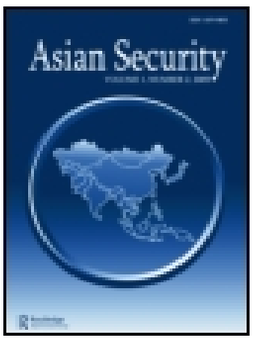

Asian Security

ISSN: (Print) (Online) Journal homepage: https://www.tandfonline.com/loi/fasi20

China engages the Arctic: a great power in a regime complex

M. Taylor Fravel, Kathryn Lavelle & Liselotte Odgaard

To cite this article: M. Taylor Fravel, Kathryn Lavelle & Liselotte Odgaard (2021): China engages the Arctic: a great power in a regime complex, Asian Security, DOI: 10.1080/14799855.2021.1986008

To link to this article: https://doi.org/10.1080/14799855.2021.1986008

ASIAN SECURITY
https://doi.org/10.1080/14799855.2021.1986008

Routledge
Taylor & Francis Group

China engages the Arctic: a great power in a regime complex

M. Taylor Fravel, Kathryn Lavelle, and Liselotte Odgaard

ABSTRACT

As global warming accelerates the melting of Arctic ice, opportunities for new transport routes open along with new strategic interests. This article examines how China pursues its interests in the Arctic and, specifically, the degree to which it seeks to work through the existing regime complex versus engaging in bilateral cooperation with Arctic states. China's willingness to work through the regime complex or use bilateral cooperation depend on the specific issue. We find that China relies on global regimes regarding navigation issues, prefers bilateral cooperation for purposes of resource extraction, and prioritizes Arctic regimes to justify the pursuit of dual-use scientific research. We conclude that as a great power, China is well-positioned to use institutional complexity to its advantage. China uses existing regimes when it benefits Chinese interests, supplemented by bilateral initiatives as appropriate.

Introduction

As a rising power, China's interests are expanding around the world. In January 2018, China issued its first white paper on its Arctic policy, signaling China's intent to play a greater role in this polar region in the future. Yet many questions about China's future role in the Arctic remain unresolved. What are China's interests in the Arctic? How is it pursuing these interests?

The answers to these questions are important for several reasons. First, as a relatively new but also potentially powerful actor in the Arctic, China's pursuit of its Arctic interests will alter the political dynamics of this region, whose importance will only continue to grow as the planet warms and the ice continues to melt.

Second, how China pursues its interests will be a key factor in patterns of cooperation and competition among states in the region. As newcomer, moreover, China has a range of options for pursuing its Arctic interests. On the one hand, it can seek to work within the existing frameworks of cooperation, through what Orang Young describes as a "regime complex,"[1] defined as "a set of elemental regimes or elements that pertain to the same issue domain or spatially defined area, that are related to each other in a nonhierarchical manner, and that interact with one another in the sense that the operation of each affects the performance of others."[2] The regime complex may serve to channel or focus China's efforts to exercise influence. On the other hand, China can work outside the regime complex, pursuing bilateral cooperation with other Arctic states or even under some circumstances unilateral actions. China can also choose to focus on diplomacy and commerce, thereby allowing it to employ actors such as Chinese state-owned companies and government representatives to advance its interests. These measures may more directly benefit China, but could also increase suspicion about China's intentions, especially if they are not pursued as part of China's engagement with the regime complex. Thus, understanding how China will pursue its interests is critical for understanding China's potential impact on the Arctic.

CONTACT Liselotte Odgaard lodgaard@hudson.org Norwegian Institute for Defence Studies and Hudson Institute, Forsvarets Høgskole, Postboks 1550 Sentrum, 0015 Oslo, Norway

Third, building on recent studies of China in the Arctic, the answers to these questions will help to reveal how China will behave as a great power on the world stage, beyond East Asia.[3] Examining China's approach to the Arctic can illuminate two important issues in international politics today: whether China's interaction with the Arctic regime complex disrupts its scope and content in a direction that favors Chinese interests, and whether it has formed an entente with Russia to challenge the United States.

To answer these questions, we focus on how China pursues its interests in three main issue areas – navigation, resource extraction, and scientific advancement. We chose these areas because they are the most important functional domains in the Arctic and ones where China cooperates with Arctic states, either through the components of the regime complex or on a bilateral basis. For each issue area, we identify China's interests, its approach to pursuing its interests, and the degree to which it works either within or around the regime complex.

Our analysis finds that China pursues a form of "omni-directional" engagement to advance its interests in the Arctic. In the area of navigation, China emphasizes its navigational rights under UNCLOS while also complying with Canadian and Russian requirements for passage in waters under their jurisdiction. In the area of resource extraction, China has emphasized bilateral cooperation, mostly extensively with Russia, as most of the resources in the region fall under the jurisdiction of Arctic states. In the area of scientific advancement, China's bilateral cooperation is embedded in its multilateral engagement of the regime complex. As a great power, with robust national capabilities and substantial experience in international institutions beyond the Arctic, China chooses those avenues of cooperation, inside or outside the regime complex, that it judges best facilitates pursuit of its interests. In other words, China works through existing regimes when they benefit China's interests, supplemented by bilateral initiatives as appropriate. Our findings thus confirm Daniel Drezner's observation that regime complexity enhances rather than limits great power avenues of influence.[4]

This article proceeds as follows. The first section reviews the concept of a regime complex and the special interests and capabilities of great powers in such complexes. The second section briefly describes the regime complex in the Arctic. The next three sections examine China's approach to navigation, resource extraction, and scientific advancement to assess the extent of China's Arctic activities and whether the activities take place from within or outside of the regime complex. Finally, we conclude by discussing the theoretical implications of our findings for the relationship between regime complexes and great powers' pursuit of national interests and the policy implications for regional order and cooperation with China.

Great Powers in Regime Complexes

The concept of a regime complex describes the way international norms, agreements, and institutions intersect and interact within a given issue-area.[5] The basic components of a regime complex are, in a given functional domain or geographic region, 1) multiple regimes or institutions, 2) a lack of hierarchy among them, and 3) interactivity among them. In sum, it refers to the set of arrangements for governing an issue area.

Regime complexes evolve gradually and spontaneously from interaction among their "elements" of norms, agreements, and institutions and can be affected only indirectly through these. These elements emerge only after cooperative behavior has occurred, reflecting the patterns of spontaneously evolving regimes. Actors that are discontented with existing regimes because their preferences have changed or because the regimes have continuously resisted demands for change may pursue attractive alternatives for cooperation. This requires power in the sense of the ability to act outside of the established regime complex in a coordinated way.[6] An analysis of the maritime piracy regime complex demonstrates how the regime complex itself becomes a major part of the problem in governance. Different elemental regimes based on distinct normative perspectives push various actors toward different behaviors and impede international cooperation.[7]

Hence, there is no agreement on what strategies states use in situations of regime complexity, or as they evolve, because complexity's effects can be contradictory or cross-cutting. The nonhierarchical characteristic of a regime complex gives actors the ability to choose which part of the regime complex to use when advancing their own national interests. Actors can engage in "forum-shopping," strategically selecting a particular venue to gain a favorable decision for a specific problem.[8] "Strategic inconsistency" occurs when an actor intentionally creates a contradictory rule in a parallel venue so as to widen its latitude in choosing which rule or interpretation to follow. Finally, "regime-shifting" may entail actors using forum-shopping, strategic inconsistency, or other strategies with the ultimate goal of redefining the larger political context so as to ultimately reshape the system of rules itself.[9]

Daniel Drezner posits three reasons why the evolution of regimes into regime complexes will weaken the rules-based international order overall, which have implications for the strategies a great power might use in a regime complex.[10] That is, greater numbers of institutions will dilute the focus of previously constructed nodes by offering more sites where rules and expectations could converge. Moreover, overlapping legal mandates with conflicting duties could weaken all states' sense of their legal obligations. Finally, complexity raises the transaction costs of compliance for all actors. Under these circumstances, Drezner argues that great powers possess advantages in situations of complexity when compared with the older, more straightforward, institutionalist paradigm. Thus, nested and overlapping regimes create more opportunities for different types of bargaining, but the underlying causal determinants of international cooperation remain the distribution of power and interests.

With the partial exception of Drezner, the literature on regime complexes does not address the question of how a great power would approach engagement on the issues addressed by a specific regime complex. Below, we discuss two factors that are especially important. The first would be the national capabilities of great powers. This would include not just their raw economic and military strength, but also other resources they can mobilize, including their diplomatic corps and bureaucratic experience gained in other international organizations.[11] The second would be a great power's desire for order, even as it seeks to advance its interests. This draws on the insights of the English school, especially Hedley Bull, and his focus on the desire of great powers to have predictability in their relations with each other.[12] Approaching a new domain by engaging with an existing regime complex allows the great power time to familiarize itself with the constraints and possibilities that the regime complex offers to pursue legitimacy for its domain presence. Research on regime complexes has demonstrated that regime participants seek to manage the "interplay" between institutions to influence the learning processes, norm developments and cost-benefit calculations taking place within regime complexes. Great powers are particularly well-equipped to engage in such interplay management.[13]

A great power with comprehensive capabilities and a desire for order is likely to take the following approach in a regime complex. Given their capabilities, great powers are able to actively engage and participate in all elements of a regime complex. As Drezner notes, this, perhaps paradoxically, means that great powers may weaken the efficacy of a regime complex.[14] This ability to "show up" and be present and active in a regime complex is arguably easier for a great power than it is for smaller states. The desire for order means that a great power will also actively seek to work through the existing elements of a regime complex rather than circumventing them to pursue its interests. Working through the components of a regime complex can reassure weaker states about the great power's benevolent intentions while also restricting the scope of activities that the great power will pursue, thereby maintaining overall order within the regime complex. Thus, if tensions emerge with another great power or with other states in the regime complex, they can be addressed more efficiently and with less disruption by working through existing parts of a regime complex.

