vol 2
2016

CHINA STUDIES REVIEW

featuring articles by

Benjamin Pollok
Cheng Zhang
Adrienne Dalton
Jakob Bund
Patrick Lozada
David Rubin
Peter C.Y. Kim
Shuxian Luo
Winston Kung

Design: www.SchumannStudioCreative.com
Printed on Rolland Hitech - with a minimum of 30% post-consumer fiber, made using renewable biogas energy.

The China Studies program does not take institutional positions on public policy issues; the views represented herein are the author's and do not necessarily reflect the views of its staff, or trustees of Johns Hopkins University.

For electronic copies of this report, visit:
https://www.sais-jhu.edu/content/china-studies-review#about

China Studies Program
The Johns Hopkins University Paul H. Nitze School of Advanced International Studies
Rome Building, Suite 606-612
1619 Massachusetts Avenue, N.W.
Washington, D.C. 20036
Tel: +1 202 663 5816
http://www.sais-jhu.edu/content/china-studies#overview
saischinastudiesreview@gmail.com

The China Studies Review is a publication of the China Studies program of The Johns Hopkins University School of Advanced International Studies (SAIS). The Review publishes interdisciplinary work by SAIS graduate students conducting research on China, including topics in history, politics, economics, political economy, policy, energy and the environment.

vol 2
2016

CHINA STUDIES REVIEW

table of contents

letter from the editor

This is an exciting time for China scholars as the country continues to undergo major transformations in its domestic and international spheres. Within the last year, China has founded a major international financial institution even as its economic growth rate has fallen to just above 6 percent. At the same time, we have witnessed an escalation in hostilities in the South China Sea between China and its neighbors as well as increased tensions between China and the United States over cybersecurity. While no one journal can hope to capture all of these fascinating developments, we are pleased to present the second edition of the China Studies Review as a showcase of student scholarship at the Johns Hopkins School of Advanced International Studies and hope it will further the understanding of China's opportunities and challenges.

In our first section, we introduce three short pieces that examine important issues in U.S.-China investment relations, public opinion in China and Japan, and the Hong Kong pro-democracy movement. Benjamin Pollock examines the progression of negotiations between the United States and China in adopting a high-quality bilateral investment treaty. Cheng Zhang uses data from Genron to understand the reasons behind mutual distrust between China and Japan. Adrienne Dalton looks at the role of Hong Kong triads in the suppression of the 2014 Hong Kong pro-democracy demonstrations.

Our second section features six research articles covering a wide range of topics. Jakob Bund explores U.S.-China relations in cyberspace and provides an alternative framework by which the two countries can cooperate in the absence of trust. Patrick Lozada discusses China's "creative industries", and the shortcomings of China's creative special economic zones in fostering an innovation economy. David Rubin builds upon Bruce Gilley's spectrum of democratic and authoritarian environmentalism and finds that in the context of environmental policymaking, China is transitioning towards more inclusivity and grassroots engagement. Peter Kim also examines China's environmental policy and uses dust and sandstorms, also known as "yellow dust", to examine the challenges and opportunities for environmental cooperation in Northeast Asia. Shuxian Luo conducts a comparative analysis of China and India's naval modernization efforts, noting that while China's rapid economic development has spurred its naval modernization at a more rapid pace, there are other important elements such as differing threat perceptions and alliance options that help to explain India's relative lag in naval modernization. Finally, Winston Kung presents a Taiwan Straits crisis scenario analysis that examines the legal, diplomatic, strategic, and domestic opinion factors that would likely affect a U.S. response, concluding that U.S. diplomatic and military leverage would eventually lead China and Taiwan to de-escalate tensions in the region.

We in the China Studies program are excited to have this opportunity to showcase student work on China's domestic developments and evolving foreign policy. I would like to take this opportunity to thank our staff editors and writers for their enthusiasm and hard work in making this publication a reality and to our faculty advisor, Carla Freeman, for her ongoing support of the *Review*.

Natalie Lynch
Washington, D.C.

Potential Gains from a U.S.-China Bilateral Investment Treaty

Benjamin Pollok

Since 2013, negotiations between the United States and China on a Bilateral Investment Treaty (BIT) have made incremental progress. A high quality BIT, based principally on the 2012 U.S. Model BIT, could be mutually beneficial and would represent a substantial step in China's liberalization of market access for foreign investors. If negotiations are successful, the BIT will broaden two-way streams of investment and equip U.S. investors with greater legal protections and transparency.

Of the two countries, the U.S. has the most to gain from a binding, high quality investment treaty. Countries with their own BITs with China have greater opportunities for investment, including greater access to the manufacturing, service and financial sectors. In 2015, the U.S. held a meager 1.2 percent of total foreign investments in China.[1] A high quality BIT would address many of the key concerns that prevent U.S. investors from entering the Chinese market. Namely, the BIT would open previously inaccessible industries for foreign direct investment (FDI) in China and potentially ease China's controversial law requiring U.S. firms to partner with domestic firms in "joint ventures".

While the proposed U.S.-China BIT is a major departure from China's existing bilateral and regional BITs, it marks the next logical step in China's broader trade liberalization process. China's 107 existing BITs all operate on a "positive list", which delineates the specific industries in which foreign firms can invest. This is the first Chinese BIT that will function on the basis of a "negative list", meaning that U.S. firms will be able to invest directly in *all* industries except those explicitly listed as exempt from international investment.

Though some critics have questioned China's ability to agree and adhere to a high quality BIT, over the past few years there have been positive indications of China's willingness to create more robust investment agreements. Preceding their trilateral Free Trade Agreement, in 2012 China, Japan and Korea signed an investment treaty. This agreement was China's most ambitious investment treaty yet. The U.S.-China BIT would go further in expanding market access, meaning that U.S. investors would enjoy the broadest array of investment opportunities of any foreign investors in China.

Further economic integration may also strengthen U.S.-China diplomatic relations, and greater clarity in investment regulations and dispute settlements may reduce the political friction that has resulted from a mutual lack of transparency. The BIT could even provide a launching point for an eventual bilateral trade agreement, or China's integration into the Trans-Pacific Partnership (TPP).

China's slowing economic performance may provide an opportunity for expedited negotiations over the coming year. In light of China's increasingly ambitious BITs in recent years and its desire for a U.S.-China BIT as an economic stimulus, an opportunity for a high quality U.S.-China BIT has never been greater. With the Obama administration's designation of the U.S.-China relationship as "a top priority", [2] the U.S. should take advantage of China's stagnation as an opportunity to expedite BIT negotiations.

About the Author

Benjamin Pollok is a second year SAIS student concentrating in China Studies. After graduating from Colgate University in 2011, Ben worked for several years in international education, first for Peking University and then for CET Academic Programs. In the summer of 2016, Ben interned at the Carnegie-Tsinghua Center for Global Policy in Beijing.

1 *Toward a US-China Investment Treaty*, Peterson Institute for International Economics, PIEE Briefing 151, February 2015, 3.

2 The White House Office of the Press Secretary. "Fact Sheet: U.S.- China Economic Relations." September 15, 2015.

Shifting Public Attitudes in Japan and China in the Twenty-First Century

Cheng Zhang

Since the normalization of relations in the 1970's, the relationship between Japan and China has experienced periods of close cooperation and high tension. Joint public opinion polls conducted by the Japanese Public Opinion Research Institute Corporation (Genron NPO) and the Chinese newspaper *China Daily* found that public attitudes in both countries have been predominantly negative during the twenty-first century. [1] This piece examines public opinion data from Genron NPO and *China Daily* and areas for increased mutual understanding between the two countries.

In China, public opinion polls conducted from 2000 to 2014 demonstrated predominantly negative attitudes towards Japan. Public opinion data from Genron NPO and *China Daily* showed that although public opinion on both sides was more favorable from 2006 to 2008, negative impressions spiked in 2009 and again in 2013 and 2014. Japanese attitudes towards China were noticeably influenced by anti-Japanese demonstrations in China in the early 2000s, with negative impressions growing steadily after 2006. [2] Unfavorable attitudes in Japan spiked again in 2013 and 2014, which corresponded with a wave of anti-Japanese sentiment in China.

Reasons for negative impressions are similar in the two countries. First, both the Japanese and the Chinese respondents agree that one another's actions over the Senkaku/Diaoyu islands are unacceptable. Almost 48.4 percent of Japanese Genron respondents stated that they expected the two countries to approach the issues by negotiating rather than through military means (2014; 2013, 49.1 percent). [3] Criticism from Chinese respondents mainly focused on the unilateral actions of the Japanese government in claiming administrative control over the disputed islands.

Disagreement on how history should be treated is another major reason behind the negative public attitudes in Japan and China. Around 56 percent of Japanese respondents believed that both China's criticism of Japan's past acts and China's curriculum were too subjective and nationalistic. [4] In 2013 this figure rose to 58.6 percent of respondents. [5] Correspondingly, in 2013 almost 61 percent of Chinese respondents declared that Japan must recognize and apologize for its past aggressions towards China. [6]

Other reasons related to pressures associated with regional security concerns also contributed to the negative feelings in both countries. For the Japanese respondents, the perception of China as a military threat to the region increased from 61.8 percent in 2013 to 64.3 percent in 2014. [7] For Chinese respondents, more than half believed that Japan's military cooperation with the United States is an attempt to contain China. [8]

Despite the predominantly negative perceptions in the early part of the twenty-first century, increased interaction between Japanese and Chinese citizens has the potential to improve mutual perceptions. The recent increase in tourism in both directions, particularly Chinese tourists visiting Japan, has promoted understanding between Chinese and Japanese people, with Chinese tourists expressing positive impression of Japan after their travels. [9] Cultural exchanges on literature, movies and popular culture can also assist older and younger audiences to better understand Chinese and Japanese cultures.

About the Author

Cheng Zhang is a second year Japan Studies concentrator at SAIS. Her academic interests include Japan-China relations and Northeast Asian regional collaboration, including diplomatic communication, historical reconciliation and cultural exchange. She is currently working on a research paper regarding historical revisionism and reconciliation in Japan since the 1980s, as well as major historical contentions with East Asian countries.

1 "The 10th Japan-China Public Opinion Poll," 2014, 3.

2 Su-Jeong Kang, "Anti Japanese Popular Nationalism and China's Approach Towards Japan amid Sino-Japanese Political Tension, 2001-2006," *Springer Science and Business Media: East Asia* (May 2013), 167.

3 "The 10th Japan-China Public Opinion Poll," 2014, 26.

4 Ibid.

5 Ibid.

6 Ibid.

7 "The 10th", 32.

8 Ibid.

9 Adam Minter, "Why Chinese Tourists Love Japan," *The Japan Times*, March 27, 2015.

Knife Attacks on Pro-Democracy Protesters Remind Hong Kong of the Triad's Political Past

Adrienne Dalton

Hong Kong's organized crime groups, known as triads, have a colorful history of interaction and interdependency with the government of mainland China. In 1819, the triads established their first Hong Kong headquarters, and by 1988 the British estimated that one in twenty Hong Kong Chinese was affiliated with a triad.[1] The years following Hong Kong's administrative changeover from Great Britain to China in 1997 saw a significant decrease in triad activity throughout the city, with many believing that the groups moved to mainland China in search of more lucrative business opportunities. However, recent political unrest in Hong Kong has revived discussion of the political influence of the triads in the territory.[2]

In 2014, pro-democracy student protesters were attacked by dozens of masked assailants armed with knives and other weapons.[3] The scale and coordinated nature of the attacks suggested that organized crime groups were behind the violence. Police units in Hong Kong were observed permitting the masked assailants to escape arrest, and allowing anti-democracy mobs to harass and beat protesters as they attempted to flee to safety.[4] Following the incident, student protesters called off plans to meet with Hong Kong officials under the suspicion that the Hong Kong government had been cooperating with Beijing in order to silence the pro-democracy movement.

If it is true that Hong Kong triads committed these attacks in cooperation with the Chinese Communist Party, this would not be the first time that the triads have involved themselves in politics. The triads are opportunistic organizations whose primary objectives are economic gain and financial stability, but at times, political associations have proved to be lucrative investments. For example, in 1949, triads assisted Chiang Kai-shek in fighting against the People's Liberation Army, and in 1989, the triads assisted in smuggling more than one hundred pro-democracy protesters out of Beijing during the Tiananmen crackdown.[5] During the 1997 administrative changeover in Hong Kong, many people believed that Beijing directly recruited the triads to help maintain social order and to ensure that the transition would occur seamlessly. When Beijing announced its intentions to select the candidates for Hong Kong's 2017 executive elections, and pro-democracy protesters subsequently filled the streets, the charged atmosphere mirrored the scene that preceded the 1997 administrative changeover. If Beijing's "united front" tactic with the triads worked to suppress pro-Western support in 1997, then it is not implausible that Beijing would once again call upon the triads to provide vigilante street patrols in order to ensure that the election goes according to the Communist Party's plan.[6]

About the Author

Adrienne Dalton is a is a graduate of Johns Hopkins SAIS, where she concentrated in Strategic Studies. Her research and professional interests include Chinese civil society, Chinese social issues and the law of war. In addition to her studies, she taught English language literature at a public high school in China, and has traveled extensively throughout Asia. She holds a Bachelor of Accountancy and French language from Wofford College.

1 Benjamin T. Liu, *Hong Kong Triad Societies Before and After the 1997 Changeover* (Hong Kong: Net e-Publishing, 2001), 30-35.

2 Dan Levin, "Triad Links to Attacks on Protesters Raise Some Old Questions," *The New York Times*, October 4, 2014.

3 Tom Phillips, "Masked Men Attack Hong Kong Democracy Protesters," *The Telegraph*, October 13, 2014.

4 Ishaan Tharoor, "Watch: When a Triad Mob Attacked Hong Kong's Protesters," *The Washington Post*, October 4, 2014.

5 Liu, 40-43.

6 T. Wing Lo, "Beyond Social Capital: Triad Organized Crime in Hong Kong and China," British Journal of Criminology 50, no. 5 (September 2010), 858-860.

Limited Agreement, Maximized Trust: Assessing the Prospect for Effective U.S.-China Cybersecurity Cooperation

Jakob Bund

Relations between the United States and China in cyberspace are routinely depicted in antagonistic terms. Ongoing international controversy over the laws and norms of permissible peacetime behavior applicable in the cyber domain leave China and the United States with few tools to manage disputes. These conditions increase both the probability and consequences of escalating tensions between China and the United States. Differing interests between both countries, however, do not preclude cooperation but require a rethinking of the approach to cooperation – independent of trust as an input. This paper explores alternative opportunities for issue-specific cooperation that can produce tangible results in the absence of trust, with the potential of generating trust as an output. Non-cooperation entails rising costs of its own. China's parochial practice of cyber diplomacy, which is reflective of an authoritarian government that is concerned about regime stability, tarnishes its ambition to establish a new type of major country relations with the United States. For the United States, the continuous economic loss from cyber-enabled espionage has reached a scale that threatens to upend the international balance of power. Given the costs the United States and China incur for non-cooperation, mitigating their impact depends on direct engagement between the two countries, outside of the frameworks of each country's coalitions of convenience.

This paper assesses the prospects and challenges of U.S.-China cooperation on global cybersecurity. Cyberspace, unlike any other sphere of interaction, is defined by its global reach and ability to reach across borders. In this transnational environment, no single country is able to determine the security architecture for the entire digital domain. Likewise, unanimous consensus on cybersecurity issues in the global community is an unlikely scenario, given the wide divergence of competing normative proposals to fill the current international regulatory vacuum. Instead, coalitions between countries will take the leading role to win enough support to shape cyberspace security arrangements. How smooth this process will be depends in large part on the positions the United States and China adopt, as representatives of opposite sides of the normative spectrum regarding the issue and vis-à-vis each other. The underlying challenges of managing competing conceptions are not new to the United States. But the inherent interconnectedness of cyberspace presets a mode of engagement and precludes patterns of containment. During the Cold War, relations between the United States and the Soviet Union were governed by a rudimentary form of trust, expressed in the logic of mutually assured destruction. Trust, if only in the credibility of the opponent's threat posture, facilitated negative cooperation between the two adversaries that effectively proscribed specific behavior by imposing a prohibitive cost. [1] The security threats China and the United States confront in the current strategic environment increasingly emanate from global governance challenges.

Organic coalitions may emerge to mobilize cooperative behavior for shared benefits and do not necessarily need to be formalized in official alliances. Cooperation is more likely to occur around issue-specific agreements that can nonetheless produce powerful spillover effects as their procedural dynamics take on a life of their own and constrain the parties' immediate control over their implementation. It is this prospect that should encourage the United States to pursue a cooperative approach with China, even if the initial benefit may seem small.

To corroborate this recommendation, this study contrasts two scenarios: (1) an unyielding hard-bargaining strategy that prompts China to form a counter-coalition, and (2) an integrative approach that emphasizes mutual benefits. This analysis borrows from Bobo Lo's concept of the axis of convenience to gain a better understanding of why actors change their coalitions in an attempt to regain freedom of maneuver. [2]

Axes of Confidence

In his 2008 book "Axis of Convenience: Moscow, Beijing, and the New Geopolitics", [3] Bobo Lo characterizes relations between China and Russia as operating along an "axis of convenience", in which both nations unite behind a mutual distrust of U.S. foreign policy decisions. Lo's analysis contends that although China and Russia appear to have strong relations and seek to counter U.S. influence, this axis of convenience is not a sustainable foreign policy vehicle. China's priority rests with restoring its international position of influence and consolidating domestic political authority. While Russia follows objectives similar to China's, it claims spheres of influence with greater assertiveness, willingly risking open conflict. Russia's confrontational approach has the potential to cause serious harm to China's agenda, precisely because of perceived parallels between the two countries' aspirations. Overemphasizing the partnership component of Russia's relations with China comes at Russia's and the United States' own peril. With strategic vision, Lo argues, the United States can foster better relations with both countries by extending opportunities to China and Russia for more cooperative engagement.

Lo's analysis is critical in understanding the role of the United States in promoting cooperation on cybersecurity issues. First, the United States needs to seize the initiative and extend opportunities for engagement to China to unhinge the axis. Second, the United States has to be aware of potential alienating effects of its policy that could cause others to join China's camp. While Lo's research focuses on Russia and China, Iran and other members of the Shanghai Cooperation Organization (SCO) might choose to bandwagon with China for the same reasons that led to the partnership with Russia – providing leverage China may use in its negotiations about the orientation of a coalition with the United States.

Although a coalition-driven approach towards addressing cybersecurity issues would provide many benefits, the United States and China have fundamentally different understandings and experiences with such cooperative alliances. The next section seeks to address these differences and offers a brief recapitulation of the circumstances under which each country has entered into alliances in the past.

Anatomy of Alliances

U.S. foreign policy is alliance-based in its conception. U.S. coalitions, whether with the United Kingdom, France, Germany, Japan or South Korea, have grown out of war-time experiences and therefore have a prominent military component built into them. The salience of military affairs, however, has also been the source of repeated conflict within the coalitions, revolving around concerns about automatic military responses that grow out of treaty responsibilities. Germany, in particular, has taken a reserved stance on the issue. The political climate in Japan has only recently

changed to facilitate support missions for allies. Additionally, while France has expanded its air campaign against ISIL targets in response to the terrorist attacks in Paris on November 13, 2015, the rallying around the fundamental values of "liberté, egalité, fraternité" [4] in the aftermath of the incident render it questionable whether a move towards militarization of the global common cyberspace would find popular backing. In this sense, the hard bargaining position the United States has adopted with regard to South China Sea has the potential to splinter a coalition of its traditional allies when carried over to cyberspace. Assurances about the intention to protect the openness of cyberspace notwithstanding, militarization of the cyber domain would raise enormous domestic challenges for U.S. allies.

Yet, the current situation in the South China Sea offers a case in point for how permeable the different areas of conflict are and how fluent the passage is between the traditional domain of the sea and the unconventional environment of cyberspace. In July 2015, while holding a hearing at the request of the Philippines to assess the validity of the nine-dash line that encompasses China's maritime claims in the South China Sea, the Permanent Court of Arbitration in The Hague became the target of a cyber attack. The court's website was shut down. [5] Circumstantial evidence gathered from the larger geopolitical situation suggests the attack originated from China. [6] This incident speaks to the increasing risk that adversaries in the region resort to out-of-area provocation or retaliation, using cyber means to exert influence in sovereignty disputes in the South and East China Sea. Benign network disruptions generally assumed to be below the escalation threshold could become a frequent tool. The lack of codified response mechanisms, however, adds to the uncertainty of how these events should be managed, potentially giving rise to unintended escalation.

China's recent history of strategic partnerships, on the other hand, is shaped by tectonic shifts in the geopolitical landscape. Being a non-aligned latecomer to a "coalitionalized" international community explains China's preference for opportunistic behavior in forging an axis of temporary convenience. Following the collapse of the USSR, China seized the opportunity to settle its border disputes with the former Soviet republics Kazakhstan, Tajikistan, and Kyrgyzstan. Central Asia continues to form the center of gravity for China's system of strategic partnerships. Together with these countries and Russia, China formed the Shanghai Five in 1996, an institutional framework for political, economic and military collaboration that grew into the SCO in 2001. China leveraged the institution in the past to push its cybersecurity agenda and Internet sovereignty as organizational principle. The July 2015 report "Developments in the Field of Information and Telecommunications in the Context of International Security" issued by the UN Group of Governmental Experts explicitly acknowledges the SCO's proposal for an international code of conduct for information security centered around the concept of Internet sovereignty. [7]

Present Chinese endeavors in the region focus on opportunities for mutual economic gains that stand in contrast to the United States' military orientation of foreign policy. China's efforts to build closer economic connections with Western Europe through Central Asia with its "One Belt, One Road" initiative and the development of the Asia Infrastructure Investment Bank demonstrate an integrative approach that could help China in the medium-term to raise the political capital to forge coalitions on issues that diverge from the current route and extend into cyberspace.

CoalitiOFF: The Rise of Authoritarian Ideological Security Communities

Even with the backing of the SCO, China remains an international outlier when it comes to Internet governance. [8] The government-created information filter, dubbed the Great Firewall, severely limits open web access and reinforces China's claim to Internet sovereignty by applying the principles of territorial integrity to cyberspace. In this matter, hard bargaining on the part of the United States will accomplish little to change China's position where internal stability is concerned. At the same time, if the United States seeks further integration through coalitions that exclude China, that is likely to only exacerbate concerns in China about the government's ideological security and invigorate official support for the idea that cooperation with the United States on cybersecurity issues will open it to regime change, thereby prompting China to counter these coalitions with alliances of its own. In 2013 President Xi Jinping made comments in this vein:

Western anti-China forces continue to vainly attempt to use the Internet to "topple China." Many years ago, there were Western governments that stated that "with the internet, there is a way to tackle China", "Socialist countries are infused with Western ambitions, which starts from the Internet". […] On this battlefield of the Internet, whether we can stand up, and gain victory, directly relates to our country's ideological security and regime security. [9]

Leaked shortly after Xi's speech, in April 2013, the Communiqué on the Current State of the Ideological Sphere, issued by the Central Committee of the Chinese Communist Party's (CCP) General Office, detailed the extent of China's concern about foreign challenges to its ideological security. [10] Also known as Document 9, the General Office's notice explicitly refers to efforts to "conscientiously strengthen management of the ideological battlefield". [11] The document identifies the Internet as the channel through which overseas media organizations penetrate China to disseminate "mistaken views and ideas." The paper takes alleged links between civil society groups in China and "Western anti-China forces" as a clear indication "that the contest between infiltration and anti-infiltration efforts in the ideological sphere is as severe as ever, and so long as we persist in CCP leadership and socialism with Chinese characteristics, the position of Western anti-China forces to pressure for urgent reform won't change […]." [12]

Ideological security opens an avenue for engagement with a number of actors. Iran features prominently in this list, given the shared concern about regime change and the common interest in surveillance of popular communication. Sino-Iranian cooperation has already moved beyond rhetorical alignment. [13] As Iran becomes a rehabilitated member of the international community, with sanctions related to its nuclear program gradually lifted, this partnership is expected to only deepen further.

On the technological front, China has long been assisting Iran in the build-up of its "halal" national network SHOMA. [14] The Chinese corporation ZTE, indirectly government-controlled through a 51 percent share held by a consortium of state-owned enterprises, has been discovered to have provided deep packet inspection technology to the Telecommunication Company of Iran (TCI) that allows authorities to read online traffic. [15] The parties to the deal are revealing, considering that TCI controls almost all of Iran's fixed line communications, telephone and Internet. [16] Moreover, ZTE-TCI documents have revealed that Iran had been able to circumvent U.S. sanctions and gain access to U.S. technology through a Chinese firm acting as an intermediary. [17]

The Wassenaar Arrangement on Export Controls for Conventional Arms and Dual-Use Goods and Technologies features as one possible issue in which the cooperation on ideological security could play out.

Neither China nor Iran are signatories of the agreement. In December 2013, the agreement was amended to prevent the export of cyber intrusion and surveillance software and technology to authoritarian regimes suspected of deploying these tools against their own populations. [18] The amendment has sparked controversy among technology companies in the United States that cite the inherent dual-use nature of most software and technology products as a major obstacle to enforceability. [19] Even if implemented in its current form, the efficacy of the amendment to deny access to communication monitoring tools to authoritarian governments remains contested. As European and U.S. companies exit the market in countries of concern, China could become a major source of surveillance technology. These commercial relationships could prove a point of departure for further cooperation between China and these countries on a normative level.

In the meantime, the Chinese ICT companies ZTE and Huawei have set up their North American headquarters in Richardson and Plano, Texas, taking the two-level game to foreign soil. Choosing Texas as the location for their headquarters appears to be strategically motivated, with the purpose of enlisting local representatives and senators to lobby against the Obama administration in Washington, D.C. The fact that major Chinese technology companies with strong ties to the government in Beijing vie for influence in U.S. domestic politics, however, also suggests that China has a fundamental interest in engagement with the United States and is willing to pursue other channels if the diplomatic track proves to be politically obstructed.

CoalitiON: The Spillover Potential of Engaging China

China's economic trajectory provides further incentives to the United States to extend opportunities for cooperation to China. China cannot sustain an uncooperative position indefinitely, given the rising cost of unresolved cybersecurity problems to its digitalizing economy. A 2014 study by McAffee and the Center for Strategic and International Studies estimated the annual loss to the global economy from cybercrime to amount to $400 billion. [20] When measured in terms of GDP, the figures for the United States (0.64 percent) and China (0.63 percent) are remarkably close to each other. [21] National Security Agency Director Admiral Mike Rogers, in his remarks at the Halifax Security Forum in November 2015, put these findings into words:

To my Chinese counterparts, I would remind them, increasingly you are as vulnerable as any other major industrialized nation state. The idea that you can somehow exist outside the broader global cyber challenges I don't think is workable. [22]

To what extent this statement was intended as a veiled threat or merely a descriptive remark about China's economic rise and increasing reliance on networked technology is subject to individual interpretation. The following passage, taken from the 2015 Report to Congress of the U.S.-China Economic and Security Review Commission, however, places Rogers' statement in an interesting context:

U.S. law does not allow retaliatory cyber attacks by private citizens and corporations, nor does it appear to allow counter-intrusions (or "hack backs") for the purpose of recovering, erasing, or altering stolen data in offending computer networks. International law has not kept up with developments in cyber warfare, and no international consensus exists on how to attribute or appropriately respond to cyber attacks. However, a policy discussion on the issue of offensive and retaliatory cyber operations has begun. [23]

Rogers' remarks could also be construed as emphasis on the need to work together to address these common cyber challenges.

Since the announcement by President Obama and President Xi [24] in September 2015 to resume bilateral cybersecurity talks under the new framework of the U.S.-China High-Level Joint Dialogue on Cybercrime and Related Issues, concerted efforts have been undertaken by both countries to establish a productive working relationship. On December 1, 2015, U.S. Attorney General Loretta E. Lynch, Department of Homeland Security Secretary Jeh Johnson and Chinese State Councilor Guo Shengkun met for the first round of the U.S.-China High-Level Joint Dialogue on Cybercrime and Related Issues. [25] The meeting concluded with a set of mutually agreed guidelines for combating cybercrime and related issues, covering requests for investigative assistance and the responses to these requests.

This initiative illustrates the prospect of issue-specific agreements, presumably contained in the functional area of cybercrime and related malicious cyber activities. As the outcomes of the first joint dialogue meeting suggest, the implications of these talks are unlikely to remain compartmentalized within the confines of assistance on cybercrime and have already expanded to table top exercises intended to improve the respective understanding of national authorities, processes and procedures for managing malicious cyber activity. [26] Pragmatic, limited agreements have a higher chance of fulfilling their purpose because of their restricted scope and specific objectives. The targeted approach China and the United States pursue in collaborating in their fight against cybercrime has the potential to develop a gravitational pull that spirals into increasingly comprehensive agreements. Such a trajectory would confirm that the lack of agreement does not reflect a lack of interest but a lack of trust. Small agreements may remedy this deficiency one step at a time. Notably the announcement of the cybercrime guidelines made explicit mention of the intention to "establish common understanding and expectations regarding the information to be included in such requests and the timeliness of responses."

Adopting an approach of many limited agreements between the United States and China would almost inevitably create concerns among traditional U.S. allies about a bilateral bias towards China in the design of U.S. foreign policy. Some countries might sense the need to position themselves to pre-empt the emergence of a G2 arrangement between the United States and China that would significantly restrict their international influence. The United States needs to be aware of and address these concerns as it progresses on this track. U.S. allies should draw assurance from the rationale President Obama offered in his remarks announcing the nuclear agreement with Iran: "you don't make deals like this with your friends." [27]

Conclusion

The behavior the United States adopts vis-à-vis China shapes the strategic options in the U.S.' portfolio. The areas of limited cooperation explored in this paper can produce tangible benefits for both parties. At the same time, non-cooperative behavior does not offer a neutral alternative but comes at costs of its own. If the United States continues to be confrontational, the opportunity for integrating China will wane. In the worst case scenario, China may engage in building coalitions with like-minded states in an act of counter-balancing. Such a consolidated block favoring Internet sovereignty and state-managed information flows will be considerably harder to break up later on than bringing China in as an individual actor now.

An integration-oriented approach via functional areas that gives the United States some mechanisms to point to Chinese non-compliance within a mutually agreed framework will make it difficult for China to continuously violate its commitments without incurring a tremendous cost to its reputation.

Non-cooperation has forced China to self-impose a tremendous diplomatic cost on its endeavor to strengthen its position of international influence. In response to the

U.S. indictment of five People's Liberation Army (PLA) officers on charges of cyber economic espionage in May 2014, the Chinese leadership decided to suspend the U.S.-China working group on cybersecurity. The need to save face internationally forced China to pull out of a diplomatic initiative that had put it on par with the United States in addressing one the most pressing global security challenges. The reach of China's soft power, in no small part, is defined as a function of its ability to provide an alternative while demonstrating a pragmatic approach to problem solving by keeping its relationship with the United States free of major tensions. Realizing these constraints, China's reaction pattern has changed significantly since its withdrawal from the working group mechanism led to the breakdown of official channels on the subject. Following the announcement that United States is mulling sanctions, China this time became active itself and arrested a number of hackers from a list the United States had shared in a deliberate attempt to test Chinese resolve.[28]

The United States as an actor managing an intricate system of alliances needs to pay close attention to how its partners react to its China policy. A U.S.-Chinese rapprochement on cybersecurity that is viewed by core U.S. allies as coming at their expense would offset any gains of a bilateral pact. If the United States succeeds in containing the potential for such negative externalities, the slow but steady trust dividends from limited agreements with China stand to equally benefit its allies.

About the Author

Jakob Bund is a recent Johns Hopkins University School of Advanced International Studies (SAIS) M.A. graduate, specializing in International Economics, Strategic Studies, and China Studies. He currently supports the European Union Institute for Security Studies (EUISS) in Paris as analyst in training. Before joining the EUISS, he worked for several think tanks in Germany and the United States, focusing on strategic engagement of China and Iran, and the evolution of norms in cyberspace. Most recently, he led efforts for the Strategic Technologies Program at the Center for Strategic and International studies (CSIS) to assess the maturity of cybersecurity capabilities in highly digitized countries. The author welcomes comments and suggestions at insight@jbund.eu.

1 Alex Gillespie, "Dialogical Dynamics of Trust and Distrust in the Cuban Missile Crisis," in Ivana Marková and Alex Gillespie, "*Trust and Conflict: Representation, Culture and Dialogue*," Routledge, 2012.

2 Bobo Lo, "Axis of Convenience: Moscow, Beijing, and the New Geopolitics," Brookings Institution Press and Chatham House, 2008.

3 Lo.

4 "Liberty, equality, fraternity," the national motto of France. The slogan was reportedly first used by French revolutionary Maximilien Robespierre in a speech in 1790. "Liberty, Equality, Fraternity" Embassy of France in the United States, November 30, 2007, http://www.ambafrance-us.org/spip.php?article620.

5 David Tweed, "China's Cyber Spies Take to High Seas as Hack Attacks Spike," *Bloomberg Business*, October 16, 2015.

6 Jason Healey and Anni Piiparinen, "Did China Just Hack the International Court Adjudicating Its South China Sea Territorial Claims?," *The Diplomat*, October 27, 2015,

7 United Nations Group of Governmental Experts on Developments in the Field of Information and Telecommunications in the Context of International Security, Report 2015, A/70/174, July 22, 2015, 7, http:// www.un.org/ga/search/view_doc. asp?symbol=A/70/174.

8 China, Russia, Iran, and India were the only countries that decided not to sign the final resolution of the NetMundial conference in 2014, the last global forum that brought together representatives from governments, industry, civil society, and academia to discuss the challenges of Internet governance. The dissenting countries justified their position referencing their opposition to the proposed inclusive multi-stakeholder approach, advocating instead for a state-centered multilateral mechanism. "The Future of the Internet," *Business Standard*, May 3, 2014.

9 Xi Jinping, Speech at the National Propaganda and Ideology Work Conference, August 19, 2013.

10 Central Committee of the Communist Party of China's General Office, "Communiqué on the Current State of the Ideological Sphere," translation furnished by ChinaFile, Asia Society, November 8, 2013.

11 Ibid.

12 Ibid.

13 Jakob Bund, "Flipping a Bit: Testing the Normative Credibility of China's Cyber Strategy against Iran's Response to Stuxnet," empiric inquiry conducted for China Studies Research Seminar at Johns Hopkins University School of Advanced International Studies, May 2015.

