



**Erasmus
Mundus**

China's rise and rivalry with the US in the 21st century: challenges for nuclear nonproliferation and nuclear reversal

July 2022

UoG Student ID:2507490

UoT Student ID:225141

CU Student ID:685684

**Presented in partial fulfillment of the requirements for the Degree
of
International Master in Security, Intelligence, and Strategic Studies**

Word Count: 23286

Supervisor: Dr. Jan Ludvik

Date of Submission: 26th July 2022



**University
of Glasgow**



**UNIVERSITY
OF TRENTO**



**CHARLES
UNIVERSITY**

Abstract

The implications of US-China rivalry on nuclear nonproliferation and nuclear reversal have become evident in major strategic regions across the globe particularly the Korean Peninsula, the Indo-Pacific, and the Middle East. On the Korean Peninsula, the US interest lies in maintaining stability in Northeast Asia and shielding its allies from potential nuclear confrontation with North Korea, while China views North Korea as a buffer state against Washington because of the US's military presence and strong alliances with Beijing's neighbors South Korea and Japan. In the Middle East, the US and Iran have had a long hostile relationship shaped by sanctions and animosity. However, it is against the backdrop of hostile US-Iran relations that the strength of China-Iran relations can be understood. Beijing has positioned itself to be an alternative great power partner to the US in the Middle East. Beijing has sought out cooperation with Tehran where the US has relied on heavy sanctions. The different lens through which these great powers view North Korea and Iran shape their differing nonproliferation policy actions toward these regions. This will sometimes lead to a clash in nonproliferation policies between Washington and Beijing. The clash in policies presents major challenges for US-led nuclear reversal and nonproliferation efforts in these regions. On the other hand, in the Indo-pacific region, India presents a unique case study that illustrated Washington's willingness to rewrite the rules of the nonproliferation regime to accommodate a nuclear India that could act as a counterweight against Beijing. The US-China-India relationship can be described as a strategic triangle. The dynamics of the US, China, and India relations have spilled over into nonproliferation. The Indian-US nuclear deal is the epitome of the spillover effect of the US-China rivalry on global nonproliferation norms. Given the current climate of US-China rivalry, the US is less likely to pressure India to reverse its nuclear weapons program in the current and near future. In this era of US-China great power rivalry, suspicion of each other's intentions will challenge nonproliferation and nuclear reversal across these major strategic regions.

Table of Contents

Abstract	2
Introduction	4
Literature Review	
The emergence of US-China great power competition in the 21 st century.....	6
Great Power Competition or Great Power Rivalry?.....	10
US-China rivalry in the 21 st century: Challenges for nonproliferation and nuclear reversal.....	12
Research Design and Methodology	16
Case Studies	
The Korean Peninsula 19	
North Korea’s strategic significance for China: Beijing’s buffer state against the West	24
Beijing’s Carrots and Washington’s sticks	28
Wider regional implications: Prospects for potential proliferation in South Korea.....	32
India	
US-China-India: A Triangular relationship.....	34
The Indian-US nuclear deal.....	37
The China issue: US-China rivalry and the US-India nuclear deal	39
Wider regional implications: The US-India nuclear deal and China-Pakistan nuclear relations.....	43
Iran	
The US and Iran- A hostile relationship	46
China-Iran relations and the implications for US-led nonproliferation and nuclear reversal.....	49
Nuclear and Missile technology transfers between Iran and Beijing.....	52
China’s leverage on US withdrawal from the JCPOA.....	54
Wider regional implications: Prospects for proliferation in Saudi Arabia.....	57
Discussion of Findings and Analysis	
North Korea.....	58
Iran.....	61
India	64
Analytical overview of case studies.....	66
Conclusion	68
Bibliography	70

US-China rivalry in the 21st century: Challenges for nonproliferation and nuclear reversal

Introduction

The US-led unipolar moment has been challenged by the rise of China. The 21st century has become an era marked by great power rivalry between Washington and Beijing fraught with contestation and competition. The structural changes in the international system engendered by the rise of China have presented challenges to the US-led international nonproliferation global order. The challenges stemming from US-China rivalry have spilled over into nuclear nonproliferation and have had serious implications on nonproliferation and nuclear reversal. The implications of US-China rivalry on the nuclear nonproliferation regime have become evident in major strategic regions across the globe particularly the Korean Peninsula, the Indo-Pacific, and the Middle East. Firstly, The Korean Peninsula is a region of strategic interest for both the US and China, but North Korea makes it a volatile region of interest for these great powers because of its nuclear capabilities. The US interest lies in maintaining stability in Northeast Asia and shielding its allies from potential nuclear confrontation with North Korea, while China views North Korea as a buffer state against Washington because of the US's military presence and strong alliances with Beijing's neighbors South Korea and Japan. The different lens through which these great powers view North Korea shapes their differing nonproliferation policies toward the Korean Peninsula. The clash in nonproliferation policies between Washington and Beijing presents major challenges for nuclear reversal and nonproliferation on the Korean peninsula.

On the other hand, in the Indo-pacific region, India presents a unique case study that illustrated Washington's willingness to rewrite the rules of the nonproliferation regime to accommodate a nuclear India that could be used as a counterweight against Beijing. The US-China-India relationship can be described as a strategic triangle. From the US perspective, India is viewed as a strategic and important partner willing and committed to balancing China which will help to preserve the US-led international order created by Washington in the region. From Beijing's perspective, the India-US alliance in combination with US forward military presence in the region are the biggest impediments to creating a Sino-centric regional order. From New Delhi's perspective, Beijing is viewed as an expansionist power seeking hegemonic status in the region. The dynamics of US, China, and India relations have spilled over into nonproliferation. The Indian-US nuclear deal is the epitome of the spillover effect of the US-China rivalry on the

global nonproliferation regime. Given the current climate of US-China rivalry, the US is less likely to pressure India to reverse its nuclear weapons program in the current and near future.

Iran remains Washington's greatest proliferation threat in the Middle East. The US and Iran have had a long and tumultuous relationship. The hostile relationship between Washington and Tehran has a long legacy of animosity and sanctions. However, it is against the backdrop of hostile US-Iran relations that the strength of China-Iran relations can be understood. Beijing has positioned itself to be an alternative great power partner to the US in the Middle East, while Iran has become as strategically important to China in the Middle East. Beijing has sought out cooperation with Tehran where the US has relied on hostile sanctions. The dynamics and legacy of the US-Iran relations have opened the door for stronger China-Iran relations. Iran is both an energy and strategic partner for Beijing in this era of great power rivalry with the US. For Beijing, Iran helps to counter US dominance in the region. However, it is the dynamics of Iran-China relations that have had implications on US-led nonproliferation and nuclear reversal efforts in Iran. In this era of US-China great power rivalry, suspicion of each other's intentions may exacerbate nonproliferation across these major strategic regions.

Literature Review

The emergence of Great Power Competition in the 21st century

The United States emerged as the sole hegemon in the 1990s after the fall of the Soviet Union. The US period of global geopolitical dominance at the end of the Cold War was further buttressed by its military and technological superiority (Schneider, 1994). The US found itself unopposed by another great power rival after the demise of the USSR. As a result, Washington's defense planning guidance and national security strategy at the time focused on regional conflicts and the spread of democracy (Mahnken, 2020). The spread of democracy became an important aspect of President Clinton's and President George Bush's administration's National Security Strategy of engagement and enlargement¹. The spread of democracy was rooted in liberalism guided by the iron rule that democracies do not fight against each other. For this reason, "President George W. Bush promised to fight terror by spreading liberal democracy to the Middle East and claimed that "America [would always be] more secure when freedom was on the march" (Snyder, 2004:54). The spread of democracy became an important part of the US national security strategy after the 9/11 terrorist attacks.

The US emergence as the sole hegemon in the 90s and after the 9/11 terrorist attacks largely shaped the National security and defense posture of the US in the first years of the 21st century. In the decades that ensued after the fall of the Soviet Union and the 9/11 attacks, the US security community focused on counter-insurgency and counter-terrorism operations in Iraq and Afghanistan for example². It was not surprising then that from the Bush to Obama administrations, it was widely believed that the major security threats of the 21st century would emerge from climate change, globalization, terrorism, transnational crime, pandemic diseases, etc., while the notion of great power rivalry sat on the back burner of US national security strategy (Friedman, 2021; Carafano, 2019). At the time, China was even being given leverage as a responsible stakeholder in the international system. Therefore, any ideas of a US-China great power rivalry had not made their way officially into any of Washington's national security documents.

¹ A National Security Strategy of Engagement and Enlargement, (Washington, DC: The White House, 1996), p. 2-28

² S. Biddle, America's Grand Strategy After 9/11: An Assessment, (Strategic Studies Institute of the US Army War College, 2005), p.5-9

However, the US started becoming more cognizant of China with the rise of Xi Jinping in 2012. Xi Jinping quickly sought to consolidate power in China through a wave of bureaucratic, political, and military reforms (Grant, 2018). Xi Jinping's consolidation of power eventually led him to hold three of the most powerful positions in Beijing. Xi held the position of "General Secretary of the Chinese Communist Party, Chairman of the Central Military Commission, and President of the People's Republic of China"³. Xi's goal was to unify China's national security apparatus in order to achieve China's grand strategy in alignment with "The Chinese dream of National Rejuvenation", which is a thirty-five-year strategy to accelerate China's prosperity and great power position in the international system in the decades ahead.⁴ Under Xi's leadership, there has been a more assertive shift in China's foreign policies and National Security Strategy. For instance, unlike previous Chinese Presidents, Xi Jinping has taken a more assertive stance on maritime and territorial disputes, particularly in the South China Sea⁵. The South China Sea has been described as a "flashpoint of US-China rivalry [and] the South China Sea [has also been] integrated into China's strategic rivalry with the U.S." (Scobell, 2018:199 & Buszynski, 2012:144). On the other hand, "the United States seeks to prevent China from unilaterally occupying reefs, constructing artificial islands, and asserting sovereignty, dominance, and/or control over" the South China sea⁶. China's claim to the South China sea continues to fuel tension between Beijing and Washington which has the potential to escalate into a full military conflict because of the magnitude and pursuit of dominance in the region by both powers.

Secondly, Taiwan has also been described as a flashpoint in the US-China rivalry in the 21st century. Taiwan has always been a source of contention in US and China relations. Xi Jinping has pledged to completely reunify Taiwan with mainland China by 2049 as a part of "The Chinese Dream of National Rejuvenation" (Grant, 2018). Xi Jinping has even gone as far as to pledge the use of force if necessary to get Taiwan to acquiesce to China's reunification plans. The primary question over Taiwan's status as a sovereign state remains the primary source of discordance

³Ruwitch, J. (2018) 'Timeline: The rise of Chinese leader Xi Jinping', (2018), Available at <https://uk.reuters.com/article/uk-china-parliament-xi-timeline/timeline-the-rise-of-chinese-leader-xi-jinping-idUKKCN1GS0YF>, accessed 10 March 2022.

⁴ Z. Wang, 'Chinese Dream of National Rejuvenation: Concept and Context', *Journal of Chinese Political Science/Association of Chinese Political Studies*, Vol.19,(2013), p 1-13

⁵ M. Yahuda, 'China's new assertiveness in the South China Sea', *Journal of Contemporary China*, Vol.22, No.81(2013), p.446-459.

⁶ Scobell, A. (2018b) The South China sea and Us china rivalry pp. 201

between Washington and Beijing. From the US perspective, Taipei is a key ally in North East Asia; therefore, securing the sovereignty of Taiwan is important to the US. However, China has become more daring in challenging Washington's security guarantee by often flexing its military muscle over Taiwan in the Taiwan median strait line⁷. China's military exercises in the Taiwan strait essentially bruise the strength of US dominance in the region.

These are just two issues at the epicenter of US-China rivalry in the 21st century. More importantly, they highlight Xi Jinping's shift from China's hide and bide policy. For a very long time, China's actions followed the guidance of their former leader Deng Xiaoping's Hide and Bide policy which essentially called for China to hide its strength and bide its time as it carefully rose to great power status⁸. However, under Xi Jinping's leadership China's hide and bide era is over as Xi asserts Chinese hard power, particularly in territorial disputes. Xi has brought China out of hiding as a formidable opponent against the US. Washington's global dominance is being challenged by the rise of China, and it is for this very reason that China was labeled a major threat to US interest and position in the international system under the Trump administration. For the Trump administration, China was the rival of the century that required Washington to take specific strategic steps to deal with.

Under Barack Obama's administration, the notion of great power competition had not been given as much attention unlike under Trump's administration in fact, "Barack Obama declared that the world of great-power competition had been banished forever, [but]None of these notions proved enduring" (Carafano, 2019:1). The idea existed of a return to an emerging and more competitive environment between great powers, but it wasn't until Donald Trump came to office in 2017 that the notion of great power competition became deeply embedded in the US National Security Strategy and National Defense Strategy, in fact, "Great power competition did not emerge as an organizing principle of U.S. policy until the publication of the National Security Strategy in late 2017 and the National Defense Strategy in 2018" (Carafano, 2019: 4). Trump had long been voicing the threat China posed to US interests across the globe, and when he won the presidency,

⁷ Panda, A. 'Taipei Slams 'Provocative' Chinese Air Force Fighters Cross Taiwan Strait Median Line.The flight comes amid growing reports of a possible U.S. sale of fighters to Taiwan' (2013) Available at: <https://thediplomat.com/2019/04/taipei-slams-provocative-chinese-air-force-fighters-cross-taiwan-strait-median-line/>, Accessed on 12 March 2022

⁸ Grant, S. 'China's era of Hide and Bide is over' (2018) Available at: <https://www.abc.net.au/news/2018-01-30/chinese-military-asia-south-china-sea-geopolitical-conflict-us/9372972>, Accessed on 12 March 2022

he used his office to solidify the concept in those official US security documents. The Trump administration NSS explicitly stated that

after being dismissed as a phenomenon of an earlier century, great power competition [has] returned. China and Russia [have begun] to reassert their influence regionally and globally [and that] China and Russia want to shape a world antithetical to U.S. values and interests. China seeks to displace the United States in the Indo-Pacific region, expand the reaches of its state-driven economic model, and reorder the region in its favor⁹

Trump's NDS and also the 2018 National Military Strategy (NMS) incorporated the theme of great power competition through the body of the documents¹⁰. Even after Trump left office in 2021 the notion of great power competition had solidified its place as a major security threat in the 21st century with the US security community as well as with allies across the globe. When President Biden took up the role as the new US president in 2021 his administration NSSD clearly outlined China's place in the 21st century as a major threat to the US and the international system. Biden's 2021 NSSD stated that

this agenda will strengthen our enduring advantages, and allow us to prevail in strategic competition with China or any other nation. The most effective way for America to out-compete a more assertive and authoritarian China over the long-term is to invest in our people, our economy, and our democracy. By restoring U.S. credibility and reasserting forward-looking global leadership, we will ensure that America, not China, sets the international agenda, working alongside others to shape new global norms and agreements that advance our interests and reflect our values¹¹

The language of Biden's NSSD followed a very similar pattern of language much like Trump's administration's view of China. More importantly, what can be taken away from Biden's NSSD is that America views China as a long-term threat and the rivalrous relations between Beijing and Washington will remain as it is long into the foreseeable future.

The 2022 US intelligence report also mentioned that the US will continue to face a global environment marked by a "growing specter of great power competition and conflict". The report also identifies China as a major challenger to the US global order. From China's perspective, the reports cite that "Beijing sees increasingly competitive U.S.–China relations as part of an epochal geopolitical shift and views Washington's diplomatic, economic, and military measures against

⁹ See White House, National Security Strategy of the United States of America, Washington, D.C., (2017) Available at: <https://trumpwhitehouse.archives.gov/wp-content/uploads/2017/12/NSS-Final-12-18-2017-0905.pdf>, Accessed March 13 2022

¹⁰ See U.S. Department of Defense, Summary of the 2018 National Defense Strategy of the United States of America: Sharpening the American Military's Competitive Edge, Washington, D.C.,(2018) Available at: https://www.jcs.mil/Portals/36/Documents/Publications/UNCLASS_2018_National_Military_Strategy_Description.pdf, Accessed March 13 2022

¹¹ The White House, Interim National Security Guidance, Washington, D.C. March (2021) Available at: <https://www.whitehouse.gov/wp-content/uploads/2021/03/NSC-1v2.pdf> Accessed 13 March 2022

Beijing as part of a broader U.S. effort to prevent China’s rise and undermine CCP rule” (Annual threat assessment of the U.S intelligence community, 2022: 7). It is quite clear that a stage has been set and the actions are in motion for US-China rivalry in the 21st century. The focus of this research will be to assess how this rivalry between Beijing and Washington in the 21st century will impact US-led nonproliferation and nuclear reversal efforts across three regions using three case studies for analysis North Korea, India, and Iran.

Great Power Competition or Great Power Rivalry?

The 21st century is often referred to as an era of renewed great power competition with the US and China being identified as major actors. (Panda,2020; Manhnken,2020; O’Rourke:2022). The US Department of Defense (DoD) describes the relationship between the US and China as strategic competition. The US uses the term to describe current US-China relations (Lippman, Seligman; Forgey,2021). However, many scholars argue that using the term *competition* to describe great power relations is conceptually ambiguous because the term fails to describe what type of competition is occurring, what is being competed over, and more precisely what tools are being used to achieve the strategic ambitions of this *competition* (Ashford,2021; Kandrik,2021; Buroff, 2020; Mazaar,2022). Current great power relations between the US and China can more accurately be defined as an international bilateral rivalry (Heath,2022; Mazaar,2022; Kou,2022). According to Mazaar (2022:6) rivalries “...typically involve relatively equal contestants, most often [contesting] over regional or global primacy of some kind... [and that] a few key features [of great power rivalry include]: intensity, duration, a clash of relative peers, and mutual perceptions of hostility”. Furthermore, rivalry can result from either spatial disputes (disputes over sovereignty and territories) or positional disputes (disputes for power, status, prestige, influence, and position in the international system), or both¹². US-China rivalry will be understood in the context of the conceptualizations of *Great Power Rivalry* for this research.

