long.

Yet we also find that seapower destabilizes international affairs, which runs contrary to the expectations of most navalists. Disproportionate naval tonnage (and platforms) is associated with an increase in dispute propensity, over and above the effect for defense spending generally. The paradox of seapower is that greater influence comes with greater instability.

Why would nations accept this additional risk? The answer surely lies in the additional political benefits of seapower. Navies win influence in more places, in peacetime and war. Warships can concentrate power offshore to threaten a troublesome rival, reassure an ally, or provide material assistance. At the same time, friend and foe alike may wonder if the possibility of concentration will be

actualized, and for how long. The warfighting strength of navies, ironically, raises questions about relative resolve and credible commitment. Even weaker targets without the ability to threaten the fleet directly may gamble that they can outlast naval punishment. They might also worry that a naval power will not keep to an agreement to suspend punishment, since it is so easy for them to return again and again with little risk to themselves. Stronger targets, conversely, may reasonably doubt whether a rival will be willing to risk its fleet in a dispute. In short, great navies are a great temptation for policymakers: they are tempted to use them in more places, and they are tempted to withdraw in crises. Naval presence may become indistinguishable from diplomatic bluff, while naval maneuver invites political brinksmanship.

The modernization and expansion of the Chinese People's Liberation Army Navy (PLAN), in particular the development of so-called A2/AD capabilities in the East and South China Seas, is significantly changing the naval balance of power in the Western Pacific.[80] The U.S. military responded with the operational concept of "Air-Sea Battle"—since renamed the imponderable "Joint Access and Maneuver in the Global Commons"—which aims to proactively defeat A2/AD in the event of war with China.[81] Such a forward posture probably does enhance U.S. influence in the Pacific. However, it does so in a way that also increases the risk of eventual conflict or inadvertent escalation in the region.[82] This study suggests that, while a strong defense is often seen as the most effective deterrent, seapower presents an inherent tradeoff between being effective in the event of war and increasing the risk that war will occur. Maintaining a strong navy encourages a national force posture that ensures contests occur farther from home, when they happen. At the same time, reliance on seapower as a primary instrument of

[80] Montgomery, "Contested Primacy in the Western Pacific"; Eric Heginbotham et al., *The U.S.-China Military Scorecard* (Santa Monica, CA: RAND Corporation, 2015), http://www.rand.org/pubs/research_reports/RR392.html.
[81] Jonathan W. Greenert and Norton A. Schwartz, "Air-Sea Battle," *The American Interest*, February 20, 2012, http://www.the-american-interest.com/2012/02/20/air-sea-battle/; Michael E. Hutchens et al., "Joint Concept for Access and Maneuver in the Global Commons: A New Joint Operational Concept," *Joint Force Quarterly* 84 (January 27, 2017): 134–39.
[82] Avery Goldstein, "First Things First: The Pressing Danger of Crisis Instability in U.S.-China Relations," *International Security* 37, no. 4 (2013): 49–89; Caitlin Talmadge, "Would China Go Nuclear? Assessing the Risk of Chinese Nuclear Escalation in a Conventional War with the United States," *International Security* 41, no. 4 (April 1, 2017): 50–92.

influence and power projection—a key feature of proposed U.S. grand strategies that advocate for drawing down overseas troop deployments and relying on offshore balancing—means that contests are likely to occur more often. Navies can be in more places, but always only a few places at any one time. Navies can defend interests far from home, but those interests are usually less vital than those close to home. These realities are in tension. American attempts to "pivot" to Asia—primarily a re-allocation of seapower despite aspirations to lead with diplomacy—have been controversial, not least among European allies who fear abandonment. Seapower increases influence at the price of heightening diplomatic friction, tempting competitors to challenge naval powers on issues where the challenger is relatively more resolved than the defending naval power. Forward presence at sea does not translate into increased resolve. Forward basing of troops on allied soil, by contrast, may provide a more credible signal of commitment. Optimal tradeoffs will depend on the national interests at stake in any given dispute, which will likely depend on value judgments and preferences exogenous to the bargaining model (i.e., dependent on unit-level factors including elite and electoral politics). Yet knowing that these tradeoffs exist is helpful.

While this study focuses on seapower relative to aggregate national power, we also expect other domains to demonstrate characteristic tradeoffs in attempts to "win" or "warn" (or increasingly to "watch" via new intelligence possibilities afforded by space and cyberspace).[83] The success of efforts to influence, project power or stabilize international relations—on land, in the air, in outer space or cyberspace—will depend in part on operational attributes of military and non-military capabilities. Domain-specific constraints interact with more traditional factors such as the size of military and non-military capabilities, the nature of interests, the intensity of resolve, and the quality of strategy and doctrine. Inquiry into interactions of domain- or platform-specific attributes requires that researchers first

[83] We are grateful to Ryder McKeown for suggesting "watching" to describe the distinct strategic role of intelligence. On other cross-domain tradeoffs see Erik Gartzke and Jon R. Lindsay, "Thermonuclear Cyberwar," *Journal of Cybersecurity* 3, no. 1 (February 2017): 37–48; Jon R. Lindsay and Erik Gartzke, eds., *Cross-Domain Deterrence: Strategy in an Era of Complexity* (New York: Oxford University Press, 2019); Lindsay and Gartzke, "Politics by Many Other Means: The Comparative Strategic Advantages of Operational Domains."

develop an understanding of politically relevant attributes in different domains of interaction.