14 Small Media, Iranian Internet Infrastructure and Policy Report March 2014, 7.

15 Steve Stecklow, "Special Report: Chinese Firm Helps Iran Spy on Citizens," *Reuters*, March 22, 2012, http://www.reuters.com/article/2012/03/22/us-iran-telecoms-idUSBRE82L0B820120322.

16 TCI used to be a government agency but has been privatized with the Iranian government now owning a 20 percent share. Report by TCI Board of Directors at the Sixth General Assembly Meeting, Telecommunications Company of Iran, May, 2014, http://tci.ir/userfiles/amar/The%20Report%20by%20TCI%20Board%20of%20directors%20at%20the%20Sixth%20General%20Assembly%20meeting%20Formatted.pdf.

17 Stecklow.

18 Rep. John Ratcliffe, Statement of Subco mmittee Chairman, Hearing on "Wassenaar: Cybersecurity & Export Control," Cybersecurity, Infrastructure Protection, and Security Technologies Subcommittee, House Homeland Security Committee, January 12, 2016, https://www.bis.doc.gov/index.php/forms-documents/doc_download/1395-congressional-hearing-on-bis-cybersecurity-proposed-rule-january-12-2016.

19 Joe Uchill, "The Security Industry Files Formal Objections to Wassenaar Proposal," *Christian Science Monitor,* July 21, 2015.

20 Center for Strategic and International Studies and McAffee, "Net Losses: Estimating the Global Cost of Cybercrime," June 2014, 2, http://www.mcafee.com/jp/resources/reports/rp-economic-impact-cybercrime2.pdf.

21 Ibid.

22 National Security Agency Director Adm. Mike Rogers at Halifax Security Forum, on November 21, 2015, http://www.defensenews.com/story/defense/2015/11/21/china-vulnerable-cyberspace-us-cyber-chief-warns/76175458/.

23 U.S.China Economic and Security Review Commission, 2015 Report to Congress, 9, http://origin.www.uscc.gov/sites/default/files/annual_reports/2015%20Executive%20Summary%20and%20Recommendations.pdf.

24 Fact Sheet: President Xi Jinping's State Visit to the United States, The White House, Office of the Press Secretary, September 25, 2015,

https://www.whitehouse.gov/the-press-office/2015/09/25/fact-sheet-president-xi-jinpings-state-visit-united-states.

25 "First U.S.China U.S. HighLevel Joint Dialogue on Cybercrime and Related Issues Summary of Outcomes," Department of Justice, Office of Public Affairs, December 2, 2015, http://www.justice.gov/opa/pr/first-us-china-high-level-joint-dialogue-cybercrime-and-related-issues-summary-outcomes-0.

26 Ibid.

27 U.S. President Barack Obama, Statement by the President on Iran, The White House, Office of the Press Secretary, July 14, 2015, https://www.whitehouse.gov/the-press-office/2015/07/14/statement-president-iran.

28 Ellen Nakashima and Adam Goldman, "In a first, Chinese Hackers are Arrested at the Behest of the U.S. Government," *Washington Post*, October 9, 2015, https://www.washingtonpost.com/world/national-security/in-a-first-chinese-hackers-are-arrested-at-the-behest-of-the-us-government/2015/10/09/0a7b0e46-6778-11e5-8325-a42b5a459b1e_story.html.

China's Creative Stagnation: The Failure of Zone-Based Reform

Patrick Lozada

This paper examines how China's approach to creative special economic zones for manufacturing has affected their approach to develop "creative industries." In their search to build an innovation economy, China has turned to the "creative class" vision of urban planners like Richard Florida. This vision, which links culture and space with economic production, fits in with the government's concept of cultural power, the promise that such initiatives might help deliver value by moving Chinese companies high up the value chain and China's previous experience with special economic zones. In the long run, these projects have failed to meet their intended goals. In "planning" for innovation, the Chinese government has treated innovation like a manufactured and interchangeable commodity instead of as an independent ecosystem that needs space to thrive. This paper argues that creative enterprise is incompatible with the inflexible organizational scheme of state planning and control.

During the reform and opening period in the late 1970's, China created "special economic zones" (SEZs) in which it conducted small-scale policy experiments with economic liberalization. Today, as China seeks to escape the "middle income trap" by shifting production to higher value-added goods, it has sought to apply the same small-scale zoning approach to creative industries. While this approach has led to the creation of new creative clusters around the country, it has not produced the innovation that policymakers had hoped for. This paper argues that although the creative cluster approach has been successful in other countries as a means for fostering innovation and sustaining robust economic growth, it is unsuited to addressing China's economic challenges. Although China's cluster approach can lead to positive outcomes, such as economies of scale in the manufacturing sector, a top-down, state-led approach is fundamentally incompatible with the creative mode of production.

First, this paper will summarize the literature regarding creative clusters and development zones. Second, it will explain why the idea of creative development zones has gained popularity in China. Third, it will describe how China has attempted to adapt the idea of creative clusters to fit into a Chinese context and how the transformation of this Western concept ties into unique features of China's political economy. Lastly, it will speculate on how China might be able to create and sustain a creative economy in order to avoid the middle income trap, whereby gross domestic product (GDP) stagnates due to an over-reliance on low value-added forms of industrial production.

Literature Review

While creativity is a timeless feature of the human experience, the literature on "creatives" as a distinct group of people who play a dominant role in driving the economy is much newer. The American economist and social scientist Richard Florida is often credited with pioneering the study of this group in his book, *The Rise of the Creative Class: And How It's Transforming Work, Leisure, Community, and Everyday Life*. Florida argues that "Creativity– 'the ability to create meaningful new forms,' as Webster's dictionary puts it–has become the decisive source of competitive advantage" in the economy.[1] He argues that people engaged in creative enterprises are a class unto themselves and share similarities with

each other even though their work can be different:

I define the core of the Creative Class to include people in science and engineering, architecture and design, education, arts, music, and entertainment whose economic function is to create new ideas, new technology, and new creative content. Around this core, the Creative Class also includes a broader group of creative professionals in business and finance, law, health care, and related fields. [2]

Florida argues that the nebulous force of creativity underlies this diverse group of professions and that the creative mode of production is inseparable from the lives of the people involved in it. Thus, the urban environment and the culture within it are key to promoting economic growth; "Place," Florida argues, "has become the central organizing unit of our time." [3] Florida has in mind places like "trendy" Manhattan with its fashion designers and stockbrokers and "quirky" Austin with its music and software development. The diverse and progressive nature of these places is supposed to encourage would-be "disruptors" and innovators in all industries. For example, Florida famously uses a "gay index" to show that urban areas that have more gay people and gay-friendly culture have higher rates of growth and income. This is not because gay people are more productive, but rather because creative people are inherently attracted by and bring growth to cities that are progressive and accept people from diverse backgrounds. [4]

Other scholars, especially those in the fields of urban planning, economics, and sociology, have built on and modified Florida's framework of analysis. Ed Glaeser, an economist at Harvard University who studies cities, modified Florida's theory by fitting it into his own model, which emphasizes urban labor pool impacts not tied to progressive culture. [5] Gregory Peck situates Florida's argument within the Schumpeter/Kondratiev models of economic growth that emphasize circular flows of innovation and critiques the implementation of Florida's ideas in modern cities. [6] Critics of creative class theory such as Michele Hoyman, Chris Faricy and Mel Gray contend that Florida's argument is guilty of conflating correlation with causation, and fails to incorporate stringent causality testing. These critics also argue that the statistical arguments for growth it presents are more adequately accounted for by Human Capital theory, which emphasizes education and job training. [7]

Of most direct relevance to the argument presented in this paper are those scholars who examine how the creative cities model has been adapted to fit the Chinese context. Justin O'Connor and Gu Xin of Queensland University approach the model from a cultural studies perspective, situating it within wider historical conflicts around modernity in China and arguing that Chinese notions of creativity differ from Florida's characterization of creativity as disruptive. [8] Meanwhile, sociologists Ren Xuefeng and Sun Meng from Michigan State University attempt to identify creative spaces from the perspective of government control. Designating spaces as "creative" allows the Chinese Communist Party (CCP) to plan for and confine the impact of unstable creative forces while also allowing the government to profit from the subsequent development. [9] Michael Keane, a fellow at the ARC Center for Creative Innovation at Queensland University of Technology in Australia, takes a different approach, tracing the political economy of artistic development and examining why officials chose to adopt the rhetoric of this fundamentally foreign urban planning approach. [10] Keane is the most prolific writer on the subject, and although he has a positive outlook on the prospects for creativity in China, he is less optimistic about the success of the cultural cluster concept.

In examining the development of creative clusters, it is important to trace the discourse surrounding development zones. Wing Thy Woo's characterization of the free market "C-School" and gradualist "E-School" effectively summarizes the different perspectives in the literature around development zones. "E-school" thinkers such as Barry Naughton or Peter Nolan are more likely to support the approach to extol the benefits of corralling free enterprise and industry into a confined space. This approach fits into their idea that China's economic success has come from a unique model of controlled reform. By contrast, "C-school" thinkers such as Huang Yasheng or Wing Thy Woo himself see the inherent limits and forestalled economic progress of these productive forces. [11]

The argument presented in this paper does not rely heavily on the urban planning and cultural studies criticism present by O'Connor, Gu, Ren and Sun but rather seeks to combine Michael Keane's dissection of the political economy of creative clusters and situate it within the more established literature around value chain and development zones. With regard to this literature, the early achievements of SEZs are acknowledged and seen as valuable, but their long-term viability is questioned. Ultimately, creative enterprise in China cannot be corralled into zones and carefully controlled. In some ways, whether or not one agrees with Florida's model of creativity is irrelevant. This analysis instead asks how and why this discourse, true or not, has been accepted and modified in China to fit into the government's broader development objectives.

The Political Economy of Zone Development in China

Deng Xiaoping famously characterized China's approach to "Reform and Opening" as a process of "crossing the river by feeling the stones." In other words, reform is a process of small steps that relies on lessons learned to chart the way forward. The four initial SEZs in Shantou, Shenzhen, Xiamen and Zhuhai are examples of the creation of geographically defined spaces focused on liberalization as a means to spur economic growth. By limiting new policies on foreign direct investment to a particular city or region, government officials were able to experiment with a new model in a controlled fashion. These zones, as Barry Naughton writes, "permitted incremental progress within a rigid system," and the fundamental logic of zone-based reform has continued to appeal to policymakers to the extent that, "China has marked every major wave of liberalization with the establishment of a new batch of zones." [12]

SEZs are also compatible with the political economy of China's state apparatus. Because local officials are incentivized to promote GDP growth, successful reform in one province leads to the pressure to expand that growth in other areas. Susan Shirk calls this logic "playing to the provinces." [13] Although she used this argument to describe the process of fiscal decentralization, the logic of it – provincial representatives to the Central Committee becoming invested in reform because of the direct benefits to local government budgets – also applies to development zones. The place of SEZs in China's political logic has led to a veritable 'zone fever'. According to the World Bank, there are 716 SEZs in China as of 2014 with labels ranging from "open coastal cities" and "financial reform pilot areas" to "national high-technology parks" and "national ecological civilization demonstration areas." [14]

Although SEZs have accompanied every wave of reform so far, the benefits of these zones are limited. As local officials around the country have used economic zones as a means to enhance their own prestige, they have over-saturated the economic environment and wasted government funds on far-fetched projects. In the case of the Guangzhou Development District, sizable amounts of land and capital were committed to a project that struggled because of the sheer number of other zones that had preferential treatment toward industrial investors. [15] Additionally, China's application of the development zone model to sectors outside of manufacturing has had

limited success due to the characteristics of these other sectors. For example, the Shanghai Free Trade Zone – at one point a strong central government priority under the personal direction of Chinese Premier Li Keqiang – has been called "disappointing" because of its failure to implement the kind of incentives that would attract valuable foreign business. [16] In a recent survey, three-quarters of American firms in Shanghai said that the zone did not offer them any benefits. [17]

The Case for Creativity

Despite the decreasing returns on investment for development zones in China, the idea of "creative cities" has gained traction among Chinese policymakers in recent years. There are three main reasons why Chinese policymakers have adopted the creative cluster model in national planning:

Cultural Power

China has long had conflicting views on culture, sometimes promoting tradition and at other times advancing modernity. On the one hand, China's five thousand years of history and its philosophers like Confucius and Laozi are regarded reverently and held up as superior. On the other, traditional CCP narratives portray a slowly modernizing China that is falling behind due to its culture, necessitating an increased acceptance of Western ideologies such as Marxism. For example, in the modern Chinese classic *Diary of a Madman (kuang ren ri ji)*, Lu Xun carries on an extended metaphor that portrays Confucianism as a literally cannibalistic ideology that teaches Chinese people to eat each other. Indeed, traditional Chinese culture was a point of struggle during the Cultural Revolution as people were told to "smash the four olds." Through China's history, whether it is promoting the simulacrum of Chinese history presented by traditionalists or embracing the unforgiving cultural critiques of the modernizers, culture has been closely linked to conceptions of power.

It is then perhaps no surprise that China has taken Joseph Nye's writings on soft power and incorporated it into their own concept of "Comprehensive National Power *(zonghe guojia quanli)*" that incorporates not only military and economic metrics, but also measures of cohesion such as a strong sense of culture. [18] As Hu Jintao said in his keynote speech made on behalf of the 16th CCP Central Committee to the 17th National Congress of the CCP:

Culture has become a more and more important source of national cohesion and creativity and a factor of growing significance in the competition in overall national strength… [We must] enhance culture as part of the soft power of our country to better guarantee the people's basic cultural rights and interests. [19]

Michael Keane argues that the discourse around creativity and creative clusters incorporates both modern and traditionalist proponents of China's growing cultural power. Discourses on cultural power rely especially on ideas such as "soft power," which refers to a culture's ability to influence the behavior of others without coercion. A common refrain in China was: "When will China have its Gangnam Style?" referring to a popular Korean pop song that had captured global attention in 2012. [20] Traditionalists are more inwardly focused and attempt to reinterpret 'creative industries' as 'cultural industries' promoting Chinese Confucian values. Thus, when Beijing was creating an office to promote creative cluster development, they attempted to mobilize factions, calling their initiative "Cultural and Creative Industries" and establishing an annual event called the International Cultural and Creative Industries Expo (ICCIE) in 2006. [21] The ICCIE was soon joined by the International Creative Industries Alliance (ICIA), the International Creative Industries Conference (ICIC), the International Cultural Creative Industries Conference (ICCIC) and several other similarly named organizations.

Creative Control

Another factor that contributed to the popularity of creative clusters as a development tool was the ability to more effectively monitor and control artistic and innovative spaces through geographic limitation. For instance, the Beijing municipal government has extended its creative control over artist villages on the periphery through "districtification." The new modes of control are achieved by the use of interlocking directorates, whereby the state appoints the same government officials across the executive boards of multiple key governing bodies in art districts. [22]

The geographic limitation of creative clusters allows authorities to effectively contain disturbances and even shut down these zones if necessary. The 798 Art District in Beijing, as well as the Tianzifang and Moganshan Lu districts in Shanghai, are all physically contained within a gated space with entries and exits that can be shut down if need be. This adds to the inherent peripheral nature of art districts, which generally form due to low rents and thus are not centrally located. When planned for actively, this isolation from the general public can be consciously fostered. There is precedent for this in the development of SEZs in the late 1980s and early 1990s. During this time, the Chinese government tried to locate development zones in rural areas in order to keep distance between its people and foreign investors. [23]

Moving Up the Value Chain

China's national policymakers are increasingly aware of the importance of generating higher-value industries so as to avoid the "middle income trap" that results from the predominance of low value-added economic activities such as manufacturing. Much of the economic growth that China has experienced so far has been the result of the modularization of global production, as developed economies have shifted to economic activities such as branding and research and development (R&D), developing economies have engaged in manufacturing. [24] This has been true even in the case of the production of "high-tech" goods, such as smart-phones and laptop computers. As Edward Steinfeld writes, "In the Chinese case, we have seen producers rush into newly opened industries but largely in the low-value end of the activity spectrum. What appears as upgrading from soft industries to high-tech ones, then, often involves very little upgrading at all." [25] The challenge for the government thus is to focus on high-value production activities like marketing and product development that have historically been dominated by developed nations. Michael Keane terms this shift being from a model of "Made in China" to "Created in China." The key to unlocking this model and moving up to these high-value production activities was seen to be creativity, and the way to achieve this was through zone-based development.

Implementation of the Creative Cluster Concept

As argued above, China's desire to implement the creative clusters model is based on a desire to establish itself as a cultural power, exercise control over creative enterprise and avoid the middle-income trap by shifting production to higher value added goods. While the reasons why China is pursuing this model are interesting, the implementation of this concept sheds additional light on certain idiosyncrasies in China's political economy. This section will first establish a baseline for comparing China's pursuit of this model by describing how the creative cities framework is implemented and understood in the West and then will discuss how that framework changed when exported to China.

As mentioned previously, Richard Florida's ideas around the creative economy have gained significant traction in the West, particularly in the United States. Florida's writings on the subject address certain peculiarities of the U.S. economy with its focus on inter-state competition through incentives, a wide range of voices and

organizations incorporated into planning decisions and its reliance on activities higher up on the value chain. This should not imply that the creative economy architecture is particular to the U.S. The creative cluster concept was transmitted to China through consultants from the United Kingdom, and creative economy discourse has become popular in Singapore, Hong Kong and other non-Western countries around the world. [26]

How this model of urban development was processed as it made its way around the world from academia, to policy consultants and finally to Chinese government officials illuminates unique elements of political economy. Instead of incorporating Florida's core beliefs in the three T's of "technology, talent and tolerance," the core message received seemed to be that increasing cultural products – envisioned by some provincial officials as interchangeable units – would attract economic growth through increased levels of creativity. This creation of cultural products as indistinguishable and interchangeable parts allowed the Chinese government to take the lessons it learned from creating cellphones and textiles and import them directly to "innovation." Take for example of the early creative factory of Dafen outside of Shenzhen. The process of developing this area followed the classic development zone playbook. First, local bureaucrats identified the cultural/creative product – paintings and sculptures. Then, there was an obvious business model: set up a factory, call it a cluster and produce contracted products. Today in Dafen, this "artist village" employs around 8,000 people working on replicating oil paintings for local and international customers. The artisans here have no art college training or painting experience. Production takes place under factory conditions, with laborers working long hours replicating classic paintings to be hung in dentists' offices and in the homes of the *nouveau riche*. [27] This type of creative cluster is anything but creative. However, it elucidates Chinese notions of creativity as an undifferentiated product that informs official approaches to the development of creative clusters.

This mentality is not only limited to the art industry. It is also evident in the technological industrial park model, especially prevalent in animation, digital content and software. A proliferation of these zones on the outskirts of major cities has been happening as the push for creative content has increased. For example, between 2005 and 2009, China has set up seventeen accredited animation bases. [28] Establishing an official zone is a concrete achievement an official can point to as he looks to move up the Communist Party system. A similar case can be made with regards to the central government's pressure on officials to increase the number of patents, irrespective of the quality or usefulness of these new "innovations."

Since they are located far outside Central Business Districts in fringe industrial zones, these centers are unable to tap into the dynamism of the city. Florida sees this as an important element of creative enterprise, because while a bunch of people working with computers sounds like Silicon Valley, it ignores the element of Silicon Valley as a diverse ecosystem. As Florida writes,

Silicon Valley can't be understood without reference to the counterculture of nearby San Francisco. Had it not been receptive to offbeat people like the young Steve Jobs years ago, it could not have become what it is today. [29]

These clusters of people all in the same industry located far from city centers are effectively just warehouses for tech workers, and they similarly apply the logic of the factory to non-factory work. They are not creative spaces. Indeed, especially in animation and gaming, these industrial parks often host companies who are doing routine fee-for-service work for Western design companies, or in the video game business doing the tedious work of "porting" – recoding a video game to work on several types of systems. Like the art studios of Dafen, these science and technology parks often give the appearance of creativity without giving it actual substance.

There is, however, another prominent model for creative clusters in China. This model of creative clusters has arisen independently of any government intervention. There are many examples of this, but one of the best examples is the Dashanzi Arts District in Beijing, better known as 798 Art District (798 *yi shu qu*). Originally, the area was a successful factory owned by a State-Owned Enterprise called the Seven Stars Group. As the company began to lay off workers in the late 1990s, the Seven Stars Group rented out factory space in order to pay pensions. At this time, students and professors from Beijing's art schools set up workshops in 798, drawn in by low rents and the accidentally-minimalist Bauhaus style of the old factory. [30]

The relative independence of the art community in 798 lasted for eight years, during which time it became internationally known as the center of Beijing's art scene. However, in 2006 a joint committee composed of the management of the Seven Stars Company and the Chaoyang District Government was formed to oversee 798's transition into a Creative Industries Area. This is another element to create cultural and creative zones – it puts incentives to establish zones in innovative spaces that have developed naturally, and forces them into the matrix of state management. Citing "safety concerns," the new government committee decreed that events and exhibitions need to be officially reported and approved, including contents and locations. In addition, a new permission system was enacted to control the admission of new entrants. As a result of these new measures, the contemporary art scene in China has largely left 798 in favor of Songzhuang, an area where rents are cheaper and government control is less entrenched. [31] What is left is the consumerist edifice of art, politically acceptable units of culture that are sold on the global marketplace.

Based on the development of this area and subsequent flocking of companies engaging in unrelated creative enterprises, the problem is not that Chinese people are not creative, but rather that the Chinese state cannot artificially grow creative enterprises. As the examples of Dafen and 798 Art district show, when the government tries to get involved, it parses creative enterprise as an interchangeable unit and separates it into products to be created en masse. When it encounters spaces where the creative economy forms naturally, its instinct is to regulate and control them. Even when the product is not an artistic one, the inflexible organizational scheme of the state quashes the incentives for genuine innovation. In sum, China's adoption of the creative cluster ideology has been a failure. Successes that do come will likely come in spite of and not because of the government's promotion of creative industry.

Conclusion

The failure of China's interpretation of the creative cluster ideology showcases the idiosyncrasies of China's political economy. First, it shows the reliance (and over-reliance) of governments on incremental progress driven by the creation of special test zones. Second, it offers insight into a dimension of the center-local dynamic in China by showing how local officials respond to discourses from the national level, in this case by actively pursuing the creative-cultural industries concept. Third, it demonstrates how national-level political priorities unrelated to economics, in this case the desire for soft-power growth, can be linked to economic policy. Fourth, it demonstrates China's desire to move up the value chain. And fifth, it shows the limits of top-down management over certain kinds of industries, in this case creative, cultural, and innovative ones.

Divorcing creativity from the inclination to think differently is impossible. What is possible is that China can begin to develop the ability to accommodate and even

encourage differences in thinking under the broad umbrella of Communist party rule. Singapore appears to present a test case. Like China, Singapore has a one-party system and is also ethnically majority Chinese. However, Singapore has a higher percentage of workers involved in creative class jobs (47.3 percent) than any other nation on the planet, while China ranks a dismal 75th, with just 7.5 percent of its workers involved in creative enterprise.[32] The Singapore example suggests that a creative China is not impossible. What is needed is not an overthrow of China's system of government, but rather a greater tolerance of diversity in expression.

A key lesson from China's misadventures in the creative industry is this – China does not want creativity in the same way the West understands it. While "disruption" may be a buzzword in the Western entrepreneurial context, the byword in China is "harmony." The Chinese Communist Party has little use for a gay index, nor does it want celebrations of difference: it wants unity. The Chinese education system too is deeply standardized, and at every level instructors reward compliance. What Beijing's bureaucrats want is the *value* of creativity, completely divorced from the *substance* of it.

About the Author

Eriberto P. Lozada III, e.patrick.lozada@gmail.com, is a graduate of the Johns Hopkins SAIS program in Washington D.C. He is a graduate of Haverford College and holds a certificate in Chinese Studies from the Hopkins Nanjing Center at Nanjing University. He has previously worked as a research consultant on Chinese human rights issues; as a contributor and editor at *Shanghaiist* and *Beijing Cream*; and in communications at the Friends Committee on National Legislation, a peace lobbying group in DC.

1 Richard Florida, *Rise of the Creative Class, Revisited* (New York: Basic Books, 2012), 6.

2 Florida, 8.

3 Ibid.

4 Florida, 58.

5 Edward Glaser, "Book Review: Rise of the Creative Class," http://scholar.harvard. edu/les/ glaeser/ les/book_review_of_rich- ard_oridas_the_rise_of_the_creative_class. pdf.

6 Jamie Peck, "Struggling with the Creative Class," *International Journal of Urban and Regional Research* 29.4, (December 2005), 740-770.

7 Michele Hoyman, Chris Faricy, and Mel Gray as cited in Frank Bures, "The Fall of the Creative Class," *Thirty-two Magazine*, (June, 2012).

8 Justin O'Connor and Gu Xin, "A New Modernity? The Arrival of 'Creative Industries' in China," *International Journal of Cultural Studies*, Volume 9.3 (2006), 271-283.

9 Ren Xuefei and Sun Meng, "Artistic Urbanization: Creative Industries and Creative Control in Beijing," *International Journal of Urban and Regional Research*, Volume 26.3 (May 2012), 504-521.

10 Michael Keane, "Great Adaptations: China's Creative Clusters and the New Social Contract," *Continuum: Journal of Media & Cultural Studies*, Vol.23 No. 2 (April 2009), 221-230.

11 Wing Thy Woo, "The Real Reasons for China's Growth," *The China Journal*, Vol. 41 (1999), 115-137.

12 Barry Naughton, *The Chinese Economy* (Cambridge, MA: MIT Press, 2007), 406.

13 Susan Shirk, *The Political Logic of Economic Reform in China* (Berkeley: University of California Press, 1993), 150.

14 "China's Special Economic Zones: Experience Gained," *The World Bank*, http://www.worldbank.org/ content/dam/Worldbank/Event/Africa/Investing%20in%20Africa%20Forum/2015/investing-in-africa-forum-chinas-special-economic-zone.pdf.

15 Wong Siu Wai and Tang Bosin, "Challenges to the sustainability of 'development zones': A case study of Guangzhou Development District, China," *Cities*, Vol. 22.4 (2005), 304.

16 "Reform Paralysis, Slow Progress Cloud Shanghai Free Trade Zone Project." Reuters, September 14, 2014.

17 "Political priority, economic gamble," *The Economist*, April 14, 2014.

18 J.S. Bajwa, "Defining Elements of Comprehensive National Power," *Center for Law and Warfare Studies Journal* (Summer 2008), 153.

19 Hu Jintao as quoted in Keane (April 2009), 221.

20 Osnos, Evan. "Why China Lacks Gangnam Style." The New Yorker, October 3, 2012.

21 Michael Keane, "Creative Industries in China: Four Perspectives on Social Transformation," International Journal of Cultural Policy Vol. 15, No. 4 (November 2009), 436.

22 Ren and Sun, 505.

23 Wong Siu Wai and Tang Bosin, "Challenges to the sustainability of 'development zones': A case study of Guangzhou Development District, China," *Cities*, Vol. 22.4 (2005), 308-309.

24 Edward Steinfeld, *Playing Our Game: Why China's Economic Rise Doesn't Threaten the West* (Oxford: Oxford University Press, 2010), 701-720.

25 Steinfeld, 92.

26 Keane (April 2009), 223.

27 Keane (April 2009), 225.

28 Keane (April 2009), 228.

29 Florida, 282.

30 Jennifer Currier, "Art and Power in the New China: An Exploration of Beijing's 798 District and Its Implications for Contemporary Urbanism," *The Town Planning Review*, Vol. 79, No. 2 (2008), 242-245.

31 Currier, 247.

32 Florida, 69.

Making the Transition: Examining China's Environmental Policymaking Model after the Rise of Xi Jinping

David Rubin

builds on Gilley's scholarship, examining these developments through the lens of his environmental framework, while also undertaking an exploratory content analysis of the MEP's phraseology in speeches during both the Hu Jintao and Xi Jinping eras to further elucidate a shift towards democratic environmentalism. This paper examines a five-year period from March 2010 to May 2015, eclipsing two and a half years before and after the power transition to Xi Jinping. This paper comes to the conclusion that, even in the post-Xi era, Chinese environmental policymaking does appear to be shifting towards a more "democratic model", though there remain several caveats towards the nature, goal and structure of this "democratization".

In 2012, Bruce Gilley of Portland State University's Hatfield School of Government published a paper entitled, "Authoritarian environmentalism and China's response to climate change". This paper was an exploratory analysis of China's environmental policymaking structure and its position on the democratic environmentalism and authoritarian environmentalism spectrum. Since Gilley published his work, there have been several important political developments that have taken place in mainland China. A new regime under President Xi Jinping has come to power, overseeing the greatest leadership purges since the Cultural Revolution. New leadership has taken over at China's Ministry of Environmental Protection (MEP), while a landmark Environmental Protection Law (EPL) came into force as of January 1, 2015. Many leading academics, including U.S. scholar David Shambaugh, see Xi's rise as a tectonic shift towards greater authoritarianism, which may even cause the downfall of the Chinese Communist Party and the People's Republic. In this context, this paper refutes this position and instead posits that at least in *environmental policymaking*, Xi Jinping's China is still transitioning towards more inclusivity and grassroots engagement on pollution enforcement and policy generation. This assessment

China faces some of the most perplexing environmental challenges in the world today. Historically, it has used a top-down, authoritarian framework to address these equally staggering issues. However, despite increasingly punitive regulations, China still faces significant breakdowns of enforcement and community buy-in for its policies at the local-level. Bruce Gilley's "Authoritarian environmentalism and China's response to climate change" examines the basis for China's environmental policymaking through a well-defined framework to contextualize particular policies as either democratic or authoritarian in nature. This analysis was less prescriptive, but instead more descriptive, examining the natures and characteristics of authoritarian environmentalism and democratic environmentalism. Gilley also assessed that China is transitioning towards a more democratic model, versus its current authoritarian model. Since Gilley's research, there have been several additional developments catalyzed by President Xi Jinping's rise to power to contextualize this shift. Using Bruce Gilley's framework, this paper analyzes these new data points and concludes that since Gilley's initial analysis, *China is continuing to shift towards a more democratic model* under President Xi Jinping's rule to address its growing environmental challenges, but with several important caveats and nuances reflecting President Xi's emphasis on strong enforcement.

In this context, this assessment provides:

1. An overview of Gilley's framework that discusses how these data points will be operationalized;

2. An overview of China's historical model for environmental policymaking, including an assessment of current players and institutions in China's environmental policy processes;

3. A descriptive analysis of recent developments since Xi Jinping's rise as either "democratic" or "authoritarian";

4. A preliminary content analysis of MEP speeches to determine its shift towards more "democratic" or "authoritarian" policymaking; and

5. A final analysis of these developments to determine whether China's policymaking is shifting towards a more "democratic environmentalism" model, including areas for further research on these important developments.

Examining the Framework of Democratic vs. Authoritarian Environmentalism

When evaluating policy processes, political frameworks can be useful tools to delineate and classify specific data points. This is particularly important when examining shifts from one political model to another, as in the case of democratic to authoritarian environmentalism. Gilley cites several scholars in creating a working definition for each of these models. [1]

Authoritarian Environmentalism

Gilley provisionally defines authoritarian environmentalism as "a public policy model that concentrates authority in a few executive agencies manned by capable and uncorrupt elites seeking to improve environmental outcomes. Public participation is limited to a narrow cadre of scientific and technocratic elites while others are expected to participate only in state-led mobilization for the purposes of implementation. The policy outputs that result include a rapid and comprehensive response to the issue and usually some limits on individual freedoms." [2] In China, there is a strong prevalence of "ecoelites", particularly within the Ministry of Environmental Protection, the Chinese Academy of Social Sciences, Chinese Academy of Agricultural Sciences, the National Leading Group to Address Climate Change (NLGACC – within the NDRC), National Environment Advisory Commission and various ministry-level advisory bodies staffed with technocrats. [3]These science and technology organizations form the backbone of authoritarian environmentalism's justification for its policies, rather than relying on grassroots or community input on environmental issues. These structures are often characterized by highly-effective policy generation, but often experience breakdowns in enforcement capacity or community buy-in at the local level.

Democratic Environmentalism

Conversely, Gilley defines democratic environmentalism, "as a public policy model that spreads authority across several levels and agencies of government, including representative legislatures, and that encourages direct public participation from a wide cross-section of society (drawing from Holden 2002 and Humphrey 2007). Policy outputs may be piecemeal and subject to time lags, and do not generally include restrictions on basic social, civil, or political liberties." [4] Policy processes are usually much more involved and can be piecemeal, but often are more successful in the implementation phase given a higher degree of socialization with the public and community buy-in for enforcement.

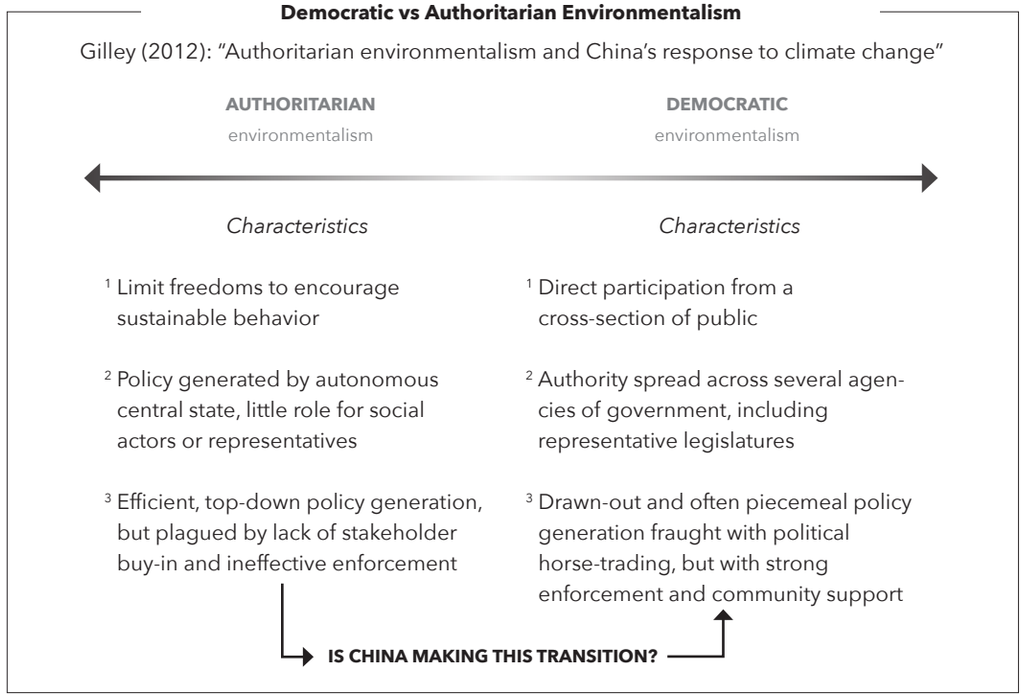
Gilley underscores that these two models form a spectrum of policymaking. Many states often employ elements of both democratic and authoritarian environmentalism to achieve their desired policy goals and outcomes. This paper provides a visual depiction of this spectrum below. Using this framework, this paper will analyze specific instances of Chinese environmental policymaking and MEP speeches to determine their characteristics as either falling into the "authoritarian" or "democratic" model.