Theoretical explanations for present and future bilateral rivalry between the US and China are grounded in the power transition and hegemonic stability theories. A full analysis of the theoretical debate between these two theories that explain the current US-China rivalry is not the

¹² Heath,2022:141-146, cited in Mazaar, 2022:7

focus of this paper and thus exists outside the scope of this research¹³. This research will only focus on the power transition theory to ascertain whether China's rise has created instability within the status quo international system created by the established power, the US. Power transition theory asserts that when a power transition is occurring meaning when there is the emergence of a new power with the capability to overtake the established power, this can threaten international peace and security (Htay,2021). Power Transition theory also argues that "if a potential challenger comes forth, a dominant nation and its allies will seek the disproportionate power required to maintain the international system as constructed by the dominant nation. In this case, the dominant power essentially strives to maintain the existing international regime" (Htayb, 2021:4). This means that as China continues to emerge as a challenger to the US-led order, the US and its allies will seek to strengthen their individual power and alliances to counter China. PPT also assumes that rivalries that emerge during periods of a power transition will likely lead to war (Mazaar,2022; Htay,2021). This can occur if the emerging power is a revisionist state dissatisfied with the status quo system. The concept of revisionism is rooted in power transition theory¹⁴. However, Hynek and Karamzin (2020:967) conceptualize a unique version of 'Chinese revisionism. They argue that China

is highly interconnected with the current global order, which means that a more comprehensive rebuilding of international politics is not desirable, given that the status quo largely allows China to financially exploit and benefit from the current global economic system. Thus, in the course of its global rise, China oscillates between making use of the current order, trying to change some of its rules, shifting the global balance of power, and pushing through its influence in specific thematic and regional areas

Essentially, China does not seek to entirely change the international order created by the US, but rather Beijing seeks to find ways to exploit the existing US-led order. The power transition theory in conjunction with Chinese revisionism will be used in the discussions of the findings and analysis to assess whether China's rise and rivalry with the US in the 21st century has challenged the US-led nonproliferation global order.

¹³ For a detailed review of the theoretical debate between Power Transition theory and Hegemonic stability theory that seeks to explain contemporary US-China Rivalry see Y. Htay, 'No one is satisfied: Two theories of the US-China Global Rivalry and the International order', *Pacific Forum issues and insights*, Vol. 21, (2021), p.3-12. Available at https://pacforum.org/wp-content/uploads/2021/04/issuesinsights_Vol21WP5-Younn.pdf

¹⁴ DiCicco, J. 'Power Transition Theory and the Essence of Revisionism.' (Oxford: Oxford University Press, 2017), p. 3-12

US-China rivalry in the 21st century: Challenges for nonproliferation and nuclear reversal

The US-China rivalry will likely intensify and extend long into the foreseeable future. An analysis of how US-China rivalry will create and exacerbate existing security threats in the international system has been the focus of many scholarly works. Nonetheless, a paramount area that requires fresh analysis is an assessment of how China's rise and rivalry with the US will impact the US-led nonproliferation regime particularly, US efforts to get rogue states such as North Korea and Iran to reverse their nuclear programs. The scope of analysis for this research will cover an assessment of how this international bilateral rivalry will present challenges to the US-led nonproliferation and nuclear reversal efforts to add to the body of existing literature on nuclear nonproliferation and the US-China great power rivalry in the 21st century.

The US has been the leader of the nonproliferation regime. However, the US decline in influence and gradual retreat from the international order it created decades ago along with the current competitive security environment engendered by great power rivalry between the US and China will greatly challenge US leadership in this area (Brewer *et. al*,2020). The reason is that "China's growing influence may afford it a greater ability to counter or dilute U.S. nonproliferation and counterproliferation policy measures" (Brewer *et. al*, 2020:15). This means that China's rise and rivalry with the US have the potential to impact interactions with other actors and their nuclear decision-making. Historical records will show that the US has played a central role in discouraging nuclear proliferators to curtail or entirely abandon their nuclear weapons program through the traditional carrots and sticks policy (Levite,2003; Meha,2020; Joeck,1997; Koch,2022; Reardon,2010). The carrots and sticks policy which describes the U.S. use of positive inducements (carrots) or threats of sanctions (sticks) has been a major policy in the area of nonproliferation and counter-proliferation. The threat of sanctions or the offer of positive inducements like aid and assistance or a combination of both tools have been the primary US policy to dissuade adversaries and allies from obtaining nuclear weapons¹⁵. It is important to highlight that there are other factors that influence domestic nuclear decision-making (Anthony, 2005), but "the United States is the leader of the nonproliferation regime, [and] the success of these policy levers (carrots and sticks) depends on the proliferator's relationship with Washington" (Meha, 2020:3)

15 Delaying Doomsday, R. Mehta, 'The Puzzle of Counterproliferation', in R. Mehta Delaying Doomsday: The Politics of Nuclear Reversal, (Oxford: Oxford University Press, 2020), p.12-19

However, Brewer *et. al* (2020:15) argue that China's rise and rivalry with the US will usher in structural changes within the international system which "will almost certainly challenge the U.S. ability to effectively wield the traditional "carrots and sticks" of nonproliferation and counterproliferation policy and dilute the effectiveness of those tools". Nonetheless, (Meha,2020 and Levite, 2003) both underscore the central role the US has played in combatting global proliferation, but Brewer *et. al.* (2020:17) emphasized that "China's growing military, economic, and political influence also mean that China will get a bigger "vote" in how future proliferation crises play out [and that] Beijing may feel ...confident and compelled to retaliate against the U.S. or allied nonproliferation or counterproliferation measures that impinge on Chinese interests". China's rise and rivalry will perhaps present major challenges to the US-led nonproliferation efforts particularly US-led efforts to get states to reverse their nuclear weapons programs.

Nuclear reversal is an understudied subject and less literature exists on how China's rise and rivalry with the US will impede this process. Nuclear reversal refers to "the phenomenon in which states embark on a path leading to nuclear weapons acquisition but subsequently reverse course, though not necessarily abandoning altogether their nuclear ambitions. . . . including a governmental decision to slow or stop altogether an officially sanctioned nuclear weapons program" (Meha,2020: 29; Levite,2003:61). Furthermore, the theory of nuclear reversal contains three important elements. Firstly, the theory asserts that nuclear reversal is influenced by external factors, secondly positive and negative inducements must be used in tandem to incentivize states to reverse nuclear weapons programs and that the success of these policy tools depends on the proliferator's relationship with the US and lastly, the U.S threat of military force should underline negotiations to get proliferators and potential proliferators to reverse their nuclear weapons program.¹⁶ As mentioned above, the U.S. has played a central role in combatting global proliferation by using carrots and sticks policy tools as well as being actively involved in nuclear negotiation processes to exert pressure on proliferators. As a result, and according to Meha's theory getting states to agree to nuclear reversal depends on the processes of strategic interaction between the US and the proliferating state¹⁷. Perhaps one of the most successful cases of nuclear reversal led by the US was the dismantling of Libya's nuclear weapons program. According to (

¹⁶ Delaying Doomsday, R. Mehta, 'The Puzzle of Counterproliferation', in R. Mehta Delaying Doomsday: The Politics of Nuclear Reversal, (Oxford: Oxford University Press, 2020), p.3-9

¹⁷ Meha, 2020; p. 16

Meha,2020: 116) “Libya was offered a set of political, economic, and military inducements, including the partial lifting of previously applied sanctions, to encourage negotiations. Second, bargaining with Libya occurred with a background threat of a military attack”.

Libya’s case emphasizes the influential role of the US in the nuclear decision-making processes of other states. Libya’s case also highlights the importance of using positive and negative inducements in tandem to convince a state to reverse its nuclear weapons program and the US’s role in combatting nuclear proliferation¹⁸. It is evident, and in line with Meha’s theory that the U.S. offer of positive and negative inducements are important tools to convince proliferators to reverse their nuclear weapons program, but what happens when an external great power is also capable of offering positive inducements without requiring a proliferating state to adhere to the strict nonproliferation requirements set by the US? This is an important question for assessment, especially in cases where the US is only enforcing negative inducements to convince states to reverse their nuclear weapons programs. Several authors have cited those negative inducements alone in the form of sanctions enforced by the US have rarely ever led states to reverse their nuclear weapons program (Meha,2020; Levite,2003; Joeck,1997; Koch,2022; Schenieder,2020). For this reason, it is important to analyze the role of another great power actor that is as capable as the US at offering positive inducements to proliferating states facing negative US inducements.

A focal point of analysis for this research is to assess China’s role in offering alternative inducements and to what extent Chinese positive inducements can shield states that are under the pressure of US sanctions to curtail their nuclear program. In this era of heightened rivalry between the US and China, Brewer et. al. (2020:25) argue that “it is unclear whether there will be sufficient consensus among these powers on nonproliferation’s relative priority, what constitutes a future proliferation risk, and the steps required to counter it [and that] the United States and China probably would not be aligned on either the perceptions of those risks or the necessary policy response and, unlike in the past, strategic competition would likely shape their views of the stakes and option”.

¹⁸ Delaying Doomsday, R. Mehta, ‘Success and Failure in Nuclear Reversal’, in R. Mehta Delaying Doomsday: The Politics of Nuclear Reversal, (Oxford: Oxford University Press, 2020), p.116-121

A second author lends support to this view by offering a historical example of the Indian peaceful nuclear explosion in 1974. Wiltman (1982:185) explained that

When the question of nuclear proliferation arose in the region at the time of the Indian "peaceful" nuclear explosion in 1974, these pre-existing patterns of superpower conflict prevailed over any latent inclination the two might have had to meet the problem of nuclear proliferation by common action. Furthermore, the individual efforts of each superpower were subverted by the competitive condition which prevails between them.

In essence, cooperation on nonproliferation can take a back burner in the face of great power rivalry (Wiltman, 1982; Brewer et.al., 2020). In this sense, China's policy and actions toward proliferating states can hinder and clash with US efforts to get a proliferator or potential proliferator from reversing course on a nuclear weapons program as was the case with the US and the Soviet Union during the 1974 Indian nuclear explosion.

The main takeaway from the literature review is that great power rivalry exists between the US and China, and this rivalry has considerable potential implications and challenges for US-led nonproliferation efforts. However, what is evident is that literature on US-China rivalry and the implications this rivalry will have on regional nonproliferation and nuclear reversal is sparse. Literature that exists on nuclear reversal stresses the importance of the role of the US in leading the nuclear nonproliferation regime and the steps the US has taken to convince states to reverse their nuclear weapons program. However, China's rise will also afford this great power the ability to influence nuclear decisions and the nuclear behavior of other states especially those in regions of strategic interest. This will most likely lead to a clash between the US nonproliferation policies and as mentioned above nonproliferation cooperation is likely to take a back burner in an environment of tension and great power rivalry. The purpose of this research is to make a contribution to improving the understanding of the extent to which great power rivalry between the US and China will present challenges to nuclear nonproliferation and nuclear reversal. This is an area that requires new analysis to fill the gap in the literature on the subject.

Research Design and Methodology

The research adopted a qualitative design to achieve the research objectives and answer the research question. The qualitative design was chosen because it is exploratory in nature, and it allowed the researcher to analyze interpretive data from chosen document sources. Therefore, the research essentially followed the Interpretivism paradigm. The Interpretivism paradigm was followed because interpretivisms “assert that all research is influenced and shaped by the pre-existing theories and worldviews ... and that terms, procedures, and data used in research have meaning because a group of academics have agreed that these things have meaning” (Nickersona, 2022:3). The Interpretivism paradigm was most appropriate given the theoretical and conceptual framework of the research. The Power Transition Theory (PPT) is a preexisting theory that places China within the context of a rising great power that has the potential and capability to upset the balance of the global order established by the existing hegemon, the US. In addition, Interpretivism Paradigm calls attention to the conceptualizations established within the academic community about certain phenomena. In this case, the research utilized the conceptualization drawn from the debate in the academic community that distinguished great power competition from great power rivalry. “Interpretivism looks for an understanding of a particular context” (Nickersonb, 2022:8). Therefore, this paradigm helped to draw from the academic community understanding of the nature of US-China relations in the context of great power rivalry especially rivalry over positional disputes. In addition, the research also explored the concept of revisionism rooted in PPT to ascertain whether China wishes to revise or change the existing nonproliferation order established by the US.

The research employed two qualitative methodologies, document analysis and comparative research methods. These two methodologies were utilized together to effectively triangulate the research and answer the research question following the interpretivism paradigm. “Document analysis is a systematic procedure for reviewing or evaluating documents—both printed and electronic (computer-based and Internet-transmitted) material... [more importantly] documents may be the only necessary data source for studies designed within an interpretive paradigm” (Brown, 2009:24). Interpretive paradigms seek to understand “phenomena through the meanings that people assign to them....the interest of interpretivism is not the generation of a new theory, but to judge or evaluate, and refine interpretive theories” (Rhodes & Bevir, 2002:26).

Therefore, the researcher did not seek to create a new theory but to explore, analyze and interpret from a vast amount of existing literature how US-China rivalry exacerbated and presented challenges to nonproliferation and nuclear reversal across three strategic regions across the globe.

The comparative methodology was used to compare specific country case studies drawn from regions with the most potential for proliferation in the context of US-China rivalry. The three regions used for the country case studies include the Korean Peninsula, the Indo-Pacific and the Middle East. The countries for the comparative analysis were chosen from these regions because of their immense strategic significance for both the US and China. The US has exercised its dominance across the globe particularly in these regions, but China's rise in the 21st century represents the biggest threat to the US influence in these regions. More importantly, the countries chosen all have nuclear weapons or have the potential to develop nuclear weapons and their nuclear capabilities hinge on US-China interests. The country case studies that were under investigation to answer the research question included North Korea, India and Iran along with analysis from wider regional implications. The purpose of choosing three case studies from three very important regions was to gain a wider comparative analysis of the extent to which US-China rivalry presented a major exacerbating challenge to nonproliferation and nuclear reversal across the globe. It also allowed for empirical analysis of power transition theory when another equal power state emerges in the international systems and the impact this has on the norms created by the existing hegemon. The comparative analysis methodology helped the researcher to arrive at the conclusion using a theoretical and conceptual framework that US-China rivalry can significantly impact nonproliferation and nuclear reversal largely because of the threat perception these rivals have about each other.

The research was dependent on strong analysis and the selection of documents from a wide array of sources. Therefore, the researcher used an analytical procedure to test and decipher the credibility of the document sources used. The procedure entailed researching the source of information in order to select the most credible documents from the existing body of think tank publications, online news articles, books, academic papers, institutional reports etc. The aim of the document analysis was to obtain data in the form of excerpts, quotations or entire passages to support the case studies as well as for interpretation, analysis, and applicability to the research question and objectives.

Case Studies

China's Rise and Rivalry with the US in the 21st century: Challenges for nuclear nonproliferation and Nuclear Reversal on the Korean Peninsula

North Korea's strategic significance for China: Beijing's buffer state against the West

The Korean Peninsula is a region of strategic interest for both the US and China, but North Korea also known as the Democratic People's Republic of Korea (DPRK) makes it a volatile region of interest for these great powers because of its nuclear capabilities. The US interest lies in maintaining stability in Northeast Asia and shielding its allies from potential nuclear confrontation with the DPRK, while China views North Korea as a buffer state between Beijing and Washington because of the US's military presence and strong alliances with Beijing's neighbors South Korea and Japan (Dingli, 2006). Kim (2017:122) explains that "from the perspective of U.S.-China rivalry, Washington still maintains its Cold War network of bilateral alliances while Beijing has an impaired alliance with North Korea, often regarded as "an alliance in name only" which refers to the China-DPRK Treaty on Friendship, Cooperation, and Mutual Assistance. In this regard, a nuclear North Korea against the backdrop of US-China rivalry looks different for Beijing and Washington. Washington views a nuclear North Korea as one of the biggest challenges to the nonproliferation regime that needs to be countered with strong alliances in the region and sanctions, while Beijing sees a nuclear DPRK "as a guard post for China, keeping at bay the tens of thousands of U.S. troops stationed in South Korea"¹⁹. The different lens through which these great powers view North Korea shapes their differing nonproliferation policies toward the Korean Peninsula. It is important to point out that neither the US nor China ideally prefers a nuclear DPRK, however, because of the rivalrous relations that exist and prevail between them, China would much rather deal with a nuclear North Korea later than more quickly like the US²⁰.

For great powers like the US and China to agree on nonproliferation policies, especially towards a nuclear North Korea "their first priority would require them to ignore the imperatives of their relationship with each other" (Weltman, 1982: 185). However, as China continues to rise to the status of a near-peer-competitor with the US, as Beijing's soft power influence continues to spread through economic diplomacy, and as China's People's Liberation Army continues to

¹⁹ S. Dingli, 'North Korea's Strategic Significance to China', *China Security*, Vol.4, (2006), p.20

²⁰ Albert, E. (2019) 'The China North Korea relationship'. Available at <https://www.cfr.org/backgrounder/china-north-korea-relationship>, accessed April 3 2022.

modernize its military and nuclear capabilities giving the US the impression that China seeks hegemonic Status in Asia; it is highly unlikely that either side would consider creating policies without calculations of the rivalrous nature of their relationship. Neither the US nor China would jeopardize their regional interest in the Korean Peninsula and because of this these great powers will certainly have conflicting policies when it comes to nonproliferation and nuclear reversal on the Korean Peninsula. In the following sections, I will argue that North Korea's strategic significance as a buffer zone for China is closely tied to Beijing's rivalry with Washington, and because of this China's policies towards North Korea will likely clash with US-led nonproliferation efforts for the Korean peninsula, secondly, I will argue that US over-reliance on negative inducement to convince North Korea to reverse its nuclear weapons program has opened the door for China to offer positive inducements to make the DPRK more resilient to US sanctions which further disincentivizes the DPRK from adhering to US nonproliferation policies. Lastly, I will argue that US-China rivalry and its implications on the DPRK proliferation issue will likely cause South Korea to develop a more serious nuclear hedging and nuclear latency policy.

China does not necessarily prefer a nuclear North Korea. In fact, "China's key interests on the Korean Peninsula are routinely summed up as "three no's"—no war, no chaos, and no nukes or denuclearization" (Scobell, 2017:2). The primary reason is that Beijing is critically aware of the destabilizing effects a nuclear DPRK can have on Chinese interests. For example, given that North Korea shares a border with China, a regime collapse in DPRK or a war, especially a nuclear war with an asymmetric power can lead to an enormous refugee flow into northeast China (Glaser et.al., 2012). For this reason, China prefers peace and stability on the Korean peninsula. In fact, in 2015, the Chinese Foreign Minister once said that denuclearization of the Korean Peninsula might be the only way to achieve lasting peace and stability²¹. However, China views North Korea as an important buffer zone against rivals, especially the US. Therefore, although Beijing is concerned about the expansion and modernization of the DRPK nuclear and missile programs Beijing's "greatest concern is reserved for U.S. military presence and robust U.S. alliance partnerships in Northeast Asia" (Scobellb,2017:7). This means that China's rivalry with the US makes Beijing more likely to tolerate a nuclear North Korea than the US.