Great powers have an additional asset that they can deploy to pursue their interests within a regime complex – their status, experience, and power in leading international institutions. When these institutions are part of or relevant to a regime complex, great powers may have extra advantages and be willing to emphasize these components of a regime. Working through these institutions can help to justify the great power's presence (as acting in a manner consistent with the norms and rules of

the institution) while also reassuring states and underscoring the legitimacy of its interests as codified in this institution. This keeps the great power "in" the regime complex, which is also an attractive source of influence for the great power.

Nevertheless, because of their capabilities, great powers are not limited to working only through the existing regime complex. Great powers can also pursue different forms of bilateral cooperation. With vast economic resources, for example, the great power can pursue commercial ventures that would also advance its interests. Thus, a great power should also pursue bilateral cooperation in the area of the regime complex if opportunities arise to do so. Such cooperation may also help indirectly deepen the great power's role in the regime complex if its partners in such bilateral cooperation play an important role in the regime.

Although the literature on regime complexes can capture how patterns of governance emerge over certain issues or certain parts of the world, it does not address how a new entrant, and especially a great power, such as China, will seek to advance its interests in a preexisting regime complex. Combining this literature with insights from Drezner and Bull allows us to investigate the role of a great power such as China in the regime complex. China has its own interests in the Arctic, which may be shared by some states in the region and not others, and these interests will shape how China engages the region and influences regional order. China's entrance into the regime complexity of the Arctic region creates tension between China's desire to advance national interests and the common rules underpinning the Arctic regime complex and hence the existing regional order.

The Arctic as a Regime Complex

Oran Young argues that a regime complex has emerged "encompassing a number of distinct elements that all deal with matters relating to the Arctic but are not hierarchically related to each other."[15] The complex history and interconnected issues associated with the region over time have evolved in connection with three major areas of concern, with different forums taking the lead at different moments. These areas are navigation, resource extraction, and scientific advancement.[16]

Navigation is regulated by the United Nations Convention on the Law of the Sea (UNCLOS) and the International Maritime Organization (IMO), a UN specialized agency with regulatory authority over commercial shipping around the world. The IMO has instituted a Polar Code for matters of safety and environmental protection applicable to ships operating in polar waters.[17] In this area, China uses global principles to legitimate its pursuit of Chinese interests in the Arctic by participating actively in the regional navigation regimes concerning maritime jurisdiction and the rights and obligations of transiting vessels and aircraft. This approach to a regime complex creates opportunities for pursuing regime-shifting, using China's position in the broader global regime to redefine the rules of the Arctic regime complex.

Resource extraction encompasses minerals such as oil, gas and rare earths in addition to fisheries. Mineral rights are regulated by the Commission on the Limits of the Continental Shelf (CLCS), which reviews the limits of the continental shelf and consider them to be final, but has no authority to make decisions or binding recommendations about seabed delimitation. The area of the seabed and ocean floor beyond the limits of coastal states is considered to be the "common heritage of mankind." The International Seabed Authority (ISA) administers the exploration and exploitation of mineral resources in this area on behalf of all.[18] However, none of the deep-sea mining contracts awarded to China by ISA are in the Arctic, and commercially viable deep-sea mining is not on the near term horizon.[19] Fisheries are mostly regulated by national legislation. However, in the Central Arctic Ocean, China has been engaged in multilateral cooperation on developing new fisheries regimes, preparing for a prospective future of profitable fisheries in an area that is not regulated at national level. Therefore, the best way for China to participate in resource extraction is to cooperate with Arctic states who currently hold exclusive rights to them. Hence, China pursues its interests on a bilateral basis outside the regime complex by partnering with regional states. This creates opportunities for strategic

inconsistency, prioritizing resource extraction in bilateral settings and norms of sustainability and environment protection in multilateral settings where there are no immediate possibilities of resource extraction.

As the Cold War receded, environmental concerns and climate change became higher priorities on the global agenda. Given the realization that the Arctic environment plays such a major role in these issue-areas, the Arctic Council and its attendant institutions have become main avenues for pursuing scientific advancement since the organization was formed in 1996.[20] Specifically, the Arctic Council has helped to identify and respond to scientific environmental and climatic issues that are both regionally and globally significant. The political and operational latitude of the Council is restricted by the fact that it does not have authority to make binding decisions. Nonetheless, it comprises a set of issue-specific working groups, many of which have produced valuable scientific studies.[21] Participation in the Arctic Council is strictly regulated by its eight permanent member states, six permanent indigenous people's organizations, nonpermanent observer states and a host of other observer organizations. Gaining observer status in 2013, China gained the opportunity to contribute to its work. Hence, China has sought to involve itself across all parts of the regime complex to explore opportunities for advancing its interests and engage in forum shopping.

In the remainder of the article, we explore each of the subsets of the regime complex, navigation, resource extraction and scientific advancement and how China's interests influence its approach to the Arctic regime complex.

China and Arctic Navigation

This section examines China's interests related to navigation in the Arctic and how it is pursuing them. Based on UNCLOS and customary international law, China works through the regime complex to assert its right to navigate in Arctic waters. In so doing, China uses global principles around navigational rights to legitimate its presence in the region.

China's Interests in Arctic Navigation

In its 2018 white paper, the Chinese government declared that "states from outside" the region, including China, "have rights" with respect to navigation and overflight in the Arctic. By underscoring the importance of UNCLOS and the IMO in the Arctic, the white paper emphasizes that China (along with other states) enjoy navigational rights in these waters.[22] As Elizabeth Wishnick observes, China employs UNCLOS to "internationalize" the Arctic, thereby legitimizing China's role in this region.[23]

Navigation underpins commercial and security interests. Commercial shipping attracts the most attention in China. Although Chinese shipping companies acknowledge many of the risks of navigating in these waters, the Chinese government highlights the importance of shipping routes in the Arctic. The white paper calls for developing a "polar silk road," linking Arctic interests with the Belt and Road Initiative (BRI).[24] Earlier, in June 2017, China identified the Arctic as one of three key shipping routes of the BRI.[25] As Arctic sea routes become commercially viable, they become more important for China's commercial shipping fleet, which is now the world's largest.[26] Access to Europe and North America via the Arctic would reduce the distance between China and these areas by roughly 4,000 nautical miles.[27]

As the ice melts and recedes in the summer, three new sea routes will gradually become available: First, the Transpolar Sea Route uses the central part of the Arctic to link the Bering Straits and the Atlantic Ocean. This route passes through international waters but can only be accessed by the heaviest of icebreakers and is the least viable of the three. Second, and most commercially viable, is the Northern Sea Route, which generally follows the Russian coast. This route would reduce a maritime journey between East Asia and Western Europe (via the Suez Canal) from 21,000 kilometers to 12,800 kilometers, saving 10 to 15 days of transit time.[28] Figure 1 shows transits by flag of vessel through the Northern Sea Route, demonstrating that China's transits have risen in the past

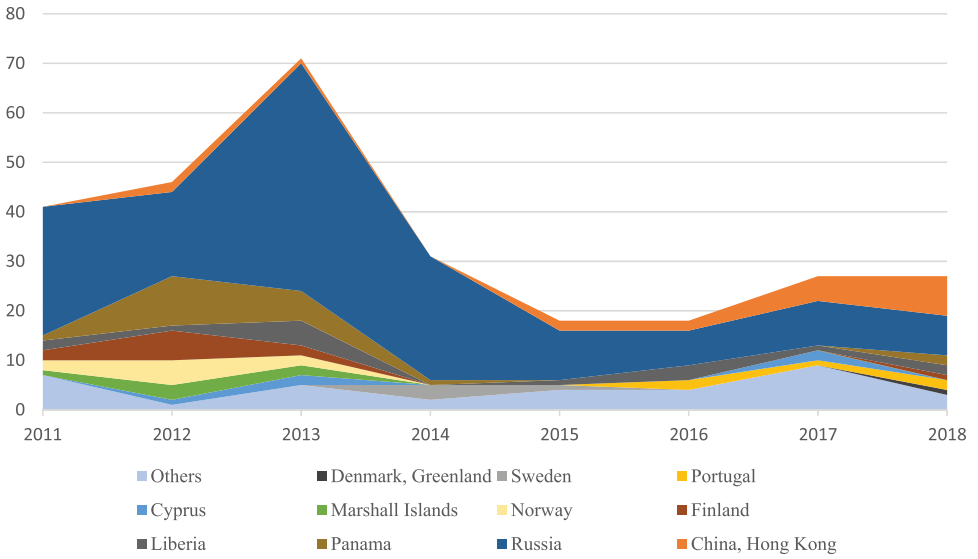

Figure 1. Northern sea route transits by flag of vessel. Data for some transits in 2011 and 2014 are unavailable. These transits are thus included in "Others."Source: *Transit Statistics 2011–2018* (Murmansk, Russia: Center for High North Logistics Information Office 2018–19), https://arctic-lio.com/category/statistics/.

decade, approximately matching those of Russia through the Northern Sea Route. Third, the Northwest Passage, which crosses Canada's Arctic Ocean, promises to give China easier access to Canadian and US commercial ports along their eastern coasts, saving seven days from Shanghai to New York.[29] Figure 2 shows that Chinese transits through the Northwest Passage are currently negligible.