China's Historical Model for Environmental Policymaking

Before examining the trend lines of China's environmental tradition towards a more democratic and inclusive model, it is important to examine the country's historical model for environmental policymaking. In the case of China, its environmental policymaking structure evolved in part out of the nation's political regime identity. [5]

China as Authoritarian State

The People's Republic of China (PRC) inarguably remains an authoritarian state, though with several definitional divergences from formal authoritarianism. Juan Linz lays out the foundations for examining authoritarianism as a form of governance with four qualities: "[Authoritarian regimes can be characterized as] political systems with limited, not responsible, political pluralism, without elaborate and guiding ideology, but with distinctive mentalities, without extensive nor intensive political mobilization, except at some points in their development, and in which a leader or occasionally a small group exercised power within ill-defined limits but actually quite predictable ones." [6] China's political system fits into many elements of this definition. Instances of political mobilization have largely abated since the mass movements of the Mao Zedong era. Small groups of political elites exercise control without specified checks or balances, though often follow precedent on their political roles.



Precedent of a Shifting Chinese Political Model

However, as in most analyses of East Asian political theory, the Chinese model of authoritarianism is once again the exception rather than the rule. Kenneth Lieberthal describes China's political model as one of fragmented authoritarianism, where "authority below the very peak of the Chinese political model system is fragmented and disjointed… [Where] the fragmentation is structurally based and enhanced by reform policies regarding procedures." [7] This structure can also be illustrated effectively through the principal-agent problem – local cadre, city, township, prefectural and central authorities will often act in their own self-interests, tacitly engaging with other officials while operating under informational asymmetry. [8] Numerous other authors have written about the shift in Chinese political decision making from a strictly authoritarian to a more hybrid model in response to a need to reestablish regime legitimacy and avoid widespread public discontent. [9] Driven by a self-interest to maintain power, there are many examples of China's Party elites redefining policy processes or political structures to neutralize perceived threats. In so doing, Party elites entertain various experimental policies that can either fall within a more democratic or authoritarian framework. China's environmental policymaking in this regard is no different. Its structure is still rooted fundamentally in authoritarian rule. Yet political elites have shown a degree of flexibility in their environmental policymaking (at times co-opting more unorthodox and vaguely participatory policies) in order to maintain order, control, and legitimacy.

Principal Institutional Actors in Environmental Policymaking

In essence, the Chinese environmental policymaking structure is driven by three main bodies – the Ministry of Environmental Protection, the National Development and Reform Commission (NDRC) and the Politburo Standing Committee [serving as a Chinese Communist Party (CCP) structural complement to the two PRC agencies].

The Ministry of Environmental Protection (MEP): The MEP is the de facto agency in charge of enforcing environmental policy. The MEP's role is to manage air, water, soil, noise and chemical pollution as well as solid waste management, and also to conduct State Council-mandated environmental impact assessments, among other tasks. [10] Noticeably absent from its mandate, however, is the ability to set national climate change goals and targets. These are instead set by the NDRC, whose role is examined below. The MEP has historically been incredibly weak within the Chinese political system, criticized by its own former Minister Zhou Shengxian as being one of the four most embarrassing government departments in the world, which some netizens quipped as being as effectual as landlocked Mongolia's navy [11]. Faced with a tradeoff between environmental sustainability and economic growth, PRC officials often prioritized development at the expense of the MEP's mission. The Ministry's former bureaucratic position reflects this. Until 1984, the MEP's predecessor was under the jurisdiction of the Ministry of Urban Construction (MUC). [12] While the National Environmental Protection Agency was established in 1984 as an independent body, it did not receive a full voting seat at the State Council until it became a ministry in 2008. [13] The MEP's operational capacity has also been historically weak; the Ministry (working with local Environmental Protection Bureaus EPBs) has historically failed in the most basic elements of pollution enforcement and compliance in the countryside, while EPBs remain subordinate to local governments through funding. [14] MEP itself, however, has gained additional credibility and political capital with the new Environmental Protection Law (EPL) and a new minister, Chen Jining. The transformative nature of the new minister and of the EPL are examined in section five below.

National Development and Reform Commission (NDRC): The NDRC is also an important policymaking body on environmental issues within the Chinese government. As mentioned above, its primary mission is to set national climate change targets through its Department of Climate Change and National Leading Group to Address Climate Change, as well as liaise with the Ministry of Environmental Protection through the NDRC Department of Resource Conservation and Environmental Protection. [15,16] For many years, the NDRC's chief negotiator on climate change was Xie Zhenhua. Xie dual-hatted as the Vice Chairman of the NDRC. This technocrat had led negotiations for China at the UN Climate Change Conferences since at least 2007 at the Conference of the Parties (COP) 13 Bali Negotiations. [17] There were open reports that Xie had been called upon to retire from his position in early 2015, though stories circulated in mid-April 2015 indicate that he has now reemerged out of retirement to carry the negotiations at least through COP 21 in Paris. [18] The NDRC's Department of Resource Conservation and Environmental Protection has historically worked with the National People's Congress in drafting national environmental frameworks.

National People's Congress (NPC): The NPC's Environmental Protection and Resources Conservation Committee is the main body for generating draft legislation on the environment. The NPC is strongly motivated by economic growth; with the NDRC, it had responsibility for drafting the first version of the new EPL until this privilege was revoked following a circulation of its very weak public draft in August 2012. [19] Responsibilities were turned over to the Law Committee of the NPC, which oversaw a much more environmentally-amenable revision process. The NPC often rubber-stamps policies that are generated within the upper echelons of the Chinese central government.

Politburo Standing Committee (PSC): The PSC also plays an important role as a CCP complement and check on the policies generated within the NPC and MEP. The PSC most often steps in on issues associated with national infrastructure projects. Chaired by President Xi Jinping and Premier Li Keqiang, the seventh-ranked member Zhang Gaoli is rumored to hold the environmental portfolio of the PSC. [20]

"Counter Agencies": Along with policy generation, there are also several agencies that provide checks against environmental legislation. These agencies include the Ministries of Agriculture, Land and Resources and Water Resources, who have claimed that certain environmental policies encroach on their operational jurisdiction given their overlap with the MEP's mission.

All of these agencies work to generate environmental policies within the Chinese system. Noticeably absent from this list, however, are social actors, NGOs, local governments and community members – all central to a classical democratic environmentalism model.

Evidence of a Shifting Chinese Structure?

As described above, China's environmental policymaking structure is remarkably complex. There are several official channels and agencies, as well as closed technocratic groups, which are involved in the policy generation process. Bruce Gilley's framework takes a comprehensive snapshot of many of these players in his analysis of China's authoritarian environmental framework. However, since Gilley's paper was published, there have been several important developments in how the Chinese government appears to be generating policies. This section examines several of these case studies, and also undertakes a more in-depth content analysis of shifting phraseology choices by the Ministry of Environmental Protection, to determine whether the PRC is indeed shifting towards a more democratic model.

Examining Case Studies to Determine a Democratic Transition

There are several case studies that offer insight into China adopting a more democratic and inclusive policy process for environmental issues, while there are also examples pointing towards a continuation of its traditionally closed-off, authoritarian model.

Evidence of a Democratic Model after President Xi's Rise

Empowerment of the MEP and Minister Chen Jining: One of the most telling examples of a shift towards a more inclusive, democratically-focused environmental policymaking process in China is the emergence of Chen Jining and the rising assertiveness of the MEP in cultivating a stronger role for environmental enforcement and community support. Chen Jining is viewed by some to be a transformative figure in Chinese environmental policy. His appointment as the new MEP will also have implications for environmental protection and enforcement. Chen, a rising political star, was hand-picked by Xi's inner circle to take on the MEP's difficult portfolio. [21] He previously served as president of the prestigious Tsinghua University – Xi's alma mater – and is an environmental sciences expert. Given his connections to Xi and China's leadership circles, he is expected to be uniquely empowered to carry out the MEP's mission.

Since Xi Jinping came to power, there have also been several instances of the MEP trying to elicit greater local-level buy-in for environmental enforcement. During the drafting of the EPL (expanded further below), the MEP controversially circulated a public list of 34 arguments against the original weak draft pushed by the NDRC and the NPC's Environmental Protection and Resources Conservation Committee. The list was published on the MEP's website in late October, 2012, railing against the role of exclusive scientific bodies in developing policies, lack of enforcement mechanisms and a lack of community rights or public input, among other elements. [22] Since that time, Minister Chen has also taken bold steps to shut down investment projects harmful to local communities and environmental sustainability, including the Yangzi's Xiaonanhai dam (a considerable USD 5.1 billion project) that the PSC had complicity greenlighted and that local officials had pushed for at the expense of community interests. [23,24] The MEP also announced the expansion of greater local pollution enforcement teams to combat air pollution in the Beijing-Tianjin-Hebei corridor in the Fall of 2014, and according to MEP Vice Minister Wu Xiaoqing is also ratcheting up efforts to crackdown on data falsification by local governments. [25,26]

The 2014 Environmental Protection Law: Along with the MEP, the new 2014 EPL also takes important steps to cultivate a more inclusive environmental policymaking structure. Within the law, there are guarantees for both whistleblower protection and public interest lawsuits, critical pillars for cultivating stronger local-level support for environmental reforms. The whistleblower protection statutes of the EPL takes important strides to, "encourage public involvement in monitoring corporations and regulatory officials to make sure they carry out their duties lawfully and appropriately." [27] Citizens will now be protected when they report environmental pollution or ecological damage caused by institutions, or if they report failures by authorities to address such damages. Furthermore, following an extensive lobbying process, NGOs were able to secure their role as champions for public interest lawsuits. In an earlier EPL draft, this right was given as an exclusive monopoly to the All-China Environmental Federation, an organization with close ties to the central government. [28] This is an important step in enabling NGOs to serve as interlocutors for local communities and begin a process of grassroots enforcement on environmental law.

Grassroots Push for Data Transparency: Another indication of a democratic shift has been the central government's acquiescence towards greater data transparency on air and water pollution. Throughout 2013, environmental NGOs began pushing the central government to release data on emissions and water discharge following several high-level stories about Beijing's "airpocalypse". To the surprise of many NGO leaders, central authorities agreed. On January 1, 2014, the central government mandated that over 15,000 factories (including those operated by SOEs) must publish their pollution data in real time. [29] This was a coup for China's environmental NGOs – while not a direct channel for public input into environmental lawmaking, greater data transparency does allow communities to identify and apply pressure to the greatest polluters in their towns and cities. This may indirectly cultivate greater public support for the central government's policies. Furthermore, this central government signal may also catalyze more local-level transparency, a central element of democratic transition (spreading authority on tracking and enforcement to additional stakeholders). For example, the Shandong provincial government has started publishing its own monthly violators list after the central government started taking steps towards disclosing more data. [30]

Even a Shifting Stance for the NDRC?: Along with the EPL and MEP, there are even indications that the historically removed and technocratic NDRC may be taking steps to encourage greater community involvement in developing environmental policies. Albeit before Xi Jinping's rise to power, the NDRC's National Leading Group on Addressing Climate Change took an unheard of step in cultivating grassroots input. In March 2011, the NLGACC issued an unusual call for written submissions from the public for 'advice and suggestions' about a draft climate change law intended to bring coherence to the existing suite of laws and regulations. The appeal was made "in order to realize the principles of democratic and open policy-making." [31] In a similar move that October, the NLGACC held a meeting with the China Civil Climate Change Action Network to solicit the opinions of several NGOs on that same climate change bill. [32] In November 2013, the NDRC also co-hosted a panel discussion at COP 19 in Warsaw with the China Civil Climate Change Action Network, several NGOs, and the All China Environmental Foundation to discuss how China could take a more assertive role in soliciting inputs from the NGO community. [33, 34] This is a very significant development for the NDRC. This organization, which has historically aligned against greater inclusionary measures (including working with the NPC to direct the drafting process for the EPL at the exclusion of the MEP), appears to be testing the waters for at least slightly greater stakeholder input into the environmental policymaking process – a critical element of a shift towards a more democratic model. Indeed, public input in the national law-making process is becoming more common, and this may soon be better reflected in the NDRC's own functioning.

Evidence of a Strong Authoritarian Model after President Xi's Rise

Xi Jinping's Ecological Civilization: There are, however, several case studies pointing towards a continuation of a strong authoritarian model for environmental policy in China in the wake of President Xi's rise. Chief amongst them has been the President's choice of words. Since coming to office, the President has "stressed the concept of ecological civilization and conservation culture at political events in China and abroad more than 60 times since November 2012." [35] Environmental protection is clearly an area of importance to the new President. However, when examining his remarks specifically, it becomes clear that his approach is ostensibly very authoritarian. For example, during the 12th NPC in early March, Xi declared that, "we are going to punish, with an iron hand, any violators who destroy ecology or environment, with no exceptions." [36] In a speech in 2013 on the Silk Road Economic Belt, he again toed a more authoritarian environmentalism line, stating that an ecological civilization is "[sic] about not only the well-being of the people, but also the future development of the nation." [37] Furthermore, at a May 2013 study session with the Political Bureau of the Chinese Communist Party Central Committee (CCPCC), Xi stressed that "only the strictest system and most tight-knit law enforcement" could guarantee China's ecological progress, saying that "on issues of ecological and environmental protection, people should not cross the line or they will get punished", and also called on people to shift their lifestyles and curb consumption to encourage greater resource conservation. [38] This choice of phrasing aligns very closely with the authoritarian environmentalism model, particularly around limiting personal freedoms, enforcing a strict top-down approach, and underscoring the autonomous and omnipotent role of central authorities.

The Environmental Protection Law's Stipulations on NGOs: Other indicators that the Chinese government is continuing on its current authoritarian environmental model include the limits on NGOs actually participating in public interest lawsuits, as stipulated in the EPL. In order to file claims on behalf of the people in the People's Court, NGOs must, "(1) be registered with the civil affairs department at or above the municipal level and (2) [have]… been focused on environment-related public interest activities for five consecutive years or more." [39] Of the over 3,500 registered environmental NGOs in China (as of 2012, discounting unregistered), it is estimated that only roughly 300 will be able to meet these two requirements. [40,41] This limits the depth and breadth of NGO players that can participate, disenfranchising any young, issue-specific or locally registered NGOs from the process and eliminating a potential valuable channel to encourage more public involvement and discourse.

Foreign NGO Enforcement Law: Another troubling development in the Xi Jinping era has been the drafting of an extremely strict and limiting law that would render operations for foreign NGOs nearly impossible. This draft law stipulated that NGOs that violated "Chinese society's moral customs" could not operate in China, and further prevented foreign NGOs from opening any branches in China domestically. While state monitoring of NGO activities has long been accepted as simply the price of operating in China, this new law was decried by rights activists as effectively outlawing the operations of foreign NGOs. The NPC did amend the law after some push-back from internal departments on claims that this law would prevent Chinese organizations from tapping into the wealth of data that science and technology-related NGOs currently provide. [42] The revised draft specified instead that foreign NGOs could operate only with the permission of the State Council. This further indicates a reassertion of an authoritarian structure, given both the prioritization of access to technocratic bodies and the consolidation of NGO approval to the central government's State Council. NGOs are an important element of civil society within the democratic environmentalism framework. Without their role to amplify issues from the public to the government, it remains very difficult to make a transition to a more inclusive policymaking structure.

Prominence of Citizen Activist Censorship: Finally, censorship still features as a central tool of the government in limiting community input into the policymaking process. On February 28, 2015, Chai Jing released the widely circulated Chinese film *Under the Dome*, a critique of China's top-down policymaking structure and its failure to enforce pollution regulations. The film circulated for a week and generated 300 million views before it was taken down from Chinese sites, while central authorities also ordered news sites to stop circulating stories about the documentary. [43] The censorship of the film underscored that the

central government would not tolerate such bold criticisms of its own policies. However, it is important to note that the government did let the film circulate for much longer than it could have, increasing the film's exposure. Chen Jining actually praised the film as worthy of comparison with Rachel Carson's seminal "Silent Spring".[44]

Content Analysis of MEP Speeches

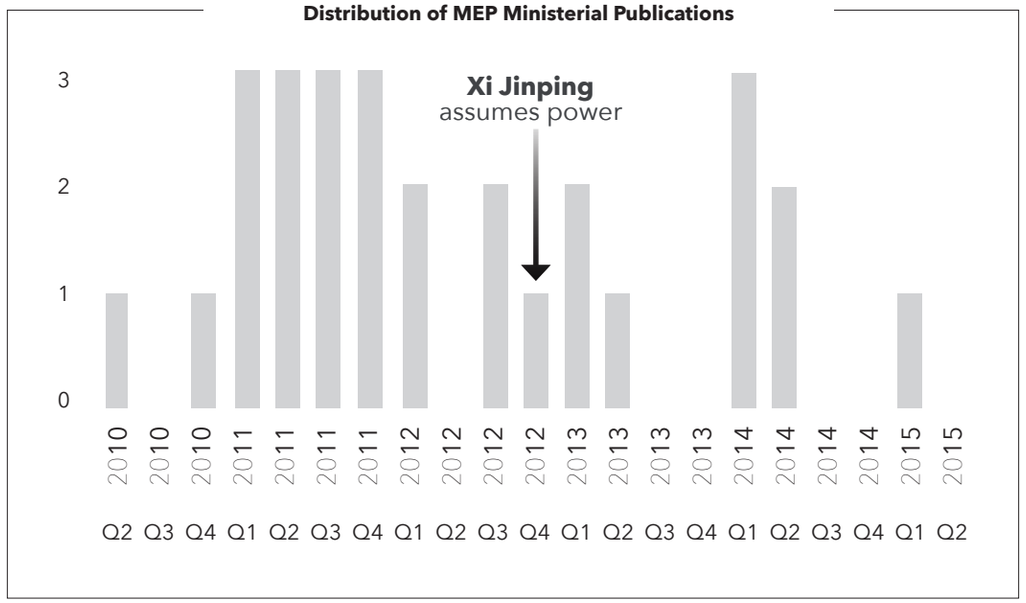
Along with the anecdotal evidence presented in the case studies above, this assessment also attempts to quantify shifting language choices in the speeches made by senior MEP officials over the last five years to determine a shift towards or away from democratic environmentalism. This is an important step in operationalizing Gilley's theoretical framework by providing an initial content analysis of an increasingly influential environmental decision maker in the Chinese political system.

Operationalizing Variables: This paper uses the framework presented in Bruce Gilley's "Authoritarian environmentalism and China's response to climate change" to identify shifting phraseology in MEP speeches. This paper draws on the wealth of remarks and speeches available on the MEP's website, translated into English by the MEP itself.[45] To further visualize the spectrum of authoritarian and democratic environmentalism models, another chart is presented below.

This assessment identified phrases that best characterize both democratic and authoritarian environmentalism, as defined by Gilley and referenced throughout this piece. The analysis cross referenced thirty unique speeches, remarks, press releases, and articles written by former Minister Zhou Shengxian and Minister Chen Jining from May 2010 through May 2015.[46] Due to data limitations, only one speech is available from Minister Chen; the remaining are from Minister Zhou. A graphical depiction of the distribution of these sources across the five-year period is displayed above. Minister Zhou was quit prolific throughout 2011 and early 2012, and had a relatively average number of speaking engagements

Visualizing the Environmentalism Spectrum

AUTHORITARIAN environmentalism	DEMOCRATIC environmentalism
Characteristics	*Characteristics*
[1] Limit on individual freedom and public input to policymaking	[1] Few limits on social, civil or political liberties
[2] Policy formation by autonomous "ecoelites" supported by technocrats	[2] Policy formation driven by inclusive, multidimensional public discourse
[3] Exclusion of NGOs and business actors in policy formation	[3] Various stakeholders - businesses, NGO's, media, issue experts, politicians
[4] Centralized formulation and decentralized implementation	[4] Decentralized formulation and decentralized implementation
[5] Importance of political leadership	[5] Importance of stakeholder consensus



during late 2012 and throughout 2013, followed by high activity across early 2014.

This study used twenty-four words and phrases as variables to capture a transition from authoritarian to democratic environmentalism. There are three variable categories – independent variables, democratic-focused variables and authoritarian-focused variables. In order to account for the wide spectrum of phrases that could indicate a policy shift towards more democratic environmentalism, this analysis used both "soft democratic" phrases (such a "public", "people", "society") as well as more "hard democratic" phrases (such as "media", "NGO", "stakeholder", or "democracy") to capture the nuances of any potential shift. The table of variables is shown on the right.

Then, using each written source's transcript from the speeches section of the MEP website, a word frequency counter was used to determine phrase prevalence for each of the variables above.[47] This paper then graphically compared word prevalence in speeches across the 2010 to 2015 timeframe. However, written sources

Independent Variables	Democratic Focused Variables	Authoritarian Focused Variables
Development	Public	scien-ce/ tific/-ically-/ness
Environment	Communi-ty/ties	Tech-nology/-nical
Environmental	Democra-tic/-acy	Enforce/-ment
Protection	NGO	Limit
Economic	Stakeholder	Punish
	Local	Fine
	People	
	Partici-pate/ -pation/-pants	
	Accountability	
	Society	
	Social	
	Promo-te/ -tion/-ting	
	Media	

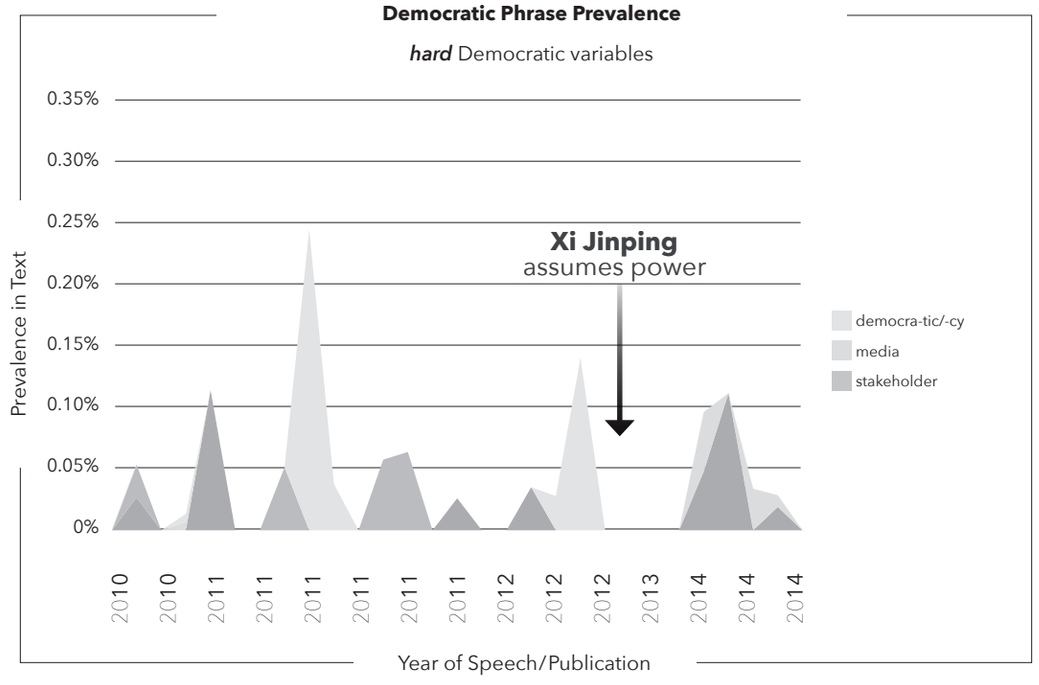
varied between 537 and 12,201 words. To account for the potential skewing of word prevalence, instances of phrase appearance were divided by total words in a source, providing a phrase occurrence percentage metric. [48] The independent variables were used as controls to ensure that the speeches themselves concentrated on environmental content and could therefore be included in the analyses. [49] However, they did not yield any statistically relevant trends.

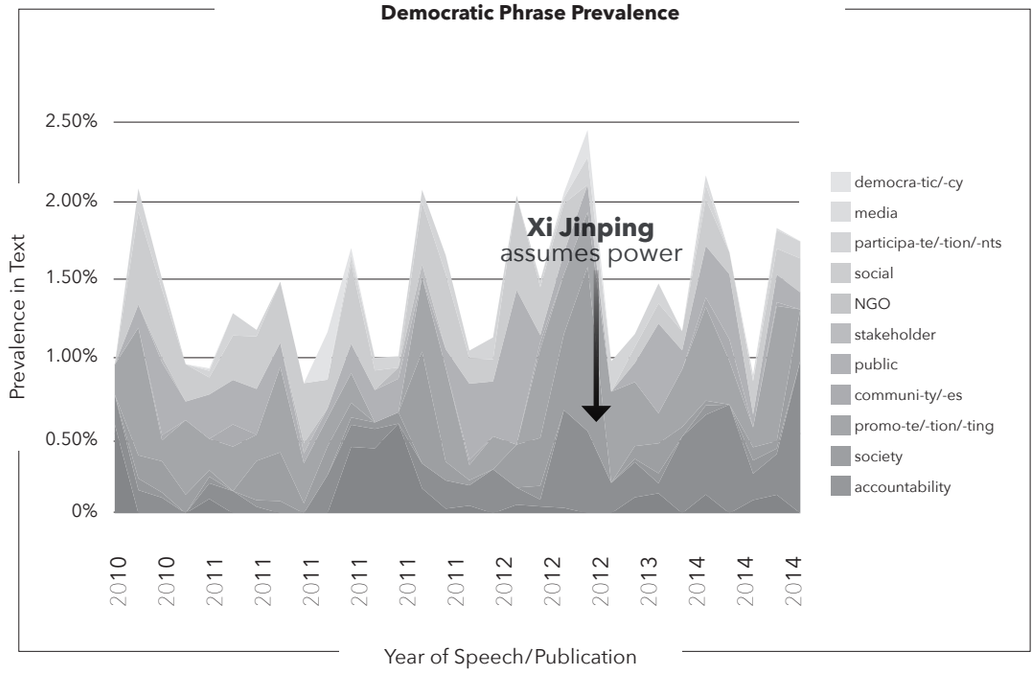
Once the phrase occurrence percentage was calculated, assessments of phrase prevalence over time were run for multiple variables to determine any potentially statistically significant trends. There were both expected and surprising results for both the democratic and authoritarian phrases. The findings of the study are as follows:

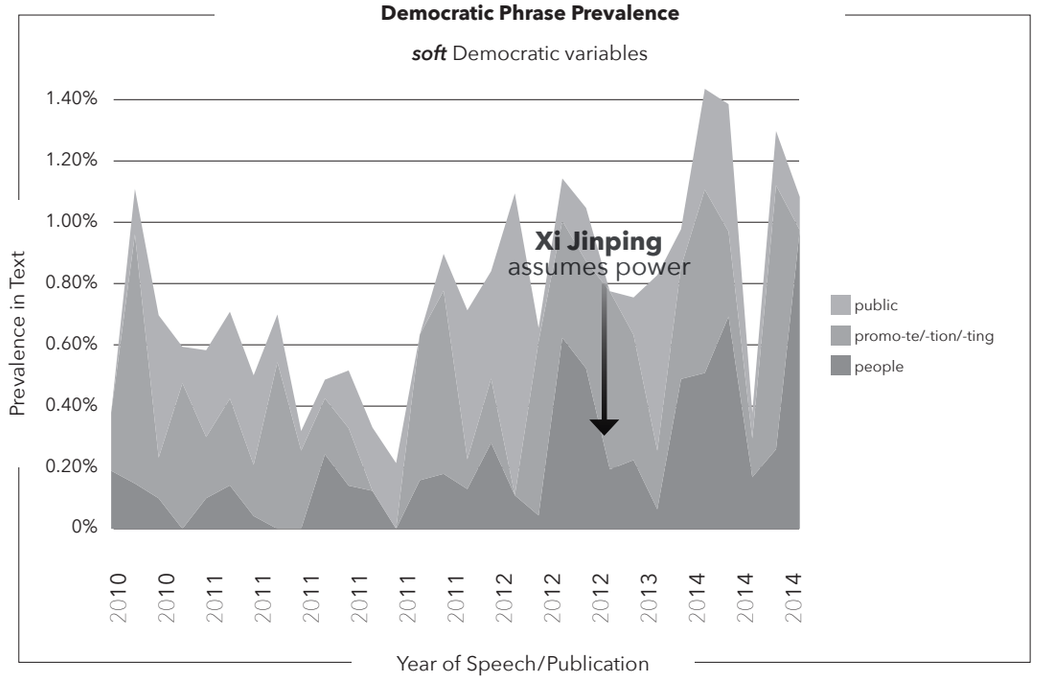
Instances of Democratic Phrase Prevalence

Looking at the overall structure of the phrases, several important trends emerge. The most prevalent democratic variables used in official minister-level MEP speeches and publications since Xi Jinping's rise are (in ranked order): "people", "promote", "public", "social" and "society". Society has dropped in usage, but is still fifth most prevalent. "Promote" has seen the most year over year growth. This may reflect the use of mobilizing campaigns such as the Ecological Civilization campaign. A more in-depth analysis of "hard democratic" variables is featured on the right.

When examining the "hard democratic" phrases, some interesting wrinkles in the data emerge. Some of the more controversial phrases, such as democracy and stakeholder, drop off completely from







official MEP discussions at Xi Jinping's rise to power. Starting in 2014, a greater relevance of the term "community" and "media" are used. It is notable that "NGO" does not appear in any official Minister-level speech between May 2010 and May 2015.

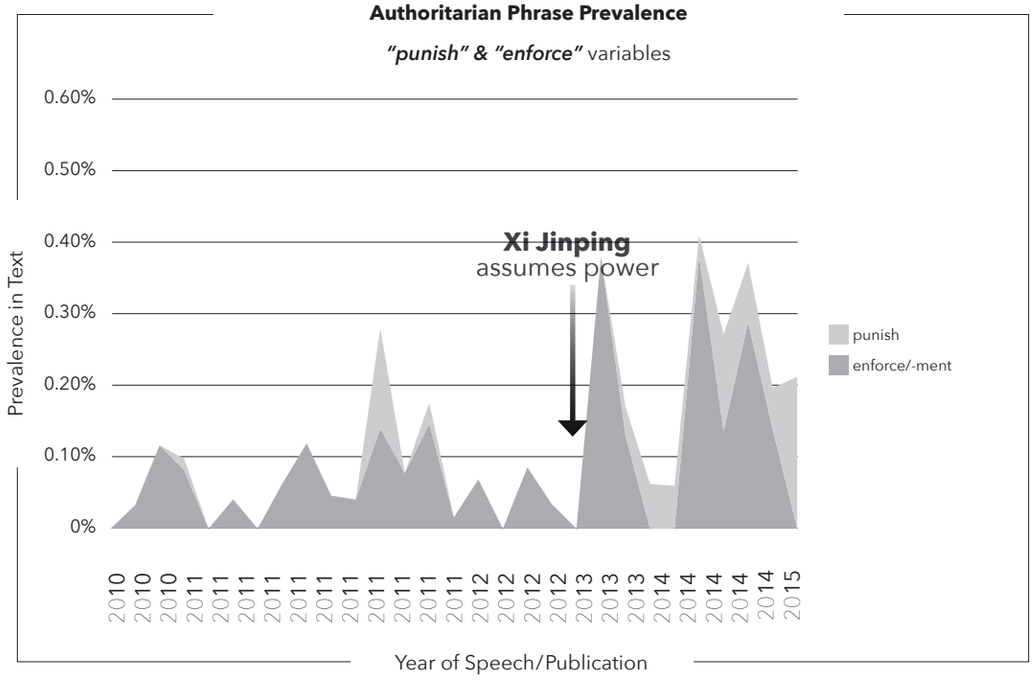
However, when looking at the "soft democratic variables" as above, there are a few interesting trends that emerge. "People" has seen a significant rise in use, while "promote" does seem to be growing in prevalence but seems to oscillate frequently. "Public" did experience increased use in 2013, but has tapered significantly through the end of 2014. Not shown in this graph, "society" and "social" have both experienced a noticeable drop since Xi Jinping's rise. At a more-macro level, these graphs indicate that there has been a fall in the use of phrases such as "stakeholder" and "democracy" in MEP Ministerial speeches, with an increase in "community", "people", and "promote".