²¹ Yi, W. 'Stick to the Spirit of September 19 Joint Statement and Direction of Denuclearization of the Korean Peninsula. (2015), Available at <https://www.mfa.gov.cn/ce/ceus/eng/zgyw/t1298833.htm>, accessed on 8 April 2022

On the other hand, while the US also does not prefer a nuclear North Korea, unlike Beijing, Washington's interest does not require tolerance for a nuclear DPRK. The primary reason is that the DPRK presents such a fundamental threat to America's Vital Interests which include specifically US interest to "prevent, deter, and reduce the threat of nuclear, biological, and chemical weapons attacks on the United States or its military forces abroad; and to ensure US allies' survival..." (Allison & Blackwill, 2000:3). It is obvious why North Korea is a major threat to these vital interests because of the proliferation of the DPRK nuclear weapons program as well as its vicinity to US allies such as South Korea and Japan. According to (Garlauskas, 2021: 3) Washington has kept an enduring North Korea strategy which he describes as a strategy to "negotiate an end to North Korea's nuclear weapons program through diplomatic and economic leverage while maintaining regional stability and minimizing risk through multilateral diplomacy, military restraint, and extended deterrence guarantees to U.S. allies". A major part of this strategy was Washington's belief that Beijing would cooperate to convince the DPRK to denuclearize. The idea stemmed from Washington's view of China as North Korea's sole great power patron and so it only made sense in Washington's view to seek assistance from the country with the closest ties to the DPRK (Grossman, 2018; Kan, 2015). It is noteworthy to highlight that there exists an example of China's effort to cooperate with the US on North Korea's nuclear capabilities. This cooperation took the form of the Chinese-led six-party talks between 2003-2007. The six-party talk was led by China to help the US and North Korea find a middle ground on the DRPK's process towards denuclearization²². However, although there was a glimmer of hope in the 2005 rounds of the six-party talk the negotiation process stalled after the US imposed sanctions on Macao bank accused of North Korea money laundering²³. Negotiations between Washington and the DPRK were later revived in 2006 following Pyongyang's testing of missiles and nuclear technology. North Korea showed signs of acquiescing to denuclearization by destroying a cooling tower at the Yongbyon nuclear plant in 2008. Pyongyang also handed Washington the documents about its plutonium program. However, the sanguine outcome of the six-party talks deteriorated after Washington proposed a verification system that would allow US inspectors full access to sites and facilities connected to their nuclear program throughout North Korea. The six-party talks have not

²² Ko, S. 'The North Korean Nuclear Issue and the Six-Party Talks: The Logic of Regime Failure'. (2014), Available at [https://www.psa.ac.uk/sites/default/files/conference/papers/2014/six%20party%20talks\(edited\).pdf](https://www.psa.ac.uk/sites/default/files/conference/papers/2014/six%20party%20talks(edited).pdf), accessed on 8 April 2022.

²³ Choy, M. 'US lifts sanctions against Macao bank accused of North Korea money laundering' (2020), Available at <https://www.nknews.org/2020/08/us-lifts-sanctions-against-macao-bank-accused-of-north-korea-money-laundering>, accessed on 8 April 2022.

resumed since the breakdown of negotiations in 2008. There have been occasional calls from both Beijing and Pyongyang to resume the six-party talks, however, no concrete steps have been taken to resume another round of the six-party negotiations. Furthermore, against the backdrop of the current US-China rivalry, it is unlikely that Beijing will shift its North Korea policy to fully favor Washington's position on denuclearization anytime soon (Kim, 2017).

There is a long history of rift between China and North Korea (Green and Roth, 2021). However, in the current midst of US-China rivalry, North Korea is important for China as Beijing continues to seek more influence in North/South-East Asia. China views North Korea as a pawn in the overall balance of power with the West in the region. For Beijing, a belligerent nuclear North Korea is seen as a counterbalancing force against the US influence in the region and a remedy against the US stifling of China's rise. What Beijing fears most is the possibility of a unified Korean Peninsula fully aligned with Washington leading to more US troops in its backyard. For this reason, China continues to pledge support for stronger bilateral ties between Beijing and Pyongyang (Frohman et. al., 2022). In fact, in 2021 China and North Korea renewed the Sino-Korean Mutual Aid and Cooperation Friendship treaty which is the only defense treaty both countries are members to²⁴. There are debates surrounding whether China would come to the aid of North Korea if the DPRK was attacked; however, the treaty is symbolic of the alliance between the two countries. It is unlikely then that Beijing and Washington will see eye to eye on current nonproliferation policies for North Korea given China's rivalry with the US as well as Beijing's relationship with Pyongyang. (Thorton *et. al* , 2021:4) explains that "both countries view the other as an obstacle to progress—China is seen as prioritizing DPRK regime security over the nuclear nonproliferation regime and nuclear threats, while the U.S. is seen as a destabilizer plotting to contain China". The US also has heavy concerns over Beijing's reluctance to enforce sanctions on North Korea. For example, in 2017 US president Trump expressed outrage over allegations that China continued to sell oil to North Korea in violation of a UN sanction on the regime for its nuclear weapons program²⁵. Earlier in 2013, after the DPRK conducted its third nuclear test,

²⁴ Panda, A. 'China and North Korea Have a Mutual Defense Treaty, But When Would It Apply' (2017), available at: <https://thediplomat.com/2017/08/china-and-north-korea-have-a-mutual-defense-treaty-but-when-would-it-apply/>, accessed on 11 April 2022.

²⁵ Rahual, E. 'Trump said China was caught 'red-handed' selling oil to North Korea, Beijing denies it did anything wrong' (2017). Available at https://www.washingtonpost.com/world/asia_pacific/trump-said-china-was-caught-red-handed-selling-oil-to-north-korea-beijing-denies-it-did-anything-wrong/2017/12/29/89bc3a22-ec73-11e7-891f-e7a3c60a93de_story.html, accessed 11 April 2022.

although China enforced trade and energy sanctions Beijing continued diplomatic and economic relations with Pyongyang, actions contrary to US sanctions (Sossman, 2018:1) wrote that “in recent years, China has consistently demonstrated reluctance to push North Korea to the breaking point”. This is closely tied to Beijing’s desire to prevent the collapse of the DPRK regime because of the implications a regime collapse can have on China’s rise and strategic interest in the region. From Washington’s perspective, Beijing’s policy towards the DPRK prioritizes the survival of Pyongyang’s regime over the pertinent nonproliferation efforts for denuclearization. As a result, prospects for cooperation on nonproliferation in the DPRK remain slim under the current climate of US-China rivalry. For China, support for a nuclear Korean peninsula appears to be a better policy option at the moment than a unified and US-dominated Korean peninsula.

US-China Rivalry and Challenges for Nuclear Reversal on the Korean Peninsula: Beijing's Carrots and Washington's sticks

North Korea's nuclear strategy has arguably been shaped by Pyongyang's threat perception of the US nuclear capabilities and the existential threat US nuclear weapons pose to the survival of its regime. This threat perception can be traced back to the aftermath of the Korean war and the tensions that emerged from a newly divided Korean Peninsula (Ko, 2014; Kim, 2017). Furthermore, the US started deploying tactical nuclear weapons to South Korea between 1958 to 1961, and although the US withdrew all tactical nuclear weapons from South Korea in 1991 Pyongyang still lives under the shadow threat of US extended nuclear deterrence (Wolf and Avery, 2017). For this reason, the DPRK adopted the Law on Consolidating Position of Nuclear Weapons State in 2013. Article I of the law states that "the nuclear weapons of the DPRK are just means for defense as it was compelled to have access to them to cope with the ever-escalating hostile policy of the U.S. and nuclear threat"²⁶. Pyongyang's acquisition of nuclear weapons has in part been driven by US military presence on the Korean Peninsula. Despite the threat perception that the US military presence and nuclear capabilities instill in Pyongyang, generations of the US administration have attempted to coerce or incentivize the DPRK to reverse its nuclear weapons program, but an over-reliance on negative inducements has been the legacy of US policy on North Korea which has not yielded any concrete success on the North Korean proliferation issue.

US efforts to get Pyongyang to reverse course on its nuclear weapons program have relied heavily on sanctions or negative inducements. However, initially under US president Clinton's administration, the US attempted to use a combination of both negative and positive inducements which refers to the use of both rewards and sanctions. President Clinton chose a strategy of engagement with North Korea which eventually led to the signing of the US-DPRK Agreed Framework deal in 1994²⁷. It is important to note that at the time President Clinton chose to engage the DPRK, Pyongyang had a nuclear weapons program but had not yet developed nuclear weapons. Nonetheless, President Clinton's administration imposed full economic sanctions on the

²⁶ Mansourov, A. Kim Jong Un's Nuclear Doctrine and Strategy: What Everyone Needs to Know", NAPSNet Special Reports, (2014), Available at: <https://nautilus.org/napsnet/napsnet-special-reports/kim-jong-uns-nuclear-doctrine-and-strategy-what-everyone-needs-to-know/>, Accessed 19 April 2022.

²⁷ Davenport, K. 'The US-North Korea agreed framework at a glance', (2022), available at: <https://www.armscontrol.org/factsheets/agreedframework#:~:text=On%20Oct.,proliferation%2Dresistant%20nuclear%20power%20reactors.,> accessed 12 April 2022.

DPRK. Nonetheless, the Agreed Framework fell apart in 1996 under President Bush's administration. Bush's policy was geared towards increasing pressure and sanctions on North Korea. North Korea was labeled as being one of the Axis-of -evil countries which underscored the foreign policy tools used under Bush to deal with the proliferating potential of Pyongyang. Bush placed heavy sanctions on several North Korean companies such as the Changgwang Sinyong Corporation which was accused of transferring missile technology to Iran²⁸.

The Obama administration once again changed its strategy on North Korea to one of Strategic Patience which (Pyon, 2011:3) described as "a dual-track policy that keeps engagement open for its good behavior while seeking to impose sanctions for its bad behavior". Obama's policy in theory was meant to leave room for possible engagement through diplomacy but it was also meant to fully continue enforcing sanctions on the DRPK. President Obama signed several executive orders that imposed sanctions on North Korea for example, in 2016 President Obama issued an executive order to impose harsh sanctions on North Korea after Pyongyang conducted a nuclear test and satellite launch. Obama's sanction froze "North Korean government property in America and banned US exports to, or investment in, North Korea" (Davis, 2016:1). During the Trump administration, there was another policy shift toward what has been called the 'maximum pressure' policy to deal with North Korea. Trump's maximum pressure campaign called for the enforcement of significant economic sanctions on North Korea. Overall, the US has a long legacy of imposing strict unilateral economic sanctions on the DRPK that aim to curtail Pyongyang's development of nuclear and missile technologies.²⁹

It is evident that between Clinton's to Trump's administration US policy on North Korea surrounded an over-reliance on negative inducements in the form of heavy sanctions to affect North Korea's nuclear behavior and nuclear decision-making. The current Biden administration's North Korean policy seeks to engage Pyongyang, but Biden is yet to stair away from the previous administration's reliance on sanctions. However, empirical evidence on cases of nuclear reversal has shown that negative inducements alone rarely work to incentivize nuclear reversal³⁰, and with China's history of being a patron of North Korea and reluctance to enforce sanctions on a unilateral

²⁸ Sanger, D. 'US penalizes 6 Asian firms for helping Iran Arm itself', (2003), Available at: <https://www.nytimes.com/2003/07/04/world/us-penalizes-6-asian-firms-for-helping-iran-arm-itself.html>, accessed 12 April 2022.

²⁹ B. Bradley, M. David, Maximum Pressure 2.0 A plan for North Korea. (Foundation for defense, 2019), p. 1-17

³⁰ Delaying Doomsday, R. Mehta, 'theory of nuclear reversal', in R. Mehta Delaying Doomsday: The Politics of Nuclear Reversal, (Oxford: Oxford University Press, 2020), p.38

level like the US, Beijing will likely continue to prove to be an obstacle for US-led nuclear reversal efforts, especially in the current security climate of bilateral rivalry. China has indeed supported economic sanctions against the DRPK however, Beijing is reluctant to apply economic pressure on Pyongyang for fear that economic constraints can destabilize the DRPK regime³¹. As mentioned before, although China advocates for denuclearization on the Korean Peninsula Beijing's policy priorities against the backdrop of rivalry with the US are to prevent the collapse of the DRPK regime and also to prevent the possible reunification of a US-aligned Korean Peninsula. In contrast to US policy on North Korea "China's willingness to undermine the effects of international sanctions, and its continued economic engagement with North Korea, shows that Beijing is part of the problem, not the solution" (Pyonb, 2011:2). The problem is that as long as China continues to economically engage North Korea amidst sanctions by the US and UN the prospects for nuclear reversal on the Korean Peninsula will greatly decrease.

According to Rupal Mehta's theory of nuclear reversal, states are willing to end their nuclear weapons program when offered both positive inducements (carrots) and negative inducements (sticks) in tandem shadowed by the threat of the use of force. Mehta states that since the US has been the leader of the nonproliferation regime the success of these policy levers depends on the proliferators' relationship with Washington. However, the reason the DRPK has been such a challenge to US-led nuclear reversal efforts on the Korean peninsula is because of the strained relationship between Washington and Pyongyang as well as Washington's overreliance on sanctions to exert pressure on Pyongyang for the regime's nuclear decisions. More importantly, US-China rivalry has become an external variable further complicating nuclear reversal in the DRPK. The primary reason is that while Washington has relied heavily on its sticks, Beijing has become the DRPK's great power patron of carrots because of Pyongyang's strategic importance to China during this era of rivalry with the US. China is committed to improving the economy of the DRPK which runs counter to US policy. For instance, in 2006 after Pyongyang confirmed they had carried out their first nuclear explosion test even though China supported UN sanctions against the DRPK which "prohibited the flow of luxury goods and weaponry to North Korea along with limiting the provision of financial resources. Chinese-North Korean bilateral goods trade more

³¹ Grossman, D. 'China's reluctance on Sanctions enforcement in North Korea', (2018), available at <https://www.rand.org/blog/2018/01/chinas-reluctance-on-sanctions-enforcement-in-north.html>, accessed on 12 April, 2022

than tripled from \$1.7 billion in 2006 to \$6 billion in 2012” (Frohman et. al, 2022:7). Therefore, while it can be said that Pyongyang has been extended both carrots and sticks, Pyongyang is receiving these inducements from two different actors whose rivalry is largely dictating their policy actions on the Korean Peninsula. China’s economic ties with North Korea create a dependency between Beijing and Pyongyang which some have argued gives Beijing leverage over Pyongyang leverage which Beijing uses against the US in areas of pertinent interest to Beijing.

China’s policy actions in North Korea are to some extent arguably driven by Beijing’s rivalry with the US and fear of US military presence in the region. (Scobell, 2017:16) explains that China is worried about “the specter of U.S. military actions against Pyongyang and by U.S. efforts to enhance operational capabilities and strengthen alliance relationships with South Korea and Japan, in particular, THAAD deployment in South Korea”. For this reason, Beijing’s policy priority lies in the survival and stability of the DRPK’s regime rather than with the US policy priority of nuclear reversal. While China can cooperate with the US to create ideal policy actions using Beijing’s carrots and Washington sticks to pressure North Korea into denuclearization, it is unlikely that this will be a policy outcome shortly because of the rivalry that exists between the US and China. However, what is most evident is that “China created a loophole in which the North Korean regime could enjoy economic benefits without having to do denuclearization work... [which has made] North Korea under Kim Jong Un highly resilient to U.S. policy tools such as sanctions” (Parks, 2022:19). Therefore, China’s policy actions can be seen as a major obstacle to US-led efforts to achieve denuclearization. As long as Beijing’s carrots and Washington’s sticks do not meet in the middle on the North Korea proliferation issue it is highly unlikely that nuclear reversal will occur anytime soon on the Korean Peninsula. Beijing’s economic concessions to the DRPK without pressuring Pyongyang to denuclearize will continue to be a major obstacle to US economic sanctions and diplomatic efforts.

US-China rivalry and wider regional implications: Prospects for potential proliferation in South Korea

Domestic support for the development and acquisition of nuclear weapons in South Korea has increased significantly amongst the populace as a result of the threats emanating from both China and the DPRK³². South Korea has a history of the intention and capabilities to develop nuclear weapons in fact, Seoul was developing a nuclear weapons program in the 1970s³³. The US was largely successful in persuading South Korea to reverse its nuclear weapons program and a major part of Seoul's decision was based on the security guarantee pledged by the US. The US promised South Korea would be covered by US extended nuclear deterrence. However, given the current complex security environment, Seoul finds itself next to a belligerent nuclear-capable neighbor backed by a powerful and rising great power. More importantly, unlike before Seoul is now concerned over the future of US defense commitments. One good example of this concern stems from President Trump's cancellation of the US-South Korea joint military exercises in 2018 after President Trump met with DPRK's leader Kim Jung Un to discuss denuclearization after which Trump tweeted that "there is no reason at this time to be spending large amounts of money on joint U.S.-South Korea war games"³⁴.

In addition, it is possible that in the midst of US-China rivalry, policy on strategic competition will prevail over nonproliferation policies because the US for example would "loath to put pressure on a proliferating ally for fear that doing so would jeopardize cooperation against a shared adversary" (Brewer et. al, 2021:37). This means that the US will likely not object to potential capabilities that will grant Seoul nuclear latency to bolster the military capabilities of an ally to counter a rising and competitive China. For example, in 2021 the US lifted the missile restrictions on South Korea which were imposed on Seoul in 1979. The missile restrictions prohibited South Korea from "developing ballistic missiles with a range no greater than 180km,

³² Johnson, J. 'South Korean support for a domestic nuclear arsenal is growing-for surprising reasons', (2022), available at <https://www.japantimes.co.jp/news/2022/02/23/asia-pacific/south-korea-nuclear-weapons-survey/>, accessed on 14 April 2022.

³³ Hans, K. & Norris, R. 'A history of US nuclear weapons in South Korea', *Bulletin of the Atomic Scientists*, Vol. 73, No.6, (2017), p.349-357.