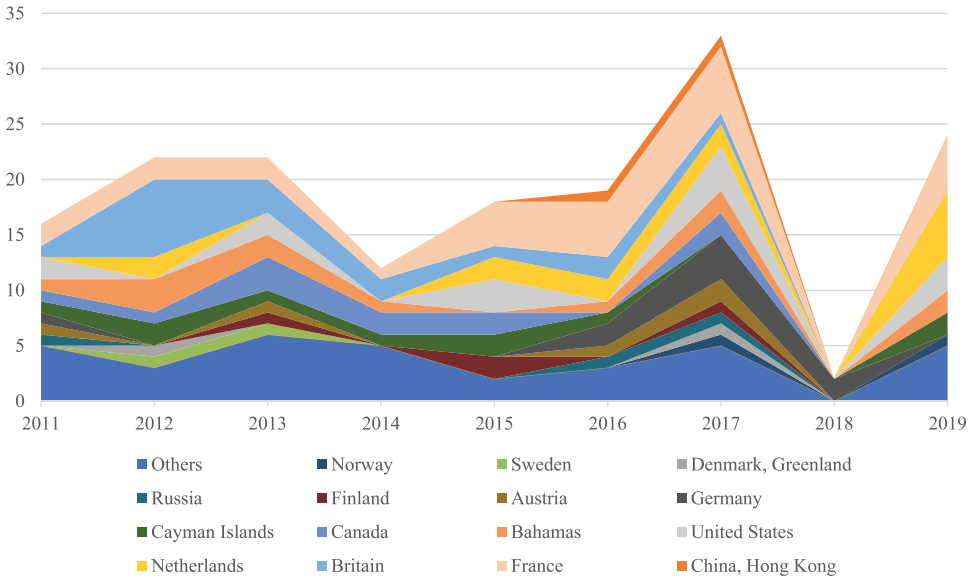

Figure 2. Northwest passage transits by flag of vessel. Source: R. K. Headland, *Transits of the Northwest Passage to the End of the 2019 Navigation Season* (Cambridge, United Kingdom: Scott Polar Research Institute 2019), https://www.spri.cam.ac.uk/resources/infosheets/northwestpassage.pdf.

In the 2020s, commercial traffic in the Arctic is likely to only see modest growth. However, given changing climate conditions, navigation in these waters may not require icebreakers, but merely ice-strengthened vessels by the 2050s. China is the only country to include the Transpolar Sea Route as part of its Arctic strategy and to have led official expeditions through all three routes.[30]

China's interests in Arctic military navigation are more subject to debate. Some authors, such as Brady, suggest that the Arctic will play a critical role for enhancing China's nuclear deterrent.[31] During the Cold War in the 1980s, the Arctic was an attractive sanctuary for Soviet nuclear-powered submarines carrying ballistic missiles, or SSBNs, as they are hard to detect under the ice and in cold water and could be deployed close to Soviet naval bases.[32] Launching missiles from the Arctic would also reduce flight time and thus early warning for the target of the attack. The United States itself rarely, if ever, sent SSBNs on deterrent patrols in the Arctic, but it did deploy nuclear attack submarines to hunt Soviet SSBNs.[33] China could attempt to use the Arctic for its SSBNs in the future. However, China's military interest is more likely to be less salient than its commercial one. Other authors point out that China's current SSBNs, the Type 094, are so noisy that they cannot conduct effective deterrent patrols and would be detected and tracked long before they ever entered the Arctic, if they even attempt to do so. Authoritative Chinese military sources also downplay the military significance of access to the Arctic. The 2017 revised edition of the *Science of Military Strategy*, published by the PLA's National Defense University, notes how the United States and the Soviet Union used the Arctic to enhance their deterrent, but does not call for China to be able to do the same. Most of the Arctic section examines the civilian interests in resources, shipping, and scientific research. To the degree that the volume discusses the role of the military, it is to help the Chinese state to advance these other interests, not to enhance China's deterrent.[34] Finally, China faces significant technical obstacles to deploying submarines in the Arctic, including the shallow depth of the Bering Strait, its proximity to US submarine detection systems, the size of China's Jin-class submarine, and navigation under ever-changing ice floes.[35] Thus, the level of military interest will likely trail the advancement and development of commercial interests and the degree to which they would require protection in these waters.

China's Approach to Arctic Navigation Regimes

China relies heavily on UNCLOS to ensure its ability to navigate throughout the Arctic. The 2018 white paper states that "the management of the Arctic shipping routes should be conducted in accordance with treaties including the UNCLOS and general international law and that the freedom of navigation enjoyed by all countries in accordance with the law and their rights to use the Arctic shipping routes should be ensured."[36] China's emphasis on UNCLOS' extensive provisions for passage for commercial vessels in the Arctic underscores the preeminence that its economic interests in regional navigation take over military ones.

UNCLOS grants Chinese vessels the right to navigate through the EEZs and the international straits of Arctic coastal states. The ability to access these waters benefits China's shipping industry and promotes development of the country's northern seaports. In 2013, China Ocean Shipping Company (COSCO) sent the commercial container vessel "Yong Sheng" from Dalian to Rotterdam – the first voyage of a container ship through the Northern Sea Route.[37] China's embrace of international law in this area reflects the interconnectedness of its Arctic policy with global Chinese interests.

Nonetheless, Chinese interpretations of international law on navigation can appear contradictory. UNCLOS ensures states freedom to enjoy "high seas freedoms" beyond a state's 12 nm territorial sea, including within the Exclusive Economic Zone.[38] In 1992, China's National People's Congress passed a law on the territorial sea and contiguous zone, which included a provision that "foreign military ships must obtain permission" to enter China's territorial sea.[39] China reaffirmed this position in a declaration it submitted upon ratification of UNCLOS in 1996.[40] This legal provision could possibly restrain the PLA Navy in the Arctic if and when it would seek "innocent passage" in the territorial seas of coastal Arctic states. China, however, views the 1992 law as outlining its approach to its territorial

sea, as codified in domestic legislation, and not a general interpretation of the rights of coastal states in the territorial sea. Therefore, China's restrictions on access to its territorial sea do not restrict China's willingness to transit through the territorial seas of other states, if they do not require prior permission or notification.

With respect to navigational safety, the IMO's Polar Code acknowledges that polar waters may impose additional demands on ships beyond those normally encountered. It provides a mandatory framework regarding safety, environmental protection and seafarer competence in these waters. However, China has adopted a low profile in Polar Code negotiations, submitting only a small fraction of the proposals of states like Norway and the United States.[41] China's main concern was that the Polar Code negotiations came to a swift and successful conclusion, allowing the code to enter into force so that it could contribute to internationalizing navigation in the region.

China's Globalized Navigation Policy in the Arctic

Of the members of the Arctic Council, Canada and Russia were among the most reluctant to accept observer states such as China.[42] One reason is that both states claim exclusive rights over the sea routes that would traverse through adjacent waters, the Northwest Passage and the Northern Sea Route. Canada maintains that the Northwest Passage is internal waters while Russia, under Article 234 of UNCLOS, claims rights to administer the Northern Sea Route as an ice-covered area. Russia also refers regularly to the Northern Sea Route as internal waters. Thus, for China to assert its right to navigate in the Arctic, including in these waters, it must engage the positions of both Canada and Russia, respectively.

Under UNCLOS, states cannot transit through another's internal waters, even if only for the purpose of innocent passage, a position that would prevent other states from navigating through these waters. The United States challenges Canada and Russia's position, arguing that the passages are straits through which states enjoy the transit rights. So far, China has treated Canada and Russia similarly, seeking permission for passage through the Northwest Passage and the Northern Sea Route.[43] However, China's emphasis on navigation in the white paper suggests it will be inclined to view these waters as international straits for the purposes of navigation, bringing China in closer alignment with the United States. In the future, this strategic inconsistency allows China the option of prioritizing using the Northwest Passage and the Northern Sea Route as international straits, allowing free passage for all ships.

Complicating China's position on the Northwest Passage is its own claim that the Qiongzhou Strait between Guangdong Province and Hainan Islands is internal waters and thus also closed to international navigation. Beijing might be inclined to support – or at least not oppose – the Canadian position on the Northwest Passage due to the geographical similarities between the two waterways.[44] China's policy on its maritime jurisdictional disputes has included continued insistence on maintaining and defending Chinese claims to maritime rights at the cost of good relations with other claimant states and other interested parties, such as the United States.[45] This uncompromising policy indicates that China might possibly prioritize legal issues over commercial ones. At the same time, as one authoritative Chinese maritime scholar notes, unlike the Northwest Passage the Qiongzhou Strait "has rarely, if ever, been a matter of debate,"[46] suggesting that China may be less constrained in adopting a position in the Arctic that is inconsistent with its position over the Qiongzhou Strait.

In the coming decade, China will prioritize access to the Northern Sea Route adjacent to Russia, which is likely to be the first ice-free passage and, as discussed above, the route most used by Chinese vessels. In July 2017, Chinese President Xi Jinping and Russian Prime Minister Dmitry Medvedev agreed to explore cooperation on the Northern Sea Route to build the "polar silk road." Today, Russia remains the dominant Arctic sea power, with the largest icebreaker fleet, including plans to build eight nuclear-powered ones as part of Project 2220.[47] When coupled with Russia's requirement for vessels to seek permission to use the Northern Sea Route, China has focused on investing in navigation-related infrastructure in Russia. Although strictly bilateral in nature, such investments allow Russia to realize the economic potential of this route, which China views as promoting its own development.