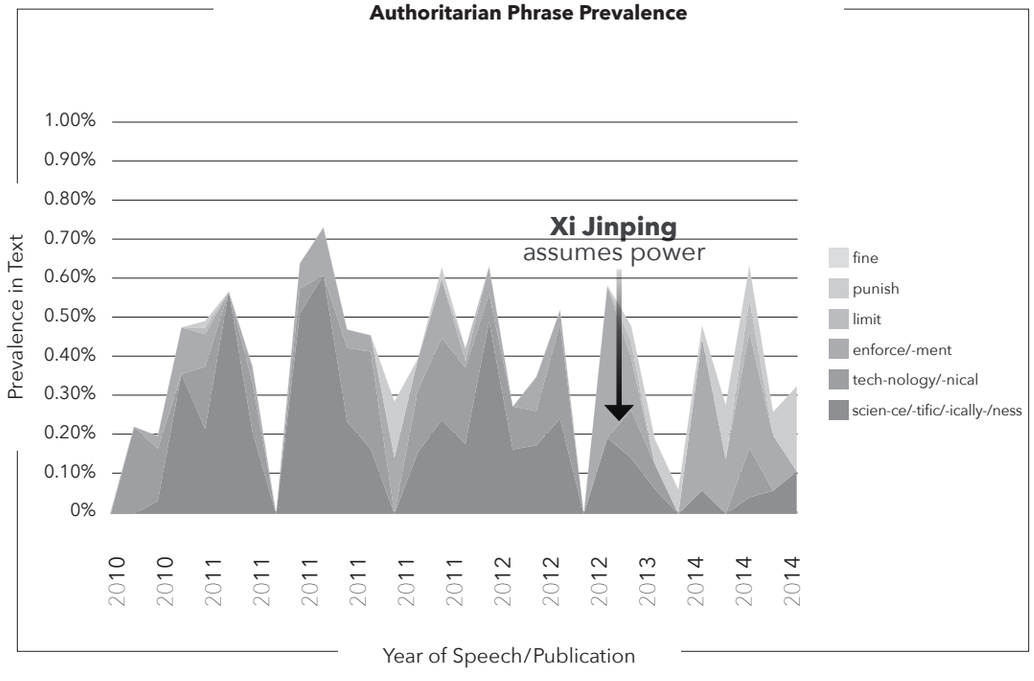
Instances of Authoritarian Phrase Prevalence:

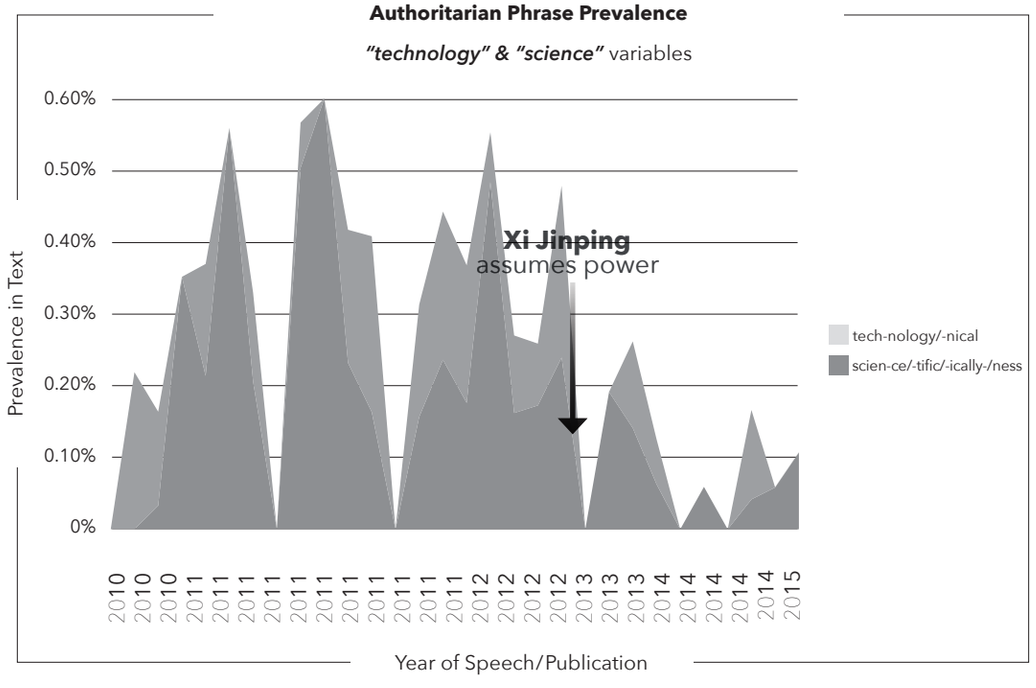
An analysis of the authoritarian phrases also offers interesting insights into the priorities of the MEP. Looking at the chart below, there has been a decrease in the prevalence of "technology" and "science" mentioned, while there has been a significant rise in the use of "enforcement" and in particular, "punish". A more narrow analysis of these phrases is on the right.

The chart shows the prevalence of the use of both "punish" and "enforce" by the MEP Minister. Note the shifts that have taken place since Xi's rise to power. There are greater instances of enforcement and punishment mentioned.

This indicates a potential emphasis on coercive policy measures to ensure environmental compliance, such as the pollution regulations in the new EPL.







However, another interesting (and contrasting) element of this data is the decreasing emphasis on "technology" and "science", at least from the official MEP Ministerial line. This may indicate less emphasis on the role of technocrats and ecoelites within the Chinese system. Note above how science is of much lower magnitude, while technology in only mentioned in early 2013 and again in mid-2014.

Takeaways from the Content Analysis

The results of the content analysis offer interesting anecdotes to the nature and direction of Chinese policymaking, specifically through the lens of MEP senior leadership speeches. Some elements of the analysis were as predicted, such as a slightly softening attitude to and increasing prevalence of "democratic characteristics" within MEP publications. As laid out above, however, there are varying degrees on the democratic spectrum of Gilley's framework. As such, within the confines of the speeches and variables chosen in this study, the MEP's public narrative is incorporating the increasing use of soft democratic phrases like "public", "promoting" and "people", along with a growing (but still muted) use of hard democratic phrases like "community" and "media" Simultaneously, the focus on more authoritarian concepts like the role of technology and science in policy generation has fallen. However, there are also indications of continued authoritarian environmentalism at play under the Xi administration. Since November 2012, the MEP has abandoned any mention of truly inclusive phrases like "democratic" and "stakeholder" in minister-level speeches. The terms "punish" and "enforce" have reached five year highs in MEP speeches. Viewed in isolation, this could be the result of the Ministry taking a cue from the President's unprecedented crackdown on corruption to dial up its own Ministerial rhetoric.

In this context, the data ostensibly points towards Chinese policymaking trending towards adopting both democratic and authoritarian elements in the formulation of its environmental frameworks, as shown in the qualitative assessment in section five and the MEP content analysis above. However, when assessing these developments holistically through Gilley's framework, the question remains whether China's environmental policymaking is still shifting more towards a democratic structure under the new Xi Jinping administration.

Conclusions of the Study and Potential Next Steps for Analysis

This study makes several important inferences regarding the nature of Chinese environmental policymaking after the rise of President Xi Jinping in November 2012. Within the qualitative case studies, there is evidence of both more inclusive, grassroots policymaking and also more exclusive, top-down policymaking. However, juxtaposed against the results of the contextual analysis, a more nuanced narrative appears. A more democratic model is emerging, albeit with growing emphasis on *elements* of the authoritarian model. In this context, the key conclusions of this analysis are provided in the section below, followed by recommendations for next steps in research.

Major Conclusions – China Transitions to a more Democratic Model, with Caveats

This paper attempts to definitively answer the question, "Using Gilley's framework of democratic vs. authoritarian environmentalism, is China making the transition towards a more inclusive, democratic policymaking model?" In short, based on the evidence available, this paper asserts that this shift to a more democratic model is in fact taking place, though it is premature to conclude a fundamental shift in China's approach over the long-term.

Recent policy measures, including increased data transparency and greater public involvement in the EPL, are strong indicators of a shift towards a more democratic model. On top of this, the data from the context analysis shows that in MEP ministerial speeches, certain democratic catch phrases like "people", "community", "public", and "promote" are growing in use, while phrases like "technology" and "science" are falling. This indicates a model potentially shifting towards Gilley's democratic environmentalist structure, with less reliance on "ecoelites" and technocrats in place of the emphasis of society and the public to develop new environmental policies.

Evaluating evidence for a democratic vs. authoritarian shift, this paper concludes that the democratic evidence should be given more weight. While the authoritarian evidence presented above could constitute a compelling argument, these policies and narratives represent the status quo for both President Xi Jinping and the traditional Chinese model. The democratic trends in both the content analysis and case studies represent a significant departure from China's established model of environmental policymaking. At the very least, these results point to greater inclusionary rhetoric from central authorities with a growing emphasis on data transparency and grassroots environmental monitoring.

A Shift with Caveats? Democratic Environmentalism with Chinese Characteristics

However, the more authoritarian shifts should not be discredited completely. The authoritarian trends in both the case study and content analysis indicate a much more complex structural shift in China's environmental policymaking. While the Chinese government is showing signs of greater inclusionary measures, there has been a fall in the use of "democracy" and a rise in use of "punish" and "enforce" in official MEP speeches. Simultaneously, the government has advanced policies to carefully orchestrate the role of NGOs and activists. These are both indicators of a more authoritarian approach that stifles references to democratic tools and emphasizes stricter social controls. Therefore, in the context of the democratic evidence above, this analysis finally posits that a new model for environmental policymaking outside of Gilley's framework is emerging in China – "Democratic Environmentalism with Chinese Characteristics". This model is characterized by metered liberalization of democratic policymaking emphasizing public discourse, grassroots monitoringand data transparency, while still choreographing the role of civil society and carefully de-emphasizing "hard democratic" phrases in official messaging.

Recommendations for Potential Next Steps for Analysis

Based on the results presented, this analysis recommends two areas for further research:

Further Operationalization of the Data Set in Content Analysis: This paper only used a basic search function to establish word prevalence. Given the magnitude of material available from MEP, this research barely scratched the surface of potential relationships inherent in the data. This paper recommends that further research for specific phrases be examined (beyond single words), and also recommends that the data be referenced against dates in the Chinese political calendar (the NPC, Five Year Plans, etc.) to examine how certain phrases became more prevalent at specific times.

Prescriptive Analysis of China's Transition to Democratic Environmentalism: This paper examines "how" China has begun to shift towards a more democratic model for environmental policymaking, based on Bruce Gilley's framework. However, it does not examine "why". There is a scholarly consensus that authoritarian environmentalism leads to effective policy generation but ineffective policy enforcement. Further analysis is recommended to examine whether the steps taken to liberalize and subtly democratize the environmental policymaking structure will in fact encourage

greater efficacy for China's environmental laws. This analysis requires an expanded dataset and time horizon to establish any relationships between these new policies and their effects on pollution enforcement and policy generation. However, such analysis would help not just in understanding why China is adapting to its environmental policymaking limitations, but also in illuminating how other authoritarian environmentalist entities may address their policy shortfalls.

Appendix – Sources for MEP Speeches: Full text available at: http://english.mep.gov.cn/Ministers/Speeches/

Full data analysis available in excel format upon request.

Month Year	Link: http://english.mep.gov.cn/Ministers/Speeches/…
May | 2010	… 201007/t20100707_191806.htm
June | 2010	… 201007/t20100707_191840.htm
November | 2010	… 201011/t20101125_197971.htm
January | 2011	… 201101/t20110113_199824.htm
January | 2011	… 201102/t20110222_201041.htm
April | 2011	… 01102/t20110216_200867.htm
April | 2011	… 201104/t20110412_209078.htm
April | 2011	… 201104/t20110415_209261.htm
June | 2011	… 201105/t20110516_210672.htm
July | 2011	… 201107/t20110707_214518.htm
August | 2011	… 201107/t20110712_214872.htm
September | 2011	… 01108/t20110815_216048.htm
November | 2011	… 201201/t20120110_222367.htm
November | 2011	… 201111/t20111125_220550.htm
December | 2011	… 01111/t20111124_220485.htm
January | 2012	… 201201/t20120129_222892.htm
February | 2012	… 201201/t20120113_222534.htm
July | 2012	… 201202/t20120223_223827.htm
August | 2012	… 201208/t20120807_234449.htm
February | 2012	… 201208/t20120807_234449.htm
July | 2012	… 201211/t20121121_242374.htm
August | 2012	… 201208/t20120807_234449.htm
November | 2012	… 201210/t20121030_240700.htm
February | 2013	… 201211/t20121121_242374.htm
February | 2013	… 201302/t20130216_248088.htm
June | 2013	… 201303/t20130320_249648.htm
January | 2014	… 201306/t20130613_253739.ht
February | 2014	… 201401/t20140122_266773.htm
March | 2014	… 201402/t20140217_267823.htm
May | 2014	… 201404/t20140408_270218.htm
June | 2014	… 201405/t20140529_276212.htm
March | 2015	… 201406/t20140612_276867.htm
March | 2015	… 201503/t20150319_297563.htm

About the Author

David Rubin is a recent graduate of the Johns Hopkins Paul H. Nitze School of Advanced International Studies, where he concentrated in both the China Studies and Energy, Resources, and the Environment programs. David is an Associate at The Asia Group, a strategic and capital advisory consultancy in Washington, DC. David's diverse research interests span agricultural and environmental policy, regional security and defense dynamics and the politics of U.S. alliance management in the Asia-Pacific region.

1 Heilbroner (1974), Holden (2002), Humphrey (2007), Wells (2007), Shearman and Smith (2007), and Beeson (2010).

2 Bruce Gilley, "Authoritarian environmentalism and China's response to climate change", *Environmental Politics*, 2012, 287-307; 288.

3 Gilley, 288

4 Gilley, 289.

5 This paper classifies "political regime identity" as totalitarian, authoritarian, democratic, etc.

6 Juan J. Linz, *Totalitarian and Authoritarian Regimes*, Boulder, Colorado: Lynne Rienner Publishers, 2000, 159.

7 Kenneth G. Lieberthal and David M. Lampton, *Bureaucracy, Politics, and Decision Making in Post-Mao China*, Berkeley, California: University of California Press, 1992, 6.

8 Scholars such as Kate Zhou and Joseph Fewsmith attribute this principal agent problem to the process by which the first reforms to land ownership and the household responsibility system were implemented across the Chinese countryside in the late 1970s and early 1980s.

9 These authors include Cheng Li ("The End of the CCP's Resilient Authoritarianism? A Tripartite Assessment of Shifting Power in China"), Ming Xia ("China Rises Companion – Political Governance"), and Perry Link ("China's Modern Authoritarianism").

10 Ministry of Environmental Protection, "About SEPA", March 2008, http://english.mep.gov.cn/About_SEPA/Mission/200803/t20080318_119444.htm.

11 Tom Phillips, "China's environment ministry 'one of four worst departments in world', *The Telegraph*, June 9, 2013, http://www.telegraph.co.uk/news/worldnews/asia/china/10168806/Chinas-environment-ministry-one-of-four-worst-departments-in-world.html.

12 The State Council, "Ministry of Housing and Urban Rural Devel opment of the People's Republic of China", September 9, 2014, http://english.gov.cn/state_council/2014/09/09/content_281474986284089.htm. The Ministry of Construction was renamed to the Ministry of Housing and UrbanRural Development in 2008.

13 Environmental Law Institute, "China's Environmental Super Ministry Reform: Background, Challenges, and the Future", *U.S. Environmental Protection Agency*, 2009, http://www.epa.gov/ogc/china/xin.pdf.

14 Jost Wubbeke, "The three year battle for China's new environmental law", China Dialogue, April 25, 2014, https://www.chinadialogue.net/article/show/single/en/6938-The-three-year-battle-for-China-s-new-environmental-law.

15 National Development and Reform Commission, "Department of Resource Conservation and Environmental Protection", 2008, http://en.ndrc.gov.cn/mfod/200812/t20081218_252198.html.

16 National Development and Reform Commission, "Department of Climate Change", 2008, http://en.ndrc.gov.cn/mfod/200812/t20081218_252201.html.

17 Xie Zhenhua, "Statement at Joint Highlevel Segment of 13th Session of the Conference of the Parties to the Convention", 13 th Conference of the Parties at the UN Climate Change Conference, Bali, Indonesia: December 12, 2007, http://www.ccchina.gov.cn/WebSite/CCChina/UpFile/File223.pdf.

18 Fu Jing, "Veteran official back as climate negotiator", China Daily USA, April 14, 2015, http://usa.chinadaily.com.cn/opinion/2015-04/14/content_20426344.htm.

19 Wubbeke.

20 BBC News China, "Profiles: China's new leaders", *BBC News China*, November 15, 2012, http://www.bbc.com/news/world-asia-china-20321603.

21 Bo Zhiyue, "China's New Environmental Minister: A Rising Star", *The Diplomat*, March 4, 2015, http://thediplomat.com/2015/03/chinas-new-environmental-minister-a-rising-star/.

22 环境 保护部, "关于报送对《环境保 护法修正案（草案）》意见和 建议的函 ", October 29, 2012, http://www.mep.gov.cn/gkml/hbb/bh/201210/t20121031_240778.htm.

23 The Economist, "Saving fish and baring teeth", *The Economist*, April 18, 2015, http://www.economist.com/news/china/21648687-new-environment-minister-displays-his-appetite-taking-polluters-saving-fish-and-baring.

24 There are some rumors that this may have been more of a politically motivated rather than environmentally motivated issue, given that the Xiaonanhai dam was revived most recently by now purged former CCP official Bo Xilai. However, Chen's capacity to shut down this multi-billion project indicates his determination in ensuring that infrastructure projects aren't advanced without proper vetting.

25 Times of News, "Drones and inspection teams used to monitor pollution ahead of APEC summit in Beijing", Times of News, October 28, 2015, http://china.timesofnews.com/drones-and-inspection-teams-used-to-monitor-pollution-ahead-of-apec-summit-in-beijing/.

26 Ibid.

27 Robert L. Falk and Jasmine Wee, "China's New Environmental Protection Law", *Morrison Foerster*, September 30, 2014, https://media2.mofo.com/documents/140930chinasnewenvironmentalprotectionlaw.pdf

28 Liu Jianqian, "New environmental protection law would exacerbate pollution in China", *China Dialogue*, February 7, 2013, https://www.chinadialogue.net/blog/6171-New-environmental-protection-law-would-exacerbate-pollution-in-China/en.

29 Simon Denyer, "In China's war on bad air, government decision to release data gives fresh hope", *The Washington Post*, February 2, 2014, http://www.washingtonpost.com/world/in-chinas-war-on-bad-air-government-decision-to-release-data-gives-fresh-hope/2014/02/02/5e50c872-8745-11e3-a5bd-844629433ba3_story.html.

30 Christopher Beam, "China Tries a New Tactic to Combat Pollution: Transparen cy", *The New Yorker*, February 6, 2015, a ccessed May 3, 2015, http://www.newyorker.com/news/news-desk/china-tries-new-tactic-combat-pollution-transparency.

31 Gilley, 300.

32 Ibid.

33 Hao Jing, "What NGOs Can Contribute to Responding to Climate Change", China Meteorological Administration, November 18, 2013, http://www.cma.gov.cn/en/ClimateChange/ClimateChangeNews/201311/t20131118_231900.html.

34 Additional NGOs and academic institutions included Green Zhejiang, Global En vironmental Institute, Greenovation Hub, Brand Chin a Union, Capital Normal University.

35 Kong Defang, "Xi's ecoprotection footprint", *Xinhua* (via English.people.cn), March 10, 2015, http://en.people.cn/n/2015/0310/c90785-8860929.html.

36 Ibid.

37 Ministry of Foreign Affairs of the People's Republic of China, "President Xi Jinping Delivers Important Speech and Proposes to Build a Silk Road Economic Belt with Central Asian Countries", September 7, 2013, http://www.fmprc.gov.cn/mfa_eng/topics_665678/xjpfwzysiesgjtfhshzzfh_665686/t1076334.shtml.

38 China Council for International Cooperation on Environment and Development, "President Xi Jinping pledges not to sacrifice environment", May 28, 2013, http://www.cciced.net/encciced/newscenter/latestnews/201305/t20130528_252803.html.

39 Falk and Wee.

40 Sha Liu, "Environmental NGOs grow across China but still struggle for support", *Global Times*, June 12, 2012, http://www.globaltimes.cn/content/714330.shtml.

41 Falk and Wee.

42 John Ruwitch and Paul Tait, "China draft law lets foreign NGOs open offices with government OK", *Reuters*, April 23, 2015, http://www.reuters.com/article/2015/04/24/us-china-parliament-ngos-idUSKBN0NF08L20150424.

43 Tania Branigan, "Beijing authorities sanguine as pollution documentary takes China by storm", *The Guardian*, March 5, 2015, http://www.theguardian.com/world/2015/mar/05/beijing-sanguine-pollution-documentary-china.

44 Alexandra Harney, "New film on China's pollution sparks debate, seen as milestone", *Reuters*, March 2, 2015, http://www.reuters.com/article/2015/03/02/us-china-environment-idUSKBN0LY11P20150302.

45 Ministry of Environmental Protection of the People's Republic of China, "Speeches", 2015, http://english.mep.gov.cn/Ministers/Speeches/.

46 A full list of the speeches used in available in the appendix.

47 This study used http://www.writewords.org.uk/word_count.asp.

48 For example, a 12,000 word speech may reference "punish" 30 times (1 in 400 words), while a 2,000 word speech references punish 20 times (1 in 100 words). This is deceiving, as the longer speech has a higher *absolute* value. However, when looking at share of words, the shorter 2,000 word speech has "punish" appear 400% more frequently.

49 For example, a speech may have been given by the Minister of Environmental Protection, but for a niche area such as radioactive waste management. This is not a representative sample of typical words used, and could skew results.

Covered with Dust: China's Position in Regional Approaches to Yellow Dust

Peter C.Y. Kim

How do environmental problems shape regional cooperation in Northeast Asia? Using yellow dust, more formally known as dust and sandstorms (DSS), as a case study, this article describes the prospects and challenges of domestic, bilateral and multilateral approaches to environmental cooperation in Northeast Asia. This article argues that while there has been definite progress in addressing the issue, the upstream-downstream dynamics of DSS have empowered China's position in environmental negotiations relative to those of Japan and South Korea. Domestic political priorities as well as an understanding of DSS as a strictly natural phenomenon in China will continue to hinder the possibility of a more robust regional cooperation mechanism.

On April 15, 2015, Beijing suffered its most severe sandstorm in a decade.[1] Thick blankets of yellow-red dust layered the capital as its 21 million residents were forced to don face-masks and goggles to protect themselves from injury and respiratory problems. Authorities at the China Meteorological Administration (CMA) issued a yellow alert, the third-most serious warning status, and many areas in the metropolitan region recorded hazardous levels of air pollution, some up to nearly 1,000 micrograms per cubic meter. The problem had regional implications: just two months earlier, the worst seasonal yellow dust in five years hit the entire Korean Peninsula, covering places such as Seoul, Gyeonggi Province and Gangwon Province with up to 1,044 micro-grams of fine dust per cubic meter and more than 800 micrograms throughout the peninsula.[2] In fact, the Korea Meteorological Administration (KMA) deemed atmospheric concentration levels of particulate matter so threatening that people, especially children and the elderly, were advised to stay indoors and limit outdoor activity. These yellow dust phenomena are not limited to continental Asia. Within a day after the KMA issued a yellow dust warning, Japan witnessed rising cumulative PM2.5 levels, with Kyushu, Shikoku, Tokai and Tokyo experiencing moderately high levels of yellow dust and particulate matter.[3]

Dust and sandstorms originating from arid regions of continental Asia, such as the Gobi Desert in Mongolia and the Loess Plateau in China, are becoming a significant source of concern for the people of Northeast Asia. While accepted as a natural phenomenon and a traditional harbinger of spring in the region, the increase in frequency and intensity of yellow dust storms in recent years sits at an intricate nexus between environmental security, domestic security and foreign policy. This paper will explore this phenomenon by focusing on the multilateral and domestic approaches taken by China, Japan and South Korea to address this issue. First, the paper will construct a paradigm that establishes dust and sandstorms as not just a natural occurrence but rather a security imperative that cuts across multiple sectors. Second, it will survey the development of environmental cooperation in Northeast Asia especially with regard to addressing dust and sandstorms. Last, the paper will examine how cooperation mechanisms are being implemented in China, the source of yellow dust, and assess its response to the overall problem at hand. This paper argues that even though recent developments in cooperation on mitigating DSS have been cautiously optimistic, China's failure to establish DSS as a multidimensional priority makes tangible reductions in DSS in the near future unlikely. This research serves to enhance the understanding of the role of environmental security in Northeast Asia by focusing on a key local issue that is increasingly placing strains on regional affairs.

Yellow Dust: More Than Meets the Eye

Yellow dust is the colloquial term for what is collectively and officially known as dust and sandstorms (DSS).[4] DSS is the name given to the massive dust storms that occur when large quantities of dust and fine sand particles from arid regions in China and Mongolia are picked up and carried towards the Pacific by strong westerly winds during the winter and spring.

Although DSS has occurred naturally for thousands of years in the region,[5] its frequency, geographic coverage and damage intensity have all escalated within the past fifty years. Exceptionally disruptive storms in 1998, 2001, 2002, 2006, 2008 and now 2015 have raised significant awareness in the region of the recurrent problem. Based on a 2005 report compiled by the Asian Development Bank (ADB), the average recorded occurrence of DSS in China has increased more than six-fold since the 1950s, with DSS averaging only five days per year in the 1950s compared to thirty-two days in 2001.[6] Corresponding statistics show that annual cases of DSS in South Korea have also increased rapidly within the same period from less than four days a year in the 1980s to an average of eighteen days since 2000.[7] Japan has seen its average of twenty days per year in the 1970s increase to about forty days since the early 2000s.[8] Although the exact rate of increase differs in each country, especially since each country uses different criteria and thresholds for documenting dust activity as DSS, all have experienced a dramatic rise in the number of DSS incidents per year over the past decades.

W. Chad Futrell of Cornell University claims that the discrepancies in the number of observed DSS events among the three countries are largely due to the different paths traveled by the dust storms.[9] Indeed, storms originating in Inner Mongolia usually travel east, but depending on wind patterns, they can also travel south first and move east afterwards, thereby impacting regions within China rather than its neighbors. Storms that originate in the arid northwest regions of China also tend to travel southeast and often hit inner provinces in China towards the direction of Taipei rather than Beijing or Seoul. Similarly, storms brewing from the northeast can miss Beijing but pose serious threats in the Korean Peninsula and Japan. These patterns show the extent to which nature plays a definitive role in the yellow dust phenomena.

Large-scale DSS events have significant socioeconomic ramifications.[10] According to the 2005 ADB report on DSS, direct damage caused by DSS can include loss of crops and livestock; loss of topsoil; damage to property, industries and businesses, critical facilities and infrastructure; disruption of transportation systems; road accidents; and closures of schools and services. Likewise, indirect damages caused by DSS include increased medical expenses as well as increased financial costs for cleaning and repairing residential and commercial buildings.[11] Dust and sandstorms can inflict real horror. One such DSS incident occurred on May 5, 1993, and caused the destruction of 4,412 houses, 120,000 livestock and 373,000 hectares of cropland in the Hexi Corridor of Gansu Province and also resulted in eighty-five deaths and 246 injuries.[12] This one case alone cost the Chinese economy 550 million Chinese renminbi (RMB), or about $72 million.

As a whole, the ADB estimates that damages directly associated with DSS in China alone range from $70 million to $239 million per year, with indirect costs comprising at least 4.5 times that of the direct costs.[13] Understandably, the impacts of DSS differ based on the distance from source regions.

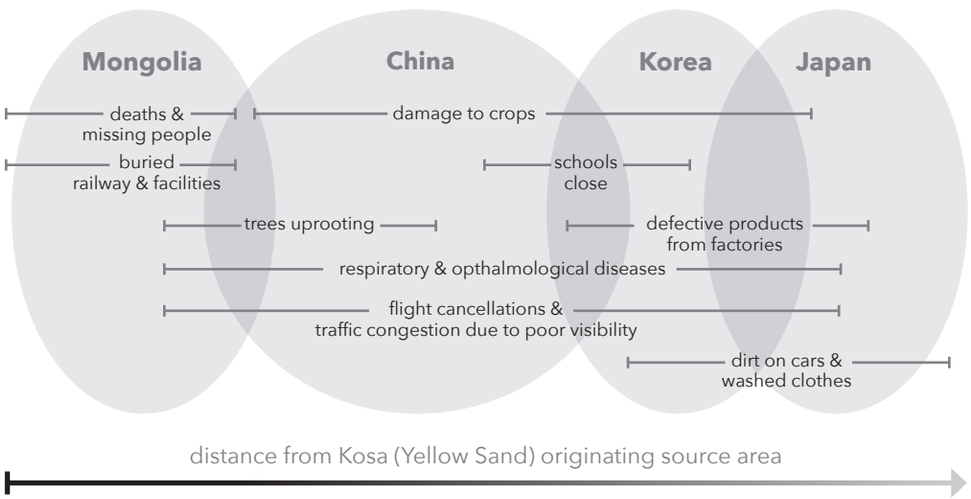
In South Korea, the Korea Environment Institute (KEI) states that the dust storms kill up to 165 people annually, mostly the elderly or those with respiratory illnesses, and sicken 1.8 million more. Schools often close, airports are affected due to concerns with visibility and a range of industries from agriculture to semiconductor manufacturing document losses that the KEI estimated in 2008 to be up to 5.5 trillion South Korean won (KRW), or close to $5.82 billion.[14] In Japan, damages are limited to mostly air pollution from particulate matter, poor visibility that interferes with air and ground transportation, and yellow dust piling on cars and clothing. Yoshika Yamamoto, a researcher from the Environment and Energy Research Unit at the Tokyo-based Science and Technology Foresight Center, summarizes the burden of cost among the affected Northeast Asian countries in the chart below.[15]

The economic costs associated with dust and sandstorms are minimal compared to the confirmed public health risks. While the most common health issues associated with DSS are increased cases of eye, nose and throat irritation, scientists are increasingly discovering more severe health implications from greater exposure to fine dust particles. Kazuma Higashisaka et al., researchers at Osaka University, explain that bacteria can adhere to the outer surface of dust particles and therefore exposure to yellow dust can lead to increased rates of cardiovascular and respiratory diseases, childhood asthma, bronchitis and even pneumonia.[17] More pressing, however, is the concern that dust storms pick up pollutants, heavy metals and carcinogens such as dioxin as they pass over industrial regions in China before hitting the Korean Peninsula and Japan. Some statistics show concentrations of heavy metals such as lead, cadmium and chromium that are up to fifteen times that of normal air.[18]

Types of Damage Caused by DSS

Across different countries by distance [16]

Source: Yamamoto (2007)



While there have been varying views on to what extent anthropogenic activities have contributed to the intensification of DSS events in recent decades, there is a general consensus in the scientific community that decades of deforestation, overgrazing and rapid industrialization in northern China and Mongolia have directly contributed to land degradation, which in turn has accelerated desertification. The rate of desertification in China has been significant. From the 1950s until 1975, China saw an expansion of desert areas by 1,560 square kilometers per year, which then accelerated to 2,100 square kilometers per year from 1975 to 1987 and finally to 3,600 square kilometers per year from 1987 to 2000.[19] In fact, the advancing desert areas have uprooted villages and forced locals to migrate eastward, affecting a total of 400 million people in recent decades.[20] Because the strength and intensity of DSS depend largely on two criteria—a dry and loose surface and strong and persistent winds—a greater availability of dust and sand from desertification has led to increased amounts of particulates that are blown away by the wind. Yufu Chen and Haiping Tang, researchers from the Chinese Academy of Sciences, specifically link recent increases in dust and sandstorm occurrences to "the consequences of human activities such as over-cultivation and overgrazing" in Northern China and "land desertification due to water diversion to farmland and reservoirs."[21]

The causal link between DSS and desertification is a point of concern for many environmentalists and policymakers in the region. Programs launched by the Chinese government have targeted desertification through afforestation since the 1950s with mixed results. For example, China has been experimenting with afforestation since 1978 by launching the Three-North Shelter Forest Program in a broad area covering its Northeast, Northern and Northwest regions. Multiple centrally-led and non-governmental organization (NGO)-led initiatives in Inner Mongolia have also focused on large-scale ecological restoration projects. One project, headed by the Naiman Semi-Arid Research Center, planted poplar trees and aspen pines in enclosed fields to encourage the growth of native grasslands. Due to the research center's efforts from 1985 to 2005, degraded land claimed by desertification in the Naiman Banner of Inner Mongolia decreased from 1,898 square kilometers to 1,199 square kilometers.[22] However, environmental trends associated with climate change suggest that DSS will increase in the future. That climate change has led to drier, hotter seasons to the region is readily documented, but this trend further underscores the additional pressures of depleting water tables and increased water scarcity in Northern China, both of which complicate the re-vegetation processes that current anti-desertification mechanisms so highly rely upon.

Sweeping Yellow Dust Out of China: Regional and Domestic Approaches

Multilateral Efforts Against DSS: Building a Monitoring Network

DSS is clearly a serious transboundary environmental issue in Northeast Asia with serious economic and health costs. Despite the political rivalry and sensitivity that have hindered many modes of cooperation in the region, DSS has led to relatively effective bilateral and trilateral mechanisms among China, Japan and South Korea.

Even though all three countries are parties to the World Meteorological Organization (WMO), meteorological data and services from WMO mandates are far from adequate to analyze and predict DSS.[23] Therefore, most bilateral or trilateral agreements have focused primarily on improving forecast accuracy, while also restoring desert areas in China. Both Japan and South Korea started individual bilateral monitoring networks with China in 1996. For Japan, the Japanese Environmental Agency established a monitoring station on the roof of the Sino-Japan Friendship Center for Environmental Protection in Beijing in 1996.[24] It

has since initiated joint monitoring projects in Ningxia in 1998, conducted sampling in the Dunhuang region and the Taklimakan Desert in 2000 and built several monitoring stations in Japan in 2003. Japan signed a research agreement with China in 2000 to further investigate the formation, spread and effects of sandstorms.[25] South Korea similarly pursued a bilateral approach to DSS, opting to support a tree-planting program in China from 2001 to 2005 through the Korea International Cooperation Agency (KOICA), its primary official development assistance (ODA) agency.

The formation of the Tripartite Environmental Ministers Meeting (TEMM) in 1999, a South Korean initiative to bring together the environmental ministries of China, Japan and South Korea for greater environmental cooperation, proved to be a turning point for each country's DSS strategy. Although DSS was not included in the agenda in the first TEMM, it was eventually incorporated into the agenda by the third TEMM in 2001 at the insistence of South Korea on addressing yellow dust as a regional problem. According to Reinhard Drifte, a Visiting Research Fellow at the Asia Research Center of the London School of Economics and Political Science, the fact that DSS was included by TEMM at its third iteration reveals Chinese attitudes regarding yellow dust. Drifte asserts that although yellow dust had garnered public attention in all three countries by the founding of TEMM, China "[did] not like to be implicitly or explicitly exposed to the accusation of being the main causer of yellow [dust]" and believed that the inclusion of DSS in the TEMM agenda would naturally place blame onto itself.[26] Nonetheless, successful diplomacy led to a tripartite agreement in 2001 for joint monitoring mechanisms through remote sensing equipment, training, and research. In 2003, TEMM, along with the ADB, the United Nations Environment Programme (UNEP), and the Global Environment Facility (GEF), launched the Regional Technical Assistance on Dust and Sandstorm (DSS-RETA). DSS-RETA, in tandem with an independent Regional Master Plan for Prevention and Control of Dust and Sandstorms in Northeast Asia, brought together the TEMM countries, Mongolia and four partner institutions[27] with a strategy on establishing a regional DSS monitoring and early warning network. Through DSS-RETA and the Regional Master Plan, a total of nineteen DSS monitoring sites were built and have been operational since 2006, with fifteen sites located in China and four in Mongolia. All three TEMM countries currently maintain an early DSS warning service for the public, but forecasting accuracy for Japan and South Korea still depends heavily on raw data collected at source sites in China and Mongolia.