³⁴ Sonne, J. 'Trump says US shouldn't be spending money on wargame with South Korea', (2018), available at: https://www.washingtonpost.com/world/national-security/pentagon-no-decisions-made-about-suspending-future-exercises-with-south-korea/2018/08/29/08cf70da-abab-11e8-8f4b-ace063e14538_story.html, accessed April 15 2022.

but also imposed a payload weight restriction of a maximum of 500kg³⁵³⁶. South Korea now has the capabilities and consent of Washington to develop longer-range ballistic missiles such as the Hyunmoo-4 ballistic missile capable of reaching most of North Korea³⁷. The initial purpose of the restrictions on South Korea's missile systems was because Washington wanted to prevent Seoul from developing nuclear force delivery systems and nuclear capabilities. However, given the current climate of great power rivalry Washington may be willing to compromise because, in the same way that DPRK represents a strategic buffer zone for Beijing against Washington, similarly, South Korea can also become a buffer for Washington against the DRPK and China. These factors are likely to contribute to Seoul's desire for its own nuclear arsenal especially as Seoul navigates the pressures of US-China rivalry. South Korea will perhaps start to strategize a serious nuclear latency and hedging policy.

Nuclear hedging as “a national strategy of maintaining, or at least appearing to maintain, a viable option for the relatively rapid acquisition of nuclear weapons, based on an indigenous technical capacity to produce them within a relatively short time frame ranging from several weeks to a few years” (Levite,2003:69). On the other hand, nuclear latency refers to “a measure of how quickly a state could develop a nuclear weapon if it chose to do so from its current state of technological development” (Kim, 2018: 115). The distinguishing feature between nuclear latency and nuclear hedging is that nuclear hedging describes the intention and capabilities to develop nuclear weapons while nuclear latency describes capabilities alone to develop nuclear weapons (Kim, 2018:126). Seoul will indeed have to consider the economic cost and security blowbacks from pursuing nuclear weapons, therefore nuclear hedging and nuclear latency strategy would be much more viable to pursue amid the current US-China rivalry on the peninsula which has created an uncertain security environment for Seoul. South Korea's quest for nuclear-powered submarines is a perfect example of the possibility that Seoul started considering a nuclear hedge. South Korea has long pursued developing nuclear submarines, in fact, in 2003, when North Korea withdrew from the Nonproliferation treaty (NPT) South Korea developed a nuclear submarine plan to deploy them by 2020. While the plans never came to fruition, they were revived by the Moon

³⁴ Wright, T. 'US and South Korea Scrap ballistic missile range limits' (2021), available at <https://www.iiss.org/blogs/analysis/2021/06/us-south-korea-ballistic-missile-range-limit>, accessed on April 15 2022.

³⁷ Smith, J. 'S. Korea says its developing more powerful missiles to deter North Korea', (2021), available at <https://www.reuters.com/world/skorea-says-it-is-developing-more-powerful-missiles-deter-nkorea-2021-09-02/>, accessed 16 April 2022.

administration in wake of the rising threats from North Korea's nuclear capabilities and Pyongyang's development of ICBMs. The Moon Administration raised the issue to develop NPSs with the US back in 2017³⁸.

In addition, South Korea is pursuing more advanced ballistics and cruise missile systems which potentially increases Seoul's nuclear latency. As mentioned before, the US lifted the missile limits on South Korea, and also in 2020, the US granted Seoul permission to use solid fuel for space launch vehicles³⁹. While the US is aiding South Korea to strengthen its conventional capabilities (Brewer et al, 2020:26) state "that these policy adjustments might improve South Korea's ability to deter and respond to a North Korean attack, but they could also allow South Korea to improve its nuclear delivery options". In other words, while the US aims to strengthen South Korea's conventional capabilities to counterbalance China and North Korea, Washington might simultaneously be providing Seoul with the ability to build and deliver nuclear weapons. Lastly, South Korea is also pursuing a counterforce and counter-value strategy which entails a missile defense system and an offensive counterforce strategy to detect and destroy incoming missiles⁴⁰. The counterforce and counter value strategy aims to rely on advanced conventional abilities to deter a nuclear North Korea; however, the US-China rivalry is also an important factor that has guided Seoul's decision to pursue such a strategy (Bowers and Hiim, 2021). These authors argue that "the worsening U.S. relationship with China places U.S. allies in a difficult position, where they fear being entrapped or having their interests overlooked in a crisis or conflict" (Bowers and Kim, 2021: 15). South Korea faces immense pressure to navigate the dynamics of US-China rivalry given that the US is its greatest security guarantor and China is its largest economic market. In such an environment it makes sense then for Seoul to pursue a strategy where it can defend against China's influence in the region independent of US security guarantee. More importantly, this strategy would strengthen South Korea's nuclear latency because as Bowers and Kim (2021) also argue "the capabilities that South Korea is acquiring—particularly, its ballistic and cruise missiles—will significantly ease the path to a credible nuclear deterrent". The pursuit of such a strategy can only be described as hedging behavior to safeguard against the possibility of potential

³⁸ Lami, K. 'South Korea's Nuclear Hedging?', *The Washington Quarterly*, Vol.41, No.1, (2018), p. 115-133

³⁹ Kim, H. 'South Korea to have solid fuel rockets in a major deal with the US', (2020), available at: <https://abcnews.go.com/US/wireStory/south-korea-solid-fuel-rockets-major-deal-us-72024509>, accessed on 16 April 2022.

⁴⁰ Bowers, I., Hiim, H, 'Conventional Counterforce Dilemmas: South Korea's Deterrence Strategy and Stability on the Korean Peninsula'. *International Security*, Vol. 45, No.3 (2021), p. 7–39.

US abandonment should China become the dominant actor on the Peninsula, and as long as rivalry prevails between the US and China it is less likely that the North Korean nuclear issue will be solved to remedy the threat of a potential nuclear attack South Korea fears. For these reasons, it is evident that South Korea is pursuing a more intentional and serious nuclear hedging and nuclear latency policy to safeguard its security and future in the Korean Peninsula.

China's Rise and Rivalry with the US in the 21st century: Challenges for nuclear nonproliferation and Nuclear Reversal in India

US-China-India: A Triangular relationship

The US has come to view India as an important strategic partner in the Indo-Pacific region to counterbalance China, especially in this renewed era of great power rivalry with Beijing. The primary reason is that Beijing represents an immediate and long-term security threat to both Washington and New Delhi. Although the US views India as an important partner to counterbalance a rising China, historically and more so ironically a major driver of India's pursuit of nuclear weapons resulted from New Delhi's perceived threat of a US-China alliance to impede and reverse their nuclear weapons program. A burgeoning but short-lived US-China alliance in the 1990s to contain a nuclear India led New Delhi to seek out Soviet friendship and eventually nuclear weapons⁴¹.

Nonetheless, a shift in the global security environment of the 21st century marked by a renewed era of great power rivalry with a rising China perceived to threaten the US-led international order has made Washington reevaluate the strategic importance of a nuclear India. In 2012, The US Department of Defense issued a defense guidance document that described major priorities for US 21st century defense which specifically cited India as a long-term strategic partner. The document stated that "The United States was investing in a long-term strategic partnership with India to support its ability to serve as a regional economic anchor and provider of security in the broader Indian Ocean region"⁴². From the US perspective, India is viewed as a strategic and important partner willing and committed to balancing China which will help to preserve the US-led international order created by Washington in the region. From Beijing's perspective, the India-US alliance in combination with US forward military presence in the region are the biggest impediments to creating a Sino-centric regional order. From New Delhi's perspective, Beijing is viewed as an expansionist power seeking hegemonic status in the region. In addition, a long legacy of animosity exists between India and China making Washington a more favorable ally for New Delhi and vice versa.

⁴¹ Malik, M. 'Balancing Act: The China-India-US', *World Affairs*, Vol. 179, No. 1 (2016),p. 47-49.

⁴² Hanif, S. and Muhammad, K. 'US Security Strategy for Asia Pacific and India's Role', *Strategic Studies*, Vol. 38, No. 1 (2018), p. 17

The long-standing strained Sino-Indian relations along with the strategic competition that prevails between the US and China has made India an important player in the board game of the US-China rivalry. The dynamics of their relations can best be described as a triangle where the policies and actions of one player affect the reactions and actions of the next two players. A triangle describes “a situation in which three major powers are sufficiently important to each other that a change in the relationship between any two has a significant impact on the interests of the third”⁴³. The dynamics of this triangular relationship between the US, China, and India have spilled over into nonproliferation. Given the current climate of US-China rivalry, the US is less likely in the current and near-future to pressure India to reverse its nuclear weapons program. In the first section, I will analyze how the Indian-US nuclear illustrated how the US focuses on strategic competition with China led Washington to rewrite the norms of the nonproliferation regime to accommodate a nuclear India to counterbalance Beijing. The second section will examine the China factor to understand how Beijing’s rise in the region influenced the US to change its nuclear policy towards India to enter the nuclear cooperation deal with India. The final section will analyze how the US-India nuclear deal pushed China and Pakistan to form deeper nuclear cooperation agreements and the impacts of nuclear cooperation between Beijing and Islamabad on the nonproliferation regime.

⁴³ Harding. H, “Evolution of the Strategic Triangle: China, India and the United States.” In Frankle, Francine R. & Harry Harding (Eds.), The India-China Relationship, What the United States Needs to Know, (New York, Columbia University Press, 2004) p. 327

Indian-US nuclear deal

The Indo-US nuclear deal was first announced in July 2005 by US President George Bush and India's Prime Minister Manmohan Singh (Abraham, 2007; Bajoria and Pan, 2010). The deal was later signed in 2008 to support and strengthen a nuclear India. The India-US nuclear deal is very significant because the deal illustrated Washington's willingness to relax pressure on a proliferating ally in order to gain an advantage in strategic competition with Beijing. It is important to note that neither India nor the US has explicitly asserted that China was the cause of the India-US nuclear deal, however; both sides were clearly motivated by their long-term strategic interest to balance Beijing⁴⁴. The Indian-US nuclear deal reversed three decades of US nonproliferation policy toward India. Essentially, the deal lifted the nuclear trade moratorium that was in place with India which resulted in the resumption of US assistance and cooperation with India's civil nuclear energy program⁴⁵. The implications of this deal on the nonproliferation regime have been the subject of controversy and debate since it came into existence because the deal not only overturned US nonproliferation policy towards India but also global nonproliferation norms (Weiss, 2007).

Elements of the Deal

The Indian-US nuclear deal is a nuclear cooperation agreement between Washington and New Delhi. The deal allowed the US to provide assistance to India's civil nuclear energy program and engage in nuclear trade with India. Under the deal, India was allowed to acquire nuclear material as well as nuclear technology from the US which included fuel for nuclear reactors, and dual-use nuclear technology that could enrich and reprocess uranium or plutonium⁴⁶. The technology and material essentially provided New Delhi with the capabilities to produce nuclear weapons. In addition, the deal would allow India to engage in nuclear cooperation with other countries. The approval for engagement in nuclear cooperation with other countries was made

⁴⁴ Persival, B. 'China, India and the United States: Tempered rivalries in Asia', (2013), Available at: <https://www.files.ethz.ch/isn/175751/Policy%20Brief%20-%202020%20China,%20India%20and%20the%20United%20States.pdf>, accessed April 25 2022.

⁴⁵ Bajoria, J. and Pan, E. 'The India-US nuclear deal', (2010), available at: <https://www.cfr.org/background/india-us-nuclear-deal>, accessed April 26 2022.

⁴⁶ Ravi, C, A Debate to Remember: The US-India Nuclear Deal. (Oxford : Oxford University Press, 2018), p 1-4

possible through US lobbying for India-specific exemptions with the Nuclear Suppliers Group (NSG) members⁴⁷.

The US request to the NSG to grant a special waiver so India could participate in nuclear cooperation with the US and other members of the NSG was heavily criticized at the time. The primary reasons were that India's nuclear weapons program was no secret and it existed in direct violation of the US-led nonproliferation regime given that India had also not signed onto the Nonproliferation treaty (NPT). Secondly, the India-US nuclear deal was criticized for violating the NPT treaty because while it would allow India to enjoy the rights for peaceful use of nuclear energy stipulated by article IV of the NPT treaty, the agreement would violate the US obligation under Article 1 to not transfer nuclear materials and technology to non-nuclear weapons states. However, the deal with India seemed even less ideal than transferring nuclear materials and technology to non-nuclear-weapon states because India had not signed the NPT and was not obliged to implement the safeguards stipulated by article III of the NPT⁴⁸. More importantly, the US-India nuclear deal essentially granted India de facto status as a nuclear weapons state. This is important to point out since the US would allow India to enjoy the benefits of the NPT treaty without signing the treaty itself.

It is important to highlight that although India chose to remain a nonparty to the NPT the India-US nuclear deal did encompass several terms and agreements India would need to follow. Firstly, India had to delineate and differentiate between its civil and military nuclear facilities. Secondly, India needed to grant the International Atomic Energy Agency (IAEA) greater access to its civil nuclear facilities as well as sign the IAEA's Additional Protocol (AP). The deal also prohibited India from conducting nuclear tests and required India to negotiate and support the US effort to achieve a Fissile Material Cut-off Treaty (FMCT)⁴⁹. Nonetheless, the international community was concerned over the precedent the special treatment being granted to India would have on the global nonproliferation regime, particularly because the deal was criticized for lacking the strength to prohibit India from developing nuclear weapons. The nuclear deal also represented

⁴⁷ Jaspal, Z. 'Indo-us nuclear deal: altering global nuclear order'(2014), available at: https://www.issi.org.pk/wp-content/uploads/2014/06/1302498143_17101197.pdf, accessed April 24 2022

⁴⁸ United Nations (2000). *Treaty on the Non-Proliferation of Nuclear Weapons (NPT) – UNODA*. [online] Un.org. Available at: <https://www.un.org/disarmament/wmd/nuclear/npt/>.

⁴⁹ Bajoria, J. and Pan, E. 'The India-US nuclear deal', (2010), available at: <https://www.cfr.org/backgrounder/us-india-nuclear-deal>, accessed April 26 2022.

a significant departure from US nonproliferation policy towards India which was to “cap, rollback and eliminate”⁵⁰ India’s nuclear weapons program. The Bush administration’s approach to a nuclear India was heavily criticized for weakening the nonproliferation regime. For instance, (Weiss, 2007: 6) argued that the US weakened the nonproliferation regime by

giving India recognition as a weapon state without an NPT portfolio and without requiring India to do what all the weapon states under the NPT [were] committed to doing, stopping the production of fissile material for weapons [was] a serious departure from the [nonproliferation norms] that were cemented over the preceding three decades.

For these reasons, the agreement was viewed as a blow to the credibility and strength of the nonproliferation regime especially because it did not require India to restrict or cap the number of nuclear weapons it could produce during the deal⁵¹. The Bush’s administration departure from its domestic and global nonproliferation norms and policies to accommodate an exception for cooperation with a nuclear India was viewed with cynicism. The primary reason was that the US bore the title of being the leader and advocate of the nonproliferation regime. So, the question that arose was why did the US as the leader of the nonproliferation regime condone India’s nuclear weapons program by cooperating with India and lobbying others to engage in nuclear trade with India? One plausible explanation articulated by (Ravi, 2018: 18) asserts that “the nuclear deal was an attempt by the prevailing hegemon (the US) to reduce the chances of a challenge to its world order from a strategic competitor (China) by integrating, even if partially, a potential balancer and great power (India) into its alliance system and norms”. China’s challenge to US leadership in the region will be the focus of the analysis in the following section to ascertain how Beijing’s rivalry with Washington acted as a catalyst for the India-US nuclear deal.

⁵⁰ V. Bhatia, ‘The India-US nuclear agreement: Accommodating the anomaly?’, (Lexington books, 2017), p. 83

⁵¹ MEIER, O. ‘The US-India Nuclear Deal: The End of Universal Nonproliferation Efforts?’ available at: <https://library.fes.de/pdf-files/id/ipg/03930.pdf> accessed April 25 2022

The China issue: US-China rivalry and the US-India nuclear deal

The US-Indian nuclear deal transformed the strategic relationship between Washington and New Delhi. One rationale that has been used to explain the shift in US nonproliferation policies toward India focused on including China in the equation as a driver for the nuclear deal between the two countries (Harding, 2004). From the US perspective, China's rising influence in the 21st represented a major threat to the US influence in the Indo/Asia-pacific region. Therefore, under the Bush administration, India was viewed as the next best ally to counterbalance Beijing in the region. As a result, if the Bush administration was seriously resolved to counterbalance Beijing it would require that the US accept that India would not give up their nuclear weapons and the US would need to ensure to strengthen India's nuclear program to become a greater deterrent to China (Hanif and Muhammad, 2018).

While it is true that neither Washington nor New Delhi at the time explicitly stated that China was a driver of the nuclear deal, officials on both sides hinted at the idea that the deal was constructed to counterbalance Beijing's growing influence in the region⁵². Later under Presidents Barack Obama's administration, India was described as "the linchpin of the US rebalance strategy"⁵³ in the Asia Pacific. These words reflected Washington's and New Delhi's strategic interest to manage China's rise. According to (Hassan, 2012: 13) at the time of the deal, because the US did nothing "to constrain India's capacity and will to expand its nuclear arsenal and by hinting that a more robust Indian arsenal can help balance China's power, the US [sent] an inflationary signal to the global marketplace". In addition to lifting sanctions on India's nuclear weapons program, the US particularly made specific changes to domestic legislation through the Hyde Act to permit nuclear cooperation with India⁵⁴. The Hyde Act was a testament to how far the US was willing to go rewrite domestic and global rules of the nonproliferation regime in order to accommodate India to counterweight China.

It is important to note that the India-US nuclear deal was not the first attempt by the US to bolster India's nuclear capabilities to respond to China. Mian and Ramana (2006: 34) highlighted that the US's growing animosity with China after Beijing conducted its first nuclear weapons test

⁵² D. Malone, and M. Rohan, 'India-US Relations: The Shock of the New', *International Journal*, Vol. 64, No. 4, (2009) p. 1057-74

⁵³ P. Harsh, and J. Yogesh, 'Indian Foreign Policy Responds to the U.S. Pivot.' *Asia Policy*, No 19, (2015) p. 99

⁵⁴ Jayaraman, T. 'Journey from Pokhran-II to Hyde Act', *Economic and Political Weekly*, Vol. 41, No. 51(2006) p. 5216-18

in 1964 engendered ideas about nuclear cooperation between New Delhi and Washington. They noted that after China's first nuclear test in 1964 "senior officials in the Department of State and the Pentagon considered the possibility of "providing nuclear weapons under U.S. custody" to India and preparing Indian forces to use them". Furthermore, a historic preference to ally India as a counterweight against China came on the brink of and after the fall of the Soviet Union. After the fall of the USSR, the US had to reevaluate its China policy, as a result, "the US revamped its de facto alliance of the 1980s with China in confronting the Soviet expansionism in Afghanistan.. and then [The US went on to create a new] strategy to aggressively fill the power gap in Asia following the demise of the USSR and embarked upon a new containment policy towards communist China" (Siddiqi, 2016: 9). These factors created the foundation for the US preference to ally with India to counterbalance Beijing.