Much of China's investments in Russian Arctic infrastructure have occurred in the past few years. In 2017, the Chinese company Poly International Holding signed an investment contract with the Murmansk Region Government on the Murmansk Transport Hub.[48] In 2018, Russia's Vnesheconombank (VEB) and the China Development Bank reached an agreement in which China would provide up to $9.5 billion for financing joint projects. Funding for the Northern Sea Route was the only project specifically mentioned when the agreement was announced. Infrastructure projects such as the Belkomur railway has been mentioned as possible initiatives under the agreement. In this way, China aims to make the most of the commercial potential of its Arctic presence, which supports the further integration of China as the engine of the global economy. China acts as a facilitator of mutually beneficial projects that do not violate core interests of other states with Arctic interests while downplaying its military interests in the Arctic because its global position on navigation regimes are key to serving Chinese interests.

China and Arctic Resource Extraction

This section examines China's interests in minerals and fisheries resource extraction and development in the Arctic and how it is pursuing them. With most of the resources falling under national jurisdiction as governed by UNCLOS, China has prioritized bilateral cooperation with coastal states in the area of resource extraction, working outside the regime complex. In the specific area of fisheries management and conservation, China has pursued a multilateral approach within the regime complex, pursuing forum-shopping to promote interests in adjacent issue areas such as scientific advancement while nurturing a cooperative image.

China's Interests in Resource Extraction

One main theme in the 2018 white paper was China's interest in helping to develop the Arctic. Specifically, the white paper outlines China's interests in several different kinds of resources.[49] Estimates of the extent of oil and gas in the Arctic remain somewhat uncertain, but one estimate concludes that the region contains 13 and 30% of undiscovered oil and natural gas, respectively.[50] The Arctic is also home to large fish stocks, which are subject to changing conditions as global warming causes fish to migrate north in search of cooler waters. Hence, fisheries policies have become entangled with climatic and environmental developments. As the world's leading fishing nation, the 2018 white paper stresses both the rights of states to fish on the high seas (beyond a coastal state's 200 nautical mile EEZ) and the need to conserve fishery resources. Nonetheless, many Chinese fishing vessels have participated in illegal, unreported and unregulated (IUU) fishing.[51]

China's Approach to Resource Extraction Regimes

Most Arctic hydrocarbon resources fall within the territorial jurisdiction of Arctic coastal state, as 88% of the seabed falls under their jurisdiction as part of their EEZ or their claimed continental shelves. Moreover, the remaining "high seas" are too remote and inaccessible for any country to develop unilaterally.[52] Therefore, China pursues a bilateral approach to resource extraction. As Chinese expert Nong Hong notes, "[T]he only way for non-Arctic states [such as China] to be engaged in resources development is through cooperation with the littoral states in the Arctic."[53]

As China relies on UNCLOS to justify its access to the Arctic, it also works with the UNCLOS framework for resource development. Thus, the white paper underscores that China and its state-owned oil and gas companies will respect the sovereign rights of coastal states and pursue the development of these resources through cooperation with coastal states. China has skillfully turned its extra-regional status into an advantage, pursuing bilateral approaches to obtain access to non-renewable and renewable resources, offering foreign direct investments in a region that often lacks the domestic financial capital to pursue resource exploration and exploitation.

Fisheries operate within different international arrangements. After several years of negotiation, the Arctic Five Coastal states of Russia, the United States, the Kingdom of Denmark, Norway, and Canada along with the EU, Iceland, Japan, South Korea and China adopted an Agreement to Prevent Unregulated High Seas Fisheries in the Central Arctic Ocean (the CAO agreement) in 2018.[54] The agreement, which China ratified in May 2021, obliges the signatory states to forgo fishing in the Central Arctic Ocean and is seen as a groundbreaking example of trying to prevent a problem from occurring. The Central Arctic Ocean is not yet an attractive fishing ground, but it may become one as the ocean warms, causing fish to migrate to these waters.[55] Chinese participation in the agreement strengthens its image as a power that pursues the common good rather than mere national interests.

Thus, China seeks to balance fishing rights with the need to conserve fishing resources and pursue a legally binding agreement to regulate fishing on the high seas in the Arctic.[56] As an extra-regional power, China, at least for the foreseeable future, can only pursue access to negligible and inaccessible fish stocks in the high seas and must pursue bilateral approaches to obtain a stake in the Arctic fisheries industry. On the question of fisheries conservation, China has also pursued multilateral approaches through the regime complex, which provides a way for China both to improve its image with Arctic states as a power contributing to the good of mankind and to consolidate its position as a near-Arctic nation with scientific interests justifying a lasting regional engagement and entitlement to shape Arctic regimes.

China's Bilateral and Multilateral Approaches to Resource Extraction in the Arctic

China partners with many countries to develop Arctic resources. However, as shown in Figure 3, Chinese investments have occurred mostly in Russia, making energy cooperation a key aspect of the Chinese-Russian relationship in the Arctic.

The Yamal LNG project is the centerpiece of China's energy cooperation with Russia in the Arctic and demonstrates this relationship between investment and supply. China's investment in the joint venture with the Russian firm Novatek was finalized in 2015, with China National Petroleum Corporation (CNPC) and the Silk Road Fund owning almost thirty percent of the joint venture. The project is expected to drive the development of Russia's energy industry, producing 100 billion cubic meters of gas to make Russia one of the world's largest producers of LNG.[57] China National Offshore Oil Corporation (CNOOC) and CNPC own a 20% stake in Novatek's Arctic LNG 2 natural gas project.[58] In February 2021, Novatek announced a fifteen-year deal to sell three million tons of LNG from this project to China's state-owned Shenergy Group.[59]

In the area of Arctic fisheries, China is a large recipient of fish from the Barents and Chukchi Sea. Roughly 60% of fish caught in the Russian Far East is sent to China for processing. Nevertheless, it is unclear how much China has invested in Russian fisheries, though in the past foreign companies could take up to a 50% stake in Russian fishing companies (which a 2021 law will reduce to 25%).[60]

Elsewhere in the Arctic, however, China has only pursued smaller investments in resource development. In Canada, China has invested in mineral development in the Northwestern Territories and in the Izok Lake project, but on the whole Chinese interest in Canadian minerals has been minor.[61] For environmental reasons, Canada has embraced risk-averse resource development policies that are more concerned with Arctic offshore conservation than economics, which limits opportunities for China.[62] Equally significant, the Northwest Passage may not be an attractive shipping route for several decades. Finally, for political reasons, Canada is reluctant to embrace Chinese investment.

Other Arctic nations have emphasized that the Arctic should be open to outside investment, including Chinese, and that development in the Arctic should take precedence over geopolitical concerns.[63] Among these, Greenland stands out due to the extent that China's presence has become intertwined with its increasing global competition with the United States. In Greenland, China has focused on investments in mineral resources and infrastructure. Denmark, a NATO member and close security partner of the United States, has jurisdiction over Greenland's security and defense issues by virtue of the commonwealth agreement with Greenland, and Denmark gives an annual grant of

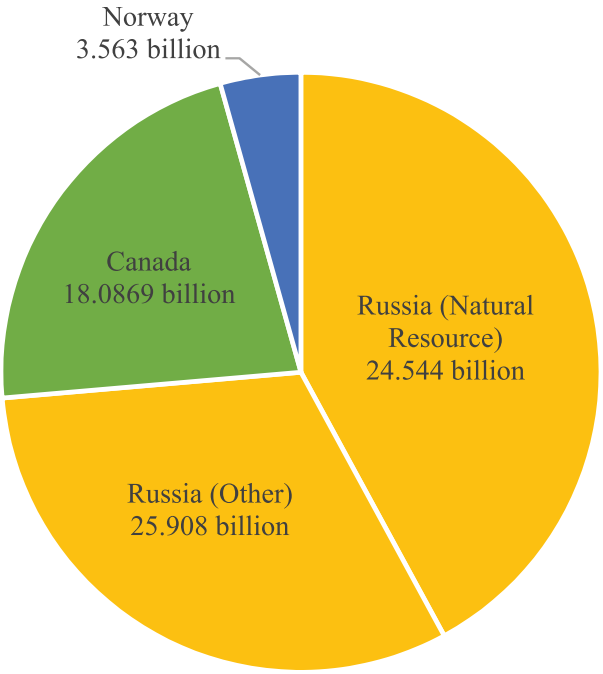

Figure 3. Chinese investment in arctic countries. Data are from the period 2009–17. As Rosen and Thuringer note, their data are not exhaustive and only include large natural resource and infrastructure projects they know of. All listed investment in Canada and Norway was in natural resource extraction sectors. Here, natural resource extraction sectors include minerals, petrochemical, energy, and mining.Source: Mark E. Rosen and Cara B. Thuringer, *Unconstrained Foreign Direct Investment: An Emerging Challenge to Arctic Security* (Arlington, VA: Center for Naval Analyses November 2017), https://www.cna.org/cna_files/pdf/COP-2017-U-015944-1Rev.pdf.

approximately 453 million euros to Nuuk. However, Greenland is in Denmark's periphery and its economic development has been neglected. Nuuk has therefore looked to foreign investments, over which Denmark has no formal control, hoping that these would drive economic development and make Greenland less dependent on Denmark.[64]

Greenland's attitude toward China in the Arctic has been mixed and has evolved over time. At first, the attitude toward Chinese investment was less antagonistic. In October 2017, then premier and leader of the Siumut party Kim Kielsen visited China and began to prepare to open mutual representative offices in Beijing and Nuuk and strengthen cooperation in areas such as fishing, mining, and tourism.[65] After that, the governmental framework agreement they reached did not result in many projects on the ground. Moreover, voices critical of Chinese investments have grown louder.[66] They accuse China of leaving the countries where it invests with enormous debts the recipients cannot repay and of using Chinese workers and not local labor.[67]

In June 2020, the US announced the reopening of its consulate in Nuuk, which has been closed since 1953, and investments of US$12 million in Greenland to boost economic and scientific cooperation between the two countries. Although the American economic assistance is minor, Greenland's interest in inviting China to play a larger economic role has dwindled. The government in Nuuk hopes that Washington will become a major economic partner. China has largely remained silent on this shift in priorities, instead focusing on investment projects elsewhere without political connotations. Beijing seems to try to avoid becoming entangled in geopolitical rivalry in a region where it is a newcomer with a presence that so far remains limited.