While regional cooperation has led to the construction of monitoring sites throughout China, effective data sharing has still been an obstacle. In February 2008, China suddenly withdrew from the DSS-RETA monitoring program and unilaterally refused to let equipment located within its borders be used for gathering meteorological data, claiming that such information was critical to national security and could not be released to its neighbors or the public.[28] This resulted in furious criticism outside of China; then Environment Minister of Japan, Ichiro Kamoshita, disapprovingly stated, "About yellow sand, I am not sure how and why it can be regarded as a national secret. Air is connected beyond national borders, and yellow sand travels beyond borders. I think it is important we share information."[29] Interestingly, later that year in September 2008, China started relaxing its national security dialogue and agreed to share raw numerical data on PM10 concentrations in DSS source areas with Japan and South Korea.[30] As recently as April 2015, China again agreed to provide yellow dust data from a greater number of sites, although this time only to South Korea as part of a bilateral agreement.[31] These agreements are expected to give South Korea access to raw data from over seventy-four observation stations in China, a considerable increase from its current access to four CMA stations.[32]

Bilateral and trilateral cooperation on DSS has been especially effective in two ways. First, DSS, at least on a regional level, has been acknowledged as a trans-boundary environmental problem with its point sources located in China and Mongolia. Second, financial assistance, technology transfer and capacity building have been effectively implemented, with China receiving the largest share of assistance in establishing monitoring networks. Although tensions still remain regarding China's deliberately withholding DSS data from its neighbors, cooperation within the past two decades has been moderately successful in monitoring the problem, its trajectory and its severity.

Solving DSS Through Desertification: Domestic and NGO Approaches

Domestic approaches from the Chinese government at addressing DSS have targeted desertification. According to Qi Lu and Sen Wang, researchers from the Chinese Academy of Forestry, China's anti-desertification strategies mainly fall under six following categories: 1) building windbreaks on the peripheries of deserts, 2) protecting oases, 3) managing agro-pastoral transition zones, 4) safeguarding the outskirts of cities and towns, 5) protecting head waters of rivers and 6) harnessing desertified grassland.[33] Most projects have attempted to address deforestation either through afforestation and re-vegetation or overgrazing and over-cultivation through restrictions on herding and farming.

Since the 1980s, with the aforementioned Three-North Shelter Forest Project, China has been planting billions of trees to construct a "green wall" in thirteen northern provinces around the Gobi Desert to block its expansion. In 2002, the central government reaffirmed its commitment to the so-called Green Wall by increasing its budget to 60 billion RMB, or $7.22 billion.[34] As a result, the State Forest Administration (SFA), the central government body in charge of forestry affairs and thus the main actor for reforestation, stated in 2014 that "China is on track to meet its 2020 target for expanding the nation's forest to cover 23 percent of its landmass."[35] Since 2008, afforestation efforts have gained momentum. China has planted 13 million hectares of new forests per year, which has increased total forest coverage to 208 million hectares, or 21 percent of its entire landmass. In fact, the Green Wall of China has received so much positive publicity in the press that even Luc Gnacadja, the executive secretary of the United Nations Convention to Combat Desertification (UNCCD), lauded Chinese efforts to combat desertification: "It is fair to say that China has the right vision, the political will and is moving in the right direction."[36]

China's massive, state-led afforestation initiatives are working in tandem with other afforestation projects that are coordinated by both international institutions and NGO movements. While ADB's involvement in establishing monitoring networks has been crucial in the regional fight against DSS, other multilateral bodies such as the World Bank have extensively supported rural poverty programs like the Loess Plateau Watershed Rehabilitation Project that have included grassland and soil stabilization initiatives. These programs, although not specifically targeted towards DSS, are notable in that they have established strong linkages between rural poverty and desertification. The prevention of DSS is also a significant part of the North-East Asian Subregional Programme for Environmental Cooperation (NEASPEC), an intergovernmental framework coordinated by ESCAP, UNDP, UNEP, and ADB. Unlike TEMM or DSS-RETA, NEASPEC includes North Korea and Russia, two other important stakeholders in Northeast Asia. NEASPEC has organized multiple training workshops for policymakers on ways to combat desertification through capacity building and information sharing. Moreover, it has

worked to expand the Regional Master Plan in Mongolia. In addition to multilateral cooperation, Japan has invested around $375 million in 2003 and 2004 alone through ODA to bolster China's afforestation efforts, while South Korea has also spent over $10 million since 2001 through KOICA for the same purpose. [37]

Japanese and South Korean NGOs have played a significant role in working with local groups in China since the 1990s to mitigate desertification while also alleviating rural poverty. Groups such as Japan's Green Earth Network (GEN), the Korean Federation for Environmental Movement (KFEM) and EcoPeace Asia are examples of the numerous NGOs working in China on a wide variety of target-specific solutions to address desertification. While each NGO's area of focus and expertise may be different, they are all similar in that they have developed region-specific strategies and projects rather than simply plant trees. For instance, GEN has been exploring growing trees that could also address the needs of local residents and is currently focusing on apricot trees, which are drought-resistant and can also yield produce. KFEM, on the other hand, has prioritized the development of hybrid grass test sites with local herders instead of focusing on afforestation. Likewise, EcoPeace Asia has chosen to invest in growing grasses rather than trees with the belief that grasses are more suited to the environment in Inner Mongolia. Partnership is now moving to the private sector as well. With the introduction of corporate social responsibility (CSR) reports in the Shanghai and Shenzhen stock exchanges, many companies in China have launched tree-planting initiatives as part of their CSR efforts. In order to raise awareness about sustainable land management, South Korea's Hanwha Group with UNCCD and the SFA helped install an 80 kilowatt-hour solar photovoltaic generation facility in Lingwu, Ningxia, in 2012 and provided technical training for managing and operating the facility.

Understanding China's Role in DSS Mitigation

The relative success of TEMM in establishing monitoring networks and the engagement of local, regional and international non-government actors in addressing desertification and DSS paint a rosy picture on the outlook of mitigating DSS in the region. However, while policies have generally been portrayed as yielding positive results, there are several characteristics in China's approach to DSS that raise significant doubts upon the likelihood of actual reductions in DSS in the near future.

Problems with Future Multilateral Approaches to DSS

The key critical difference in China's approach to DSS compared to that of Japan or South Korea is the characterization of DSS as a natural phenomenon. While all three countries acknowledge that dust and sandstorms have been occurring naturally for thousands of years, the anthropogenic causes of recent increases in frequency, intensity, and toxicity have been strikingly downplayed by the Chinese government. In a 2007 interview with *China Daily*, Qin Dahe, director of the CMA and also a delegate representing the scientific community at the Chinese People's Political Consultative Conference (CPPCC), stated, "It is impossible for human beings to get rid of sandstorms, which have existed for millions of years." *China Daily* adds an additional dimension to Qin's statement by summarizing: "Spring sandstorms are inevitable, so people should accept the law of nature and not worry so much… So said China's top meteorologist in order to correct what he considers public misunderstanding of the annual phenomenon." [38] That Qin, as a member of CPPCC, emphasizes the natural inevitability of DSS rather than the anthropogenic pressures that the scientific community in Japan, South Korea and even within China highlights captures an alarming picture of the Chinese government's attempt to consciously minimize its contribution to DSS as a trans-boundary issue. This viewpoint is also confirmed by Liu Tuo, the head of the desertification control office in the SFA, who commented, "The sandstorms are a natural disaster like typhoons or earthquakes," [39] and by Chinese meteorologist Lu Juntian, who wrote, "There have been five periods with high frequencies of sand storms in China over the past 1700 years, with each period lasting about 90 years." [40] Some experts have gone even further by applauding yellow dust for its potential environmental benefits such as neutralizing acid rain, depositing minerals into the ocean or reflecting sunshine to help reduce global warming. While these effects may be present, the benefits are highly insignificant compared to the costs and damage DSS inflict in China, Mongolia, Japan, and South Korea.

Avoiding direct responsibility for DSS has also factored into China's broader view of treating DSS as a trans-boundary issue. As in most upstream-downstream politics, China, as the upwind country, feels less obliged to harness efforts to address DSS and the many pollution-related environmental problems arising from yellow dust collecting industrial pollutants, which happen to be the main source of concern for Japan and South Korea. This is even more so because of China's understanding of DSS as a natural occurrence and not one with anthropogenic ties. This is worrisome for two reasons. First, as established thus far, much of the bilateral and multilateral cooperation among the three states has focused on establishing monitoring networks in China, which was essentially a transfer of technology and know-how through Japanese and South Korean ODA. Now that China has a robust system of observation stations installed, there may be less room for continued cooperation. Japan lacks the initiative required for developing a real framework for regional cooperation that does not involve ODA, especially since it suffers noticeably less from DSS than either of the two other countries. On the other hand, South Korea, which suffers more from DSS, has shown leadership in regional environmental diplomacy, but cooperation with China on this issue is still limited to receiving raw observation data from China.

Second, because the upwind-downwind dynamic strengthens China's role in regional DSS policymaking, for any mode of cooperation to be successful, Chinese input and willingness to comply with Japan and South Korea must be present. However, the Chinese refusal to provide monitoring data to Japan and South Korea in 2008, which curiously coincided with the Beijing Olympics and the central government's green Olympics media campaign, shows that China's willingness to comply varies significantly based on its domestic priorities. Additionally, because Japan and South Korea are situated at the receiving end of yellow dust data, the future of multilateral cooperation sits precariously on domestic developments within China. Moreover, current DSS research is now shifting from analyzing dust storm sources and movements to focusing more on the changes in the composition of dust as it travels over Chinese territory. This means that raw yellow dust data can now be used to track the amount and type of pollutants that dust particles capture while moving across China. Essentially, pollutants can be used as a proxy for the level of industrial development, which in turn can be used to assess China's national economic development policies especially in politically sensitive regions of Inner Mongolia and Xinjiang. This exposes the central government to domestic and foreign pressure, and therefore, as DSS monitoring technology develops over time, China may be even less willing to share raw data with Japan and South Korea.

Domestic Initiatives: Good Intentions but Questionable Results

While the future of regional cooperation on DSS will likely face challenges in the coming years due to the crowding out of available

means of cooperation and an increasing dependence on Chinese domestic politics, there is hope for efforts to mitigate DSS within Chinese borders. Because the official Chinese stance on DSS is that it is a natural phenomenon, domestic efforts to address the problem have instead focused on combating desertification, which is at the core of dust and sandstorms. However, it is important to realize that there is a gap between desertification and DSS. The central government has focused on desertification because it is a significant problem on its own, not because it believes that the best way to solve DSS is through desertification. While many Japanese and South Korean NGOs have worked on afforestation in China with the primary objective of reducing dust and sandstorms, the Chinese government is undoubtedly more concerned with the encroaching desert; any reductions in DSS can thus be seen as a positive externality.

China has a number of strengths in combating desertification. First, the Chinese government, through the 2001 Law on Preventing and Combating Desertification, has a well-established legal framework for desertification control. Second, as evidenced by its multi-billion RMB investment in the Green Wall of China, there is strong political commitment and a sound acknowledgment of desertification at the top leadership level. Third, national afforestation policies have had high levels of participation by local farmers and have attracted the help of many local organizations, allowing for a transition from top-down to bottom-up approaches in re-vegetating lands lost to deserts.

However, these efforts have been met with criticism from the scientific community. Jon R. Luoma, a contributing editor at *Audubon*, writes that researchers question the long-term sustainability of China's afforestation push. More specifically, Luoma argues that based on an analysis by scientists at Beijing Forestry University, up to 85 percent of the newly-planted trees may ultimately fail in the medium to long-term.[41] Many of the newly planted saplings have a lifespan of only four decades, are mono-cultures prone to disease and ultimately are unsuited to the soil. Chen and Tang also suggest that the project is generally unsuccessful because the types of trees that are planted do not survive the arid and semiarid steppe landscape.[42] Gao Jixi, a researcher at the China Environmental Science Institute, wants policymakers to consider the "environment in northern and [north]western China as a whole" and states, "Planting more trees does not mean the improvement of the environment."[43] Likewise, Xu Jianchu, a professor at the Kunming Institute of Botany, Chinese Academy of Sciences, argues, "The SFA only looks at forested land, but they forget the big picture."[44] The big picture, he claims, suggests worsened soil erosion and water scarcity as major casualties of China's afforestation program.

Towards a Cleaner Future

For China to help solve the increasingly pressing issue of dust and sandstorms, there must be distinct developments in the battle against desertification and the national concept of DSS as more than a natural phenomenon.

Recent developments in environmentalism in China show good promise. President Xi Jinping and Premier Le Keqiang have both declared war on pollution on the basis of a Chinese-style ecological civilization. A greater emphasis on market mechanisms and pollution taxes are pressuring dirty state-owned industrial facilities, such as coal plants and petrochemical plants, to comply with environmental targets set forth by central authorities, while civil society has taken a greater role in raising awareness of air and water pollution issues. The successful passing of the Environmental Protection Law (EPL) now allows public interest lawsuits through registered NGOs, guarantees whistle-blower protection and calls for greater data transparency. Even the cadre system, often seen as the fundamental weakness in local implementation of central environmental policies, is shifting towards green evaluations, with criteria such as air quality becoming one of the metrics used to evaluate cadres and gauge their likelihood of promotion.[45]

These political developments offer unprecedented opportunity for addressing environmental issues such as desertification and DSS. To redirect anti-desertification efforts from simply planting trees to a more sustainable policy, the following concepts must be considered. First, policymakers must further coordinate with researchers, ecologists and environmental experts. The largest setback to the Green Wall of China is the incompatibility of trees with the local ecosystem. In fact, in Chinese deserts and grasslands in Inner Mongolia, grass is by far the most common form of vegetation rather than trees. The massive planting of trees not only conflicts with the ecology of the region, but is also more expensive and uses large quantities of groundwater that are becoming increasingly scarce. In western Inner Mongolia, groundwater has now receded to 100 meters below the surface from what used to be just 0.5 meters.[46]Grass, on the other hand, is denser, is primarily dependent on rainwater rather than groundwater, and keeps the soil from blowing away. Second, afforestation efforts must continue into areas further away from cities. The lack of infrastructure such as roads in key areas has meant that afforestation efforts both from the central government and NGOs have avoided the very remote areas that are perhaps more stricken by land degradation. Third, anti-desertification programs must emphasize poverty alleviation and a greater consideration for local customs in rural Inner Mongolia. Overgrazing is a key contributing factor to desertification, but central government programs that target overgrazing have little regard for the lives of the local people, who are some of the poorest in the nation. In some villages in Inner Mongolia, open grazing has been banned outright and the number of grazing animals limited. The central government aims to resettle the remaining 1.1 million nomad population who are mostly ethnic Mongolians. Yang Youlin, the Asia regional coordinator for UNCCD, agrees with the need for increased local input: "We definitely need to better understand the traditional nomadic culture on the steppes here. Nomadic herdsmen are not comfortable with static agriculture… [and] want to own more animals."[47]

In terms of addressing dust and sandstorms, it is in China's interest to first recognize the anthropogenic input factors that have increased the frequency, intensity and toxicity of recent storms. While the central government's main environmental priorities appear to be air quality, water quality, water management and land degradation (including desertification), dust and sandstorms sit at an intricate nexus between all of these issues. Mitigating yellow dust improves air quality, especially with respect to trapped pollutants, heavy metals and other forms of PM2.5 and PM10. Targeting DSS also addresses issues of water scarcity and land degradation. Therefore, establishing direct linkages between DSS and each of China's environmental initiatives can provide a more robust framework to tackle both problems simultaneously.

Furthermore, by underscoring such linkages, China can open new venues for ODA from Japan and South Korea. The environmental communities in China's neighboring countries have prioritized DSS mitigation efforts for years, especially because unlike other domestic environmental problems, the upwind-downwind nature of DSS has meant that Japan and South Korea are powerless to reduce costs inflicted by DSS unless they actively engage with China. China has a host of environmental problems that require attention, and as argued above, these problems offer potential linkages to DSS. An official push in expanding DSS prevention within China will be viewed favorably by the other two countries and can lead to increased

financial or technological assistance with other related environmental problems, thereby resulting in positive gains. Moreover, Japan and South Korea, as downwind countries, will feel a greater level of inclusion and involvement in solving DSS, which can assuage regional tensions over this environmental issue.

To do so, there must be a greater emphasis on cooperation between domestic researchers and policymakers. TEMM and NEASPEC have allowed for joint research between Chinese scientists and their Japanese and South Korean counterparts who understand DSS as more than a natural occurrence. Even within China, there is a strong scientific community that recognizes the multidimensional linkages. A general agreement on the anthropogenic factors contributing to DSS among the ecoelites and technocrats could shape policy more favorably towards resolving the DSS problem. Included in the broad overhaul on the characterization of yellow dust is a greater need for civil society and the media to become involved in reporting dust and sandstorm events. While media reports have detailed the extent of damage caused by each DSS incident, they have shown a general pattern of qualifying the economic and social costs with the emphasis that DSS are inevitable occurrences of nature. This gap in available evidence and reporting is significant enough for civil society actors, including NGOs and independent filmmakers, to pressure the Chinese government to take a stronger stance on addressing DSS.

Finally, there may be room for Chinese officials to link DSS (or more generally desertification) to climate change, especially as experts are now worried that increasing temperatures and drier seasons may thwart years of land recovery. Climate change has national security implications. However, the Chinese government has shown reluctance to associate climate change with national security,[48] so it is highly unlikely that desertification (and DSS) will serve a role greater than its current one as an environmental problem.

Conclusion

Dust and sandstorms are a significant environmental issue. While they do occur naturally, it is without a doubt that man-made changes in China's environment, especially desertification, have led to more frequent and intense storms in recent decades. Because dust particles pick up industrial pollutants and bacteria while traveling across China before inflicting damage on South Korea and to a lesser extent Japan, the regional community is increasingly alarmed by the socioeconomic and public health costs of yellow dust. Within the past two decades, China, Japan and South Korea have made unprecedented strides in environmental cooperation on DSS despite lingering political sensitivities. Collaborations such as TEMM and DSS-RETA with assistance from international organizations such as ADB, UNESCAP and UNCCD have established a strong network of monitoring systems throughout China and Mongolia, while continued bilateral mechanisms have led to ODA and technology transfers from Japan and South Korea to the point source sites. However, China's unilateral handling of raw observation data based on its domestic priorities has placed strains and distrust on an otherwise effective cooperation.

At home, China does not have a specific policy mechanism for DSS and instead treats DSS as nothing more than a natural phenomenon. At the same time, however, its aggressive afforestation tactics through the Green Wall of China and other projects, such as those that have targeted overgrazing, have contributed greatly to mitigating desertification, which in turn address problems central to DSS. With opportunities for increased multilateral cooperation on DSS likely to decrease, China's domestic efforts against DSS are critical to the future of dust and sandstorms as a policy agenda in Northeast Asia. There is room for development: a change in Chinese official and public stances on yellow dust by recognizing the anthropogenic input factors, the establishment of linkages between DSS and its core environmental drivers and the opening of new venues for cooperation from Japan and South Korea through ODA in other environmental issues. Recent political developments within China show that central authorities are now more than ever inclined to tackle environmental issues. But with so many problems to choose from, it remains to be seen whether DSS as a separate policy issue will be able to catch the attention of Chinese leaders as they engage in their recently declared war on pollution.

About the Author

Peter Chang Yup Kim received his master's degree in International Relations and International Economics at the Johns Hopkins University School of Advanced International Studies, where he concentrated in international political economy and global environmental policy. His research interests include the political economy of environmental policy, sustainable development, regional cooperation in East Asia and international climate change negotiations. Peter holds a B.A. in Economics Mathematics and Sustainable Development from Columbia University. He would like to thank Dr. Carla Freeman and the various editors of this publication for their assistance and support.

1 Mark Hanrahan, "China Sandstorm: Beijing Blanketed in Red Dust as Biggest Storm in over a Decade Hits," *International Business Times*, April 16, 2015, http://www.ibtimes.com/china-sandstorm-beijing-blanketed-red-dust-biggest-storm-over-decade-hits-photos-1884317.

2 "S. Korea hit by worst winter yellow dust in 5 years," Y*onhap News Agency*, February 23, 2015, http://english.yonhapnews.co.kr/national/2015/02/22/81/0302000000AEN20150222003753315F.html.

3 Eric Johnston, "High levels of yellow sand, PM2.5 heading in from China," *The Japan Times*, February 24, 2015, http://www.japantimes.co.jp/news/2015/02/24/national/high-levels-of-yellow-sand-pm-2-5-heading-in-from-china/#.VU0FctNViko.

4 Yellow dust is also known as *shachenbao* in Chinese, *hwangsa* in Korean, and *kosa* in Japanese. *Shachenbao*, 沙尘暴, literally translates to "sand and dust explosions," while *hwangsa* and *kosa*, both derived from the Chinese characters 黃砂, translate to "yellow sand."

5 For more information on historical evaluations, refer to Youngsin Chun and HiKu Cho, "Historical Records of Asian Dust Events (Hwangsa) in

Korea," *American Meteorological Society*, July 2008, 15.

6 Asian Development Bank (ADB), *Regional Master Plan for the Prevention and Control of Dust and Sandstorms in Northeast Asia* (Manila, 2005), 1.1.3. This report was conducted in coordination with the United Nations Convention to Combat Desertification (UNCCD), the United Nations Economic and Social Commission for the Asia and the Pacific (UNESCAP), and the United Nations Environment Programme (UNEP).

7 Shin Wha Lee, "Environmental Regime Building in Northeast Asia," in *Korea at the Center: Dynamics of Regionalism in Northeast Asia*, ed. Charles K. Armstrong (New York: M.E. Sharpe, 2006), 231.

8 Yoshika Yamamoto, "Recent Moves to Address the KOSA Phenomenon," *Quarterly Review*, No. 22 (2007), 48-49.

9 W. Chad Futrell, "Choking on Sand: Regional Cooperation to Mitigate Desertification in China," *Woodrow Wilson International Center for Scholars China Environment Series*, No. 9 (2007), 58.

10 Yellow dust also reinforces many other global environmental problems, such as radiative transfers that can exacerbate global warming and climate change. For more information, refer to Yamamoto, 45-61.

11 Asian Development Bank (ADB), *Regional Master Plan for the Prevention and Control of Dust and Sandstorms in Northeast Asia* (Manila, 2005), 4.1.

12 Ibid.

13 Ibid. The ADB, in the same report, also estimates that land degradation and desertification cost the Chinese economy approximately $6.7 billion each year. The linkages between DSS and land degradation and desertification will be discussed in the following paragraphs.

14 Jon Herskovitz, "China's killer yellow dust hits Korea and Japan," *Reuters*, March 3, 2008.

15 The author fully acknowledges that the statistics cited in this paragraph require an update. There is a dearth of research on the direct and indirect economic costs of DSS. Given that the problem of DSS continues to intensify each year, the argumentative reasoning provided here is still relevant and salient to the issue.

16 Yamamoto, 49.

17 Kazuma Higashisaka et al., "Asian Dust Particles Induce Macrophage Inflammatory Responses via Mitogen-Activated Protein Kinase Activation and Reactive Oxygen Species Production," *Journal of Immunology Research*, Vol. 2014 (2014), 19.

18 Jung Yoon Lee, "Yellow dust storms bedevil local industry," *Korea JoongAng Daily*, April 17, 2012, http://koreajoongangdaily.joins.com/news/article/article.aspx?aid=2951577&cloc=joongangdaily%7Chome%7Conlinedaily%7Chome%7Conline.

19 Futrell, 58.

20 Rita Alvarez Tudela, "Fighting desertification in China," *Al Jazeera*, December 8, 2012.

21 Yufu Chen and Haiping Tang, "Dust Storm as an Environmental Problem in North China," *Environmental Management*, Vol. 32, No. 4 (2003), 415.

22 Benjamin Carlson, "Waterless World: China's ever-expanding desert wasteland," *Global Post*, December 16, 2013, http://www.globalpost.com/dispatch/news/science/131211/waterless-world-inner-mongolia-desert-wasteland.

23 ADB, 3.1.

24 The Japanese Environmental Agency has since then been elevated to the Ministry of the Environment in 2001.

25 Reinhard Drifte, "Transboundary pollution as an issue in Northeast Asian regional politics" (ARC Working Paper 12, London, UK, 2005).

26 Ibid.

27 The four partner institutions are ADB, UNEP, United Nations Economic and Social Commission for Asia and the Pacific (ESCAP), and United Nations Convention to Combat Desertification (UNCCD).

28 Brandon Keim, "China's Yellow Dust Storms Begin, Data Called a 'State Secret,'" *Wired*, March 3, 2008, http://www.wired.com/2008/03/from-china-with/

29 AFP, "Chinese yellow sand hits Japan, SKorea: officials," *AFP* (republished on *Sino Daily*), March 3, 2008, http://www.sinodaily.com/reports/Chinese_yellow_sand_hits_Japan_SKorea_officials_999.html.

30 DSS, Korean Ministry of the Environment, September 16, 2001.

31 Hyun-jeong Lee, "Korea, China, Japan step up pollution fight," *The Korea Herald*, April 30, 2015, http://www.koreaherald.com/view.php?ud=20150430001315.

32 Hyun-jeong Lee, "Seoul, Beijing to share air quality data in real time," *The Korea Herald*, November 1, 2015, http://www.koreaherald.com/view.php?ud=20151101000404.

33 Qi Lu and Sen Wang, "Dust Sand Storms in China: Disastrous Effects and Mitigation Strategies." FAO, 2003, http://www.fao.org/docrep/ARTICLE/WFC/XII/0859-B5.HTM

34 CNN, "China steps up sandstorm prevention," *CNN World*, April 25, 2002, http://edition.cnn.com/2002/WORLD/asiapcf/east/04/25/china.sstorm/index.html.

35 Stian Reklev and Kathy Chen, "China on track to meet 2020 forest targets, but concerns linger," *Reuters*, February 25, 2014, http://uk.reuters.com/article/2014/02/25/china-forests-idUKL3N0LU1KB20140225

36 Rita Alvarez Tudela, "Fighting desertification in China," *Al Jazeera*, December 8, 2012, http://www.aljazeera.com/indepth/features/2012/12/2012126123056457256.html; Yufu Chen and Haiping Tang, "Dust Storm as an Environmental Problem in North China," *Environmental Management*, Vol. 32, No. 4 (2003).

37 Futrell, 59.

38 Sun Xiaohua, "Sandstorms a fact of nature," *China Daily*, March 15, 2007, http://www.chinadaily.com.cn/china/2007-03/15/content_828050.htm.

39 Jonathan Watts, "China makes gain in battle against desertification but has long fight ahead," *The Guardian,* January 4, 2011, http://www.theguardian.com/world/2011/jan/04/china-desertification.

40 People's Daily, "China Faces High Frequency of Sand Storms," *People's Daily*, July 18, 2000, http://www.theguardian.com/world/2011/jan/04/china-desertification.

41 Jon R. Luoma, "China's Reforestation Programs: Big Success or Just an Illusion?" *Yale Environment 360*, January 17, 2012, http://e360.yale.edu/feature/chinas_reforestation_programs_big_success_or_just_an_illusion/2484/.

42 Chen and Tang, 415.

43 China Daily, "Sandstorm Blows 30,000 Tons of Dust into Beijing," *China Daily* (republished on *China.org*), March 23, 2002, http://www.china.org.cn/english/29323.htm.

44 Reklev and Chen.

45 Henry Sanderson, "Chinese Cadres Told Going Green Rivals GDP to Rise in Party," *Bloomberg Business*, March 13, 2014.

46 Carlson.

47 Manipadma Jena, "China Battles Desertification," *Inter Press Service*, July 5, 2012, http://www.ipsnews.net/2012/07/china-battles-desertification/

48 Duncan Freeman, "The Missing Link: China, Climate Change and National Security," *Asia Paper, Brussels Institute of Contemporary China Studies* (2010), 326.

Same Goal, Different Trajectories: China and India's Naval Modernization in Comparative Perspective

Shuxian Luo

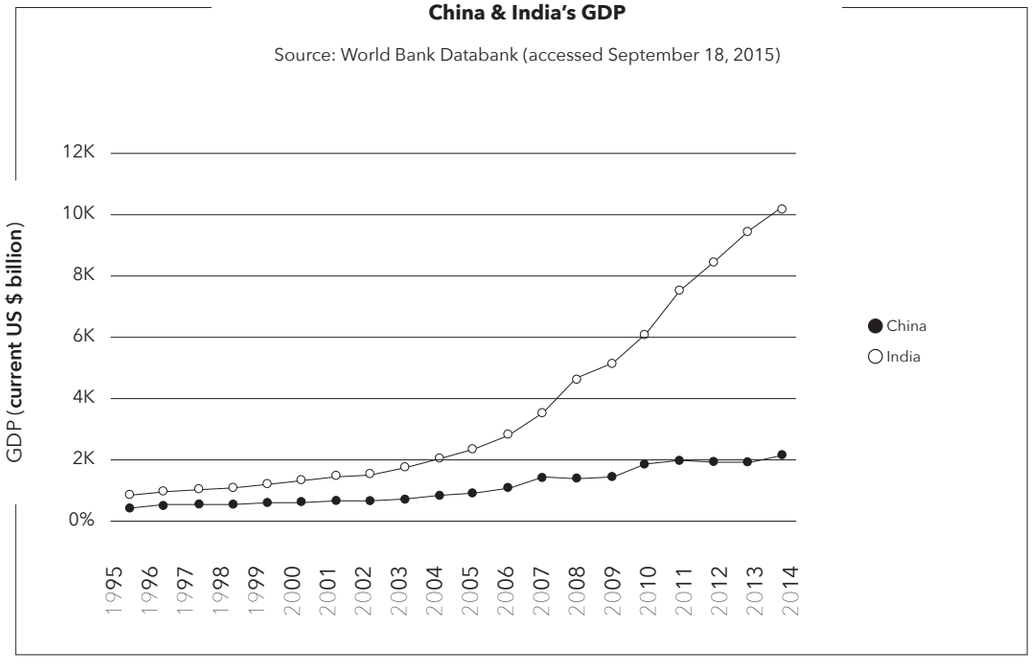
Since the 1990s, as China and India have become rapidly integrated into the global economy, the need for a modern blue-water navy has loomed large. Despite similarities both in driving forces and constraints, the two countries' naval modernization have demonstrated very different trajectories. China has prioritized "near-sea" defense capabilities and modernized its navy at a stunning pace, whereas India emphasizes power projection capabilities but has carried out its naval modernization at a relatively modest speed. The two countries' economic development gap, while a critical factor contributing to their military capabilities gap, leaves unanswered some key questions observed in this discrepancy. Besides economic factors, there are other factors that have decisively influenced their naval development patterns. These factors include threat perceptions between the two countries as well as alliance options and threat perceptions with third-party countries.

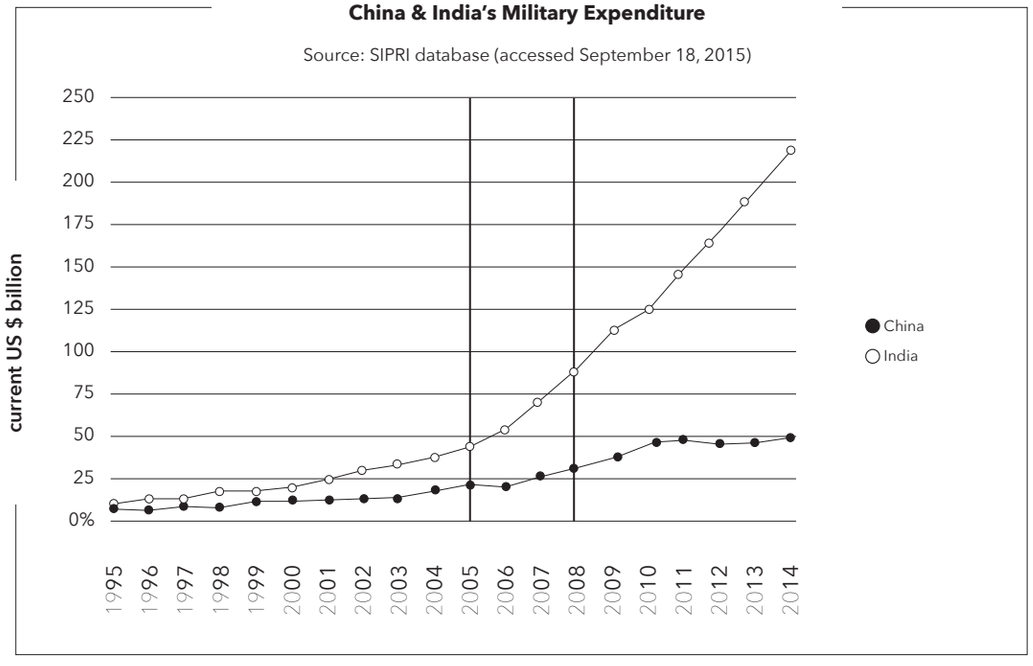
The imperative of developing a modern navy has been harbored by the People's Republic of China (PRC) and the Republic of India since their independence in the 1940s. [1] However, in the four decades following their foundation, both countries had to allocate their limited resources to build up ground forces as they perceived major security threats emanating from the land. [2] Since the 1990s, as China and India have become rapidly integrated into the global economy, the need for a modern navy has loomed large due to a variety of common driving forces. The major drivers entail: their increasing reliance on sea lines of communication (SLOCs) for trade and energy supplies, the growing desire to establish dominance in areas regarded as their "maritime backyards" (the South China Sea and the northern Indian Ocean, respectively) and the need to protect their growing global interests. [3] Additionally, both countries have wrestled with similar constraints, including the long-standing dominance of their armies and competing choices between defense and civilian goods.

Notwithstanding so many similarities, China and India's naval modernization has followed very different trajectories. China has prioritized "near-sea" defense capabilities and modernized the People's Liberation Army Navy (PLAN) at a stunning pace. India emphasizes power projection capabilities, but has carried out its naval modernization at a relatively modest speed. [4]

At first glance, the development gap between China and India seems to offer a plausible explanation for the different paths in their naval modernization. Economic power, while a key enabler of military modernization, fails to address some key questions in this discrepancy, however: why did China and India choose to prioritize different types of naval capabilities? Beyond economic factors, are there other factors that can better explain their different paces and scopes as well as their sources of arms acquisition? Have the two countries' priorities changed over time and will they change in the future?