Wider regional implications: The US-India nuclear deal and China-Pakistan nuclear relations

The India-US nuclear deal had wider regional implications on nonproliferation particularly as it pertains to Pakistan, one of India's longest and oldest standing adversaries. India and Pakistan have had a long legacy of animosity over territorial disputes such as the Kashmir region. While Pakistan has been an ally of the US, the democratic, economically, and militarily strong India was more favored as an ally for Washington than Pakistan to counterbalance Beijing. At the time the US and India signed the nuclear cooperation deal, Pakistan requested that the US also offer a similar deal to Islamabad which Washington of course rejected perhaps because of the infamous history of the AQ Khan nuclear network. The AQ network tarnished Pakistan's nonproliferation reputation because Pakistani Physicist, Abdul Qadeer Khan developed a sophisticated and illegal nuclear network of private suppliers and intermediaries that were selling intellectual expertise as well as nuclear and missile-related technologies to countries such as Libya, North Korea, and Iran. Pakistan was also reluctant to allow US experts full authority to interrogate Khan after the revelation of the nuclear network⁵⁵.

Furthermore, and more importantly, prior to the signing of the US-India nuclear agreement, Beijing and Islamabad had already been exploring their own bilateral nuclear partnership. Beijing planned on supplying Pakistan with nuclear reactors for Islamabad's nuclear energy program Like Washington's view of India as a strategic ally, Beijing also came to view Pakistan as a strategic partner to buffer both India and the US. Beijing began to consider its security situation in the region after the 9/11 terrorist attacks and US presence in Afghanistan and Central Asia⁵⁶. According to (Hussain, 2017:6) "the changing landscape of the security milieu in South Asia once again augmented Pakistan's geo-strategic significance for Chinese foreign policymakers". The strategic partnership between China and Pakistan was solidified through the signing of the Treaty of friendship cooperation and good neighborly relations in 2006⁵⁷, just a year after the Indian-US

⁵⁵ Laufer, M. 'A. Q. Khan nuclear chronology', (2005), available at: <https://carnegieendowment.org/2005/09/07/a.-q.-khan-nuclear-chronology-pub-17420>, accessed on 27 April 2022

⁵⁶ M. Hussain, 'Impact of the India-us civil nuclear deal on China Pakistan strategic partnership'. *Journal of South Asian Studies*, Vol.05, No. 5 (2017), p. 13-25.

⁵⁷ P. Prasad, 'China and Pakistan relations in the post-cold war period: trusted friends, willing partners', *The Indian Journal of Political Science*, Vol. 75, No. 3 (2014) p. 543-56

nuclear deal was announced. The benefits of the treaty gave Pakistan the opportunity to acquire military and nuclear technology from China, while Beijing was given access to Pakistan's Gawadar port. Hussain (2017:13) explained that "through the Gawadar port, China could have access in the Indian Ocean and can use as a watchdog to monitor Indian and U.S naval activities in the Indian Ocean and the Arabian Sea". Evidently, China strategically included access to the Gawadar port in the treaty so Beijing could closely monitor its most important rival, the US.

More importantly, the treaty further opened the door for nuclear cooperation between China and Pakistan. (Joshi, 2007:13) argued that it was important to view the patterns of nuclear cooperation between Beijing and Islamabad considering the Indian-US nuclear deal because it allowed Beijing "to lay the grounds for legitimizing continued nuclear collaboration with Pakistan". Beijing essentially argued that Washington should not have changed the rules of the NSG to be country-specific in reference to the exception the US made for India, but rather any changes to the rules of the NSG to allow for nuclear cooperation should be 'criteria based'⁵⁸; therefore, nuclear cooperation with Islamabad should also be allowed since India received a special exception to the rules. Beijing was signaling to Washington that an exception to the NSG rules for nuclear cooperation by one should be enjoyed by others as well. It was clear that the US had set a precedent by changing the rules of the NSG which was particularly harmful to the nonproliferation regime.

China had a clear objection to the US rewriting the rules of the NSG to allow nuclear cooperation with India (Hussain, 2017). One obvious reason was that the agreement would have allowed India to improve its quantitative and qualitative arsenal. The deal further exacerbated China's concern over its security since two of its major rivals were entering a nuclear agreement. It is obvious then that China's own security concerns over the deal at the time were a driver for Beijing's transfer of nuclear and missile technology to Pakistan (Hussain, 2017; Prasad, 2014). China viewed Pakistan as the player that could maintain regional balance against India and by extension the US. For this reason, to counter the US-India nuclear deal China also entered into nuclear agreements with Pakistan which gave Islamabad access to Chinese nuclear fuel and

⁵⁸ Jyoshi, S. 'Nuclear Proliferation and South Asia', (2007), available at: <https://www.nti.org/analysis/articles/nuclear-proliferation-south-asia/>, accessed 30 April, 2022

technology⁵⁹. For example, in 2010 Beijing and Islamabad entered into a nuclear agreement which resulted in the construction of Chinese-supplied nuclear reactors called Chashma III and IV at the Chasma nuclear power plant in the Punjab province of Pakistan in 2016 and 2017. China has also supplied the Karachi nuclear plant in Pakistan with Chinese Hualong One nuclear reactors. Two of the nuclear reactors known as Karachi 2 and 3 came into operation in 2021 and the other will come into commercial operation in 2022⁶⁰. The continuation of nuclear cooperation between China and Pakistan is evidence of how the US-India nuclear deal catalyzed the longevity of nuclear cooperation between Islamabad and Beijing. (Hussain 2017: 8) asserts that “regardless of its civilian nature, Islamabad’s partnership with Beijing helps to counterbalance Indo-U.S nuclear deal. Because after the announcement of Indo-U.S civil nuclear deal, China-Pakistan entered [into these] agreements to build nuclear reactors”. The US-India nuclear deal essentially pushed China and Pakistan into their own civil nuclear agreements and arrangements.

The problem with the Sino-Pakistan nuclear agreements is that it was uncertain as to what type of safeguards would govern the deals⁶¹. An important conclusion that can also be drawn from these nuclear agreements between China and Pakistan is Beijing’s desire to compete and surpass the US in the civil nuclear energy market. This has serious implications for proliferation because as Brewer et al (2020:29) argued, “the increasing ability of China to provide nuclear assistance on more competitive terms—and with fewer nonproliferation strings attached— erodes the U.S. ability to write the rules of the game”. This is problematic for proliferation because, despite the US exception for India, Washington “leverages countries’ dependency on U.S.-supplied nuclear technologies to rein in proliferation-sensitive activities”. The US is only able to place restrictions on the use of a country’s nuclear technologies if Washington supplied these technologies under the 123 agreements⁶². The US uses the 123 agreements to place restrictions on the nuclear programs of countries that receive nuclear technologies from Washington. The scope of these agreements particularly includes US demand to have recipient countries of US nuclear technologies sign unto the IAEA Additional Protocol (AP) as well as seeking US consent to enrich

⁵⁹ M. Hussain, ‘Impact of the India-us civil nuclear deal on China Pakistan strategic partnership’. *Journal of South Asian Studies*, Vol.05, No. 5 (2017), p. 17.

⁶⁰ Nikkie, S. ‘China’s 4th homegrown reactor goes online in Pakistan’, (2022), available at: <https://asia.nikkei.com/Business/Energy/China-s-4th-homegrown-reactor-goes-online-in-Pakistan>, accessed 30 April 2022.

⁶¹ Ramana, S. ‘China-Pakistan Nuclear Alliance: An Analysis’, (2011) available at https://www.jstor.org/stable/resrep09264#metadata_info_tab_contents, accessed 29 April 2022.

⁶² H. Prashant, ‘The Indo-US Civilian Nuclear Agreement: What’s the Big Deal?’, *International Journal*, Vol. 65, No. 2 (2010) p. 435–48.

nuclear material that could potentially be used to create a nuclear weapon. However, because Pakistan receives nuclear technology from Beijing, Washington cannot dictate how the technology can be used, and the restrictions that can be placed on Pakistan's civil nuclear energy program. In the absence of US 123 agreements and the less rigid requirements by Beijing for nonproliferation controls, China-Pakistan nuclear cooperation can present a major challenge to the nonproliferation regime. Washington must endeavor to outcompete Beijing in civil nuclear with Pakistan to stymie potential proliferation. In essence, the Indian-US nuclear deal pushed Beijing and Islamabad into closer nuclear cooperation partners. China's rivalry with the US will certainly affect US leadership in writing the rules of the nonproliferation regime particularly for countries that enter nuclear cooperation agreements with countries outside the scope of Washington's 123 agreements such as Pakistan. The overall lesson that can be taken away is that Pakistan is as important to China as India is important for the US in the game of great power rivalry between Washington and Beijing.

China's Rise and Rivalry with the US in the 21st century: Challenges for nuclear nonproliferation and Nuclear Reversal in Iran

The US and Iran- A hostile relationship

The US and Iran have had a long and tumultuous relationship. In 2002, following the 9/11 terrorist attack, US President George Bush labeled Iran as one of the “Axis of Evil” countries along with North Korea and Iraq. Even further back, history provides several examples of the hostile relationship between Tehran and Washington. For example, in 1979 during the Iranian revolution, relations between the US and Iran were at an all-time low after militants stormed the US embassy in Tehran and held 52 US citizens hostage (Kamarack, 2019). The US responded by severing diplomatic ties with Tehran and imposing heavy sanctions on the country. In 1995, US President Bill Clinton once again imposed harsher sanctions on Iran banning all US trade with the country in response to Tehran’s nuclear program⁶³. The 1995 sanctions on Iran’s nuclear energy program were only the genesis of an even longer legacy of US-imposed sanctions on Tehran’s nuclear program because of Washington’s belief that Tehran would pursue nuclear weapons development through its nuclear energy program. From Washington’s perspective, if Iran pursued nuclear weapons development, then Tehran would become a major threat to US interests and allies, particularly Israel, in the Middle East. Israel is Washington’s main geostrategic partner in the Middle East and the survival of Israel is pertinent to the US’s continued influence within the region; however, Tehran has made several open declarations to destroy Israel over the years⁶⁴. A nuclear Iran would possess the capabilities to make those threats a reality; therefore, Washington has tried to dissuade Iran from acquiring the bomb through a combination of heavy sanctions and diplomacy.

There was a brief ray of hope in 2015 when the US-led Iran nuclear deal was signed to significantly curtail Iran’s nuclear program. In 2015 the Iran nuclear deal also known as the Joint Comprehensive Plan of Action (JCPOA) was signed. In the negotiations, Washington agreed to lift economic sanctions that the US had imposed on Tehran. In return, Iran agreed to curtail its

⁶³ R. Gregg, ‘Sanctions and Iranian Aggression’, *American Society of International Law*, Vol. 92 (1998) p. 71–74

⁶⁴ Levs, J. ‘Iran leaders call to annihilate Israel sparks fury as nuclear deadline looms’, (2014) available at: <https://edition.cnn.com/2014/11/10/world/meast/iran-annihilate-israel/index.html>, accessed May 5 2022

nuclear program thus inhibiting Teheran's capabilities to develop nuclear weapons. Iran agreed to limit uranium enrichment by destroying about 20000 of its centrifuges which were used for uranium enrichment. This would significantly stymie Iran's ability to develop nuclear weapons since enriched uranium is specifically needed to fuel nuclear bombs. More importantly, the JCPOA granted special permission to the International Atomic Agency (IAEA) to conduct inspections at nuclear sites and facilities in Iran to ensure Tehran was complying with the JCPOA (Beauchamp, 2018). However, in May 2018 US President Donald Trump reversed the previous administration's nuclear deal with Iran and declared the US would withdraw from the deal. Under Trump, the US reimposed sanctions on Tehran. The return of US sanctions severely harmed Iran's economy. The resumption of the deal remains stalled and US-Iranian relations have resumed to being guided by heavy sanctions and deep mistrust and suspicion⁶⁵.

It is against the backdrop of hostile US-Iran relations that the strength of China-Iran relations can be understood. Iran is a strategic partner for China in this era of great power rivalry with the US. "The Sino-Iranian relationship is rooted in pragmatic cooperation on areas of overlapping interest but has evolved in recent years into a partnership more pointedly opposed to the U.S.-led international order ... While there has always been a clear anti-U.S. element in the relationship, this dynamic has grown in prominence as China has more assertively promoted itself as an alternative to U.S. global leadership" (Green & Roth, 2021:4). Beijing has positioned itself to be an alternative great power partner to the US in the Middle East. Iran has become China's Israel in the Middle East. Beijing has sought out cooperation with Tehran where the US has relied on hostile sanctions. The dynamics and legacy of the US-Iran relations have opened the door to encouraging stronger China-Iran relations. In fact, it is "the prevailing antagonistic atmosphere defining US-Iran relations for well over three decades has shaped Tehran's strategic signification" for other great power especially China (Mesbahi,2016:82). Iran presents a great strategical partner for Beijing that helps to counter US dominance in the region while simultaneously proving to be an ideal energy partner for Beijing. The first section will analyze the partnership that has evolved between Tehran and Beijing and the implications this relationship has had on US-led nonproliferation and nuclear reversal efforts in Iran. The second section will assess Nuclear and

⁶⁵ Beauchamp, Z. 'Trump's withdrawal from the nuclear explained'. (2018) available at: <https://www.vox.com/world/2018/5/8/17328520/iran-nuclear-deal-trump-withdraw>, accessed May 7 2022

Missile technology transfers between Iran and Beijing and the implications for proliferation. The third section will seek to explain how China leveraged the US withdrawal from the JCPOA to attack the credibility of US leadership. The last section will explore the potential for wider regional implications of US-China-Iran relations on the prospects for proliferation in Saudi Arabia.

China-Iran relations and the implications for US-led nonproliferation and nuclear reversal

China has been attempting to make a stronger presence within the Middle East to counter US hegemonic dominance within the region. One primary way of countering the US is through Beijing's strong relationship with Iran. China and Iran's relationship can be viewed as a geostrategic partnership to balance against the US. "The China-Iran relationship is rooted in limited pragmatic cooperation but has evolved in recent years into a partnership more pointedly opposed to the U.S.-led international order" (Ibid., 2021:3). One reason is that China uses Iran as a buffer to divert US attention away from the Indo-Pacific where China is aiming to gain more influence⁶⁶. China counts on the belligerent relationship between Tehran and Washington to keep Washington busy in the Middle East region to provide leverage for Beijing to "implement its expansionist policy in the Indo-Pacific region [Because of the US active involvement] in the QUAD forum implicitly aimed to counter the hard power of China in the Indo-Pacific region. Therefore, it is diplomatically crucial for China to have ties with Iran in order to counter the US in the region" (Rakesh, 2021:1). China has also become the main trading partner for Iran which ensures the survival of the Iranian regime amidst harsh economic sanctions imposed by the US. In March 2021, Beijing and Tehran signed a 25-year cooperation agreement based on mutual interest as a testament to the continued strength of their relationship into the future⁶⁷. In the scope of the cooperation agreement between Beijing and Tehran, the Chinese government promised to increase investment by \$400 billion and bilateral trade by \$600 billion by 2026⁶⁸.

China acts as an economic shield for Tehran against the wave of sanctions the country has endured because of its nuclear program. For example, the US requested that the security council impose economic sanctions on Iran because Tehran was enriching uranium, which they claimed was for their civil nuclear energy program. Nonetheless, between 2006-2010 a series of UNSC resolutions were passed including resolutions 1737, 1747, 1803, and 1929 which imposed heavy

⁶⁶ Kim, J. 'The Rise of China and Its Effects on Regional Nuclear Orders: A Comparative Analysis of China's Foreign Policy toward Iran and North Korea', *American Journal of Chinese Studies*, Vol. 18, No. 1(2011), p. 41.

⁶⁷ Figueroa, W. 'China and Iran since the 25 year agreement: The Limits of cooperation', (2022), available at <https://thediplomat.com/2022/01/china-and-iran-since-the-25-year-agreement-the-limits-of-cooperation/>, accessed May10 2022.

⁶⁸ Green, W., and Roth, T. 'China- Iran relations: A limited but enduring partnership', (2021), available at: https://www.uscc.gov/sites/default/files/2021-06/China-Iran_Relations.pdf, accessed 13 May 2022

economic sanctions on Iran⁶⁹. The sanctions were economically detrimental for Tehran because “the sanctions restricted financial transactions, imposed asset freezes and travel bans on Iranians, and banned arms sales. The United States also imposed sanctions on companies doing business with Iran. It also banned Iranian imports and froze all its central bank properties in the United States” (Amadeo, 2018:7). These sanctions were imposed in response to potential proliferation by Tehran and as the main tools to prevent Tehran from acquiring nuclear weapons. However, China has stepped in multiple times to shield Tehran from feeling the full effects of these economic sanctions. For example, after the rounds of economic sanctions imposed by resolution 1929, Beijing’s deliberate strategy was to accelerate economic cooperation with Tehran⁷⁰. China’s goal is to find ways to facilitate trade despite sanctions with Tehran in fact, “China’s strategy, when confronted with overwhelming international pressure to support sanctions such as UN Security Council Resolution 1929, has been to “cast a supporting vote . . . but [then] shift towards a more passive position” (Harold & Nader, 2012: 9). In addition, “in 2017 China’s CITIC Group provided a \$10 billion line of credit to Iran that possibly helped blunt U.S. sanctions” (Ibid., 2021:8).

More importantly, China has displayed a blatant willingness to violate Washington’s sanctions on Tehran. Beijing does this by continuing the importation of Iranian oil which is a direct violation of US sanctions. According to a lead analyst at the Center for Strategic Studies, China started under the Trump administration, and increased under the Biden administration, to import Iranian oil in open violation of U.S. law.... and that China’s imports [of Iranian oil] grew in May 2021 to about one million barrels per day” (Alterman, 2021:1). Beijing’s importation of Iranian oil amidst US sanctions directly clashes with Washington’s nonproliferation policies to curb Tehran’s potential to develop nuclear weapons through its nuclear energy program. The sanctions are meant to pressure Iran to curtail nuclear weapons development, but Beijing provides a degree of an economic cushion to make Tehran a bit more resilient to these sanctions. However, although Beijing violates US sanctions by purchasing Iranian oil it is important to highlight that the sanctions do impose limits on the amount of oil Beijing seeks to obtain stemming from fear of US penalties, for example, “Chinese purchases of Iranian oil began significantly declining in 2019,

⁶⁹ Laub, Z. ‘International Sanctions on Iran’ (2015). Available at :<https://www.cfr.org/background/international-sanctions-iran>, accessed May 12 2022.