In line with this priority, Chinese foreign direct investments in Greenland's mineral resources have been limited. The Chinese rare-earths firm Shenghe Resources owns a nine percent stake in Australia's Greenland Minerals and Energy, which sought to invest in developing rare earths and

uranium at Kuannersuit before being put on hold due to environmental concerns following the national election in Greenland in April 2021.[68] In Greenland's far north, a zinc and lead mine is planned at Citronen fjord. It would be overseen by Australian-based Ironbark which signed a memorandum of understanding with China Nonferrous Metal to assist with the project's development. General Nice, a Hong Kong based company, currently holds the rights to a potential iron mine at Isua in western Greenland. The same company ran afoul when it attempted to buy an abandoned US navy base at Grønnedal, which Denmark blocked because it and the United States considered it a threat to national security amid concerns that China might try to build a military base in Greenland.[69]

China has pursued a multilateral approach to fisheries anchored on conservation. In many ways, the issue of fisheries lies at the intersection of resource extraction and scientific research. Chinese support for the 2018 CAO agreement has not only nurtured China's environmental profile, but also serves its interest in being recognized as a power which can legitimately pursue scientific advancement in the Arctic.[70] The parties to the agreement cannot be prevented from or restricted in conducting marine scientific research. The CAO agreement places a temporary ban on commercial fishing for sixteen years. The next step is to establish a regional or sub-regional fisheries management organization, including the CAO signatory states. By engaging in multilateral fisheries management in the Arctic, China has consolidated a long-term position in the Arctic fisheries regimes.[71]

China's approaches to resource extraction demonstrate sensitivity toward politically controversial issues. Beijing refrains from engaging in quarrels with geopolitical connotations that might force states to choose sides. Instead, it focuses on exercising economic and political influence through quiet diplomacy while balancing its dominant engagement in Russia with engagements in other Arctic states. China's approach also reveals how a great power seeking to engage an area will work outside part of the regime complex and pursue bilateral cooperation with states that themselves are nevertheless key players in the regime complex. Where an issue is part of the regime complex, such as in the Central Arctic Ocean, China uses multilateral approaches to protect its interests and promote an image of being a benevolent extra-regional Arctic power protecting the common interest in a sustainable environment.

China and Arctic Scientific Advancement

This section examines China's interests in scientific development in the Arctic and how it pursues them. China invests heavily in both bilateral and multilateral cooperation. Unlike resource extraction, where China's bilateral relations with Russia are of paramount importance, China's cooperation in science takes place with a number of Arctic states and in multilateral forums that allow for the participation of non-Arctic states. Therefore, China involves itself across all parts of the regime complex to explore opportunities for pursuing its scientific interests. These activities engender cooperation and the cumulation of knowledge, yet they also provoke a degree of concern among Arctic states where dual-use activities hold the potential to combine such research with military-strategic objectives.

China's Interests in Scientific Advancement

China's interests in scientific research in the Arctic are both a means and an end. As a means, being a participant in Arctic research allows China to bolster its claims to be a "polar great power" as part of being a maritime great power and a "near Arctic state."[72] As Brady writes, "China is looking for ways to increase its influence in polar affairs and having a high-profile, high-status, polar science program is an important means to this end."[73] Contributing to polar scientific understanding is a gateway to playing a greater role in the Arctic more generally. It is also an implicit requirement for China's observer status in the Arctic Council, which requires that observers demonstrate "a political

willingness as well as financial ability to contribute to the work of the Permanent Participants and other Arctic indigenous peoples," demonstrate their "expertise relevant to the work of the Arctic Council," and demonstrate "a concrete interest and ability to support the work of the Arctic Council."[74]

As an end, of course, scientific research in the Arctic can illuminate many of the challenges associated with climate change and its global effects, which matter to all nations, including China. For example, the Arctic sea ice melt influences the rising concentration of greenhouse gases in the atmosphere and the waves of the jet stream which flows west to east over the Northern hemisphere, increasing smog levels in Beijing. Similarly, the Arctic sea ice melt is connected to the ice melt of the Tibetan plateau. The plateau is the water tower of Asia, feeding not only the Yangtze and Yellow Rivers in China, but also the Indus, Ganges and Brahmaputra that flow out to neighboring countries. The Tibetan plateau contains the world's third-largest store of ice, giving rise to floods and mudflows in neighboring countries. These priorities give China a keen interest in accessing and disseminating scientific information and encourage Chinese cooperation with other states.[75]

China's national Arctic program is a part of the Chinese Arctic and Antarctic Administration (CAA) under the Ministry of Natural Resources (MNR).[76] Even if China's national Arctic bureaucracy is coupled to natural resources, China's interests in Arctic science are wider and deeper. The 2018 white paper highlights the importance of scientific research. Indeed, of the policy goals listed in the white paper, it is ranked as the first.[77] According to the white paper, "[T]o explore and understand the Arctic serves as the priority and focus for China in its Arctic activities."[78] In many ways, scientific research has been China's first physical point of entry into the Arctic. As a signatory (as the Republic of China) to the 1920 Treaty of Spitsbergen, China has maintained a research station on Svalbard Island since 2004. Since then, China has expanded its engagement with additional research stations and scientific expeditions and participation in bilateral and multilateral research cooperation.

China's Approach to Arctic Science Regimes

As with other areas of engagement in the Arctic, China works through the regime complex that is wide-ranging and nonhierarchical. Several elements of this regime complex comprise scientific advance. Three stand out: the International Arctic Science Committee (IASC), the Arctic science ministerials, and the 2017 Agreement on Enhancing International Arctic Scientific Cooperation adopted by the Arctic states in coordination with the Arctic Council. China has been very active in two of the three, and it has engaged with the third to the greatest extent possible for a non-Arctic state.

The first of these, the IASC, was formed in 1990 by representatives of national scientific organizations of eight Arctic countries, Canada, Denmark, Finland, Iceland, Norway, Russia – then the Soviet Union – Sweden and the US. Shortly thereafter, its membership expanded to include three Asian countries, China, Japan, and Korea, with CAA as the Chinese member organization. Despite these additions, the organization remained focused on the Atlantic and not Pacific region. During the Arctic Science Summit Week (ASSW) that IASC held in April 2002, the Asian participants approached the Executive Secretary of the IASC to open a dialogue on this issue. Subsequently, they formed a Pacific Arctic Group within IASC that is a discussion group open to any member, thus deepening opportunities for Chinese participation.

A visible sign of the expanded scope of the organization was their organization of a science symposium during the ASSW 2005 in Kunming, China, on the theme of "Circulation and Ecology of the Pacific Arctic Shelves and Connection to Deep Basins."[79] Since the central purpose of the ASSW has been to provide opportunities for international collaboration in all areas of Arctic scientific research, it has served as an arena for hosts to offer insight into their own Arctic research. Thus, China's hosting of this event in 2005 was significant. China, together with the Pacific Arctic Group, currently shares responsibility for the Distributed Biological Observatory, a biophysical change detection array for the Bering, Chukchi, and Beaufort Seas.

The second major component of the regime complex for scientific advancement has been the institutionalized meetings of science ministers or their representatives from twenty-five governments, including China. The White House hosted the first Arctic science ministerial in 2016. The participants signed a Joint Statement recognizing that international collaboration and inclusion of Arctic indigenous peoples in science and decision-making are essential to advancing research in the Arctic. In 2018, Germany, Finland, and the European Commission hosted the second ministerial. Japan and Iceland hosted the third ministerial in 2021, which was virtual and highlighted the value of Arctic science research conducted by non-Arctic states.[80] The intention for the 2021 meeting is to strengthen scientific cooperation and collaboration among Arctic and non-Arctic states to develop an understanding of the rapid changes impacting the region.[81]

The third major component of this regime complex is the 2017 Agreement on Enhancing International Arctic Scientific Cooperation adopted by the Arctic states. Led by Russia and the United States, the agreement was negotiated under the auspices of the Arctic Council. Its provisions aim to enhance scientific cooperation by reducing barriers to marine, terrestrial, and atmospheric research across the region. As Berkman *et al.* argue, the agreement will advance the use of existing infrastructure that was previously unavailable, allow for new movement of researchers, students, equipment, and materials; promote sharing of data and metadata, and include those who hold traditional and local knowledge in scientific activities across the region.[82]

The 2017 agreement is a closed treaty for the eight Arctic states without an accession clause. Yet despite the limits on participation, China and other non-Arctic states were approached and allowed to contribute to the meetings, both orally and through written documents. China attended two of these meetings.[83] Moreover, benefits of the agreement accrue to all members of a team, albeit only when they are partners of one or more of the parties acting with them. They do not necessarily need to be physically present to receive the benefits, but they are required to have such a partner.[84] In addition, the agreement provides that when the parties meet to review it, Arctic Council observers can attend to observe and provide information.[85]

The sum of this participation across the Arctic regime complex for science is that China pursues its interests to the extent that it can. The major components have varying degrees of access for non-Arctic participants, however, China's status as an observer to the Arctic Council allows a degree of inclusion even when not permitted a formal decision-making role.