This paper will answer these questions by examining two factors. The first is the threat perception of each country, which offers a clear explanation for why China and India





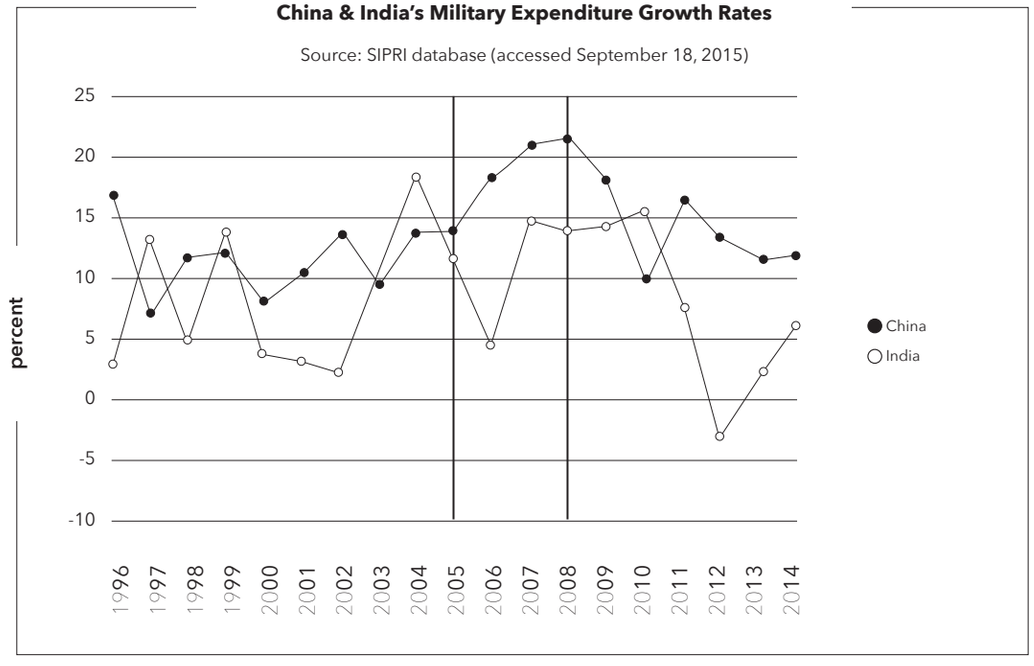
chose to prioritize different capabilities. The second is the availability of potential allies, which helps to explain why China and India's naval modernization has proceeded at different speeds and scales, and through different arms acquisition sources.[5] The conclusion will also discuss how the trends of naval modernization are likely to play out in both bilateral and multilateral contexts, and how the Sino-Indian interactions in the maritime domain will shape their broader strategic discourse.

What Capabilities to Build: Measuring Threat Perception

Comparison of naval modernization between China and India dwells, for the most part, on their distinct evaluations of their own maritime security environments. Differing threat perceptions appear to be a major factor that accounts for the different naval capabilities that the two countries prioritize in their paths to naval modernization.

Having settled most of its land border disputes in the 1990s, China sees its major security threats lying on its maritime periphery, specifically, Taiwan, and maritime territorial disputes in the East and South China Seas. Beijing views the "near-sea" as the "main strategic direction" of its military planning and modernization, in which the United States (primarily the U.S. Navy) is viewed as China's most likely adversary.[6]

Taiwan comes as the first and most pressing maritime issue that instills a sense of urgency and vulnerability in Beijing. Specifically, the 1995-1996 Taiwan Strait Crises exposed the weakness of the PLAN vis-à-vis the U.S. Navy, and underscored "the potential challenge of U.S. military intervention."[7] Arguing that U.S. "hegemonism" and "military interventionism" were on the rise, Chinese security analysts pushed for prioritizing and accelerating military modernization.[8] In its 1998 Defense White Paper, China declared the modernization of the People's Liberation Army (PLA) as a



major component of its defense strategy, with an emphasis on "reducing quantity and improving quality" while transitioning the PLA from "manpower-intensive" to "technology-intensive." [9] The growing pro-independence mentality in Taiwan throughout the 1990s—which culminated in the victory of the pro-independence candidate, Chen Shui-bian, in Taiwan's 2000 presidential election—underscored the imperative for Beijing to accelerate naval modernization in preparation for a Taiwan conflict scenario. [10] In the 2004 Defense White Paper, China clearly stated that the PLAN, along with the PLA Air Force and the Second Artillery, would receive priority in terms of resource allocation. [11]

The Taiwan issue aside, China has not resolved its territorial disputes with any of its eight maritime neighbors, leaving an oceanic periphery embedded with flashpoints. [12] The East China Sea presents a major arena where China and Japan have clashed since the mid-2000s. Each side presses its claims by deploying naval and coast guard vessels to disputed waters around the Diaoyu (Senkaku) Islands. In the South China Sea, China's relations with Southeast Asian countries, particularly Vietnam and the Philippines, have soured rapidly as clashes at sea have become more frequent. Beijing has always been aware that should China attempt to use force in either case, the U.S. military is a major factor that could stand in the way of China's success. [13]

These disputes are also increasingly related to another issue of equally strategic concern to Beijing: the "Malacca Dilemma." This dilemma refers to the prospect that the U.S. Navy, by using its air and naval deployment in the Indo-Pacific region, can block China's energy lifelines. Acknowledging the vulnerability of its critical sea lines, Beijing typically envisions such a blockade against the backdrop of a China-U.S. military conflict in the Taiwan Strait, the East China Sea or the South China Sea. [14]

By contrast, India enjoys a far more benign maritime environment, which has enabled New Delhi to invest more in building its power projection capabilities to safeguard its seaborne trade and energy imports, and undertake low-intensity and noncombatant functions in the far-flung waters of the Indian Ocean.

With its longstanding territorial dispute with Pakistan over Kashmir and Jammu, India confronts "no counterpart to the Taiwan impasse [on its maritime frontier] that compels [the Indian leadership to take] quick action on their part." [15] Although maritime border disputes once existed between India and its neighbors, most were minor and have been settled through bilateral and multilateral negotiations as well as international arbitration. [16]

Although Pakistan remains India's major threat on the subcontinent, whether the Pakistani naval capability—especially its submarine fleet—poses a threat to India is questionable. If New Delhi sees Pakistan or littoral defense as its primary maritime concern, then it should have invested heavily to build "a localized fleet of short-range surface combatants supplemented by land-based naval aviation assets," which New Delhi has not done. [17] Indeed, the Pakistani navy is only half the size of the Indian Navy (IN) in terms of manpower, and one-fifth the size in terms of combat vessels. [18]

Source: Wikipedia commons

Whether India perceives China as its major threat is also debatable. Over the past decade, New Delhi appears to have perceived the expanding presence of China in the Indian Ocean as a major challenge to India's dominance in this region. [19] The "string of pearls," a term coined by Booz Allen Hamilton in 2005 with reference to China's network of maritime facilities in the littoral of the Pacific and Indian Oceans, and the PLAN's routinized anti-piracy operations in the Gulf of Aden since 2008 have both caused consternation in India. [20]

That said, New Delhi seems to have yet to reach a broader consensus on the immediacy and severity of the threat China would impose on India's security interests, mostly because of the uncertainty about China's long-term intentions. [21] Some India experts believe that the mainstream perspective in New Delhi "has been that the threat from China is not direct, but lies in Beijing's special relationship with Islamabad. There is no consensus in India that New Delhi should seek military advantage over Beijing… India has been unwilling to match Chinese investment in defense modernization." [22] This also is reflected in the steadily moderate growth trend in India's military expenditure. No spike is observed for the years following either 2005 or 2008 (as marked by the red lines in Figures 2 and Figure 3). China was mentioned in the IN's 2007 and 2009 Maritime Doctrine only "in passing, with fleeting – albeit foreboding – reference to 'some nations' attempting to 'gain a strategic toehold in the Indian Ocean Rim.'" [23] A recent Pew survey shows that most Indian respondents still view Pakistan as India's archenemy. [24]

Beyond its home waters, the rapid integration of India into the global economy has forcefully dictated its navy to enhance capabilities to ensure the country's "security of access and trade." [25] Indeed, "the primary mission driving naval modernization is sea-lane security, with the development of 'softer' aspects of power projection capabilities receiving some support, while the need to deter hostile maritime powers does little to explain India's recent naval modernization." [26] Conceptualized as "constabulary," "diplomatic" and "benign" missions as opposed to "military" missions in the IN doctrinal documents, these missions cover low-intensity and noncombatant operations such as anti-piracy, maritime patrol, humanitarian assistance and disaster relief (HA/DR) and evacuations.

Pace, Scope, and Acquisitions: Examining Ally Options

Although both China and India have few, if any, formal alliances on paper, India does have several potential allies while China does not. This distinct difference appears to have critically affected the differing strategic time horizons envisioned by decision makers in Beijing and New Delhi, which in turn have translated into the different paces and scopes of China and India's military modernizations. In addition, the discrepancy in ally options also affects each country's sources of arms acquisition.

China has limited ally options. [27] Despite Beijing's peaceful development rhetoric, good neighbor policy and charm offensive diplomacy, it is nowhere near forging a global network of allies and security partners compared to what the United States has fostered. Chinese analysts are well aware that this disadvantage will be extremely difficult to overcome since a global alliance network requires not just hard power but soft power and historic opportunities. [28] Therefore, seeing itself as "a superpower fundamentally different from the United States," China has embraced a defense strategy stressing self-reliance over alliances. [29]

Meanwhile, surrounded by U.S. allies and potential allies, China seems to believe that the time horizon for its military buildup is short. There is a deep anxiety in Beijing that the United States has been seeking to contain China by orchestrating an "Asian NATO" with Japan, South Korea, Australia

and India, and constructing a "C-shaped encirclement" on China's maritime periphery. [30] Beijing appears to believe that "the faster China's socioeconomic developments are, the more likely it will face hostile forces' containment and encirclement… the PLA must have a full understanding of the complexity and gravity of the national security situation, and the significance and urgency of accelerating national defense and military modernization." [31]

Viewed in this context, Beijing sees the imperative to build a full-size, modern military. This includes what the 2015 Defense White Paper calls "a combined, multi-functional and efficient… modern maritime military force… commensurate with national security and development interests." The sense of urgency also drives China to expedite this process as allowed by the country's economic and technological capacities. [32]

India, however, has several ally options. New Delhi's relations with Washington have seen a steady upswing since 2001. [33] The two capitals have been cooperating broadly in defense technology, weapon production and arms sales. [34] Under the Obama administration's pivot to Asia, bilateral relations continue to strengthen. Particularly, navy-to-navy collaboration "has grown dramatically in size, scope and sophistication," and has grown to be "the most robust" component in overall military-to-military relations. [35] India has been increasingly hailed by the United States as a "natural ally" in the Asia-Pacific, largely due to their shared value of democracy, growing economic ties and common interests in counter-terrorism and balancing a rising China. [36]

Since the 1990s, India has maintained close ties with the Association of Southeast Asian Nations (ASEAN) under the "Look East Policy," and has engaged in active naval diplomacy with Singapore, Malaysia, Indonesia, Vietnam, Thailand and the Philippines. [37] Indian Prime Minister Narendra Modi's "Act East Policy," which he announced at the 2014 ASEAN-India Summit, has given a new thrust to this relationship.

In the West Pacific, India has been rapidly expanding its defense cooperation with Japan as both countries increasingly see a shared interest in balancing an assertive China. [38] Building on the "strategic and global partnership" announced in 2006, the two countries launched their 2+2 Dialogue in 2010, with senior officials from both countries' foreign and defense ministries, and the Defense Policy Dialogue in 2011, involving meetings between their defense ministers. [39] In 2015, the two countries reached a defense deal that would enhance mutual defense equipment, technology and information sharing. [40] India has also been boosting its maritime security cooperation with Australia since 2006. [41]

Having potential allies appears to be vital leverage that enables India to cope with China's expanding maritime power through a concerted effort by a group of nations, rather than by India matching the pace or scope of China's naval modernization. Despite some Indian strategists' ambitious goals for India's naval development, it is a commonly acknowledged fact in New Delhi that "[r]esource limitation will not in the foreseeable future allow their force to 'go one-on-one' against the Chinese navy, either in terms of numbers or strategic assets." [42] Moreover, the likelihood of a China-India confrontation at sea—even only as part of a multi-country conflict with China in which the IN would operate in conjunction with the United States and other navies—looks remote. Therefore, with India's still daunting domestic socioeconomic challenges and the United States' continuing maritime dominance in Asia, New Delhi may see a more pragmatic strategy in playing the role of a moderate partner rather than an overbearing leader in the Indo-Pacific security architecture.

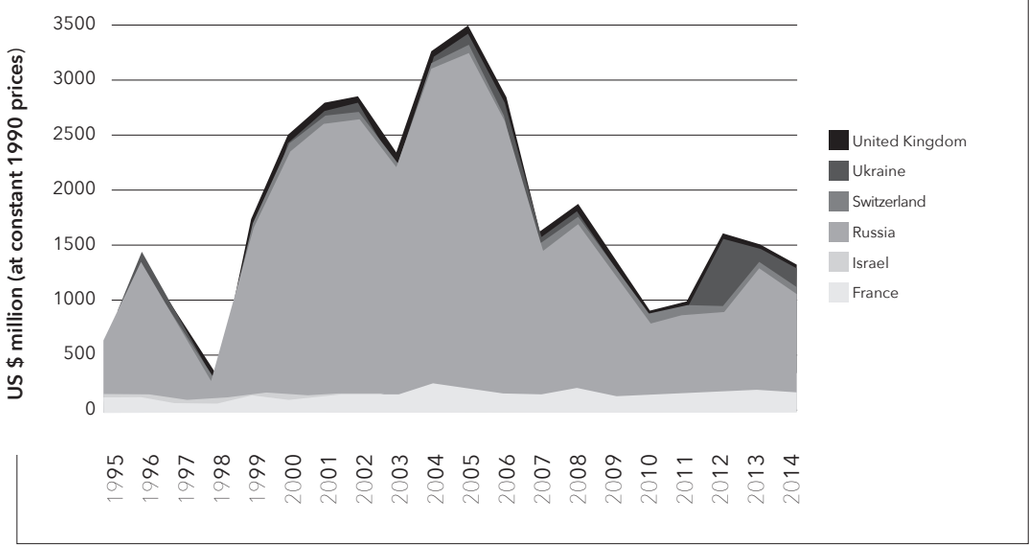
This is not to say that India is likely to enter a binding alliance with any of these aforementioned countries. On the contrary, lacking certainty about China's intentions in the long-run, New Delhi appears to have not reached a broader and clearer consensus on the future direction of India-China relations and thus is unlikely to make such a move. Indeed, pursuing a hedging strategy through omni-directional diplomacy and having ally options appears to have provided effective leverage that New Delhi can employ to hedge against a potentially assertive China without outright antagonizing Beijing. In a similar vein, maintaining close alignment with India without forming a formal alliance appears to be a hedging strategy adopted by both the United States and Japan in response to the rise of China.

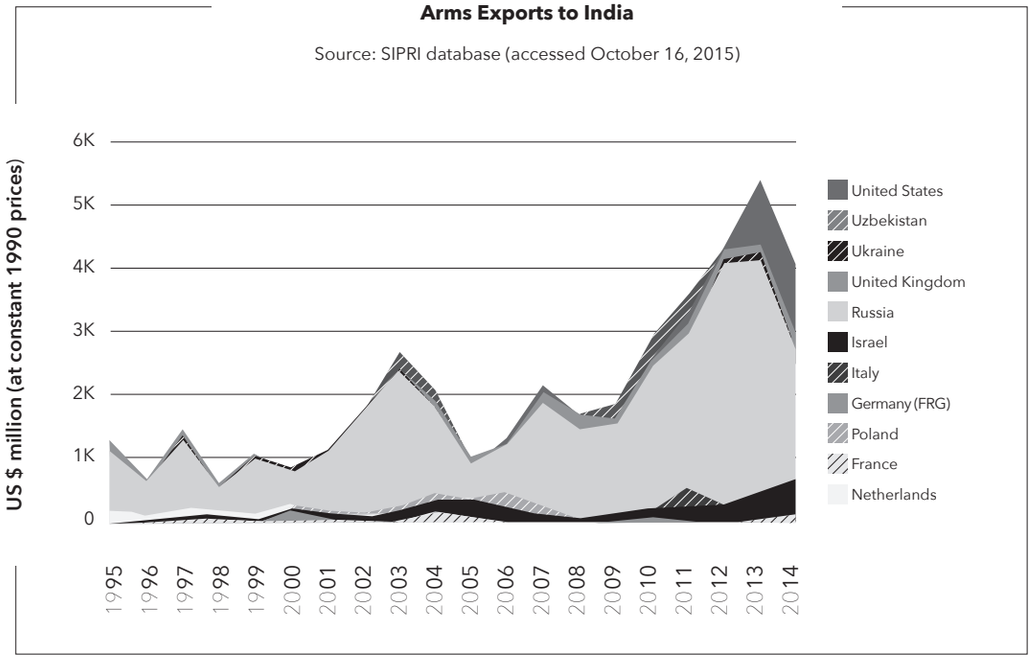
The differing ally options for China and India contribute to their distinct sources of arms acquisitions. Since 1989, China has been subject to US arms sale sanctions, and thus, Chinese arms acquisition and technology transfer from the United States and other Western countries remain at a modest level. The PLAN has relied on Russia as the single most important supplier for modern surface combatants, weapon systems, submarines and technology. [43] Since the 2000s, China has invested heavily in boosting its indigenous defense industry. By the second decade of the 2000s, the PLAN's acquisition had shifted mostly to indigenously designed and produced weapons and platforms. [44]

On the other hand, India enjoys largely unrestricted access to the international weapons market and has been the world's largest weapons importer since 2009. [45] The IN has so far obtained its major platforms from abroad. While this has enabled India to acquire state-of-the-art naval equipment from foreign suppliers, the flip side of this balance is that a high degree of dependence usually means a high degree of vulnerability. Arms embargoes, restrictions on the use of imported equipment or delivery delays all may curtail the navy's modernization efforts. In fact, delays have remained an acute problem with India's arms imports. [46] Operating and maintaining a mix of equipment systems from different countries may also pose additional technical barriers and financial costs.

Arms Exports to China

Source: SIPRI database (accessed October 16, 2015)





Translating Threat Perceptions and Ally Options into Capability Building

China and India, driven by their very different threat perceptions and alliance options, have taken divergent paths to modernize their navies. Drawing heavily on a rapidly growing indigenous defense industry, the PLAN has devoted considerable resources to building "near-sea" defense capabilities with "key elements… specifically tailored to counter U.S. capabilities." [47] On the other hand, the IN has focused on building its power projection capabilities based on imported equipment and increasingly indigenously-developed platforms.

China has made major strides in modernizing its submarine forces, which are key to conducting sea control operations. This is regarded by Beijing as "a critical element of regional deterrence, particularly when conducting 'counter-intervention' (anti-access/area denial or A2/AD in US military terminology) against modern adversaries." [48] According to the latest report released by the U.S. Office of Naval Intelligence, since 1995 China has acquired a total of fifty-six submarines at a rate of about 2.7 submarines per year. The PLAN is also upgrading anti-ship cruise missiles (ASCMs) on these submarines. [49] China's naval combatant vessels have been rapidly modernized as well. [50] Some types of vessels are considered "comparable in many respects to the most modern Western warships." [51]

In addition, China has made rapid developments in anti-ship ballistic missiles (ASBMs). Since 2008, China has been fielding the DF-21D. This ASBM, equipped with a maneuverable reentry vehicle (MaRV), can hit moving ships at sea, posing an unprecedented threat to U.S. Navy vessels operating in the Western Pacific. [52]

While "near-sea" defense has been and will continue to be the primary focus of the PLAN's modernization, the development of China's power projection capabilities is more recent and still nascent. In the aftermath of the 2004 tsunami in Southeast Asia, as the United States, India, Japan and other regional actors promptly sent humanitarian assistance and personnel to the region, China was embarrassed by its inability to "provide immediate disaster relief in its own backyard" due to its lack of necessary power projection and logistics capabilities. [53] This need for better power projection capabilities in the region, the improvements in the cross-Taiwan Strait relationship since 2008, combined with China's expanding global interests, have convinced the PLAN to devote more resources to building power projection capabilities to cope with non-traditional security threats from the "far sea." China's 2008 Defense White Paper articulated for the first time a requirement for military operations other than war (MOOTW). [54] The PLAN has been conducting anti-piracy operations in the Gulf of Aden since late 2008, and commissioned its first aircraft carrier *Liaoning* in 2012. The 2015 White Paper requires the PLAN to transform its focus from a single point on "offshore waters defense" to a combination of "offshore waters defense" and "open seas protection." [55]

On the other hand, India, driven by the goal of securing its SLOCs and the desire to have its great-power status recognized, sees the aircraft carrier program as the backbone of its naval modernization. As it stated in the 2009 Maritime Doctrine, "sea control is the central concept around which the [IN] is structured, and aircraft carriers are decidedly the most substantial contributors to it." [56] The power projection capabilities proved to be an extremely effective, vital asset for India's cultivation of its soft power in the region when the IN promptly responded to the 2004 tsunami with the participation of the Indian Naval Ship (INS) *Viraat*. [57] Currently having two carriers in active service, the IN already has experience operating the vessels. [58] India's first homegrown carrier was undocked in 2015 and is expected to be in service in 2017. The second, currently under design, may be granted U.S. permission to use General Dynamics' advanced Electromagnetic Aircraft Launch System. [59]

That India has been almost single-mindedly focused on power projection capability building seems to reasonably explain why the country's progress in modernizing its subsurface and surface fleets lags behind that of the aircraft carrier program. Currently, India's submarine fleet consists of fourteen submarines, which are largely obsolete and diesel-powered with an operational readiness rate of lower than 40 percent. Acquisition of new submarines suffers from serious delays in delivery. [60] India's surface fleet is in a better situation. Until recently, seven of India's ten in-service destroyers had been commissioned for over fifteen years with an average service of twenty-five years. [61] To ameliorate this situation, India has successfully commissioned two *Kolkata*-class—its most modern indigenously produced combatants to replace the aging destroyers. In addition, India commissioned six Russian-built *Talwar*-class frigates between 2003 and 2013. [62]

Both China and India have endeavored to build up naval nuclear forces as a central piece of developing a credible second-strike capability. Similar to other naval capabilities, the main focus of China's sea-based nuclear deterrent capability is to meet the challenge from the more powerful U.S. nuclear arsenals. This buildup simultaneously guarantees Beijing a second-strike capability vis-a-vis India. The PLAN currently has four *Jin*-class (Type 094) nuclear-powered ballistic missile submarines (SSBNs) in service, all equipped with twelve JL-2 submarine-launched ballistic missiles (SLBMs) that have an estimated range of 7,400 km. [63] India possesses land-based delivery platforms capable of hitting targets deep within China, including Beijing and Shanghai, but has yet to develop a credible at-sea deterrent capability with regard to China. [64] The IN did not begin the sea trial of its first SSBN until late 2014. Currently the SSBN is in the stage of completing final trials. [65] Despite India's nuclear asymmetry with China and the slow pace of India's nuclear buildup, the nuclear capabilities that both

countries possess remains a key source of stability at the strategic level.

Looking Ahead

China and India clearly have different threat perceptions and alliance options, which in combination have translated into very different trajectories of their naval modernization. This simultaneous modernization, in and of itself, did not begin as an arms race, and is still premature to be depicted as a toe-to-toe maritime rivalry. However, their naval modernization alludes to a regional security competition due to strategic mistrust between China and India. Over recent years, New Delhi has developed a perception that China's bolstered ties with India's neighboring countries and naval modernization aim to encircle India. Beijing, on the other hand, views India's outreach to the Pacific region and naval buildup as an attempt to restrain China's influence in South Asia and power projection into the Indian Ocean. This mutual perception is compounded by suspicions deeply rooted in the long-standing security issues including the Sino-Indian border dispute and Sino-Pakistani relations. In the years to come, as both countries strive to expand their presence in each other's "maritime backyards," this shared perception of maritime competition will likely continue, and be further compounded in the broader geopolitical context of the China-India-Pakistan trilateral relations and the China-India-US-Japan quadrilateral interactions.

Overlapping competition for influence in each other's "maritime backyard" is also a major factor contributing to China-India maritime competition. The Indian Ocean has traditionally been an area of primary interest for New Delhi. As China continues to build a blue-water navy and expand its naval presence in the Indian Ocean, it is bound to challenge India's dominance in this region. New Delhi will likely respond by continuing to revitalize and augment its security ties with the littoral countries, as has already been signaled by Modi's March 2015 visit to Seychelles and Mauritius. [66] In the South China Sea, China's assertive territorial claims have galvanized a strong call among the Southeast Asian countries for a balancing strategy. Viewed by ASEAN as "a useful balance to China's heft," India has been welcomed as a partner. [67] As tensions in the South China Sea continue, New Delhi's strengthening security and economic ties with ASEAN countries, in particular Vietnam, will likely gain more weight, which China will likely reciprocate with continued suspicion and further naval buildup. [68]

The China-India border issue, albeit not directly related to the maritime competition, will continue to be another major source of mistrust between the two countries, which in turn will intensify the competition at sea through mis-perception and miscalculation. The border issue shapes India's perception of China through the prism of the 1962 Sino-Indian War. Due to this perception, there is a tendency in New Delhi towards exaggerating the significance and threatening nature of China's actions and strategic intentions, including the PLAN's modernization, while ignoring stabilizing factors in crucial dimensions, including nuclear deterrence and growing economic interdependence. This perception will continue to feed into China's perception of a hostile India and China-India security relations in zero-sum terms.

Sources of mistrust and rivalry also lie beyond the bilateral framework. Beijing's "all-weather" relationship with Islamabad remain a serious concern for New Delhi and will likely continue to influence the China-India security discourse, despite modifications in China's policy toward Pakistan since the 1990s. [69] New Delhi will likely continue to view major infrastructure projects, including the Gwadar Port and the Karakorum Corridor, as potential Chinese military assets in the Indian Ocean region.

The relations between China, India, the United States and Japan may produce mixed implications for Sino-Indian interaction in the naval dimension. The United States and Japan's outreach to India is largely a function of the United States and Japan's responses to the rise of China, and each one of the four players has adopted a strategy of hedging in dealing with each other. On the one hand, each country has been carefully calculating its moves so as to avoid threatening core interests of any of the other three parties. Both China and India have exercised great caution to avoid making moves that would impinge on each other's core interests—such as the maritime territorial issues for China and nuclear issue for India—while cooperating on issues of common interests such as trade and climate change. On the other hand, as the power distribution between China and the United States continues to shift, New Delhi seeks to maintain the equilibrium of power in the Asia-Pacific by developing a balance with the United States and Japan toward China and continued naval buildup. China, suspicious of India along with the United States and Japan ganging up against China, may be tempted to constrain India's power on the subcontinent through Pakistan and redouble the PLAN modernization as a counter-balance in the maritime domain.

As neither India nor China appears prepared to change its tactics on any of these issues, these hurdles will likely persist and impede trust-building at the strategic level. However, there is still room for maritime cooperation and confidence-building measures at the operational level. Beyond their peripheral waters, China and India's interests converge significantly, which should serve as a foundation for future cooperation, especially in MOOTW. This will likely serve both countries' interests and pave the road to addressing strategic mistrust.

	1995		2000		2005		2010		2015	
	China	India	China	India	China	India	China	India	China	India
SSBN	1	0	1	0	1	0	3	0	4	0
SSN	5	0	5	0	5	0	6	1	5	1
SSK	44	15	57	16	61	19	54	16	60	13
Aircraft Carrier	0	2	0	1	0	1	0	1	1	2
Destroyer	18	5	20	8	21	8	28	8	17	12
Frigate	32	18	40	12	42	17	52	12	54	13
Amphibious Ship (LPD)	0	0	0	0	0	0	1	1	3	1
LST	19	1	18	2	19	2	27	5	26	5
LSM	35	8	41	7	31	5	56	5	59	4

About the Author

Shuxian Luo is a graduate from Johns Hopkins SAIS, where she concentrated in China and Japan Studies. Her study and research focuses on US-China-Japan relations, Chinese foreign policy, Asia-Pacific maritime security and China's military modernization. Prior to SAIS, Shuxian worked as a news reporter in Los Angeles. She earned her B.A. in English Linguistics and Literature from Peking University. She is currently a doctoral student at Johns Hopkins SAIS.

1 See for instance Li Dingwen, "On Mao Zedong's Naval Development Strategy Theories" [论毛泽东海军发展战略思想], Xinhuanet, December 8, 2003, http://news.xinhuanet.com/mil/2003-12/08/content_1219632.htm; C. Raja Mohn, *Samudra Manthan: Sino-Indian Rivalry in the Indo-Pacific* (Washington DC: Carnegie Endowment for International Peace, 2012), 3639; James R. Holmes, et al, *Indian Naval Strategy in the Twenty-first Century* (New York, NY: Routledge, 2009), 28.

2 As for China, while there was a maritime threat from the Kuomintang regime in Taiwan that compelled Beijing to develop some coastal defense capabilities, the majority of its resources were devoted to tackling security challenges coming from land: the Korean War (1950-1953), the Sino-Soviet tension and border conflicts with India (1962) and with the Soviet Union (1969). India was in a similar situation. It fought a series of wars with Pakistan (1948, 1949, 1965 and 1971) and one with China (1962).

3 China estimates that trade accounted for 67 percent of China's economy in 2006. Notwithstanding a slight decline in recent years, the ratio so far remains more than 50 percent. See State Oceanic Administration of PRC, "Constructing a Great Maritime Power is an Inevitable Requirement of China's Economic Development" [建设海洋强国是中国经济发展的必然要求], November 21, 2012, http://www.soa.gov.cn/xw/ztbd/2012/kxfzcjhh_xyddsbd/hygz/201211/t20121127_11596.htm. On the energy security front, China became an oil net importer in 1993 and a natural gas net importer in 2007. As of 2013, China imports nearly 60 percent of its crude oil, among which over 80 percent travels through the Indian Ocean, see The Central People's Government of PRC, "Imported Oil and Gas Count for 58.1 Percent and 31.6 Percent, Respectively, of Our Country's Energy Consumption in 2013" [2013 年我国石油天然气对外依存度达到 58.1% 和 31.6%], January. 20, 2014, http://www.gov.cn/gzdt/2014-01/20/content_2570732.htm; US-China Economic and Security Review Commission, *China Navy Extends its Combat Reach to the Indian Ocean*, March 14, 2014. India depends on the sea for over 90 percent of its international trade. See Bernard D. Cole, *Asian Maritime Strategies: Navigating Troubled Waters* (Annapolis, MD: Naval Institute Press, 2013), 131. On the energy front, as of 2013, India imported roughly 73 percent of its total oil consumption, see US Energy Information Agency (EIA), *International Energy Data and Analysis,* last updated June 26, 2014, https://www.eia.gov/beta/international/analysis_includes/countries_long/India/india.pdf.

4 "Near-seas" is defined as covering: 1) the first island chain which stretches from Kurile Islands through the Islands of Japan, Ryukyu Archipelago, Taiwan, the Philippines to Borneo Island; 2) the three near seas, namely, Yellow Sea, East China Sea and South China Sea, within the inner rims of the island chain; 3) sea areas adjacent to the other rims of this island chain, and those of the north Pacific. This concept does not cover the south Pacific or the Indian Ocean.

5 My primary focus is restricted to external factors, as for both countries naval modernization is a response to their perceived external environments, although domestic factors also undeniably have an impact.

6 M. Taylor Fravel, "China Views India's Rise: Deepening Cooperation, Managing Differences" in Ashley J. Tellis, et al., ed., *Strategic Asia 2011-2012*: *Asia Responds to Its Rising Powers China and India* (Seattle and Washington DC: The National Bureau of Asian Research, 2011), 8991; Murray Scot Tanner, et al., *Distracted Antagonists, Wary Partners: China and India Assess Their Security Relations* (Alexandria, VA: Center for Naval Analysis China Studies, 2011), 6. On the land borders disputes, China began border settlement negotiations in 1992 with Kazakhstan, Kyrgyzstan, Tajikistan and Russia. In 1998, a settlement treaty was signed between China and Kazakhstan. Border negotiations with Kyrgyzstan and Tajikistan concluded with separate settlement in 1999. China settled border disputes with Russia in multiple agreements signed in the 1990s and 2000s. Shen Wenwen, "China and its Neighbors: Troubled Relations," *EU-Asia Centre*, March 1, 2012, http://www.eu-asiacentre.eu/pub_details.php?pub_id=4. The only unsettled land border dispute is the one with India and Bhutan.

7 US Department of Defense, *Annual Report to Congress Military and Security Developments Involving the People's Republic of China*, 2011; Michael S. Chase, "Explaining Taiwan's Response to Chinese Military Modernization: Alliance Dynamics, Threat Perceptions, and Domestic Politics" (PhD dissertation, Johns Hopkins University, 2007), 113.

8 Michael Chase, "Explaining Taiwan's Response to Chinese Military Modernization," 113-114.

9 Ministry of Defense of PRC, *China's National Defense*, July, 1998.

10 In the 2000 Taiwan Policy White Paper, Beijing stated, "a serious crisis still exists in the situation of the Taiwan Strait… if a grave turn of events occurs leading to the separation of Taiwan from China in any name… the Chinese government will only be forced to adopt all drastic measures possible, including the use of force." The State Council of the PRC, *The One-China Principle and the Taiwan Issue*, February 21, 2000.

11 The White Paper stated, "the PLA gives priority to the building of the Navy, Air Force and Second Artillery force to seek balanced development of the combat force structure, in order to strengthen the capabilities for winning both command of the sea and command of the air and conducting strategic counter strikes." Ministry of Defense of PRC, "China's National Defense White Paper," December 2004.

12 Andrew Erickson, "China's Near-Sea Challenge," National Interest, January/February, 2014, 60-66.

13 There are strong convictions in Beijing that a US intervention is more likely in the ECS than in SCS, largely due to different treaty obligations and strategic calculus that the United States has with respect to the two regions. See, for example, Ju Hailong [鞠海 龙], "Researching the Obama Administration's policies on the South China Sea" [美国奥巴马政府南海政策研究], *Journal of Contemporary Asia Pacific Studies* [当代亚太], Issue 3 (2011): 97-112; Sun Haiyong[孙海泳], "Analyzing US strategy of intervening in East Asian maritime issues" [美国对东亚海洋问题的介入战略评析], *New Vision* [新视野], Issue 2 (2014). On the Diaoyu/Senkaku Islands, while the United States maintains neutrality on the competing sovereignty claims, it agreed in the 1971 Okinawa Reversion Treaty with Japan to apply the US-Japan Security Treaty to Ryukyu Islands and the Daito Islands, which included the Senkaku/Diaoyu Islands. Mark E. Manyin, "Senkaku (Diaoyu/Diaoyutai) Islands Dispute: US Treaty Obligations," Congressional Research Service, January 22, 2013.