⁷⁰ Almond, R. ‘China and the Iran nuclear deal’, (2016), available at: <https://thediplomat.com/2016/03/china-and-the-iran-nuclear-deal/>, accessed May 13 2022.

suggesting Beijing was calibrating its sanctions compliance to avoid triggering penalties from Washington, including losing access to the U.S. financial system. China’s 2020 official imports of Iranian oil averaged just \$118 million per month versus \$589 million per month in 2019—a decline of 82 percent year-on-year” (Ibid., 2021:12). Nonetheless, despite the constraints on Beijing’s ability to purchase Iranian oil, Tehran potentially develops an extent of resilience against US policy to curtail its nuclear weapons program because of China’s role as an economic lifeline amidst US pressure.

Nuclear and Missile technology transfers between Iran and Beijing

Historically, China has also been a principal supplier of nuclear and missile technology to Iran directly and covertly⁷¹. China signed nuclear cooperation agreements with Iran in 1985 and 1990 (Harold and Nader, 2012). Under the nuclear cooperation agreements in the 80s and 90s, China assisted Iran with research facilities and technical training for Iranian scientists, Uranium products, heavy water, and uranium mining exploration that helped to restart Iran's nuclear program after the 1979 revolution in Tehran (Gregg, 1998; Izadi and Khoadee, 2017). Beijing was also ranked as Tehran's 3rd highest military supplier in the 1990s⁷². At the time, Beijing and Tehran had signed a ten-year agreement that included the transfer of military technologies. In the 1990s a US intelligence report by the CIA found that Beijing had "delivered dozens, perhaps hundreds of missile guidance systems and computerized tools to Iran"⁷³. For example, in the 90s Beijing gave Tehran the C-801 and C-802 anti-ship missiles, which were a new generation of highly capable missiles with longer-range capabilities⁷⁴. However, the deal between China and Iran to transfer all of the missile technologies was met with intense scrutiny by the US. Washington asserted that Beijing was in violation of the 1992 Iran-Iraq Arms nonproliferation Act which "targeted countries transferring destabilizing weapons, in quantitative and qualitative terms, to either Iran or Iraq" (Davis *et. al.*, 2013:37). As a result, the Chinese government pledged to halt the transfer of official missile and nuclear assistance to Tehran later in the 1990s amidst growing pressure and threats of sanctions from Washington to curb missile and nuclear technology transfer between Beijing and Tehran.

Although the Government of China declared in the latter part of the 90s that it would no longer assist Iran with missile and nuclear technology⁷⁵, in the 21st century, the US has accused China of its unwillingness to curtail state-owned and private companies from proliferating these technologies to Iran. These companies have been accused of supporting the modernization of

⁷¹ Harold, S. and Nader, A. 'China and Iran: Military, Political and economic relations, (2012), available at https://www.rand.org/pubs/occasional_papers/OP351.html, accessed May 17 2022

⁷² J. Garver, *China and Iran: Ancient Partners in a Post-Imperial World*. (Washington: University of Washington Press, 2006), p.44.

⁷³ Sciolino, E. 'CIA reports says Chinese sent Iran arm components', (1995), available at: <https://www.nytimes.com/1995/06/22/world/cia-report-says-chinese-sent-iran-arms-components.html>, accessed on May 17 2022

⁷⁴ Carlson, C. 'China's Eagle Strike-Eight Anti-Ship Cruise Missiles: YJ-81, YJ-82, and C802' (2013), available at: <https://www.defensemedianetwork.com/stories/chinas-eagle-strike-eight-anti-ship-cruise-missiles-yj-81-yj-82-and-c802/>,

Accessed May 23 2022

⁷⁵ H. Rashida, 'Sino-Iran Relations Current Developments and Future Scenario', Policy Perspectives, Vol. 7, No. 4 (2010), p. 135-53.

Iran's ballistic missile program which could significantly bolster Tehran's ability to develop delivery systems for nuclear weapons. For example,

In 2017, the U.S. Department of Treasury sanctioned Chinese state-owned company Wuhan Sanjiang Export and Import Co. Ltd. for selling technologies to an entity under Iran's Ministry of Defense and Armed Forces Logistics. In 2020, the U.S. Department of State sanctioned the company for supporting Iran's missile program in violation of Iran, North Korea, and Syria Nonproliferation Act. Beijing turned a blind eye to the proliferation of technologies that according to the U.S. Department of Justice, "could be used in the production of weapons of mass destruction and/or devices used to deliver weapons of mass destruction." (Roth & Green, 2021:16).

In the 21st century, such Chinese state-owned and private entities have continued to supply Iran with technologies outside of the Missile Technology Control Regime (MTCR)⁷⁶. According to a report by the Congressional Research Services, the US continues to sanction these Chinese entities for proliferation because they continue "to supply MTCR-controlled items to missile programs of proliferation concern, including those in Iran for example, on November 25, 2020, the State Department imposed sanctions on two Chinese entities for transferring sensitive technology and items to Iran's missile program" (2021:2). Washington has also accused Beijing of having weak export controls over these technologies. It is important to understand these issues in the wider context of US-China rivalry. China's slow response and reluctance to crack down on these entities stem from wider goals of Chinese missile exports because "missile exports contributed to many of China's national security and foreign policy goals, among them to counter US influence in the region" (Davis *et. al.*, 2013 :41).

Essentially, Beijing views the transfer of missile technologies as important tools that can bolster Iran's capabilities to counter the US presence in the Middle East region. More importantly, China also critiques the tools the US uses for arms control. From Beijing's perspective, the US tries to control and restrict the transfer of missile technologies because Washington wants to maintain its military superiority over rivals which Beijing simply cannot sit back and acquiesce to. In the context of the Missile Technology Control Regime, for instance, China views the MTCR "set up by the United States and six other Western nations in 1987 [as] a mechanism of the US effort at continued military domination [and that] by trying to impose the MTCR, the United States and its allies were trying to maintain the ability to attack from the air potential enemies in the Third

⁷⁶ Green, W., and Roth, T. 'China- Iran relations: A limited but enduring partnership', (2021), available at: https://www.uscc.gov/sites/default/files/2021-06/China-Iran_Relations.pdf, accessed 13 May 2022

World while limiting the ability of those adversaries to retaliate with missiles” (Davis et.al.,2013:41-42). An important lesson that can be taken from this is the current reluctance of China to enter into a trilateral arms control agreement with the US and Russia. The Chinese have an overall pessimistic view of US arms control efforts.

It would also serve China’s interest if these technologies help improve Iran’s nuclear capabilities because that would also serve China’s geopolitical interest to buffer its rival the US. Arguably, from the wider context of Beijing’s geopolitical interests an Iran with nuclear capabilities or the potential to develop nuclear capabilities “could allow Iran to significantly affect the balance of power in the Persian Gulf by potentially neutralizing the U.S. conventional military superiority, dissuading the Gulf Cooperation Council (GCC) from hosting U.S. forces” (Harold & Nader, 2012:8). China thus views a powerful Iran as an important pawn in its rivalry with the US in the Middle East region, and this is the primary reason the Chinese political elites have advocated for material and diplomatic support for Tehran’s nuclear program (Naderb., 2012:8).

The US, China and the Iran nuclear deal: China's leverage on US withdrawal from the JCPOA

The Iran nuclear deal was signed in 2015 between the P5 and Germany, and it became a hallmark of President Barack Obama's administration's efforts to restrict Iran's nuclear program. The JCPOA was another great example of US-led efforts to get a country to reverse its nuclear weapons program. The deal showcased the US willingness to pull pack on solely depending on negative inducements such as heavy economic sanctions and apply positive inducements in the form of sanction reliefs to get a country to reverse a nuclear weapons program. The deal was successful in that it severely restricted Iran's ability to develop a nuclear weapon from its nuclear program by limiting Tehran's ability to enrich uranium. However, when President Donald Trump came to office, he called the Iran deal "the worse deal ever and a horrible one-sided deal that should never ever have been made"⁷⁷. President Trump withdrew the US from the JCPOA in 2018 despite reports from the IAEA that Tehran was complying with the terms of the deal. President Trump subsequently reimposed economic sanctions on Iran after the US withdrawal from the deal.

China and the other signatories of the JCPOA highly criticized President Trump's unilateral decision to withdraw the US from the deal. At the time, China pledged to continue being a part of the deal. China's special envoy to the Middle East, Gong Xiaosheng restated China's commitment to the deal following the US withdrawal stating that "having a deal was better than no deal. dialogue was better than confrontation"⁷⁸. China also recognized the importance of the JCPOA as a nonproliferation instrument. Evidently, The US withdrawal from the JCPOA gave China the opportunity to take on the role of a responsible stakeholder in the international community. However, as time brought to fruition the deal did not survive without the US membership. The deal was particularly significant for China because US sanctions had always constrained the extent of economic ties and engagement between Beijing and Iran and so the deal essentially opened a sanction-free window for economic engagement. For this reason, following the signing of the JCPOA in 2016 Chinese President Xi Jinping made an official visit to Iran because "with the signing of the nuclear agreement and the lifting of sanctions against Iran, China and Iran regarded

⁷⁷ Landler, M. 'Trump abandons nuclear deal he has long scorned', (2018), available at <https://www.nytimes.com/2018/05/08/world/middleeast/trump-iran-nuclear-deal.html>, accessed May 26 2022

⁷⁸ Rouhani, H. 'World leaders react to US withdrawal from JAPOA', (2018), available at <https://www.aljazeera.com/news/2018/5/9/world-leaders-react-to-us-withdrawal-from-iranian-nuclear-deal>, accessed May 30 2022

their relationship as one that held much economic, political, security, and strategic potential” (Zimmt et. al., 2017:45). The visit by China’s highest official was symbolic of the strategic significance of Iran for China. The deal opened the door for China to carefully balance grander geopolitical relations with Washington and balance its economic relations with Tehran.

However, the economic opening that the deal had created for China-Iran relations was severely halted by Trump’s Maximum pressure policy on Iran after the US withdrew from the JCPOA. Oil Trade between Iran and China fell significantly between 2018-2020 after the US reimposed economic sanctions on Tehran⁷⁹. However, Beijing still continued to import Iranian oil, because “China’s imports of Iranian oil represented a key component of Beijing’s policy of defying US sanctions against Iran” (Scita, 2022:100). Beijing’s defiance of US sanctions on Iran was an important way for China to undermine the US power in the region. The US withdrawal from the JCPOA left a trust vacuum between Tehran and Washington which China was able to capitalize on for its own interest. According to Jon Alterman, a leading analyst at the Center for Strategic and International Studies, “a China that was increasingly focused on undermining demonstrations of U.S. power and influence became an accessory to Iranian resistance, serving dual goals of winning special favor with Iran—which will pay economic benefits to China—and undercutting the U.S. global position” (2021:4). Perhaps, the grander conclusion or precedent that can be taken away from the JCPOA is the US willingness to undermine its own global efforts on nonproliferation. The US actions ultimately made room for another great power, China, in this case, to step in as the responsible stakeholder of nonproliferation norms. The JCPOA still remains stalled and its revival has continued to be a slow process, but Beijing continues to call for the US to return to the deal because “in trying to bring Iran to the negotiating table and simultaneously pressuring all stakeholders to reach a deal, the Chinese government is pursuing its own pragmatic interests in the country while looking to cast itself as a constructive diplomatic stakeholder in the region” (Ibid., 2021:19). The process is a testament of Beijing’s willingness and ability to affect nuclear decision-making in order to meet its own interest.

⁷⁹ Ghasseminejad, S. ‘ Iran-China trade plummets despite plans for strategic partnership’, (2018), available at <https://www.fdd.org/analysis/2020/07/23/iran-china-trade-plummets-despite-partnership/>, accessed May 27 2022

Wider regional implications: Prospects for proliferation in Saudi Arabia

Saudi Arabia and Iran are regional adversaries. Therefore, it is easy to understand how Iran's nuclear capabilities could fuel Saudi Arabia's own nuclear pursuits. This is the primary reason the JCPOA is so very important for regional stability in the Middle East.

“If Iran returns to compliance with the JCPOA or reaches a new agreement that keeps the program limited and under strict international monitoring, this will likely lead to restraint from Saudi Arabia on nuclear weapons. But if regional tensions escalate and Iran expands its nuclear program or actually produces nuclear weapons, this could trigger a regional arms race: Indeed, MBS, the crown prince, has publicly threatened to produce nuclear weapons if Iran does” (Brewer et. al., 2021:31)

It is important to highlight though that Saudi Arabia does not currently have a nuclear program that offsets Riyadh's ability to develop nuclear weapons in the near future. However, Saudi Arabia has expressed interest in developing a civil nuclear energy program⁸⁰. Saudi Arabia and the US have not been able to agree on a 123 agreement with the US for civil nuclear cooperation because of the restrictions in these agreements. As a result, China can present itself as an alternative for energy cooperation over the US, willing to transfer nuclear reactors without all the restrictions like Washington. For this reason, “Saudi Arabia, if unable to secure the commitments it needs from the United States in regard to defense and nuclear energy, may turn to China. Beijing would not only potentially offer the commitments and equipment Riyadh is looking for; but also, do so with few if any concerns about proliferation risks” (Ibid., 2021:34). The reason Beijing would be willing to engage in nuclear cooperation with Riyadh under fewer proliferation restrictions is that China wants to diminish Riyadh's overreliance on the US, so that “in any scenario involving Saudi proliferation concerns, China would thus have its own sources of leverage that it could use to help or hurt U.S. interests” (Ibid., 2021:35).

In addition, given the current security architecture of US-China rivalry and the implications this has on the JCPOA, it is likely that the threat perception of a nuclear Iran will remain high for Saudi Arabia. More importantly, it is likely that China's own role as an economic cushion for Tehran against US sanctions could cause Tehran to eschew a new nuclear deal for a longer time.

⁸⁰ Sabga, P. ‘Nuclear Gulf: Is Saudi Arabia pushing itself into a nuclear trap?’, (2020), available at <https://www.aljazeera.com/economy/2020/7/21/nuclear-gulf-is-saudi-arabia-pushing-itself-into-a-nuclear-trap#:~:text=Like%20the%20UAE%2C%20Saudi%20Arabia,sworn%20off%20developing%20nuclear%20weapons,> accessed May 29.

This could lead Iran closer to developing a nuclear weapon without the uranium enrichment limits set by the nuclear deal which further incentivizes Riyadh's nuclear pursuits.

China and the US have relations with Saudi Arabia. US relations with Saudi Arabia are based on security issues primarily the Security Guarantee between Washington and Riyadh, while Beijing's partnership with Riyadh is based on economic and energy cooperation. Although the US has been Saudi Arabia's main security guarantor in the region, the US's gradual disengagement in the region will provide China with the opportunity to offer Riyadh an alternative partnership⁸¹. It is not an unlikely scenario to expect China's role in the Middle East to grow in the coming years. Therefore, it is also not unlikely for Riyadh to align more closely with Beijing in the years ahead especially because of the growing strength of their energy cooperation. For example, "it is expected that by 2030 when China's oil imports will reach 75 percent of consumption, around 16 mmb/d would be sourced from Saudi Arabia".

The energy cooperation between China and Saudi Arabia has also opened the door for cooperation in other areas including nuclear power, technology, and arms transfers. Arms transfer between Beijing and Riyadh has significantly increased from 2016-2020. This is because China stepped in to sell armed drones to Saudi Arabia which Riyadh could not purchase from the US suppliers⁸². Although the US remains Saudi Arabia's main supplier of arms, "such deals with China suggest that the Americans, who have been signaling a desire to play a smaller role in the Middle East, may someday soon be displaced by China as the major outside influence in the region" (Feith & Noon, 2022:4). China's aim is to show that the US is no longer the best strategic partner for Riyadh. More importantly, China has expressed support to help Saudi Arabia develop a nuclear energy program. In 2020, for example, US intelligence agencies reported that "Saudi Arabia [was] working with China to build industrial capacity to produce nuclear fuel that could later be enriched to weapons-grade level" (Chaziza, 2020:1). Although Saudi Arabia refuted the claims, the reports underscored the fact that China continues to strive to be a dominant partner in the creation of a civil nuclear program with Riyadh. It is quite possible then that in the future China will gain more leverage in dictating nonproliferation norms in the region. It is also very much

⁸¹ Pollack, K. 'Fight or flight: Americas choice in the middle East', (2016), available at: <https://www.foreignaffairs.com/articles/middle-east/2016-02-16/fight-or-flight>, accessed June 3 2022.

⁸² Feith, D. 'How can Biden reverse China's gain in Saudi Arabia', (2022), available at: <https://foreignpolicy.com/2022/07/07/biden-china-saudi-arabia-oil-missiles/>, accessed June 1 2022.

possible for Washington “to take a softer touch on any Saudi proliferation concerns” in order to avoid pushing Riyadh into a closer partnership with Beijing. The continued tensions between Beijing and Washington will impact the potential for proliferation in Saudi Arabia even if it will take years for Saudi Arabia to potentially develop nuclear weapons.

Discussion of Findings and Analysis

This research aimed to answer to what extent will China's rising influence and rivalry with the US in the 21st century affect US-led nonproliferation and nuclear reversal efforts. The research assessed three strategic regions across the globe with proliferation potential which included The Korean Peninsula, the Indo-Pacific, and the Middle East. A country case study was selected from each region for analysis North Korea from the Korean Peninsula, India from the Indo-Pacific region, and Iran from the Middle East. In addition, the research also assessed the wider regional prospects for proliferation that have resulted or could result from the implications and challenges of US-China rivalry on nonproliferation and nuclear reversal of the primary case studies. Therefore, the research also explored the prospects for proliferation in countries within geographical proximity to the primary case studies which included South Korea, Pakistan, and Saudi Arabia. Nuclear proliferation is a complex issue; therefore, the research did not seek to prove that the great power rivalry between the US and China was the cause of proliferation within the selected case studies, but rather the research explored how US-China rivalry was an exacerbating variable for US-led nonproliferation and nuclear reversal efforts in each of the selected cases studies. The following sections will provide an overarching discussion and analysis of the selected case studies within the parameters of the theoretical and conceptual framework of the research.