China's Regional Engagement of Scientific Advancement in the Arctic

China's engagement in scientific advancement is regional because China has legitimate environmental and climate concerns that allow it to pursue a major role in Arctic science regimes. China's engagement in science cooperation deviates from the pattern found in navigation and resource extraction in the sense that cooperation with Russia is not dominant. China has also focused on the Nordic countries, many of which have been open to a scientific Chinese presence on their territory. Moreover, China shares interests with the Asian, European and North American states, which has primarily translated into joint Arctic expeditions. China's scientific engagement gives China the opportunity to demonstrate its desire to cooperate with all states in the Arctic and to promote its image as a climate-concerned power. At the same time, concerns remain within the region about other possible Chinese objectives: that it could seek to obtain situational awareness and gain militarily useful information or access.

The China-Iceland Joint Arctic Science Observatory in northern Iceland is a state-of-the-art example of how China legitimizes a high-profile scientific presence in the region. China has also invested in Icelandic expertise in geothermal power, which is a source of clean energy, in the world's first renewable energy methanol plant, and a new aluminum smelter in northwest Iceland.[86] These investments are used to expand geothermal power in China and to helpi it reduce its long-term dependency on strategic resource supplies.

Other examples abound, of both research stations and Arctic expeditions. The decades old Yellow River Station in Svalbard in Norway conducts research into the northern lights, microbes in the icepack, glacier monitoring, and atmospheric research, all issues that are also prioritized by the Arctic Council. China also runs the 2016 Kiruna North Polar Ground Station, which is a satellite receiving station in northern Sweden.[87] In April 2018, China and Norway announced plans to enhance cooperation on climate change.[88] In October 2018, China and Finland agreed to establish a joint research center for Arctic space observation and data sharing services in Finland's Lapland region. The center will focus on cryosphere research in the Arctic that can be used in climate research, environmental monitoring, and Arctic Ocean navigation.[89] Together with Canada, China has conducted scientific expeditions along the Northwest Passage. Despite Chinese interest in projects such as a research station in Canada's Northern Territories, science cooperation with Canada has remained limited. A similar pattern can be found in China's scientific engagement with the United States, France, and Germany. China has conducted joint Arctic scientific expeditions with these countries, but beyond joint expeditions cooperation remains limited.[90]

Regional Arctic states are aware that China's scientific presence may end up serving Chinese rather than Arctic interests. The Chinese built Kiruna satellite receiving station in the north of Sweden has been criticized based on fears that the station could be used for relaying military intelligence."[91] In Svalbard, Norway has tried to limit research to natural science, but China has refused to accept any limits on research activities.[92] When a 2018 delegation from the CAA attempted to purchase Kemijärvi airport in eastern Lapland located near a strategically important military range, they were rebuffed by the Finnish Defense Forces, and the offer was not revealed until 2021. The Chinese delegation that made the purchase proposal included an assistant military attaché from the Chinese embassy in Finland, a move that was subject to different interpretations. The stated intention of the purchase of the airport was to conduct Arctic research on the Arctic ice-cap. The purchase was blocked because the airport could not be sold to a foreign state-owned entity under EU and other restrictions.[93]

Regional scientific cooperation with Russia is even more circumspect. Despite significant bilateral cooperation on navigation and resources, China's scientific cooperation with Russia in the Arctic is not on the same scale as their bilateral cooperation in other sectors. China does not want to be associated with projects that are based on Russian nationalist aspirations to advance its control with maritime space at the expense of others and hence might involve Beijing in geopolitical and legal quarrels between Russia and the West.[94] Nonetheless, China and Russia do have some significant joint scientific research projects. In April 2019, Russia and China's major oceanological institutes, the Institute of Oceanology at the Russian Academy of Sciences and Qingdao National Laboratory for Marine Science and Technology, agreed to create a joint research center focusing on mineral and biological resources and the changing ecosystem in the Arctic. Future research projects will focus on issues such as underwater ecosystems and ice conditions of the Northern Sea Route. The research project represents a departure from prior Russian-Chinese science cooperation, which centered on industrial development.[95]

Future scientific research collaboration would not only give the two opportunities to nurture their image as environmentally concerned powers, it would also allow them to acquire information that could be used for military-strategic purposes, such as increasing their situational awareness and testing underwater vehicles with dual-use features. However, recent events emphasize that Russia and China do not have a level of mutual trust in the Arctic that allows for extensive military-strategic cooperation. In June 2020, Russia initiated criminal charges against the Russian Arctic Academy president for working for Chinese intelligence. That same month, Nikolai Korchunov, Russian special envoy and senior official in the Arctic Council, publicly agreed with the United States on the binary division between Arctic and non-Arctic states, disagreeing with the Chinese self-proclaimed position as a near-Arctic state.[96] The developments indicate that Chinese-Russian scientific cooperation is not likely to go much beyond scientific and economic purposes. The goals of Chinese scientific research thus continue to elicit questions about their connections to different aspects of the state's interests and aspirations in the region as it connects to the world.

Conclusion

This article has reviewed China's evolving interests in the Arctic and how it pursues them, as a non-Arctic state and as a great power with expanding interests. Specifically, we reviewed China's approach to pursuing its interests in the areas of navigation, resource extraction, and scientific advancement. China combines use of both the global and regional institutions within the Arctic "regime complex" in questions related to navigation, resource extraction and scientific advancement, along with bilateral cooperation. China has not prioritized military-strategic interests, but its current level of cooperation would provide a basis for which to pursue these in the future, if they became more salient.

Thus, China pursues its interests through a mixture of bilateral and multilateral engagements, working within the existing regime complexes, participating in developing these, but also attempting to influence them from without, by developing new projects and partnerships. China's behavior may qualify as revisionism in the sense that it does seek to revise existing regime complexes with a view to enhance Chinese interests, but this revisionism is not pursued as a unilateral effort. Instead, China couples on to the agendas of multilateral institutions and individual countries or groupings with whom it has common interests in particular issue areas. Moreover, China is careful to take into account the common interests that are inherent in the existing regime complexes when pursuing its interests. Chinese revisionism in the Arctic is then of a kind that looks for incremental change on the basis of cooperation with likeminded states and with respect for rules and norms that enjoy region-wide support. This sophisticated incremental revisionism allows China to pursue its interests while minimizing its involvement in regional conflicts.

The general picture is that China pursues its interests with a view to enhance its image as a great power that takes into account the common interests of other international actors in the Arctic so as to avoid becoming entangled in local rivalries to the detriment of Chinese Arctic interests. China thus engages all Arctic and non-Arctic actors with regional interests and avoids becoming wedded to unilateral agendas that might distort China's image as an engaged but nonpartisan actor in the Arctic. China is particularly careful not to form an entente with Russia in the Arctic to keep at arm's length Moscow's geopolitical rivalry with the United States and NATO in a region that is still peripheral to Chinese interests.

The links between China's behavior in the Arctic and in the South China Sea illustrates several elements of China's Arctic approach. In the Arctic, Chinese maneuvering to downplay its geopolitical role while investing in strategic resources such as rare earths and research stations allow China to prepare for a future of regional great power rivalry without a permanent military footprint. This contrasts with China's growing physical and military presence in the South China Sea by means of land reclamation and militarization, as does its long-standing restrictions on innocent passage in the territorial sea and marine scientific research (defined to include military surveys) in the EEZ. The reason for this difference is that China views the South China Sea as its immediate periphery and likely site of confrontation with the United States over regional hegemony. By contrast, the Arctic is at the periphery of this competition. This allows China to position itself strategically in the Arctic, preparing for a future where the Arctic may have moved to the top of China's agenda

The regime complex literature in combination with Bull's observations on great power preferences and Drezner's observations on great power influence and regime complexity is useful for understanding that China's pursuit of its interests is not merely an individual cost-benefit calculation designed to extract resources to benefit China's economic development and put in place the preconditions for a future permanent presence. These elements form significant parts of Chinese policies in the Arctic. However, the regime complex literature identifies the complex web of institutional rules and agendas that any state pursuing extra-regional interests faces, explaining that China has to pursue its interests within this setting and support its procedures and normative foundations if it wants to pursue its interests. As a result, China takes on interests that it would not otherwise have considered. China's support for a moratorium on fisheries in the high seas of the Arctic in return for acceptance of the rights of non-Arctic states to conduct science research

in the region is a case in point. Another example is China's notification of Canada and Russia when sailing through the Northwest and Northern Sea Route, despite its potential conflict with its South China Sea claims. The complexity of regional settings does not allow even great powers to have simple, universally applicable policies and principles. They have to adjust these to regional circumstances and live with the contradictions and double standards that may result from differentiated engagements.

The regime complex and great power reading of China's role in the Arctic highlights the advantages that accrue to China when it makes common interests the basis for its pursuit of national interests. This strategy facilitates acceptance of its position as a non-Arctic state with a legitimate presence and reduces its involvement in geopolitical rivalry that is likely to prove counterproductive to China's Arctic interests. It also explains why China shows little interest in aligning too closely with Russia. Although Moscow is Beijing's principal regional partner, Beijing seeks to engage with a broad range of Arctic, European, American and Asian intra-regional and extra-regional actors, balancing Western, Eastern and local cooperation.