14 See, for example, Xinhuanet, "US military to station in Malacca and choke China's throat, how can China break the predicament" [美军进驻马六甲掐住中国咽喉，中国如何破解困局], April 16, 2004; People' Daily, "Keeping control on China's oil valve" [把着中国油路 阀门], December 1, 2007; Global Times, "US experts proposed to block Malacca to subdue China in the event of a US-China conflict" [美专家支招中美冲突，可封锁马六甲让中国 低头], September 30, 2014.

15 James R. Holmes, et al, *Indian Naval Strategy in the Twenty-first Century* (New York, NY: Routledge, 2009), 89.

16 For a complete list of the settled maritime border disputes, see, Integrated Headquarters Ministry of Defense (Navy), "Freedom to use the Seas: India's Maritime Military Strategy," 2007, 57-58. The maritime territorial dispute between India and Bangladesh in the Bay

of Bengal was brought by Bangladesh to a UN tribunal in 2009 for arbitration. In 2014, the tribunal awarded 19,467 square kilometers of a total disputed area of 25,602 km to Bangladesh, which was upheld by both Bangladesh and India. Ruma Paul, "UN tribunal rules for Bangladesh in sea border dispute with India," Reuters, July 8, 2014, http://in.reuters.com/article/bangladesh-india-seaborder-idINKBN0FD14R201407; Zachary Keck, "How South Asia Resolves Maritime Disputes," *The Diplomat*, July 10, 2014, http://thediplomat.com/2014/07/how-south-asia-resolves-maritime-dispute.

17 Walter C. Ladwig III, "Delhi's Pacific Ambition: Naval Power, 'Look East,' and India's Emerging Influence in the Asia-Pacific," *Asian Security* 5, no. 2 (2009), 91.

18 "China's submarine noose around India," *India Today*, December 4, 2014. As of 2015, the Indian Navy has a force size of 58,350 people, 14 tactical submarines, 27 principal surface combatants, and 96 patrol and coastal combatants. Pakistan's corresponding figures for the same year are: 23,800, 10 and 18. International Institute for Strategic Studies, *The Military Balance 2015*, 249-250, 277-278.

19 The China threat rhetoric was particularly played up by a 2005 Booz Allen report which described China's port development along the Indian Ocean littoral as the "string of pearls" strategy, and furthermore after China deployed its antipiracy forces to the Gulf of Aden in 2008. Murray Scot Tanner, et al., "Distracted Antagonists, Wary Partners: China and India Assess Their Security Relations" (Alexandria, VA: Center for Naval Analysis China Studies, 2011), 37-41.

20 See, for example, Andrew S. Erickson and Austin Strange, "China's Global Maritime Presence: Hard and Soft Dimensions of PLAN Anti-piracy Operations," *China Brief* 15, no. 9, May 1, 2015, http://www.jamestown.org/uploads/media/China_Brief_Vol_15_Issue_9_2.pdf.Strategy for Countering China's Increased Influence in the Indian Ocean," Indo-Pacific Strategic Papers (Australian Defence College, Centre for Defence and Strategic Studies), October 2015, http://www.defence.gov.au/ADC/Publications/IndoPac/Sokinda_IPS_Paper.pdf.

21 Steven A. Hoffman, "Perception and China Policy in India," in Francine R. Frankel and Harry Harding, ed., *The Indian China Relationship: What the United States Needs to Know* (New York, NY: Columbia University Press, 2004), 3374; Stephen P. Cohen and Sunil Dasgupta, *Arming without Aiming: India's Military Modernization* (Washington, DC: Brookings Institution Press, 2010), 13-14.

22 Cohen and Dasgupta, 13-14.

23 Iskander Rehman, cited by Jeff M. Smith, Cold Peace; *China-India Rivalry in the Twenty-First Century* (Lanham, MD: Lexington Books, 2014), 164.

24 In this survey, near half (45 percent) of the Indian respondents named Pakistan as their country's greatest threat. Pew Research Center, "How Americans and Chinese View Each Other," November 1, 2012.

25 Stephen P. Cohen and Sunil Dasgupta, *Arming without Aiming: India's Military Modernization* (Washington, DC: Brookings Institution Press, 2010), 92-95.

26 Walter C. Ladwig III, "Drivers of Indian Naval Expansion," in Harsh V. Pant, ed., *The Rise of the Indian Navy: Internal Vulnerabilities, External Challenges* (Surrey, England: Ashgate Publishing Limited, 2012), 19-20.

27 China traditionally only has North Korea as its official ally, and Pakistan and Myanmar as semi-allies.

28 For example, Sun Peisong, Director of Lianyungang Development Research Institute, argues, "the United States deployed its troops around the world through colonial wars, two World Wars and subsequent intervention wars. However, future history will not create such an opportunity for China… It is very difficult for China to attract followers with security needs and political values similar to China's as the United States has successfully done." Sun Peisong [孙 培松],"China's Military Capability is Far from Establishing Global Presence" [中国军力远未确立全 球地位], *Global Times*, May 17, 2011.

29 Xinhuanet, "China: A 'Super Power' Fundamentally Different From The United States [中国：与美国截然不同的超级大国], November 27, 2012.

30 Michael S. Chase, "Fear and Loathing in Beijing? Chinese Suspicion of US Intentions," *China Brief* 11, no. 18 (September 30, 2011); John W. Garver and Feiling Wang, "China's Anti-encirclement Struggle," *Asian Security* 6, no. 3 (2010), 238-261.

31 "Strengthening the sense of vulnerability, the sense of crisis, and the sense of responsibilities" [增强忧患意识危机意识使命意], *PLA Daily* [解放军报], December11, 2013; Michael S. Chase, "Fear and Loathing in Beijing?."

32 Ministry of Defense of PRC, "China's Military Strategy," May 2015.

33 India's relations with the United States went through a brief chilling period after India's 1998 nuclear test. In 2001, the Bush administration announced that it would waive proliferation-related sanctions for India, following with bilateral agreements to cooperate in civilian nuclear and other high-technology industries. C. Raja Mohan, "India and the Balance of Power," *Foreign Affairs*, July/August 2006, 27; Ladwig (2009), 102.

34 India signed its first ten year defense agreement with the United States in 2005, which enabled military technology transfers, arms sales, joint weapons development and production. In 2015, a new defense pact was signed, opening door for cooperation in development and construction of weapons including aircraft carriers and jet engines. Sridhar Krishnaswami, "India, US sign framework for defense cooperation," *The Hindu*, June 30, 2005; NDTV, "India, US sign new 10 year defense framework pact," June 4, 2015; Council on Foreign Relations, "US India Defense Framework," June 3, 2015.

35 The United States and Indian Navies conduct four joint exercises on an annual basis: MALABAR (the premier annual bilateral maritime exercise conducted to reinforce maritime tactics, techniques, and procedures), HABUNAG (naval aspects of amphibious operations), SPITTING COBRA (explosive ordnance destruction focus), and SALVEX (diving and salvage). US Department of Defense, "Report to Congress on US-India Security Cooperation," November 2011, 3; K. Alan Kronstadt and Sonia Pinto, "India-US Security Relations: Current Engagement," Congressional Research Service, November 13, 2012, 8.

36 See, for example, Kevin Whitelaw, "Obama: US, India 'Natural Allies' in 21st Century," *NPR*, November 24, 2009, http://www.npr.org/templates/story/story.php?storyId=12071279.

37 The annual India-ASEAN multilateral maritime exercise MILAN began in 1995. The Indian Navy's participation in the 2004 post tsunami HA/DF has been seen as a successful showcase of India's naval diplomacy in Southeast Asia. Mohan, *Samudra Manthan*, 101104. Ladwig (2009), 95.

38 Rajan Menon, "An India-Japan Alliance Brewing?" *The National Interest*, January 22, 2014, http://nationalinterest.org/commentary/india-japan-alliance-brewing-974; Ladwig (2009), 100. Japan joined the US India annual maritime exercise MALABAR since 2007, and began to conduct bilateral naval exercise with India, known as JIMEX, in Northern Indian Ocean West Pacific areas in 2012. DoD, "Report to Congress on US India Security Cooperation," 3; IDR News Network, "JIMEX 12, first exercise between India and Japan," *Indian Defense Review*, June 8, 2012, http://www.indiandefencereview.com/news/first-bilateral-maritime-exercise-between-india-and-japan-n-jimex-12/.

39 Menon. New Delhi has also been discussing with Tokyo over importing Japanese defense equipment and technologies, the first potential sale being the Maritime Self Defense Force's US2 amphibian aircraft to the Indian Navy (IN). *Japan Times*, "Japan, India agree

to continue talks on potential US2 exports," March 31, 2015, http://www.japantimes.co.jp/news/2015/03/31/national/politics-diplomacy/japan-india-agree-continue-talks-potential-us-2-exports/; James Hardy, "Aero India 2015: Shin Maywa confident of progress on US2 sale to India," HIS *Jane's Defence Weekly*, February 17, 2015.

40 Nidhi Verma, "India to get Japan's bullet train, deepens defence and nuclear ties," *Reuters*, December 12, 2015, http://in.reuters.com/article/india-japan-idINKBN0TV07D20151212.

41 Australia, after joining MALABAR exercise in 2007 and MILAN IN 2012, began its first bilateral maritime exercise with India, AUSINDEX, in 2015. Prashanth Parameswaran, "Australia, India to Hold First Ever Naval Exercise Amid China Concerns," *The Diplomat*, September 1, 2015.

42 The Indian Navy Chief Admiral Sureesh Mehta, when delivering a talk on the Future Vision of the Indian Navy in 2008, outlined the goal, "By 2022 the Indian navy will have a fleet of 160plus ships, three aircraft carriers and 400 aircraft of different types. Extensive satellite surveillance and networking will be there." Cited in James R. Holmes, et al, *Indian Naval Strategy in the Twenty-first Century*, 83; Cole, *Asian Maritime Strategies*, 150.

43 As China's military modernization proceeds, however, Russia becomes increasingly reluctant of selling more advanced systems. Eric Hagt, "Emerging Grand Strategy for China's Industry Reform," in Roy Kamphausen, et al., *The PLA at Home and Abroad: Assessing the Operational Capabilities of China's Military* (Carlisle, PA: Strategic Studies Institute, US Army War College, 2010), 487-488.

44 Despite the great leap forward in China's indigenous defense industry, currently some engineering components and subsystems remain imported or licensed-produced in-country. Jesse L. Karotkin, "Trends in China's Naval Modernization," testimony before the US-China Economic and Security Review Commission, January 30, 2014, 3.

45 Russia remains India's largest arms supplier by a share of 70 percent. The United States jumps to the second largest supplier as American arms sales to India have seen a rapid upswing since 2005 when the first U.S.-India defense agreement was signed. Israel and the UK also maintain substantial weapon sales to New Delhi. Sushant Singh, "SIPRI data shows India world's biggest arms importer at three times of China," *The Indian Express*, March 16, 2015.

46 For instance, India's Russian-made aircraft carrier, *Vikramaditya*, and more recently, its order of six *Scorpene* submarines from France, have undergone long periods of delay.

47 James Steinberg and Michael E. O'Hanlon, *Strategic Reassurance and Resolve: US-China Relations in the Twenty-First Century* (Princeton, NJ: Princeton University Press, 2014), 104.

48 Karotkin, "Trends in China's Naval Modernization," 7.

49 China has acquired 12 Russian-made *Kilo*-class non-nuclear-powered attack submarines (SSs) and commissioned at least four new classes of indigenously built modern submarines. The four indigenously produced new classes of submarines are: *Jin*-class (Type 094), a nuclear-powered ballistic missile submarine (SSBN); *Shang*-class (Type 093), a nuclear-powered attack submarine (SSNs), *Yuan*- (Type 039A) and *Song*- (Type 039/039G) class non-nuclear-powered attack submarines. Ronald O'Rourke, "China Naval Modernization: Implications for US Navy Capabilities Background and Issues for Congress," Congressional Research Service, September 21, 2015, 12, 17; US Office of Naval Intelligence, "The PLA Navy: New Capabilities and Missions for the 21st Century" (2015 PLA Navy report), 19.

50 China since the 1990s has procured four Russian-made *Sovremenny*-class destroyers, and commissioned six new classes of indigenously built destroyers all armed with ASCMs, and four new classes of indigenously built frigates. According to the ONI report, the PLAN surface fleet currently consists of twenty-six destroyers (twenty-one of which are considered modern), fifty-two frigates (thirty-five modern), twenty new corvettes, eighty-five modern missile-armed patrol craft, fifty-six amphibious ships, forty-two mine warfare ships (thirty modern), more than fifty major auxiliary ships and more than 400 minor auxiliary ships and service/support craft. O'Rourke, 15.

51 The *Jiangkai*-class frigates series, *Luyang*-class destroyer series, and the upcoming new cruiser class. ONI, "The PLA Navy," 13.

52 O'Rourke, 9-10.

53 Thomas J. Christensen, *The China Challenge: Shaping the Choices of a Rising Power* (New York, NY: W.W. Norton & Company, 2015), 35.

54 The document stated, "With the focus of attention on performing the historical missions of the armed forces for the new stage in the new century and with raising the capability to win local wars in conditions of informationization at the core, it works to increase the country's capabilities to maintain maritime, space and electromagnetic space security and to carry out the tasks of counter-terrorism, stability maintenance, emergency rescue and international peacekeeping. It takes military operations other than war (MOOTW) as an important form of applying national military forces, and scientifically makes and executes plans for the development of MOOTW capabilities." Ministry of Defense of PRC, China's National Defense White Paper, January 2009.

55 Indian Navy, "Indian Navy Ships;" Zachary Keck, "India to Test First Homegrown Aircraft Carrier," *The National Interest*, June 10, 2015, http://nationalinterest.org/blog/the-buzz/india-test-first-homegrown-aircraft-carrier-1308.

56 Iskander Rehman, "The Indian Navy has a Big Problem: The Subsurface Dilemma," *The National Interest*, November 4, 2014, http://nationalinterest.org/feature/the-indian-navy-has-big-problem-the-subsurface-dilemma-1159.

57 Iskander Rehman, "India's Future Aircraft Carrier Force and the Need for Strategic Flexibility," June 1, 2010, Institute for Defence Studies and Analyses, http://www.idsa.in/idsacomments/IndiasFutureAircraftCarrierForceandtheNeedforStrategicFlexibility_irehman_010610.

58 Indian Navy, "Indian Navy Ships;" Zachary Keck, "India to Test First Homegrown Aircraft Carrier."

59 Ankit Panda, "India's INS *Vikrant* Aircraft Carrier Success fully Undocks," *The Diplomat*, June 11, 2015, http://thediplomat.com/2015/06/indias-ins-vikrant-aircraft-carrier-successfully-undock. General Electronics describes the advantages of EMALS over conventional launch methods as: *reduced manning workload; reduced thermal signature; increased launch availability; reduced topside weight; reduced installed volume; launch capability for unmanned aerial vehicle*. In operational terms, Indian carriers equipped with EMALS would enjoy greater flexibility in carrier operations over their competitors in the region. Ankit Panda, "This US Technology Could Give Indian Aircraft Carriers an Important Edge," *The Diplomat*, April 6, 2015, http://thediplomat.com/2015/04/this-us-technology-could-give-indian-aircraft-carriers-an-important-edge/.

60 The IN submarine includes nine Russian *Kilo*-class (Sindhugosh) and four locally-built *Shishumar*-class, and one nuclear-powered *Chakra*-class submarine which India leased from Russia in 2012. India ordered six *Scorpene*-class diesel attack submarines from France in 2005. In October 2015, India announced the induction of the first submarine would be scheduled to be commissioned in September 2016, and delivery of the remaining five boats would be completed by 2020. India and Russia have also been reportedly discussing a ten year lease of a second nuclear-power submarine since October 2015. Rahul Bedi, *IHS Janes Defense Weekly*, October 06, 2015; Indian Navy, "Indian Navy Submarines;" Franz Stefan Gady, "India to Lease Another Nuclear Submarine from Russia," *The Diplomat*, October, 30, 2015, http://thediplomat.com/2015/10/india-to-lease-another-nuclear-submarine-from-russia; Indian Navy, "Indian Navy Submarines;" Franz Stefan Gady, "India's Submarine Fleet Faces

Further Delays," *The Diplomat*, February, 27, 2015, http://thediplomat.com/2015/02/indias-submarine-fleet-faces-further-delays/.

61 Indian Navy.

62 Chahryar Pasandideh, "India's Ongoing Surface Naval Combatant Modernization," NATO Association of Canada, May 22, 2015.

63 O'Rourke, 17-18.

64 Manjeet S. Pardesi, "China's Nuclear Forces and Their Significance to India," *The Nonproliferation Review* 21, no. 34 (2014): 344.

65 Rehman, Indian Navy. Gady, Nc Bipindra, "India Nears Completion of Nuclear Triad with Armed Submarine, *Bloomberg*, February 25, 2016, http://www.bloomberg.com/news/articles/2016-02-25/india-said-to-near-inducting-its-first-nuclear-armed-submarine.

66 C. Raja Mohan, "Modi and the Indian Ocean: Restoring India's Sphere of Influence," Asia Maritime Transparency Initiative, June, 18, 2015.

67 Lee Kuan Yew, cited by Ladwig (2009), 94-98. In October 2014, India and Vietnam announced a major arms sale contract that enables Hanoi to acquire four naval patrol vessels from India. Reuters, "India to supply Vietnam with naval vessels amid China disputes," October, 28, 2014.

68 During Indian Prime Minister Narenda Modi's visit to Vietnam in October 2014, India pledged to supply naval vessels to Vietnam and provide $100 million line of credit for Hanoi to make the acquisition. Both sides also signed agreement to enhance joint oil exploration and development in the South China Sea. China responded with a warning against potential impingement on China's sovereignty claims. Sanjeev Miglani, "India to supply Vietnam with naval vessels amid China disputes," *Reuters*, October 28, 2014, http://www.reuters.com/article/us-india-vietnam-idUSKBN0IH0LE20141028. In January 2016, India unveiled its plan to build a satellite station in Ho Chi Minh City, which will likely share with Vietnam tracking and imaging information of Chinese naval base and movement in the South China Sea areas. China responded by warning that "if the cooperation is aimed at China and violates China's interests, it is wrong and unwise." Xu Huan, "China should stay alert to "India-Vietnam cooperation," *CNTV*, January 28, 2016, http://english.cntv.cn/2016/01/28/ARTI7WpG4x92tXEN23JaHoSK160128.shtml.

69 Jingdong Yuan, "Beijing's Balancing Act: Courting New Delhi, Reassuring Islamabad," *Journal of International Affairs* 64, no. 2 (Spring/Summer 2011): 37-54.

Assessing the Decision Process Behind U.S. Military Intervention in a Cross-Strait Crisis: A Scenario-Driven Analysis

Winston Kung

In any potential military crisis between China and Taiwan, the first-order question which arises would not be, "Could US naval forces defeat Chinese naval forces in a cross-straits scenario?" but rather, "Would the U.S. commit to militarily intervene at all?" This paper undertakes a scenario analysis of the U.S. geopolitical calculus behind military intervention, assuming a fixed 2017 crisis scenario of Taiwanese President Tsai Ing-Wen escalating pro-independence rhetoric, and China responding through mobilization of naval forces in the Taiwan Strait. After an analysis of the legal, diplomatic, strategic and domestic opinion factors likely to affect a U.S. president's decision on intervention, we conclude that the United States would conduct non-kinetic military operations to signal a strong threat of American intervention, while simultaneously applying heavy diplomatic pressure to both China and Taiwan to de-escalate the situation; we further conclude that China and Taiwan will likely de-escalate accordingly to U.S. pressure, in light of U.S. military and diplomatic leverage.

Ever since the United States first signed a Mutual Defense Treaty with the Republic of China (ROC) in 1954, Taiwan has been the most sensitive geopolitical fault line between the United States and the People's Republic of China (PRC). Even the subsequent abrogation of the United States' alliance treaty with Taiwan has not removed the sensitivity of this flashpoint; indeed, its replacement, the purposefully vague Taiwan Relations Act, has only rendered the interactions between the United States and the PRC murkier. Up to this day, many observers would agree Taiwan remains the issue most likely to spark a potential war between the United States and China.

Any such conflict between the world's two strongest powers would massively impact the global geopolitical order, and deserves correspondingly careful study. Indeed, there have been volumes of military assessments on the prospects of conflict over Taiwan, many of which are based upon scenario-driven analyses. However, these assessments usually assume a fully engaged state of war between the U.S. and China as their starting point. Compared to these analyses, there is a relative lack of scenario-driven analyses of the political decision behind whether the U.S. would choose to intervene militarily at all – yet assessing the outcome of this decision would likely be the most important factor informing the planning of all sides affected by the crisis, from China and Taiwan to regional neighbors including South Korea and Japan.

This paper examines the U.S. likelihood of militarily defending Taiwan in a cross-strait crisis. It does so through assuming a fixed scenario through which the crisis first unfolds, and comprehensively examines each of the dimensions the President of the United States is likely to weigh in formulating his or her response to such a crisis. The purpose of this analysis is not to provide a policy recommendation, or even to predict the outcomes of the scenario with any degree of certainty, but rather to illuminate the complex, often clashing mixture of factors affecting the decision for intervention. Fixing a scenario to one

specific situation is essential to conducting an analysis which yields insight on factors which might affect a president's judgment; without a fixed prism, any analysis would otherwise devolve into the dreaded axiom: "It depends on the situation."

This analysis assumes a scenario unfolding in 2017, one year into ROC President Tsai Ying-Wen's first term. Throughout 2016, the PRC has undergone frustrating attempts to induce Tsai to re-confirm the 1992 Consensus, or otherwise offer a replacement "One China" formula, yet has received little response from Tsai. [1] To begin the scenario, as a means of exerting leverage, the PRC withdraws some of the Three Linkages with Taiwan, including direct flights. [2] This sets off a nationalistic reaction in Taiwan, especially among student leaders and Tsai's pro-independence base, and Tsai accordingly escalates her rhetoric, from non-recognition of the 1992 Consensus, to explicit denial of both the 1992 Consensus and the One China concept. The PRC interprets this as a move towards Taiwan independence, which crosses one of their "red lines," and mobilizes their navy across the Taiwan Strait in what looks like clear preparation for military action, although it is not yet clear whether they will attempt an amphibious invasion, a blockade or merely a coercive posture. [3] Meanwhile, the PRC has suffered an economic slowdown over the last two years, and PRC rhetoric escalates aggressively in nationalist invective against Taiwanese renegades, as the Chinese Communist Party (CCP) leaders seek to exploit nationalism to restore their damaged legitimacy. This all happens within a matter of days, taking the United States policy apparatus rather by surprise. All other global issues–the South China Sea, the Middle East, Russia and Ukraine–remain roughly unchanged from their status in 2015.

In light of this situation, this analysis will evaluate the President's reaction from the four dimensions most likely to affect the decision: legal, diplomatic, strategic/military and domestic opinion/politics. These dimensions are not implied to be strictly separate; indeed, the President would have to assess them simultaneously, and concerns from one dimension will bleed into another. However, as an organizational paradigm, the analysis will be broken down by section into these dimensions, and point out linkages to other dimensions as necessary. This analysis will not explore who will be the President or personalities of specific candidates likely to be the 2017 President. This is to avoid delving into a murky realm of psychoanalysis and political horse-race calling; instead, the focus is to examine the landscape of trends that would condition any President's decision.

Legal Dimension

Any decision for intervention would have to first examine legal obligations, either in domestic law or through treaties, which might bind the United States to any course of action. If there were a legal obligation for the United States to defend Taiwan, the United States would have no choice but to follow the law: all other factors would become irrelevant.

The United States does not currently maintain a treaty alliance with Taiwan nor do any of its domestic laws bind the United States to declare war over an invasion against Taiwan. The Taiwan Relations Act (TRA) states that Congress will "consider any effort to determine the future of Taiwan by other than peaceful means, including by boycotts or embargoes, a threat to the peace and security of the Western Pacific area," and that it will "maintain the capacity of the United States to resist any resort to force or other forms of coercion that would jeopardize the security, or the social or economic system, of the people on Taiwan"; but considering an attack against Taiwan a threat and maintaining the capacity for resisting coercion do not equate to an obligation to use that capacity. The TRA specifically lays out what actions should be taken if any crisis arises: "The President is directed to inform the Congress promptly of any threat to the security or the social or economic system of the people on Taiwan and any danger to the interests of the United States arising therefrom. The President and the Congress shall determine, in accordance with constitutional processes, appropriate action by the United States in response to any such danger." In other words, the President is obligated only to brief Congress and consult with it; "appropriate action" is not defined, and conceivably includes non-action or simply verbal protests. [4]

So the United States is under no legal compulsion to enter a war. But if it does decide to do so, what legal implications does this have for U.S. allies? These legal implications will inform how U.S. allies urge the United States to react, given their level of legal liability and entanglement if the United States does intervene.

In the event that the United States does enter a war with China, this does not impose any legal obligation on U.S. treaty allies South Korea or Japan to join the war, although it may impose an obligation on the Philippines. The South Korea-U.S. Mutual Defense Treaty only covers armed attacks on "territories now under [the United States or South Korea's] respective administrative control," where Taiwan obviously does not qualify. [5] The U.S.-Japan Treaty of Mutual Cooperation and Security only covers "an armed attack against either Party in the territories under the administration of Japan." [6] However, the U.S.-Philippines mutual treaty has language that may entangle the Philippines in a war if combat indeed occurs between the United States and China, as the treaty's coverage includes attack on either party's "armed forces, public vessels or aircraft in the Pacific." [7]

Although Japan is under no obligation to join the United States in a war against China, it may have the legal capacity to do so if it wishes, despite its pacifist Constitution. The Japanese Diet recently passed a reinterpretation of Article 9 of the Japanese Constitution, stating that Japan could come to its allies' military aid under the condition that "the attack on that country poses a clear danger to Japan's survival or could fundamentally overturn Japanese citizens' constitutional rights to life, liberty and the pursuit of happiness." [8] An attack on Taiwan, which is only seventy miles away from Okinawa, can conceivably be argued as a "danger to Japan's survival."

Ultimately, the legal dimension confers no obligation one way or the other on the President's options. He or she will have to make his or her decision based off of the other dimensions. Of course, this legalistic argument alone will not help the United States much if the rest of the world understands the Taiwan Relations Act as a true U.S. defense commitment–by implication, if not strict legal mandate.

Diplomatic Dimension

Perhaps the most crucial dimension for the President to weigh is how the U.S. course of action affects its relationships in the East Asia region, as well as U.S. global reputation and credibility. The President would have to further consider what diplomatic, non-military options the United States can pursue in response to a crisis.

Historically, the United States has adopted a policy of "strategic ambiguity" towards Taiwan, warning China that the United States *may* intervene against any cross-strait aggression, while simultaneously warning Taiwan that the United States *may not* defend Taiwan if it acts provocatively. [9] This stance is intended to deter destabilizing moves from both sides of the strait, and perhaps also give the United States an "exit option" to refrain from military intervention in a crisis. If U.S. allies perceived the United States as truly being indifferent to the interests of either side, the United States could perhaps walk away from a conflict without any loss of credibility in its other defense commitments.

But this is not the case. The pattern of rhetoric and behavior used by the U.S. government, consistent over the past few decades, has created an understanding of strategic alignment between the United States and Taiwan as well as the expectation of *some* form of military aid in a crisis–to the point where Lingnan University professors Brian Bridges and Che-Po Chan have called the relationship "sufficiently strong… for the U.S. to qualify as an 'ally' in all but name." [10]

It is easy to see where this characterization springs from. As a starting point, the United States and the ROC were treaty allies from 1955-1979. When that was abrogated, the Taiwan Relations Act was passed almost immediately afterwards; while not imposing a strict legal obligation, it couches the United States' reaction to any use of force against Taiwan in strong language, considering it a "threat to the peace and security of the Western Pacific area and of grave concern to the United States." [11] Continued arms sales to Taiwan over the past four decades, including a $1.83 billion arms package approved in December 2015, further reinforces this impression of strategic alignment. [12] Rhetoric from both U.S. diplomats and military officials has also created the impression of a U.S. commitment to Taiwan's defense. Former Secretary of State Hillary Clinton proclaimed Taiwan an important "security partner." [13] In 2003, Admiral Dennis Blair informed Chinese leaders that U.S. forces were prepared to fight on behalf of Taiwan, and that defending Taiwan was worth risking American lives. [14] The relationship between the Taiwan and U.S. militaries has been exceedingly close: Taiwanese officers were invited to the Asia Pacific Center for Security Studies, funded by the Defense Department, despite a lack of official diplomatic recognition. [15] Perhaps most revealingly, an operational plan, Oplan 5077-044, was leaked, showing plans for a fully engaged U.S. war against China over the defense of Taiwan. [16] Given the cumulative impression that these actions have given, the United States would most likely suffer some loss of credibility if it does not follow through on the implied commitment to Taiwan, though not to the same extent as if it failed to defend an official treaty ally.

Despite this pattern of exceptionally close relations, the United States has made clear that its implied commitment does not translate into giving Taiwan *carte blanche* to provoke China, and has continually reiterated its support for the One China policy, as made clear in the 1982 U.S.-China communique: "The United States Government… reiterates that it has no intention of… pursuing a policy of 'two Chinas' or 'one China, one Taiwan.'" [17] Moreover, it has directly taken diplomatic steps to rein in pro-independence behavior from Taiwan, most notably when President George W. Bush directly criticized ROC President Chen Shui-Bian for proposing controversial referenda on the ROC constitution in 2003. [18]

Given this impression of strategic alignment between the United States and Taiwan, while also understanding the strong U.S. support for the status quo, how would U.S. allies encourage the United States to respond to this scenario's crisis? It is difficult to gauge their stances on this issue, as the governments of Japan, Korea and the Philippines have viewed public comment on any cross-strait security issues as a diplomatic taboo. However, this analysis attempts to infer their preferences from their economic and security concerns.

Certainly, U.S. allies have a vested interest in this situation being resolved without kinetic use of force, and especially without them being drawn into war with China. China is South Korea's largest trading partner by far, [19] and ranks as Japan's second-largest trading partner. [20] Any escalation of conflict in the region would severely disrupt these trade flows; more dangerously, a hostile resolution to the crisis would permanently render China a more aggrieved and unpredictable power. Therefore, there would likely be a strong preference towards a diplomatic solution before any combat occurs. Japan itself, through former Prime Minister Mori, took diplomatic steps to warn President Chen Shui-Bian against provocation in 2003. [21]

However, if a diplomatic solution fails to be reached and further military escalation, or even kinetic combat, occurs, U.S. allies would probably be in favor of the United States showing military commitment rather than standing by. South Korea, in recent years, has grown increasingly concerned over what they perceive as waning U.S. global engagement. This concern has grown to the point where South Korea has pushed for an indefinite delay in OPCON 2015, the plan to transfer South Korean soldiers from U.S. operational command to South Korean command, on the notion that U.S. command operationally binds the United States to South Korea's defense. [22] Larry Niksch, a Congressional Research Service Asian specialist, has noted that South Korean officials have even raised questions, "in response to Russia's actions against Ukraine, as to whether the perceived weak response of Obama would be repeated in a full-scale military crisis with North Korea." [23] If the South Korean establishment views the U.S. defense of Ukraine – which the United States has never had any military commitment to, formal or implied – as insufficient, they will almost certainly view U.S. inaction, in the face of Chinese aggression against Taiwan, as a serious indication of U.S. disengagement from global affairs. Of course, their preference for U.S. engagement would be coupled with the fact that they would have no obligation to be entangled in the conflict, or otherwise disrupt their relationship with China.

The Philippines and Japan have even deeper reasons to urge U.S. resolve against Chinese aggression – Chinese aggression has directly threatened their own territorial interests in the Spratly and Senkaku (Diaoyu) Islands. For them, a robust U.S. response to Chinese military activity against Taiwan would send a reassuring signal that the U.S. takes its military commitment to the Asia-Pacific region seriously, and will not back down from confrontations with China. However, their deeper concerns with China are balanced by deeper risks of entanglement in backing U.S. intervention in Taiwan–the Philippines through their defense treaty language, and Japan through its operational proximity to Taiwan, and the almost certain need for U.S. forces to operate out of Japanese bases in any defense of Taiwan. [24]

Despite these direct risks of war with China, Japan would still likely support U.S. intervention if China moves past intimidation towards a kinetic attack on Taiwan. Like South Korea, a guiding principle for Japanese foreign policy has been to encourage deepened U.S. engagement in East Asia. [25] Additionally, Japan has deep strategic reasons for keeping Taiwan out of China's military sphere of influence. Daniel Twining, a former member of the Secretary of State's Policy Planning Staff, notes, "a friendly Taiwan helps secure southeastern approaches to the Japanese home islands — the most likely route of any airborne or naval assault on America's closest Asian ally." [26] According to Twining, these concerns have led Japan to "more clearly define the defense of Taiwan as a core area of alliance cooperation" with the United States; [27] in 2005, Japan even sent military technicians to observe a hypothetical U.S.-Taiwan-Japan joint operation, with both Japanese and Taiwanese personnel linking up computers in the simulation through U.S. middleman computers. [28] This indicates a level of commitment from Japan towards Taiwan's defense, and certainly a wish to see resolve from the United States.

With U.S. credibility and engagement in Asia already under question from its Asian allies, a perceived failure to militarily hold off Chinese aggression could seriously erode the credibility of U.S. security guarantees. In the absence of a regional Asian security architecture – the U.S. alliance system in Asia has long been described as a "hub-and-spoke" system – if

U.S. allies began to doubt the value of the U.S. defense system, they would have no alternative sources of security to turn to but themselves. U.S. Pacific Fleet Commander Scott H. Swift gave a speech in response to aggressive Chinese tactics in the South China Sea, asserting that, "alarmed by these trends, claimants and non-claimants alike are transferring larger shares of national wealth to develop more capable naval forces beyond what is needed merely for self-defense, raising the risk of a sustained arc of increased regional tension" – in other words, a destabilizing arms race.[29] Use of Chinese force against Taiwan, unopposed by the United States, would be orders of magnitude more disruptive, and trigger a proportionally more destabilizing "arc of increased regional tension," as well as seriously diminish U.S. influence in East Asia. The President could not fail to ignore this possible outcome in judging a response to this crisis.