Case Studies: Discussion of Findings

North Korea

The Korean peninsula is a complex case for nonproliferation and nuclear reversal and solutions to the issue and have only been exacerbated by US-China rivalry. Beijing and Washington both view a nuclear North Korea through different strategic lenses although neither of these great powers ideally prefers a nuclear-capable North Korea. However, China is more willing to tolerate a nuclear North Korea than the US because of Beijing's interest in the region. There are three reasons that make North Korea incredibly important to China. Firstly, North Korea is viewed as a buffer against the US, US allies, and US military presence in the region. Secondly, Beijing prioritizes the stability of North Korea's regime in order to offset any negative implications of instability on China's internal security. For instance, Beijing worries that if the DPRK regime collapses this can lead to a destabilizing influx of refugees into North East China. Finally, China would much rather tolerate a North Korea that is belligerent towards the US than deal with a unified US-aligned Korean peninsula. These factors shape China's policies towards North Korea. They are intricately connected to Beijing's view of Washington as its current rival. On the other hand, the US is intolerant of a nuclear North Korea because Pyongyang's nuclear capabilities present a grave existential security threat to US vital interests including US allies and US military forward presence in the region.

The US has a long legacy of sanction policies to curtail North Korea's nuclear weapons program. In other words, the US has relied on negative inducements to pressure North Korea to halt the development of nuclear weapons and reverse its nuclear weapons program. These negative inducements have taken the form of strict economic sanctions. However, the US has not been successful in relying on negative inducements alone. In addition, while Washington has relied on economic sanctions to impact Pyongyang's nuclear decisions, Beijing has committed to ensuring the survival of North Korea's economy. China has been reluctant to enforce sanctions on North Korea and has taken on the role of a great power patron for the North Korean regime. China's action therefore directly presents challenges to US-led denuclearization efforts on the Korean peninsula. The primary reason is that Beijing prioritizes its interest over current US denuclearization efforts. As long as Pyongyang possesses nuclear capabilities Beijing can use North Korea as a pawn for its strategic ambitions to counter US dominance in the region in this

era of great power rivalry with the US. China's actions significantly reduce the possibility of a single consensus for cooperation with Washington on denuclearization.

Furthermore, in the context of the conceptualization by Mazaar (2022), the international bilateral rivalry that exists and prevails between Beijing and Washington on the Korean peninsula is defined by the mutual perception of hostility that exists between them. China's rise and desire to project more influence on the Korean peninsula is viewed as a premeditated push against the US dominance and influence, while US alliances and military presence in the region are viewed by China as US efforts to contain its rise. In this regard, on the Korean peninsula, the rivalry between the US and China can thus be said to be the outcome of a positional dispute, which is a dispute for power and influence in the region by these great powers to safeguard their interest. It is the differing interest between these great powers that make cooperation on nonproliferation and nuclear reversal challenging. Washington's goal is to achieve complete denuclearization on the Korean peninsula while Beijing pushes against Washington's policy by providing DPRK with economic relief which works contrary to US efforts to get Pyongyang to denuclearize. The issue reflects upon the Power Transition theory which explains that peace in the international system can be threatened during periods of transition where an emerging power seeks to gain a place for itself in a system influenced and dominated by an existing power. China is seeking to gain power and influence on the Korean peninsula; however, Beijing's ambitions come at the expense of cooperation on nonproliferation issues.

South Korea

The US-China rivalry will further exacerbate the potential for nonproliferation and nuclear reversal on the Korean Peninsula. Beijing will continue to bolster the economy of North Korea to ensure the survival and stability of the regime in order to buffer US presence in the region which will lead to the continuation and resilience of Pyongyang's nuclear weapons program. In addition, as the US-China rivalry continues to intensify South Korea will also face immense pressure in the middle of the policy and actions of these two great powers. The North Korean proliferation issues and the clashing policies on denuclearization between Washington and Beijing engender an uncertain security environment for South Korea, likely leading Seoul to develop a more intentional nuclear latency and hedging policy. South Korea's nuclear hedging was evident through Seoul's

pursuit of nuclear-powered submarines, while South Korea's nuclear latency strategy is evident through Seoul's investment and improvement in its conventional arms such as its ballistics and cruise missile systems. These steps bolster the ability of South Korea to potentially develop nuclear weapons and delivery systems. The US has also lifted missile restrictions on South Korea. This illustrates Washington's willingness to ease pressure on South Korea and aid the development of stronger conventional capabilities to help counter Beijing and Pyongyang. However, as mentioned above advanced conventional capabilities can signal a strong nuclear latency strategy.

Iran

The case study of Iran is very similar to the North Korea case. Iran like North Korea has a very hostile relationship with Washington. Iran and North Korea are both labeled as countries the US calls the “Axis of evil”. The description gives a very good idea of the type of policies Washington has fashioned to deal with these countries. The legacy of Iran and the US relationship is also characterized by animosity and history of sanctions. Washington has relied heavily on sanctions to curtail Iran’s nuclear program. There was a brief moment of sanction relief for Tehran with the signing of the JCPOA in 2015, but when Barack Obama left office and Donald Trump became the new president, he withdrew the US from the deal in 2018 and reimposed sanctions on Iran’s nuclear program. Washington has largely dealt with Iran in a similar fashion to North Korea to curtail their nuclear programs by applying a policy of maximum pressure to influence the nuclear decision of both countries. However, the hostile relationship between Washington and Tehran has created fertile grounds for stronger China-Iran relations, and while Washington has dealt with North Korea and Iran in a similar fashion as it pertains to their nuclear programs, there is also an identified pattern of China’s interaction with Tehran that is similar to the way Beijing interacts with Pyongyang.

China views Iran as an important geostrategic partner in the Middle East for three main reasons as well. Firstly, in this age of great power rivalry with Washington, Tehran acts as an important buffer against the US presence and dominance in the region. Secondly, Beijing believes that if Washington is preoccupied with Tehran in the Middle East, then Washington would be too occupied to disturb China’s expansionist ambitions in the Indo-Pacific region. Thirdly, Iran is one of Beijing’s most important energy partners. For these reasons, the case study revealed that China also acts as an economic shield for Tehran against US sanctions imposed on the country because of its nuclear weapons program. For example, after resolution 1929 was passed by the UNSC to impose sanctions on Teheran the case study revealed that China accelerated cooperation with Tehran as an economic cushion. Next, the case study also found that China was willing to violate US sanctions on Tehran to ensure the economic survival of Tehran during periods of harsh sanctions. Although China-Iran trade is limited and restricted by US sanctions, Beijing still violated US sanctions by continuing to import Iranian oil which was directly in violation of the

US maximum pressure campaign to stop the export of Iranian oil to stifle Tehran economically in order to disincentivize the country from further advancing its nuclear program. China's actions in The Iranian case study are shockingly similar to the way Beijing has behaved in the North Korea case study. Both case studies revealed two very important answers to the research question. Firstly, Beijing is willing to provide economic support to these countries in the midst of US sanctions and Beijing is also willing to violate US and UNSC sanctions to ensure these countries stay economically afloat after sanctions have been imposed on them.

Furthermore, although the Chinese government pledged to stop assisting Iran with nuclear and missile technology in the 90s, in the 21st century Beijing has not done enough to inhibit state-owned and private companies from proliferating these technologies to Iran. The proliferation of advanced missile technologies to Iran violates the US Iran, North Korea, and Syria Nonproliferation Act as well as the Missiles Technology Control regime (MTCR). More importantly, they increase Iran's ability to produce or deliver weapons of mass destruction. A possible explanation for China's reluctance to crack down on these entities is that an Iran capable of developing weapons of mass destruction could shift the balance of power in the middle east and neutralize US dominance and military superiority in the region which would serve Beijing's interest. Lastly, Beijing also leveraged the US withdrawal from the JCPOA to undermine US power and influence by violating the sanctions that the US reimposed upon Iran. Beijing continued to import Iranian oil to defy the US as well as show itself as an alternative and more trustworthy partner than the US.

Saudi Arabia

Saudi Arabia and Iran are regional enemies therefore it is easy to understand how Iran's nuclear capabilities would have a spillover effect on Saudi Arabia's security. This is the reason the JCPOA was so important to Saudi Arabia. The JCPOA provided Saudi Arabia with predictability about Iran's nuclear activities. This is the reason Saudi Arabia was disappointed by US' withdrawal from the deal. More importantly, as China continues to provide economic support to Iran it is likely that Iran will progressively improve its nuclear program which threatens Riyadh's security. The US-China rivalry thus has far-reaching implications for Riyadh's pursuit of nuclear weapons. Saudi Arabia does not have a nuclear program but has declared intentions to start one in

the future. The US and Saudi Arabia have failed to reach a 123 agreement for US assistance with the start of a nuclear program. The 123 agreements would allow the US to put restrictions on Saudi Arabia's nuclear program. China on the other hand has shown a willingness to support the development of a nuclear program in Saudi Arabia. Therefore, if the US is unwilling to provide Saudi Arabia with the necessary assistance when Riyadh seeks to start the development of its nuclear program Riyadh will likely seek this assistance from China. Saudi Arabia is especially important to Beijing because Riyadh is its major energy partner in the region. For this reason, China is positioning itself to assist Riyadh with fewer proliferation restrictions than the US. China wants to displace the US as a major strategic partner in the region. China and Saudi Arabia are also improving relations with each other which was evident through the transfer of arms between the two countries. This could lead the US to soften its stance on Saudi's potential proliferation in the future to ensure Riyadh is less likely to join into a closer strategic partnership with Beijing.

India

India is perhaps the most unique of all three case studies. The reason is that the India-US nuclear deal was a particular example of the US willingness to rewrite its own global proliferation norms in order to counter Beijing. The case of North Korea and Iran illustrated China's willingness to undermine and clash with Washington's nonproliferation and nuclear reversal efforts in both Iran and North Korea. However, in the case of India, it was not China this time undermining global nonproliferation norms rather it was Washington. The India-US nuclear deal reversed decades of US nonproliferation policy toward India by removing the nuclear trade moratorium that was in place which prohibited nuclear cooperation with India. The deal allowed Washington to assist India's nuclear civil program as well as resume nuclear trade with New Delhi. The deal was controversial because it granted India de facto status as nuclear power and also because India had not signed the NPT.

The US also took an unprecedented step and lobbied for the NSG to permit India to engage in nuclear cooperation with other countries. The US actions were controversial because as the leader of the nonproliferation order it was appalling that the US would allow another nuclear weapon state that is not a party to the NPT to be granted special waivers to engage in nuclear trade and cooperation. The case study revealed that China was a factor that contributed to the US decision to rewrite the global nonproliferation norms as it relates to India. The US views India as an important and strategic ally in the Indo-Pacific region that has the potential to act as a counterweight against Beijing. The US realized that to effectively balance against Beijing in the region Washington would have to bolster India's nuclear capabilities as well as accept India's de facto status as a nuclear power outside of the NPT. This is the reason President Barack Obama identified India as the "lynchpin of US rebalancing strategy" in the region. As mentioned earlier in the case study, in essence, the India-US nuclear deal "was an attempt by the prevailing hegemon (the US) to reduce the chances of a challenge to its world order from a strategic competitor (China) by integrating, even if partially, a potential balancer and great power (India) into its alliance system and norms⁸³"

Pakistan

The India-US nuclear deal pushed Pakistan and Beijing into closer relations. China and Pakistan heavily criticized the India-US nuclear deal because of the threat of India's nuclear capabilities to the security of their country. China and Pakistan also explored their own bilateral nuclear cooperation agreement. China has also played a central role in Pakistan's civil nuclear program. From Beijing's perspective, Pakistan could essentially play the role of a balancer against India and by extension the US. China financed and supplied nuclear reactors to Pakistan. The implications for proliferation stemming from Pakistan-China nuclear cooperation were that it was uncertain as to what safeguards would govern the exchange of these nuclear technologies to prevent further proliferation in Pakistan. Beijing does not apply restrictive pressure on countries that receive its nuclear technology as Washington does under the scope of its 123 agreements that restrict and dictate how nuclear technologies should be used by recipient countries. As a result, Washington would not be able to dictate to Pakistan how to use its nuclear reactors supplied by Beijing. Overall, China's rivalry with the US will certainly affect US leadership in writing the rules of the nonproliferation regime, particularly for countries that enter nuclear cooperation agreements with countries outside the scope of Washington's 123 agreements such as Pakistan.

Analytical overview of three case studies

The framework for analysis includes the accepted conceptualization of Great power rivalry based on Mazaar's (2022) definitions of rivals. The case studies revealed a key feature of Mazaar's conceptualization of great power rivals and that is the mutual perception of hostility between Washington and Beijing. Heath (2020) also asserted that great power rivalry can either be the outcome of positional or spatial disputes. The three case studies revealed that Washington and Beijing's rivalry is the outcome of positional disputes that is, their dispute "for power, status, prestige, influence, and position in the international system",⁸⁴ especially in the regions of the Indo-Pacific, Middle East, and the Korean Peninsula. The incorporation of theoretical analysis based on the Power transition theory explains that China's emergence as a rising and potentially overtaking power threatens the existing global order created by the US as China aims to make a place for itself in the international system. Although the PPT model holds that power transition is likely to lead to war, the conceptualization of Chinese revisionism helps to understand that despite China's revisionist characteristics an open war with the US does not align with Beijing's strategic ambitions. Beijing aims to exploit the existing status quo established by the US. However, this does not mean that China will not try to bend some of the rules established within the US-led international order to preserve its interest. The case studies of North Korea and Iran revealed China's willingness to clash with US nonproliferation policies to preserve its regional interest, but they also revealed China's conformity with the status quo nonproliferation order created by the US when Beijing enforced and agreed with some sanctions place on both Pyongyang and Tehran.

Chinese revisionism helps to explain the gap in classic power transition theory. The PPT model alludes to the idea that the potential for war increases between the rising power and the existing power; however, it is unlikely that there will be an open offensive confrontation between Beijing and Washington that escalates to the level of war. The primary reason is that the conceptualization of Chinese revisionism offers an explanation for China's behavior that will not lead Beijing to fight a war with the US in the near future because the current order allows China to exploit the hostile relationship the US has with countries like North Korea and Iran for economic gains. As it pertains to nonproliferation, the case studies showed China's willingness to abide by the US global nonproliferation order. For instance, the case of North Korea and Iran showed

⁸⁴ Heath,2022:141-146, cited in Mazaar, 2022:7

China's willingness to support some of the US sanctions along with some UNSC sanctions. Beijing also displayed a degree of solidarity with the international communities' discordance with Pyongyang's nuclear weapons program. This shows an alignment with the concept of Chinese revisionism which helps to understand China's actions. Beijing does not seek to rewrite the entire global norms of nonproliferation, but while China will often express support for sanctions Beijing will not enforce sanctions on the same level as the US and will seek to bend the rules to safeguard its interest. The case of India was unique in that Beijing criticized Washington for not adhering to its own established nonproliferation regime which showed Beijing's acceptance and acknowledgment of the US-led nonproliferation regime. However, at the same time, China was more concerned over its own security and while China criticized the US for the Indian-US nuclear deal, Beijing also engaged in nuclear cooperation with Pakistan ramping up the potential for further proliferation in Islamabad. Therefore, while China shows regard for the US nonproliferation order, it is always in alignment with China's own interests.

The primary challenge to nuclear reversal is that China's economic assistance to Iran and North Korea can contribute to these countries' reluctance to completely reverse their nuclear programs. China's economic assistance to these countries in the midst of sanctions is an example of Beijing's norm bending of the US-led nonproliferation order. For nuclear reversal to be successful, negative and positive inducements must be used in tandem. However, non-proliferation and nuclear reversal will be difficult if Washington is using sticks and Beijing is offering carrots in countries like North Korea and Iran. China's actions align with the concept of Chinese revision where there is overall regard for the US non-proliferation order, but Beijing is willing to bend some of the norms to achieve its strategic interest.

Conclusion

The US enjoyed a period of unopposed hegemonic dominance after the fall of the Soviet Union. However, the 21st century has witnessed the emergence of other great powers such as China that are challenging the US unipolar moment. China continues to rise at an accelerated pace growing in economic and military strength. China is taking its place in the international system as a formidable great power under the leadership of Xi Jinping. China has risen to the status of a near-peer-competitor with the US challenging Washington across multiple domains, particularly in technology, economics, and the military. Xi Jinping has also created more assertive Chinese foreign and security policies. China's rise and actions in the international system today have stirred a lot of Hawkish eyes in Washington that have branded China as one of the US major rivals in the 21st century.

China has been labeled a great power rival in major US national security documents such as the National Security Strategy, the US National Defense strategy, and the US annual threat assessment intelligence reports among others. The spillover effect of US-China rivalry in the 21st century has presented challenges for other important areas of international peace and security such as nuclear nonproliferation and nuclear reversal. The US has long held the title of the leader of the global nonproliferation order; however, China's rise and rivalry with the US has presented some serious challenges to the US-led nonproliferation and nuclear reversal efforts across the globe, especially in regions such as the Korean Peninsula, the Indo-Pacific and the Middle East where the potential for proliferation is higher. China's rising influence has granted Beijing the power to interfere with US nonproliferation policies while taking advantage of the existing status quo system and bending the norms when necessary to preserve and protect its interest.

On the Korean Peninsula, China has prioritized the survival of Pyongyang's regime over denuclearization. As a result, Beijing's policies clash with Washington's nonproliferation policies aimed at curtailing North Korea's nuclear weapons program. China is more prepared to tolerate a nuclear North Korea than the US in order to preserve its interest in the region. As China continues to rise, North Korea will continue to be an important buffer against the West for China. Beijing has thus been willing to violate US sanctions to ensure Pyongyang stays afloat during economic sanctions. China's actions in the North Korean case are strikingly similar to the case of Iran. China views Iran as an important partner that can also buffer the US dominance in the Middle East. As a result, China has also been willing to provide economic aid to Iran in the face of US sanctions. In addition, China has also violated US sanctions against Iran by continuing to import Iranian oil in direct violation of US sanctions. China's actions essentially diminish the strength of US nonproliferation policies of maximum pressure by providing economic cushions for both of these countries in the face of heavy US sanctions.

The case of India is unique in that it wasn't Beijing, but Washington that rewrote the existing norms of the nonproliferation regime to accommodate a nuclear India that could act as a counterweight against Beijing. The US-India nuclear deal reversed decades of US nonproliferation policy toward India. The US assisted India's nuclear civil program as well as engaged in nuclear trade with India while lobbying in the NSG to have other countries also engage India in nuclear cooperation. The US actions essentially provided India with de facto status as a nuclear state and bolstered New Delhi's ability to produce more weapons of Mass destruction. Overall, the three case studies revealed that US-China rivalry in the 21st century is an important variable to consider in tracking the trajectory of proliferation across the globe. China's rise and capabilities to challenge US-led nonproliferation and nuclear reversal effort across the globe are going to have serious

implications on nonproliferation. The evidence is already present in three major strategic regions across the globe: The Korean peninsula, the Indo-Pacific, and the Middle East. China's rise and rivalry with the US in the 21st century is pushing Beijing into the role of an actor capable of significantly altering the nuclear decision-making of other countries. The rivalry that prevails between Beijing and Washington will likely lead to a future where these great powers will put issues of proliferation on the back burner of policies in order to preserve their interest and maintain dominance and influence around the globe. The US and China's focus on strategic competition with each other will certainly have repercussions on other areas of international security, but nuclear proliferation and the potential quantitative and qualitative development of weapons of mass destruction might just be the most pressing threat to international peace and security.