The regime complex and great power approach to China's influence in the Arctic highlights the complexity involved in any cooperative effort in international relations with the omnipresent institutionalization of all issue areas. This research tentatively demonstrates that great powers such as China are able to utilize institutional complexity to their advantage. Great powers can rearrange linkages between issue areas, for example coupling military-strategic interests with scientific advancement. They can also engage in regimes that facilitate future opportunities for pursuing strategic interests rather than meet immediate demands, such as the fisheries regime in the Central Arctic Ocean. Perhaps most importantly, great powers are able to reshape regime agendas to better reflect their interests while nurturing an image of looking after the interests of the international community, for example by financing environmental and climate research while at the same time pursuing strategic advantages. As strategic great power competition takes off, this Janus-faced approach to international cooperation is likely to gain ground.

Notes

1 Oran Young, "Building an international regime complex for the Arctic: current status and next steps," *The Polar Journal* 2, no. 2 (2012): 391–407; Oran Young, "The shifting landscape of Arctic politics: Implications for international cooperation," *The Polar Journal* 6, no. 2 (2016): 209–23.
2 Young, "Building an international regime complex for the Arctic," 394.
3 Central works include Anne-Marie Brady, *China as a Polar Great Power* (New York: Cambridge University Press, 2017); Nong Hong, *China's Interests in the Arctic: Opportunities and Challenges* (Washington, DC: Institute for China-America Studies, 2018); Elizabeth Wishnick, *China's Interests and Goals in the Arctic: Implications for the United States* (Carlisle, PA: Strategic Studies Institute, US Army War College, 2017).
4 Daniel W. Drezner, "The Power and Peril of International Regime Complexity," *Perspectives on Politics* 7, no. 1 (2009): 68.
5 Kal Raustiala and David Victor, "The Regime Complex for Plant Genetic Resources," *International Organization* 53, no. 2 (2004): 277–309; Karen J. Alter and Sophie Meunier, "The Politics of International Regime Complexity," *Perspectives on Politics* 7, no. 1 (2009): 13–24; Alexander Betts, "Regime Complexity and International Organizations: UNHCR as a Challenged Institution," *Global Governance* 19, no. 1 (2013): 69–81.
6 Thomas Gehring and Benjamin Faude, "The Dynamics of Regime Complexes: Microfoundations and Systemic Effects," *Global Governance* 19, no. 1 (2013): 127.
7 Michael J. Struett, Mark T. Nance and Diane Armstrong, "Navigating the Maritime Piracy Regime Complex," *Global Governance* 19, no. 1 (2013): 93–104.
8 Alter and Meunier, "The Politics of International Regime Complexity," 17; Christina L. Davis, "Overlapping Institutions in Trade Policy," *Perspectives on Politics* 7, no. 1 (2009): 25–31.
9 Alter and Meunier, "The Politics of International Regime Complexity," 11–4.
10 Drezner, "The Power and Peril of International Regime Complexity," 66.
11 Drezner, "The Power and Peril of International Regime Complexity"; Stephen D. Krasner, "Global Communications and National Power: Life on the Pareto Frontier," *World Politics* 43, no. 3 (April 1991): 336–66.
12 Hedley Bull, *The Anarchical Society: A Study of Order in World Politics* 2nd ed. (London: MacMillan, 1995).

13 Olav Schram Stokke, "Interplay Management, Niche Selection, and Arctic Environmental Governance," in , *Managing Institutional Complexity: Regime Interplay and Global Environmental Change,* ed. Sebastian Oberthür and Olav Schram Stokke (Cambridge, MA: The MIT Press, 2011), 143–70.
14 Drezner, "The Power and Peril of International Regime Complexity."
15 Young, "The shifting landscape of Arctic politics," 209.
16 *Ibid*.
17 *Ibid*., 210.
18 Neil Melvin and Kristofer Bergh, "Introduction," in *The New Arctic Governance*, ed. Linda Jacobson and Neil Marvin (Oxford: Oxford University Press, 2016), 8.
19 China Dialogue Ocean, "China Dives Into Deep-Sea Mining," *The Maritime Executive*, March 29, 2019, https://www.maritime-executive.com/editorials/china-dives-into-deep-sea-mining.
20 Svein Vigeland Rottem, "The New Arctic Governance," ed. Linda Jacobson and Neil Marvin (Oxford: Oxford University Press, 2016), 147-174.
21 Matthew S. Wiseman, "The Palgrave Handbook of Arctic Policy and Politics," ed. K.S. Coates and C. Holroyd (Cham: Palgrave MacMillan, 2020).
22 The State Council Information Office of the People's Republic of China, "China's Arctic Policy," *Xinhua*, last updated January 26, 2018, http://english.www.gov.cn/archive/white_paper/2018/01/26/content_281476026660336.htm.
23 Wishnick, "China's Interests and Goals in the Arctic," 28, 52.
24 The State Council, "China's Arctic Policy."
25 Wishnick, "China's Interests and Goals in the Arctic," 65.
26 Kåre Groes Christiansen, "Is Maritime valley in Northern Europe at Risk?" *Briefing*, Norfolk Naval Station, January 8, 2020.
27 Hong, *China's Interests in the Arctic*, 7.
28 *Ibid*., 8–9. See also Jean-Paul Rodrique, *The Geography of Transport Systems* (Abingdon: Routledge, 2017), 412. In Russian law, the Northern Sea Route only runs to the Kara Sea, while the Northeast Passage runs to the Barents Sea and provides access to the port of Murmansk. We use the commonly used term the Northern Sea Route. Cf. Albert Buixadé Farré et al., "Commercial Arctic shipping through the Northeast Passage: routes, resources, governance, technology, and infrastructure," *Polar Geography*, 37, no. 4 (2014): 298–324.
29 Rodrique, *The Geography of Transport Systems*, 412.
30 Mia Bennett, "The Arctic Shipping Route No One's Talking About," *The Maritime Executive*, May 8, 2019, https://www.maritime-executive.com/editorials/the-arctic-shipping-route-no-one-s-talking-about; The State Council Information Office, "China's Arctic Policy."
31 Brady, *China as a Polar Great Power*, 79–86.
32 Jon Bowermaster, "The Last Front of the Cold War," *The Atlantic* 272, no. 5 (1993): 36–45.
33 Adam Lajeunesse & Timothy Choi, "Here there be dragons? Chinese submarine options in the Arctic," *Journal of Strategic Studies* (2021 early view), DOI: 10.1080/01402390.2021.1940147.
34 Tianliang Xiao, *Zhanlue xue* [The Science of Military Strategy] (Beijing: Guofang daxue chubanshe, 2017), 160–5.
35 Lajeunesse and Choi, "Here there be dragons?"
36 The State Council, "China's Arctic Policy."
37 Jingchao Peng and Njord Wegge, "China and the law of the sea: implications for Arctic governance," *The Polar Journal* 4, no. 2 (2014): 298.
38 *Ibid*.
39 United Nations, "Law on the Territorial Sea and the Contiguous Zone of 25 February 1992," *Law of the Sea (National legislation)*, https://www.un.org/depts/los/LEGISLATIONANDTREATIES/PDFFILES/CHN_1992_Law.pdf.
40 Peng and Wegge, "China and the Law of the Sea," 293.
41 Nengye Liu, "The Rise of China and Governance of Shipping in the Changing Arctic" (Presentation at *Warming of the North conference*, Ottawa: University of Manitoba, March 2–3, 2015), https://umanitoba.ca/faculties/management/ti/media/docs/Warming_of_the_North_Nengye_Liu.pdf; Trym Aleksander Eiterjord, *Arctic Technopolitics and China's Reception of the Polar Code* (Washington, DC: The Arctic Institute, Center for Circumpolar Security Studies, May 26, 2020), https://www.thearcticinstitute.org/arctic-technopolitics-china-reception-polar-code/.
42 Natalia Viakhireva, "The Russian and Canadian Approach to Extra-Regional Actors in the Arctic," *Russian International Affairs Council*, July 19, 2019, https://russiancouncil.ru/en/analytics-and-comments/analytics/the-russian-and-canadian-approach-to-extra-regional-actors-in-the-arctic/.
43 Robert Fife and Steven Chase, "China used research mission to test trade route through Canada's Northwest Passage," *The Globe and Mail*, September 10, 2017, https://www.theglobeandmail.com/news/politics/china-used-research-mission-to-test-trade-route-through-canadas-northwest-passage/article36223673/.
44 Michael Byers and Emma Lodge, "China and the Northwest Passage," *Chinese Journal of International Law* 18, no. 1 (March 2019): 57–90.