While military confrontation of China might reassure allies and maintain U.S. regional credibility, it comes with a very serious risk: the rupture of diplomatic relations with China. The U.S.-China bilateral relationship affects not only East Asia, but also global affairs. U.S.-China cooperation has been crucial to resolving a wide range of global issues important to the United States, from the sanctions regime against Iran, to climate change, to – most importantly – sustaining both sides' economic growth through huge levels of trade. The United States would be loath to stake the stable management of such important global issues, as well as its economic prosperity, on Taiwan – a non-ally acting, in this scenario, in blatantly provocative ways.

However, many of these issues – especially sustained economic growth – are equally important to China. As Professor Robert Sutter, an expert on East Asian affairs, stated in an interview, "the Chinese basically cooperate on these things on a calculation that's based on what serves their interest."[31] China could not cut off its support for global warming accords without angering its increasingly environmentally-sensitive population, nor allow Iranian nuclear proliferation without jeopardizing the stability of its energy supplies. Any disruption to the relationship would negatively affect both countries; it would perhaps be even more economically painful to China, whose economy is extremely export-oriented and whose largest export market, by far, is the United States.[31]

If direct combat between the United States and China were to actually occur over Taiwan, the impact on the U.S.-China relationship would not simply be a temporary disruption; it would be a long-lasting rupture. The RAND Corporation's U.S.-China Military Scorecard predicts that "a war for Taiwan would be a… sharp, and probably desperate affair with significant losses on both sides."[32] The optics arising from a fully escalated war – ships sinking, thousands of lives lost, possible strikes against China's coast – would lead to bitter memories and poison the relationship for decades to come. The United States would fear pushing China from strategic competitor to aggrieved permanent enemy. But China would equally fear the United States becoming a fully determined, hostile force for containment. The enormous damage this would entail for both sides' long-term goals implies that escalation is in neither side's interest.

The United States does not want to lose its already suspect credibility among allies. Nor does it want escalation to cause a rupture in the world's most important bilateral relationship. This suggests that the United States will prioritize a diplomatic solution, as a way of demonstrating engagement and leadership over the issue to its allies without risking unpredictable military escalation. The United States could exert heavy pressure on Tsai to back off from her pro-independence statements, while offering China an off-ramp to save face through Taiwanese rhetorical concessions, and proceed with military de-escalation.

There is precedent for the United States using diplomatic pressure to rein in Taiwan. In 2003, President Bush took the unprecedented step of directly criticizing "the leader of Taiwan['s]" willingness to "make decisions unilaterally to change the status quo."[33] The State Department and National Security Council also issued statements publicly to the same effect.[34] In the assumed scenario, the United States would find it more difficult to issue such overtly critical public statements; it could be interpreted as weak support for a quasi-ally under duress. However, the United States could still exert strong pressure on Taiwan privately, not least through privately asserting strategic ambiguity to Taiwanese leaders–as this analysis will demonstrate in later dimensions, there are many credible reasons for the United States to *not* to get involved. Even if the United States has already shown signals of military support, the United States could still threaten to cut off future post-crisis support for Taiwan in various economic and social issues, including revoking potential support for Trans-Pacific Partnership Treaty (TPP) entry, or canceling the Visa Waiver Program, unless Tsai immediately issued a statement to the effect that Taiwanese society is still in favor of the '92 Consensus. This would threaten Taiwan with the serious consequences of economic isolation without jeopardizing U.S. military credibility by cutting off Taiwanese security.

Would Taiwan listen to this pressure? Precedent indicates that Taiwan has backed down before under Chen, and Chen is a seemingly more risk-tolerant personality than Tsai. Presumably, Tsai would be escalating her rhetoric in a context of a more independence-radicalized social climate, driven especially by youth protesters. However, forces in Taiwan in favor of stable relations with China still remain strong. The business elite, and the KMT, represent two formidable forces in Taiwan society that would be exerting pressure for Tsai to back down.[35]

Simultaneously, the United States would pressure China with both rhetoric and military signaling – to be further covered in the strategic dimension – that the United States will intervene against aggression. However, the United States would simultaneously privately communicate to China their efforts to rein in Taiwan, and offer a face-saving exit option.

Would China accept such an "off-ramp" for de-escalation? Unless Chinese nationalist sentiment has spiraled out of control, the answer is likely yes. After all, Chinese military actions, dating back to the 1962 war against India, have often been used as coercive diplomacy to "prove a point," and foregone further escalation into protracted war. The 1996 Taiwan Strait Crisis was declared a victory in Beijing, even though it ended with de-escalation in the face of U.S. carrier dispatches, because it forced the United States to warn Taiwan against future provocation.[36] Historically, Chinese leaders have coupled threats against Taiwan with an option for de-escalation: three days before President Chen's inauguration, China's Taiwan Affairs Office stated, "Taiwan leaders have before them two roads:" one road led to force, and the other road was the option to "pull back immediately from their dangerous lurch towards independence… and dedicating their efforts to closer cross-Straits relations."[37] China is also very familiar with the use of the United States as a diplomatic intermediary to resolve crises with Taiwan. During a period of particularly high tensions with President Chen, China gave Dick Cheney – no great sympathizer to China – the "full red-carpet treatment," in hopes that he would return to Washington to encourage greater pressure against Chen[38] The final reason for China to accept a face-saving off-ramp is simple and stark: the alternative, escalation, leads to an unknown situation, which is unfavorable to it in military trends and carries enormous risks.

Of course, the President must not dismiss the possibility that despite the United

States' best diplomatic efforts, China may continue its military escalation. If Taiwan bows to diplomatic pressure and offers a conciliatory statement while China keeps escalating, the decision seems clear-cut: the United States, and the world, would then begin to view Chinese aggression as unprovoked, and intervene to militarily support Taiwan.

The trickier situation emerges if neither side backs down rhetorically. Some academics believe that any perception that Taiwanese intransigence has unilaterally provoked the crisis may lead the United States to feel let off the hook from its defense commitments to Taiwan – a line of thinking which Sutter summarizes as "Taiwan getting its just desserts… [as an] "irresponsible partner." [39] If a diplomatic solution to the situation cannot be found, the President enters a wider geostrategic debate: whether Taiwan is worth defending *no matter what*. Experts can be found on both sides of the debate. Charles Glaser, director of the Elliot School's Institute for Security and Conflict Studies, has argued for abandoning the defense commitment to Taiwan, as "the risks of reduced U.S. credibility for protecting allies… should be small, especially if any change in policy on Taiwan is accompanied by countervailing measures." [40] (It is worth noting that in his context, this would be a gradual shift in policy; in our scenario's context, the United States has not done any signaling beforehand that it is changing its strategic position on Taiwan.) Other academics, most notably Davidson political science professor Shelley Rigger, have argued that U.S. support for Taiwan is crucial for the Asian security architecture. [41] At this point, it is unclear what the President would do. The assessment would likely boil down to the President's personality, advisors and judgment call.

Fortunately, the precondition for this situation – Taiwan refusing to back down in the face of pressure – is unlikely. It would have to assume a radical polarization of Taiwanese society far beyond its current status. Short of a situation of unrestrainable Taiwanese provocation, it seems clear that U.S. diplomatic interests – to preserve its credibility but not rupture its relationship with China – would chart a path towards a diplomatic resolution, while still maintaining non-combat military signaling to show U.S. resolve.

Military/Strategic Dimension

Before the decision to intervene in Taiwan is evaluated on its military and strategic merits, this analysis must make it clear that there is no clear phase in which diplomacy stops and military efforts begin. Unless the United States chooses to declare war against China, diplomacy would almost certainly be taking place simultaneously with U.S. military positioning. In fact, military signaling would be necessary to reinforce U.S. diplomacy. The military dimension is evaluated in a separate section for organizational clarity.

The first-order strategic question is how much strategic value the island of Taiwan holds, independent of its political-symbolic importance. The answer is quite a lot. Chinese military planners have long asserted the importance of gaining military superiority within the "First Island Chain," a line which stretches from Japan through Taiwan down to the Philippines and Indonesia; securing military dominance over Taiwan would be China's first opportunity to hold an island in the chain. According to Chinese policy experts, holding Taiwan would have significant geostrategic implications, from denying rival powers' access to seas adjacent to China's coast, to allowing Chinese submarines to operate in the open ocean east of Taiwan. [42]

Meanwhile, for the United States, Twining observes, "Hostile control of Taiwan would geographically sever the primary base [in Okinawa] of U.S. expeditionary forces in Asia from strategic regions such as the South China Sea and the Indo-Malaysian archipelago… The operation of the U.S. alliance system in Asia, and the reassurance American forward-deployed forces have offered Asian partners for decades, could be overturned if Taiwan flipped from friendly to unfriendly hands." [43] This threat to Okinawa would be further compounded by the exponential increase in China's anti-access/area denial capabilities (A2/AD) when distances shorten – while China can currently exert effective A2/AD near its coast, controlling Taiwan would give it A2/AD capability up to the borders of Japan. [44] In short, the United States has a strong strategic interest in keeping the Chinese military out of Taiwan.

But what if Taiwan could hold off the Chinese military by itself? In such a case, the President's dilemma would be solved, as the United States could simply rely on Taiwan to defend itself without risking direct combat with China. This was certainly possible as recently as the early 2000's. [45] However, in the assumed year of the scenario, 2017, China will have a massive array of modern military assets which Taiwan lacks, including attack submarines and fourth generation naval aircraft. [46] Analysts almost unanimously agree that Taiwan alone would not be able to secure naval or aerial superiority against China, especially if China were committed to fully kinetic strikes against Taiwanese assets. [47] A Chinese blockade would very likely succeed in the absence of U.S. intervention. However, even in 2017, China would face enormous – perhaps prohibitive – risks in any amphibious invasion. The Department of Defense notes that China does not even have "the conventional amphibious lift required to support such a campaign." [48] The implication of these force assessments is that China's military operations would likely stop at a blockade and fall short of occupation. However, a blockade cannot guarantee capitulation, and may even harden attitudes through a Taiwanese nationalistic backlash – especially if the United States makes a point to supply Taiwan through the blockade. This lack of Chinese military capacity to unilaterally force capitulation could make Beijing more favorably disposed to a diplomatic off-ramp.

Of course, acquiescing to a blockade, in hopes that Taiwan will be able to bear the costs without capitulating, would still damage U.S. credibility. Here, the President must consider: if U.S. forces are fully committed to all-out combat against China, could the United States actually achieve victory? If U.S. forces are likely to lose, that changes the calculation behind committing forces considerably.

The broad spectrum of military assessments indicates that the United States would probably still defeat China – but to do so would require a protracted, risky and bloody war. By no means would it be a one-sided conflict. For the first seven days, the United States would probably not even find sufficient basing to conduct a successful campaign for air superiority, according to the RAND Corporation's US-China Military Scorecard. [49] Neither side could assume victory with a great degree of confidence, and both sides would incur significant casualties. [50] However, over time the United States would have a greater margin for error than China: RAND assesses that due to U.S. military advantages across a wide variety of operational factors, the U.S. could afford a number of military setbacks and still prevail in a conflict, while "Chinese leaders face a situation in which failure in even one area could spell catastrophe." [51]

All-out protracted war is not a situation arrived at overnight. Given the political sensitivities of the situation, and the degree to which military movements would be important not just for operational value, but also political signaling, officials would likely develop a ladder of escalation options.

The first half of the ladder would involve non-kinetic options short of combat. On China's side, this would involve mobilizing its navy – the scenario already assumes this has occurred – and perhaps taking some minor offshore Taiwanese islands. The

United States has a range of non-kinetic options to respond with. It could raise its level of military alerts, conduct military exercises, or summon carrier groups to formations not immediately within the cross-strait theater, but in position to proceed towards it (Clinton's action in the 1996 crisis).

More coercively, the United States could impose a distant blockade. This would involve blockading China's oil imports in maritime choke points distant from it, most notably the Strait of Malacca. China's status as the world's largest net importer of oil renders it economically vulnerable to such a blockade; one estimate predicts a distant blockade could reduce China's GDP by 6.6 percent.[52] There are flaws with the blockade strategy: military specialists have pointed out a lethal "inner-ring" blockade would need to complement blockades at distant choke points to fully cut off China's supplies.[53] Nevertheless, an outer-ring blockade which does not contact China's forces, even if not fully operationally effective, is a useful intermediate escalation step for the United States – a way to signal military resolve without entering combat or declaring war. Finally, in the event of a Chinese blockade of Taiwan, the United States could send convoys through the blockade to test Chinese reactions. All these options would force China to fire the first shot.

Beyond non-kinetic options is a similarly multi-pronged ladder of kinetic escalation. The first and most likely step would be China striking Taiwan – not just mobilizing or blockading. Such a strike is very possible if the PLA pursues a blockade. PLA doctrine envisions blockade operations as a "Joint Blockade," which would involve not only an embargo, but also kinetic missile strikes against Taiwanese ports, airfields and air-defense assets.[54] Inflicting actual force against Taiwan might not trigger a kinetic retaliation from the United States; Sutter believes if such a case occurred, the United States should send a strong warning to China not to repeat further strikes, but not yet strike Chinese assets.[55] However, as covered in the diplomatic dimension, inflicting violence against Taiwan could represent clear Chinese aggression to U.S. allies, and tip their scales towards encouraging a robust military response, increasing the likelihood of U.S. intervention.

Base strikes between China and United States would represent a further level of escalation. A RAND Corporation study points out that the nature of Chinese doctrine – which stresses surprise, pre-emption and "key-point strikes" against a superior adversary – makes a Chinese pre-emptive strike on US bases in Okinawa likely, even going so far as to call a Chinese strike on the U.S. Kadena Air Base as "something of a 'no-brainer' from an operational perspective."[56] Here, China is caught in a dilemma. China knows if it strikes U.S. bases, this is an automatic *casus belli* and draws the U.S. military into an all-out war – a war that the United States probably holds an overall advantage in, even after initial base strikes. Yet its best chance of operational victory relies on pre-emptively launching these strikes. The resulting catch-22 implies China will likely seek to avoid this dilemma altogether by preventing the military tension from escalating too far – especially if the United States is dangling a diplomatic solution.

Conversely, the United States could launch strikes on Chinese missile assets in Fujian and other coastal provinces. However, as the side superior in overall firepower, the United States does not have the asymmetric pressure for surprise and pre-emption, especially one that carries such serious political risks. It is therefore likely that the U.S. would refrain from striking the Chinese mainland unless the Chinese struck U.S. forces first.

The final phase of the escalation ladder would involve nuclear options. Some loose talk of nuclear risks over a Taiwan scenario has occurred before: a Chinese senior official was said to have told American officials in 1995, "in the end, you care more about Los Angeles than you do about Taipei."[57] Such threats are probably infeasible from the Chinese side. China has publicly declared a "No First Use" nuclear doctrine for decades.[58] Moreover, given the limited number of Chinese intercontinental ballistic missiles (ICBMs) that can actually reach the United States, and U.S. missile defense capabilities, it is dubious whether China has confidence in successfully striking even one U.S. city.[59] The United States possesses full escalation dominance in every conceivable nuclear capability; any resort to nuclear escalation by China would be highly unlikely.

How far would both sides be willing to climb up this escalation ladder? The United States, given its superior military capabilities at every rung of escalation, can afford to wait for China to escalate before going tit-for-tat; for example, it can strike Chinese shores only after the Chinese strike U.S. bases. China will realize that the United States has full escalation dominance, and that it can probably win even after pre-emptive strikes on U.S. assets – pre-emptive strikes would only serve to bring about a more protracted war and harden otherwise ambiguous U.S. attitudes with a full-on *casus belli*. In this scenario, losing a war would be absolutely disastrous for the CCP, undermining its nationalistic claims of overseeing China's rise on the world stage, at the same time its legitimacy is already being undermined by an economic slowdown; running the risk of a fully escalated war would be unacceptable.

The President would be fully aware that neither side wants the spiraling risks that kinetic escalation could bring. Therefore, he or she would most likely first order non-kinetic options to signal military resolve – for example, positioning carrier formations. If China escalated to a blockade, a convoy could be sent through, or a distant blockade imposed. The operation chosen would force China to be responsible for the first strike, a risk which the United States knows China would be hesitant to take. In the meanwhile, this graduated ladder of non-kinetic escalation could provide the time necessary to negotiate a diplomatic solution between all sides, while still demonstrating the seriousness of a U.S. defense commitment.

Domestic Opinion/Politics Dimension

Public opinion in the United States is strongly against any war over Taiwan. Since 1982, surveys conducted by the Chicago Council on Global Affairs have found that no more than one third of Americans have ever advocated defending Taiwan from a Chinese invasion; only 26 percent of Americans support it today. Of course, the polling numbers alone should not determine a U.S. response; after all, the same poll shows that only 47 percent of Americans support defending a clear-cut treaty ally, South Korea, against North Korean aggression. However, even in this context, support for defending Taiwan is strikingly low. Out of all scenarios polled, defending Taiwan against China received the least support on the list – even defending Ukraine, a country which has never had any type of defense relationship with the U.S., against further Russian invasion was more popular. The American population, as a whole, is growing more isolationist; the desire to "stay out of global affairs" is at its highest point since 1947.[60] Even if one assumes that a crisis could trigger war fever, one cannot expect too strong a wave of support: in the 2003 Iraq invasion, the war fever case *par excellence*, support for the invasion only grew by 12 percent, from 54 percent *before* the September 11th attacks, to 64 percent on the eve of the war.[61] A corresponding 12 percent boost in support for a war with China would bring support levels from 26 percent to only 38 percent.

Economic interdependence provides additional motive against domestic support for a war. China is the United States' largest source of imports, and its third

largest export market.[62] Commercial interests would likely be highly against a war that ruptures relations with China. But in any crisis context, the markets will have *already* plunged, having immediately priced in the increased political risks; therefore, businesses would be in favor of U.S. engagement to bring about a quick resolution of the issue and also enable normalized ties and trade relations afterwards.

One should not assume, though, that the dim public support for war over Taiwan and the concerns over economic stability would mean that American society would not support intervention. There is still a vast array of interests in the United States which are predisposed to view China negatively. As political science professors Andrew Nathan and Andrew Scobell have pointed out, "China's political system elicits opposition from human rights organizations; its population-control policies anger the antiabortion movement; its repression of churches offends American Christians; its inexpensive exports trigger demands for protection from organized labor; its reliance on coal and massive dams for energy upsets environmental groups; and its rampant piracy and counterfeiting infuriate the film, software, and pharmaceutical industries. These specific complaints add strength to the broader fear of a 'China threat,' which permeates American political discourse."[63]

Meanwhile, sympathy for Taiwan runs strong in the United States. Americans clearly see more of their values reflected in Taiwan, a freewheeling democracy, than in authoritarian China. Taiwan has also committed significant resources to actively shaping American attitudes: it has funded academic institutions and lobbyists to the tune of millions of dollars a year.[64] China, while also exerting its own resources on lobbying, has failed to achieve results anywhere nearly as successful.[65]

These results for Taiwan are perhaps reflected most prominently in Congress. The Congressional House of Representatives has long shown a bipartisan streak of sympathy and support for Taiwan. In 2000, the House passed a Taiwan Security Enhancement Act, which would have formalized links between the United States and Taiwanese militaries, though it failed to pass the Senate.[66] As recently as 2013, Congressman J. Randy Forbes wrote a bipartisan letter to the Secretary of Defense calling Taiwan "our democratic ally," and pressing for Taiwan to be invited to the Rim of the Pacific (RIMPAC) 2014 multinational naval exercise.[67] In the event of the scenario's outlined crisis, we can safely expect these same congressmen and congresswomen to call for the United States to stand up against a bullying China and defend its democratic Taiwanese brethren. Any attempt to justify non-intervention, through pointing out Taiwan's unilaterally provocative steps towards independence, would not convince these congressmen and congresswomen. As recently as the 1990s, Speaker of the House Newt Gingrich was asking, "Why don't we just recognize Taiwan?"[68] Granted, the political situation has changed since the 1990s, when memories of the 1989 Tiananmen massacres were still fresh – but it is not clear that Congressional attitudes towards China have improved since then, especially in the recent context of rising trade and South China Sea tensions. Of course, a strong isolationist contingent in Congress could cancel the anti-China and pro-Taiwan voices out; but it is important to recognize that legislators in support of Taiwan still retain a strong voice, perhaps stronger in Congress than among the general public.

Ultimately, it is difficult to arrive at a definitive net assessment of public opinion and domestic politics; there are impetuses towards both a policy of strong intervention, and total non-intervention. If the President wanted to sell either policy to Congress and to the American public, he or she could find plenty of means to appeal to both audiences – democratic values, anti-China sentiment and the vocal pro-Taiwan lobby in Congress to support intervention, or the low opinion poll numbers and overall isolationist mood to justify non-intervention.

Should the President decide that he or she indeed *is* willing to risk war with China, there would be significant hurdles in engaging in pre-emptive military action against China–the President would need to obtain a Congressional authorization for war against China, in the face of low polling support for war. However, non-kinetic military operations short of war, where assets are positioned to dare China to shoot the first shot, could offer the President a path around this dilemma; any Chinese first strike against American forces would almost certainly swing public opinion strongly behind a war against China.

Ultimately, domestic opinion and politics do not give us strong predictive value on the President's decision because of the cleavages on both sides and the difficult-to-forecast nature of national moods and media frenzies. Perhaps the most that can be said is that the President could attempt to placate both pro-Taiwan hawks and isolationists through a policy of strong diplomatic pressure against China while maintaining non-kinetic or other military operations that are below the threshold of war.

Final Assessment and Conclusion

The analysis has shown that the legal dimension confers no obligation on the U.S. to act towards intervention or non-intervention. The diplomatic dimension suggests that our allies want *engagement*, though not necessarily combat, and that neither the United States nor China would want escalation. The military/strategic dimension indicates there are good strategic reasons for defending Taiwan and that the United States would hold the overall upper hand in a conflict. War would be highly risky, and the United States has military options below the level of combat. Finally, domestic opinion and politics provides enough social impetus, both for and against intervention, that the President could craft a solid public messaging strategy to support the policy he or she chooses for diplomatic and strategic reasons.

Taking the cumulative implications of all these dimensions, I conclude that the President will most likely push the Taiwanese and Chinese hard for a diplomatic solution to the crisis, while ordering non-kinetic military operations short of combat to signal the threat of American intervention. This would probably be enough to de-escalate the situation, given the United States' diplomatic leverage over Taiwan, and China's reluctance to run risks in an unfavorable military situation.

However, in the unlikely, but still possible, scenario that push truly comes to shove – that China continues to militarily escalate the situation – would the U.S. President really be willing to commit the country to war against the world's second most powerful country, or even commit to non-kinetic actions that *risk* combat? The risks could be enormously high: economic crisis, and even a non-negligible possibility of military defeat. There is no way to answer this with any certainty; it will depend on the President's personal beliefs and temperament. However, this paper's assessment is that diplomatic and strategic factors would incline the President towards at least risking combat, if not firing the first shot, due to the salience of the Taiwan issue to the overall alliance system in Asia, and the feeling that the Chinese would probably back down due to the risks involved.

This raises the question: what happens if strategic factors shift so that U.S. military capabilities no longer possess so-called escalation dominance over the Chinese – in other words, if U.S. shows of resolve, daring China to shoot the first shot, become more likely to trigger a Chinese acceptance of combat? In such a situation, the President's willingness to take *any* form of military

action which could provoke a Chinese attack would become much more uncertain. In the end, military realities still provide the most fundamental underpinning to both sides' political decisions.

Fortunately, it is unlikely that the United States and China will face such a scenario, at least not in the scenario's postulated date of 2017. If other countries were to conduct their own analysis on a likely U.S. response, China – with its sometimes fundamental assumption of the United States' hostile intentions and commitment to containment of China – will likely read the split picture to mean that the United States would intervene militarily. Taiwan would conclude that the United States would *probably* intervene–but recognize there are enough factors pulling the United States away from war in this picture, including economic concerns and low public support, and that it would be completely imprudent to run any level of risk which invites a Chinese attack. If this scenario analysis cannot provide a definitive prediction on the U.S. response to a crisis, it can certainly confirm one truth: America's strategic ambiguity is not simply a bargaining tactic. The ambiguity of the U.S. response is deeply embedded in its legal, diplomatic, strategic and domestic dilemmas, and no amount of analysis will provide enough certainty for either Beijing or Taipei to exploit an anticipated U.S. response, or non-response, for their own ends.

About the Author

Winston Kung is an M.A. candidate at the Paul H. Nitze School of Advanced International Studies of Johns Hopkins University, concentrating in Strategic Studies and China Studies.

1 The 1992 Consensus is an understanding, reached between semiofficial representatives of the PRC and ROC, in which both sides agreed on the principle of "One China," but differed on its interpretations. It is not a written document, and DPP politicians have previously denied its existence.

2 The Three Linkages between the PRC and ROC refer to postal links, transportation links (including direct air flights), and trade links.

3 "Anti-Secession Law," *Xinhua News*, http://news.xinhuanet.com/english/2005-03/14/content_2694180.htm.

4 The Taiwan Relations Act, Pub. L. No. 968 (1979).

5 "Mutual Defense Treaty between the United States and the Republic of Korea," Yale Law School: The Avalon Project, October 1, 1953, http://avalon.law.yale.edu/20th_century/kor001.asp.

6 "Treaty of Mutual Cooperation between Japan and the United States of America," Ministry of Foreign Affairs of Japan, http://www.mofa.go.jp/region/n-america/us/q&a/ref/1.html.

7 "Mutual Defense Treaty between the United States and the Republic of the Philippines."

8 Ayako Mie, "Abe wins battle to broaden defense policy," *The Japan Times*, July 1, 2014.

9 Brian Bridges and Chan, "Looking North: Taiwan's Relations with Japan under Chen ShuiBian," 578.

10 Bridges and Chen, 579.

11 Taiwan Relations Act.

12 Patricia Zengerle and David Brunnstrom, "Obama administration authorizes $1.83 billion arms sale to Taiwan," Reuters, December 16, 2015.

13 Alex Gray, "Forbes Leads Bipartisan Letter Asking Secretary Hagel to Include Taiwan in RIMPAC 2014 Exercise," Press Release, US House of Representatives, 2013.

14 Richard Halloran, "Taiwan," U.S. Army War College: Strategic Studies Institute, 2003, http://strategicstudiesinstitute.army.mil/pubs/parameters/Articles/03spring/halloran.pdf, 31.

15 Ibid.

16 Charles Snyder, "US plan for defending Taiwan disclosed," *Taipei Times*, June 05, 2006.

17 United States of America and People's Republic of China, "U.S.PRC Communique on Arms Sales to Taiwan," August 17, 1982.

18 The White House, "President Bush and Premier Wen Jiabao Remarks to the Press," December 9, 2003, http://georgew-bush-whitehouse.archives.gov/news/releases/2003/12/20031209-2.html.

19 "South Korea," The Observatory of Economic Complexity 2013, http://atlas.media.mit.edu/en/profile/country/kor/#Destinations.

20 "Japan," The Observatory of Economic Complexity 2013, http://atlas.media.mit.edu/en/profile/country/jpn/#Destinations.

21 Jamie Miyazaki, "Japan: Don't rock the crossStrait boat," *Online Asia Times*, February 20, 2004.

22 Joshua Bryce Bruns, "Report: US, South Korea to scrap 2015 transfer plan," Stars and Stripes, October 21, 2014.

23 Larry Niksch, "The US Security Role in South Korea: Issues that Test South Korean Confidence in the US Commitment," in *Changing Security Dynamics in East Asia: A Post-US Regional Order in the Making?*, ed. Elena Atanassova-Cornelis and Frans-Paul Van Der Putten (Palgrave Macmillan, 2014), 102.

24 Daniel Twining, "The Future of Japan Taiwan Relations: Strategic Diversification in Pursuit of Security, Autonomy, and Prosperity" (paper presented at the Taiwan's Future in the Asian Century: Toward a Strong, Prosperous and Enduring Democracy Conference, Washington, DC, November 10, 2011), 7.

25 Kuniko Ashizawa, ""Keeping the United States In," in *Changing Security Dynamics in East Asia: A Post-US Regional Order in the Making?*, ed. Elena Atanassova-Cornelis and Frans-Paul Van Der Putten (Palgrave Macmillan, 2014), 69.

26 Twining, 7.

27 Ibid.

28 Bridges and Chan, 590.

29 Prashanth Parameswaran, "China's Unilateral Assertiveness 'Unacceptable' in Asia: US Navy Commander," *The Diplomat*, December 17, 2015.

30 Robert Sutter, interview by Winston Kung, November 17, 2015.

31 United States Census Bureau, "Top Trading Partners December 2014," https://www.census.gov/foreign-trade/statistics/highlights/top/top1412yr.html.

32 Eric Heginbotham, *The U.S.China Military Scorecard: Forces, Geography, and the Evolving Balance of Power: 1996-2017* (Santa Monica, California: RAND Corporation, 2015), 332.

33 White House, "President Bush and Premier Wen Jiabao Remarks to the Press."

34 Michael D. Swaine, "Taiwan's Management of Relations with the United States during the First Chen Shui-bian Administration" (paper presented at the Harvard SOAS Conference On

The First Chen Shui-bian Administration, May 58, 2005), 26 and 16.

35 Robert Ross, "The Stability of Deterrence in the Taiwan Strait," *National Interest*, Fall 2001, 74.

36 Suisheng Zhao, *Across the Taiwan Strait: Mainland China, Taiwan, and the 1995-1996 Crisis*, (New York: Routledge, 1999), 120.

37 Robert L. Suettinger, "Leadership Policy toward Taiwan and the United States in the Wake of Chen Shui-bian's Reelection," *China Leadership Monitor* 11 (Summer 2004): 7.

38 Suettinger, "Leadership Policy toward Taiwan and the United States in the Wake of Chen Shui-bian's Reelection," 5.

39 Sutter, interview.

40 Charles Glaser, "Will China's Rise Lead to War?," *Foreign Affairs* (March/April 2011).

41 Shelley Rigger, "Why Giving Up Taiwan Will Not Help Us With China," American Enterprise Institute for Public Policy Research, November 29, 2011, http://www.aei.org/publication/why-giving-up-taiwan-will-not-help-us-with-china/print/.

42 Alan Wachman, "Why Taiwan?: Geostrategic Rationales for China's Territorial Integrity" (Stanford, CA: Stanford University Press, 2007), 149.

43 Twining, 7.

44 Heginbotham.

45 David Shambaugh, "A Matter of Time: Taiwan's Eroding Military Advantage," *The Washington Quarterly* 23:2 (2000), 119.

46 Office of the Secretary of Defense, "Military and Security Developments Involving the People's Republic of China 2015," 60.

47 J. Michael Cole, "Taiwanese Military Reform and PLA Political Warfare," April 16, 2015, 10, 2015, http://thinking-taiwan.com/taiwanese-military-reform-pla-political-warfare.

48 Office of the Secretary of Defense, 59.

49 Heginbotham, xxiv.

50 Heginbotham, 372.

51 Heginbotham, 332.

52 Xunchao Zhang, "A U.S.China War in Asia: Could America Win by Blockade?," *The National Interest*, November 25, 2014.

53 T. X Hammes, "Strategy for an Unthinkable Conflict," *The Diplomat*, July 27, 2012.

54 Michael S. Chase, "Second Artillery in the Hu Jintao Era: Doctrine and Capabilities," in *Assessing the People's Liberation Army in the Hu Jintao Era*, ed. Roy Kamphausen, David Lai, and Travis Tanner (Carlisle, PA: US Army War College Strategic Studies Institute, 2014), 318.

55 Sutter, interview.

56 David A. Shlapak et al., *A Question of Balance: Political Context and Military Aspects of the China-Taiwan Dispute* (RAND Corporation, 2009), 86.

57 Brad Roberts, *China-U.S. Nuclear Relations: What Relationship Best Serves U.S. Interests?* (Institute for Defense Analyses, 2001), 6.

58 Elbridge A. Colby and Abraham M Denmark, *Nuclear Weapons and U.S.-China Relations: A Way Forward* (Washington DC: Center for Strategic and International Studies, 2013).

59 David C Gompert and Phillip C Saunders. *The Paradox of Power: Sino-American Strategic Restraint in an Age of Vulnerability* (Washington DC: National Defense University Press, 2011), 80.

60 Dina Smeltz and Ivo Daalder with Craig Kafura, *Foreign Policy in the Age of Retrenchment: Results of the 2014 Chicago Council Survey of American Public Opinion and US Foreign Policy* (Chicago: The Chicago Council on Global Affairs, 2014).

61 "Iraq," Gallup, http://www.gallup.com/poll/1633/iraq.aspx.

62 The U.S.-China Business Council, *US State Exports to China* (2005-2014), https://www.uschina.org/reports/us-exports/national.

63 Andrew J. Nathan and Andrew Scobell, "How China Sees America: The Sum of Beijing's Fears," *Foreign Affairs* (September/October 2012).

64 Zhao, 117.

65 Tim Ferguson, "Where the China Lobby Meets Closed Doors: Congress," *Forbes*, February 20, 2014.

66 Michael O'Hanlon, "Can China Conquer Taiwan ?," Brookings Institution, 2000, http://www.brookings.edu/~/media/research/files/articles/2000/9/fall%20china%20taiwan%20ohanlon/2000fall_is.pdf.

67 Gray.

68 Zhao, 121.

The China Studies Program at The Johns Hopkins University School of Advanced International Studies (SAIS)

The Johns Hopkins School of Advanced International Studies (SAIS) offers unparalleled opportunities for graduate-level study of China and international relations. Students may elect to concentrate in China Studies, with 15 courses taught by leading China scholars and practitioners, or take advantage of a range of expertise and courses related to China and Asia across programs such as International Development; Energy, Resources, and Environment; International Political Economy; and other functional and area studies programs. SAIS China encompasses SAIS-wide formal activities across greater China, including China Studies in Washington DC, the Hopkins-Nanjing Center in Nanjing, and a dual-degree program with Tsinghua University in Beijing.

Aside from China itself, Washington, DC is ground zero for the study of contemporary China and China policy. China Studies is in the center of Washington –amidst embassies, think tanks, NGOs, and government agencies – all with considerable China involvement and expertise. Given their unmatched opportunity to study China from both the inside and outside, SAIS graduates are employed in government, business, multilateral organizations, and NGOs around the world.

China Studies Program
The Johns Hopkins University School of Advanced International Studies (SAIS)
Rome Building, Suite 606-612
1619 Massachusetts Avenue, N.W.
Washington, D.C. 20036
Tel: +1 202 663 5816
http://www.sais-jhu.edu/content/china-studies#overview
saischinastudiesreview@gmail.com