45 *Ibid*.
46 Nong Hong, "China's New Arctic Policy: Legal Questions and Practical Challenges," in *Analysis from the Maritime Awareness Project* (Seattle: The National Bureau of Asian Research, March 18, 2018), https://www.nbr.org/publication/chinas-new-arctic-policy-legal-questions-and-practical-challenges/.
47 Franz-Stefan Gady, "Russia Launches New Nuclear-Powered Icebreaker", *The Diplomat*, May 27, 2019; Lucy Hine, "Russian Arctic ice-breaking capability set for expansion," *TradeWinds*, May 10, 2021, https://www.tradewindsnews.com/insight/russian-arctic-ice-breaking-capability-set-for-expansion/2-1-1005592.
48 Atle Staalesen, "Chinese money for Northern Sea Route," *The Barents Observer*, June 12, 2018, https://thebarentsobserver.com/en/arctic/2018/06/chinese-money-northern-sea-route; "Murmansk Region and Poly International will cooperate in implementation of Murmansk Transport Hub project," *Port News*, March 30, 2017, https://www.en.portnews.ru/news/236648/.
49 The State Council, "China's Arctic Policy."
50 Hong, *China's Interests in the Arctic*, 11.
51 United States International Trade Commission, "Seafood Obtained via Illegal, Unreported, and Unregulated Fishing: U.S. Inputs and Economic Impact on U.S. Commercial Fisheries," *Publication No. 5168* (Washington, D. C.: Office of External Relations, February 2021).
52 Peng and Wegge, "China and the law of the sea," 299.
53 Hong, *China's Interests in the Arctic*, 12.
54 Nengye Liu, "How Has China Shaped Arctic Fisheries Governance?" *The Diplomat*, June 20, 2018, https://thediplomat.com/2018/06/how-has-china-shaped-arctic-fisheries-governance/.
55 Daniel Grossman, "New treaty to ban fishing in fishless Central Arctic," *Yale Climate Connections*, February 25, 2021, https://yaleclimateconnections.org/2021/02/new-treaty-to-ban-fishing-in-fishless-central-arctic/.
56 The State Council, "China's Arctic Policy."
57 Atle Staalesen, "Behind Russia's record-beating natural gas production lies drive toward the Arctic," *The Barents Observer*, April 6, 2018, https://thebarentsobserver.com/en/industry-and-energy/2018/04/behind-russias-record-beating-natural-gas-production-lies-drive-toward.
58 "Russia's Novatek to sell 20% in Arctic LNG 2 to China," Reuters, April 25, 2019, https://www.reuters.com/article/us-russia-gas-novatek-cnodc/russias-novatek-to-sell-20-percent-in-arctic-lng-2-to-china-idUSKCN1S11WY.
59 "Novatek signs deal to sell gas from Arctic LNG 2 to Chinese firm", *Arctic Today*, February 25, 2021, https://www.arctictoday.com/novatek-signs-deal-to-sell-gas-from-arctic-lng-2-to-chinese-firm/.
60 Michael Wenger, "Arctic fisheries become a political crisis area", *Polar Journal*, February 18, 2021, https://polarjournal.ch/en/2021/02/18/arctic-fisheries-become-a-political-crisis-area/.
61 Katie Toth, "Academic touts opportunities for North in China's Arctic ambitions," *CBC News*, August 18, 2018, https://www.cbc.ca/news/canada/north/china-silk-road-yellowknife-1.4782123.
62 Ron R. Wallace, "Canada and Russia in an Evolving Circumpolar Arctic," in *The Palgrave Handbook of Arctic Policy and Politics*, ed. K.S. Coates and C. Holroyd (Cham: Palgrave MacMillan, 2020), 351–72.
63 Local official from Arctic Norway, Tromsø, Norway, *Interview*, August 19, 2019.
64 John Simpson, "How Greenland could become China's Arctic Base," *BBC News*, December 18, 2018, https://www.bbc.com/news/world-europe-46386867.
65 Mingming Shi and Marc Lanteigne, "The (Many) Roles of Greenland in China's Developing Arctic Policy," *The Diplomat*, March 30, 2018, https://thediplomat.com/2018/03/the-many-roles-of-greenland-in-chinas-developing-arctic-policy/.
66 Deputy Director General of Department of International Cooperation, Ministry of Natural Resources – State Council Administration, PRC Qian Wang at the Arctic Circle Assembly, Reykjavik, Iceland, *Speech*, October 19, 2018.
67 Influential retired politician from Greenland, *Interview*, December 6, 2018.
68 "Leftwing party opposed to mining project wins Greenland vote," *yahoo news*, April 7, 2021, https://au.news.yahoo.com/leftwing-party-opposed-mining-project-071941762.html.
69 Shi and Lanteigne, "The (Many) Roles of Greenland in China's Developing Arctic Policy."
70 Japanese Minister of Foreign Affairs Taro Kono at the Arctic Circle Assembly, Reykjavik, Iceland, *Speech*, October 19, 2018.
71 Liu, "How Has China Shaped Arctic Fisheries Governance?"
72 The State Council, "China's Arctic Policy."
73 Brady, *China as a Polar Great Power*, 103.
74 The Arctic Council, "About Observers," 2021, https://arctic-council.org/en/about/observers/.
75 Director General of the Polar Research Institute of China (PRIC) Huigen Yang, The Arctic Circle Assembly, Reykjavik, Iceland, *Speech*, October 19, 2018.
76 Tryn Aleksander Eiterjord, "China's Busy Year in the Arctic," *The Diplomat*, January 30, 2019, https://thediplomat.com/2019/01/chinas-busy-year-in-the-arctic/.
77 The State Council, "China's Arctic Policy."

78 *Ibid*.
79 O. Rogne, V. Rachold, L. Hacquebord, R. Corell, "IASC after 25 Years – A Quarter of a Century of International Arctic Research Cooperation", *IASC Bulletin* (2015): 44, https://iasc25.iasc.info/media-menu (IASC "History").
80 The White House, "Factsheet: The United States Hosts First-Ever Arctic Science Ministerial to Advance International Research Efforts," September 28, 2016, https://obamawhitehouse.archives.gov/the-press-office/2016/09/28/fact-sheet-united-states-hosts-first-ever-arctic-science-ministerial.
81 3rd Arctic Science Ministerial, "Concept Note: Third Arctic Science Ministerial," 2021, https://asm3.org/about-asm3/.
82 Paul Arthur Berkman, Lars Kullerud, Allen Pope, Alexander N. Vylegzhanin, Oran R. Young, "The Arctic Science Agreement propels science diplomacy," *Science* 358, no. 6363 (November 3, 2017): 596.
83 Akiho Shibata, 2019 "The Arctic Science Cooperation Agreement," in *Emerging Legal Orders in the Arctic: The Role of Non-Arctic Actors*, ed. Akiho Shibata, Leilei Zou, Nikolas Sellheim and Marzia Scopelliti (New York: Routledge), 216–17, DOI: 10.4324/9780429461170-12.
84 *Ibid*., 219.
85 *Ibid*., 222.
86 "China's Arctic ambitions take shape in remote Iceland valley," *Associated Press*, November 17, 2016, https://www.news24.com/Green/News/chinas-arctic-ambitions-take-shape-in-remote-iceland-valley-20161116.
87 Brady, *China as a Polar Great Power*.
88 "China, Norway to boost cooperation in Arctic climate research," *Xinhua*, April 19, 2018, http://www.xinhuanet.com/english/2018-04/19/c_137123061.htm.
89 "China, Finland to enhance Arctic Research Cooperation," *Xinhua*, October 31, 2018, http://english.cas.cn/Special_Reports/Belt_of_Science_Road_for_Cooperation/Technology_Cooperation/201810/t20181029_200564.shtml.
90 Su and Mayer, "Science Diplomacy and Trust Building," 23–8.
91 Eiterjord, "China's Busy Year in the Arctic."
92 Anonymous director at regional institution, Tromsø, Norway, *Interview*, August 19, 2019.
93 Yle News, "Defense Ministry blocked Chinese plans for research airbase in Lapland," March 4, 2021, https://yle.fi/uutiset/osasto/news/defense_ministry_blocked_chinese_plans_for_research_airbase_in_lapland/11820411.
94 Joanna Hosa, "Strategy on ice: Has Russia already won the scramble for the Arctic?" *Commentary European Council on Foreign Relations*, October 26, 2018, https://www.ecfr.eu/article/commentary_strategy_on_ice_has_russia_already_won_the_scramble_for_the_arct.
95 Pavel Devyatkin, "Russian and Chinese Scientists to Establish Arctic Research Center," *High North News*, August 13, 2020, https://www.highnorthnews.com/en/russian-and-chinese-scientists-establish-arctic-research-center.
96 Sherri Goodman and Yun Sun, "What You May Not Know About Sino-Russian Cooperation in the Arctic and Why It Matters," *The Diplomat*, August 13, 2020, https://thediplomat.com/2020/08/what-you-may-not-know-about-sino-russian-cooperation-in-the-arctic-and-why-it-matters/.

Acknowledgments

The authors would like to thank the Danish Maritime Fund for funding this project and the Danish Foreign Policy Society and Naval Team Denmark for invaluable support for realizing this project.

Disclosure Statement

No potential conflict of interest was reported by the author(s).

Funding

This work was supported by the The Danish Maritime Fund [1].

Notes on contributors

M. Taylor Fravel is the Arthur and Ruth Sloan Professor of Political Science and Director of the Security Studies Program at the Massachusetts Institute of Technology. His books include Strong Borders, Secure Nation: Cooperation and Conflict in China's Territorial Disputes, (Princeton University Press, 2008) and Active Defense: China's Military Strategy Since 1949 (Princeton University Press, 2019).

Liselotte Odgaard is a senior research fellow at the Norwegian Institute for Defence Studies in Norway and a non-resident senior fellow at Hudson Institute in Washington, D.C. She is interested in U.S.-China-Europe relations, Arctic and Asian security and Chinese foreign policy. Her work has been issued by publishers such as Johns Hopkins University Press, Journal of Contemporary China, Asian Security, Asia Policy and Journal of International Political Theory.

Kathryn Lavelle is a professor at Case Western Reserve University in the department of Political Science. Her research specializes in multilateralism and global governance. The author of four books, her articles have appeared in The Journal of Policy History, International Studies Quarterly, Perspectives on Politics, International Organization, Review of International Organizations, The Journal of Modern African Studies, Third World Quarterly, Review of International Political Economy, International Journal of Political Economy, International Studies Review, Journal of International Affairs, and Business and Politics.