Bibliography

- Abraham, I. (2007). Origins of the United States-India Nuclear Agreement. East-West Center. Available at: <http://www.jstor.org/stable/resrep06496> Accessed 1 June 2020.
- Alterman, J. (2021) China Headaches for Iran deal. Available at: <https://www.csis.org/analysis/china-headaches-iran-deal>. Accessed June 28 2022.
- Bajoria, J. and Pan, E. (2010) 'The India-US nuclear deal', Available at: <https://www.cfr.org/backgrounder/us-india-nuclear-deal>, accessed April 26 2022.
- Beauchamp, Z. (2018) 'Trump's withdrawal from the nuclear explained'. available at: <https://www.vox.com/world/2018/5/8/17328520/iran-nuclear-deal-trump-withdraw>, Accessed May 7 2022
- Bowers, I., & Hiim, H. S. (2021). Conventional counterforce dilemmas: South Korea's deterrence strategy and stability on the Korean Peninsula. *International Security*, Volume 4, Number 3, pp. 7–39. https://doi.org/10.1162/isec_a_00399
- Buszynski, L. (2012). The South China Sea: Oil, Maritime Claims, and U.S.–China Strategic Rivalry. *The Washington Quarterly*. Volume 35, pp. 139-156. 10.1080/0163660X.2012.666495.
- Carafono, J. (2019) 'The US and the new great power paradigm', GIS reports, September 5. Available at <https://www.gisreportsonline.com/r/great-power-competition/> Accessed on April 5, 2022.
- Cimbala, J. (2017) Nuclear Proliferation in the Twenty-First Century: Realism, Rationality, or Uncertainty? *Strategic Studies Quarterly*, Volume 11, Number 1, pp. 129-146. <http://www.jstor.org/stable/26271593>
- Choy, M. (2020) 'US lifts sanctions against Macao bank accused of North Korea money laundering', Available at <https://www.nknews.org/2020/08/us-lifts-sanctions-against-macao-bank-accused-of-north-korea-money-laundering>, accessed on 8 April 2022.

Cornum, R. (2002) North Korea and the United States: Learning How to Wage Peace in the Twenty-First Century. PhD thesis. University of Oregon. Available at: <https://oregondigital.org/sets/easia/oregondigital:df72dk660#page/1/mode/1up> Accessed 12 May 2022

Davenport, K. (2022) 'The US-North Korea agreed framework at a glance', available at: <https://www.armscontrol.org/factsheets/agreedframework#:~:text=On%20Oct.,proliferation%2Dresistant%20nuclear%20power%20reactors.>, accessed 12 April 2022.

DiCicco, J. (2017) 'Power Transition Theory and the Essence of Revisionism.' Oxford: Oxford University Press.

Dingli, S. (2006) North Korea's strategic significance to China. Available at: <https://www.issuelab.org/resources/434/434.pdf> Accessed 5 May 2022

Etzioni, A (2015) 'The darker side of the US-India nuclear deal', The Diplomat, 13 February. Available at: <https://thediplomat.com/2015/02/the-darker-side-of-the-u-s-india-nuclear-deal/>, Accessed 15 May 2022

Feith, D. (2022) 'How can Biden reverse China's gain in Saudi Arabia', Available at: <https://foreignpolicy.com/2022/07/07/biden-china-saudi-arabia-oil-missiles/>, Accessed June 1 2022.

Fitzpatrick, M. (2008) Non-Proliferation and Counter-Proliferation: What is the Difference? , Defence & Security Analysis, Volume 24, Number 1, pp. 73-79, DOI: 10.1080/14751790801903327

Foster, B. (2020) US foreign policy in relations to North Korea. PhD thesis. Naval Postgraduate university. Available at: <https://calhoun.nps.edu/handle/10945/65518> Accessed 1 June 2022

Frieman, U. (2019) The New Concept everyone in Washington is talking about. The Atlantic, 6 August, Available at: <https://www.theatlantic.com/politics/archive/2019/08/what-genesis-great-power-competition/595405/> Accessed 5 May 2022

Ghasseminejad, S. (2018) ‘Iran-China trade plummets despite plans for strategic partnership’, available at <https://www.fdd.org/analysis/2020/07/23/iran-china-trade-plummets-despite-partnership/>, accessed May 27 2022

Grant, S. (2018) ‘China’s era of Hide and Bide is over’. Available at: <https://www.abc.net.au/news/2018-01-30/chinese-military-asia-south-china-sea-geopolitical-conflict-us/9372972>, Accessed on 12 March 2022

Green, W. and Roth, T. (2021) China-Iran relations: A limited but enduring partnership. Available at https://www.uscc.gov/sites/default/files/2021-06/China-Iran_Relations.pdf Accessed 28 June 2022

Gregg, R. (1998) ‘Sanctions and Iranian Aggression’, American Society of International Law, Volume 92 ,pp. 71–74 Availbel at: <http://www.jstor.org/stable/25659194>

Grossman, D. (2018) ‘China’s reluctance on Sanctions enforcement in North Korea’, available at <https://www.rand.org/blog/2018/01/chinas-reluctance-on-sanctions-enforcement-in-north.html>, accessed on 12 April, 2022

Jacob, J. (2006) Indo-US nuclear deal: the China factor. Available at <https://www.files.ethz.ch/isn/100220/IPCS-Special-Report-14.pdf> accessed May 31 2022

Jaspal, Z. (2014) ‘Indo-us nuclear deal: altering global nuclear order’, available at: https://www.issi.org.pk/wp-content/uploads/2014/06/1302498143_17101197.pdf, accessed April 24 2022

Joeck, N. (1997) Nuclear proliferation and nuclear reversal in South Asia, Comparative Strategy, Volume 16, Number 3, pp. 263-273, DOI: 10.1080/01495939708403112

Johnson, J. (2022) ‘South Korean support for a domestic nuclear arsenal is growing-for surprising reasons’ Available at <https://www.japantimes.co.jp/news/2022/02/23/asia-pacific/south-korea-nuclear-weapons-survey/>, accessed on 14 April 2022.

Joshi, S. (2007) Nuclear Proliferation and South Asia: Recent trends. Available at: <https://www.nti.org/analysis/articles/nuclear-proliferation-south-asia/>. Accessed 2 June 2022.

Joshi, Y. (2013) Paying Dividends: The U.S.-India Nuclear Deal Four Years On, *The Diplomat*, 1 October Available at: <https://thediplomat.com/2013/10/11756/> Accessed June 3 2022.

Hans, K. & Norris, R. (2017) ‘A history of US nuclear weapons in South Korea’, *Bulletin of the Atomic Scientists*, Volume 73, Number 6, pp.349-357. <https://doi.org/10.1080/00963402.2017.1388656>

Hanif, S. and Muhammad, K. (2018) ‘US Security Strategy for Asia Pacific and India’s Role’, *Strategic Studies*, Volume 38, Number 1 , pp. 1-20 <https://www.jstor.org/stable/48539119>

Harding. H, (2004) “Evolution of the Strategic Triangle: China, India and the United States.” In Frankle, Francine R. & Harry Harding (Eds.), *The India-China Relationship, What the United States Needs to Know*. New York, Columbia University Press, 2004.

Harold, S. and Nader, A. (2012) ‘China and Iran: Military, Political and economic relations, available at https://www.rand.org/pubs/occasional_papers/OP351.html, accessed May17 2022

Hassan, S. (2011). Indo-US nuclear/strategic cooperation: Chinese response. *Strategic Studies*, Volume 31/32, Number 4, pp 44–88. <https://www.jstor.org/stable/48527638>

Htay, Y. (2021) No one is satisfied: Two theories of the US-China Global Rivalry and the International order’, *Pacific Forum issues and insights*, Volum 21,pp.3-12. Available at https://pacforum.org/wp-content/uploads/2021/04/issuesinsights_Vol21WP5-Younn.pdf

Hussain, M. (2017). Impact of India-United States Civil Nuclear Deal on China-Pakistan Strategic Partnership. *Journal of South Asian Studies*. Volume 5. pp 13-25 Available at: <https://esciencepress.net/journals/index.php/JSAS/article/view/1769> Accessed 5 May 2022

Hymans, J. (2006) Theories of nuclear proliferation, Nonproliferation Review, Volume 13, Number 3, pp. 455-465, DOI: 10.1080/1073670060107139

Hymans, J. (2013) The Threat of Nuclear Proliferation: Perception and Reality. Ethics & International Affairs. Volume 27, Number 10, pp. 281-298. DOI:[10.1017/s089267941300021x](https://doi.org/10.1017/s089267941300021x)

Izadi, F. and Khoadee, E. (2017) The Iran Factor in U.S.-China Relations: Guarded Engagement vs. Soft Balancing. China Quarterly of International Strategic Studies. Volume 3, Number 02, pp. 299-323 <https://doi.org/10.1142/S2377740017500105>

Kan, S. (2015) China and Proliferation of Weapons of Mass destruction: Policy issues. Available at: <https://sgp.fas.org/crs/nuke/RL31555.pdf>. Accessed 27 April 2022

Kerr, P (2021) Chinese Nuclear and missile proliferation. Available at: <https://crsreports.congress.gov/product/pdf/IF/IF11737> Accessed Jun1 2022

Kim, S. (2017). U.S.-China Competition over Nuclear North Korea. Insight Turkey, Volume 19, Number 3, pp. 121–138. <http://www.jstor.org/stable/26300534>

Kim, H. (2020) ‘South Korea to have solid fuel rockets in a major deal with the US’, available at: <https://abcnews.go.com/US/wireStory/south-korea-solid-fuel-rockets-major-deal-us-72024509>, accessed on 16 April 2022.

Koch, L. (2022) Holding All the Cards: Nuclear Suppliers and Nuclear Reversal, Journal of Global Security Studies, Volume 7, Number 1, pp 1-21., <https://doi.org/10.1093/jogss/ogab034>

Karmazin K and Hynek, N. (2020) Russian, US and Chinese Revisionism: Bridging Domestic and Great Power Politics, Europe-Asia Studies, Volume 72, Number 6, pp 955-975, DOI: 10.1080/09668136.2020.1776221

Ko, S. (2014) ‘The North Korean Nuclear Issue and the Six-Party Talks: The Logic of Regime Failure’. Available [https://www.psa.ac.uk/sites/default/files/conference/papers/2014/six%20party%20talks\(edited\).pdf](https://www.psa.ac.uk/sites/default/files/conference/papers/2014/six%20party%20talks(edited).pdf), Accessed on 8 April 2022.

Lami, K. (2018) 'South Korea's Nuclear Hedging?', The Washington Quarterly, Volume.41, Number 1, pp 115-133 <https://doi.org/10.1080/0163660X.2018.1445910>

Landler, M. (2018) 'Trump abandons nuclear deal he has long scorned', available at <https://www.nytimes.com/2018/05/08/world/middleeast/trump-iran-nuclear-deal.html>, accessed May 26 2022

Lee, D. and Iordanka, A. (2021) North Korean nuclear strategy: envisioning assured retaliation, International Relations of the Asia-Pacific, Volume 21, Number 3, pp.371–400, <https://doi.org/10.1093/irap/lcz028>

Levs, J. (2014) 'Iran leaders call to annihilate Israel sparks fury as nuclear deadline looms', available at: <https://edition.cnn.com/2014/11/10/world/meast/iran-annihilate-israel/index.html>, accessed May 5 2022

Levite, A. E. (2002). Never Say Never Again: Nuclear Reversal Revisited. International Security, Volume 27, Number 3, pp. 59–88. <http://www.jstor.org/stable/3092114>

Mahnken, T. (2020) Forging the tools of the 21st century great power competition. Available at: <https://csbaonline.org/research/publications/forging-the-tools-of-21st-century-great-power-competition>. Accessed April 12 2022.

Mazarr, M. (2022) Understanding competition: Great power rivalry in a changing international order-concepts and theories. Available at: [Understanding Competition: Great Power Rivalry in a Changing International Order — Concepts and Theories | RAND](https://www.rand.org/pubs/working_papers/202203/WP4787.html) Accessed March 13 2022.

Mehta, R. (2020) Delaying Doomsday. Oxford: Oxford University Press

Meire, O. (2006) The India-US nuclear deal: The end of nonproliferation Efforts? Available at <https://library.fes.de/pdf-files/id/ipg/03930.pdf>, Accessed April 29 2022.

Mesbahi, M. and Homayonvash, M (2016) China and the nonproliferation regime: The case of Iran. Sociology of Islam. Volume 4, pp. 73-92. DOI: <https://doi.org/10.1163/22131418-00402005>

Malik, M. (2016). BALANCING ACT: The China-India-U.S. Triangle. World Affairs, Volume 179, Number 1, pp 46–57. <https://www.jstor.org/stable/26369496>

Mian, Z. and Ramana, M. (2006) Wrong ends, means and needs: Behind the US nuclear deal with India. Available at <https://sgs.princeton.edu/sites/default/files/2020-01/mian-ramana-2006.pdf> accessed May 5 2022

Muhamad, A. (2006) Indo-US Civilian nuclear cooperation agreement: Implications on south Asian security environment. Available at: https://www.stimson.org/wp-content/files/file-attachments/AdilSultan_1.pdf Accessed 1 June 2022

Mustafa, Q. (2008). The Indo-US nuclear deal: an overview of IAEA safeguards and nuclear trade with NSG. *Strategic Studies*, Volume 28, Number 2, pp. 39–55.
<http://www.jstor.org/stable/45242437>

Nikkie, S. (2022) ‘China’s 4th homegrown reactor goes online in Pakistan’, Available at: <https://asia.nikkei.com/Business/Energy/China-s-4th-homegrown-reactor-goes-online-in-Pakistan>, accessed 30 April 2022.

Nikitin, M. (2022) North Korea’s nuclear weapons and missiles program Available at: <https://sgp.fas.org/crs/nuke/IF10472.pdf> Accessed 17 April 2022.

Nuno, M. and Alexandre D. (2014) ‘The Strategic Logic of Nuclear Proliferation, *International Security*, Volume 39, Number 2, pp. 7-51. doi: https://doi.org/10.1162/ISEC_a_00177

Ogilvie-White, T. (1996) Is there a theory of nuclear proliferation? An analysis of the contemporary debate, *The Nonproliferation Review*, Volume 4, Number 1, pp. 43-60 DOI: [10.1080/10736709608436652](https://doi.org/10.1080/10736709608436652)

O’Rourke, R. (2022) Renewed Great Power Competition: Implications for defense-Issues for Congress. Available at: <https://sgp.fas.org/crs/natsec/R43838.pdf> Accessed 3 April 2022.

Panda, A. (2020). ‘On 'Great Power Competition Nuclear Risk Reduction Policy Brief No. 1. Available at: <https://unidir.org/publication/great-power-competition> Accessed April 3 2022.

Panda, A. (2013) ‘Taipei Slams ‘Provocative’ Chinese Air Force Fighters Cross Taiwan Strait Median Line.The flight comes amid growing reports of a possible U.S. sale of fighters to Taiwan’ Available at: <https://thediplomat.com/2019/04/taipei-slams-provocative-chinese-air-force-fighters-cross-taiwan-strait-median-line/>, Accessed on 12 March 2022

Park, J. (2022) Building a flywheel: the Biden Administration's opportunity to forge a new path with North Korea. Available at <https://www.cnas.org/publications/reports/building-a-flywheel>. Accessed April 17 2022

Percival, B. (2013) China, India and the United states: Tempered rivalries in Asia. Available at: <https://css.ethz.ch/en/services/digital-library/publications/publication.html/175751>. Accessed May 15 2022.

Prasad, P. (2014) 'China and Pakistan relations in the post-cold war period: trusted friends, willing partners', The Indian Journal of Political Science, Volume 75, Number 3, pp. 543–56 Available at <https://www.jstor.org/stable/26575528> Accessed 1 April 2022

Prashant, H. (2010) 'The Indo-US Civilian Nuclear Agreement: What's the Big Deal?', International Journal, Volume 65, Number 2, pp. 435–448. Available at: <http://www.jstor.org/stable/25681120> Accessed May 2 2022

Pyon, C. (2011). Strategic Patience or Back to Engagement? Obama's Dilemma on North Korea. North Korean Review, Volume 7, Number 2, pp. 73-81 <http://www.jstor.org/stable/43908853>

Rafaelof, E. (2021) The China-North Korea Strategic Rift: Background and Implications for the United States. Available at: <https://www.uscc.gov/research/china-north-korea-strategic-rift-background-and-implications-united-states>, Accessed 12 May 2022

Ramana, S. (2011) 'China-Pakistan Nuclear Alliance: An Analysis', Available at https://www.jstor.org/stable/resrep09264#metadata_info_tab_contents, accessed 29 April 2022.

Ravi, C. (2018) A debate to remember: The Indian- US nuclear deal. Oxford: Oxford University press

Rudolf, P. (2020) US geopolitics and nuclear deterrence in the era of great power competition. Political Science Quarterly, Volume 136, Number 1, pp 129-152 <https://doi.org/10.1002/polq.13132>

Rahual, E. (2017) 'Trump said China was caught 'red-handed' selling oil to North Korea, Beijing denies it did anything wrong'. Available at https://www.washingtonpost.com/world/asia_pacific/trump-said-china-was-caught-red-handed-selling-oil-to-north-korea-beijing-denies-it-did-anything-wrong/2017/12/29/89bc3a22-ec73-11e7-891f-e7a3c60a93de_story.html, accessed 11 April 2022

Rouhani, H. (2018) ' World leaders react to US withdrawal from JAPOA', Available at <https://www.aljazeera.com/news/2018/5/9/world-leaders-react-to-us-withdrawal-from-iranian-nuclear-deal>, accessed May 30 2022

Ruwitch, J. (2018) 'Timeline: The rise of Chinese leader Xi Jinping', (2018), Available at <https://uk.reuters.com/article/uk-china-parliament-xi-timeline/timeline-the-rise-of-chinese-leader-xi-jinping-idUKKCN1GS0YF>, Accessed 10 March 2022.

Santoro, D. (2022) US-China relations: the impact of strategic triangles. Colorado: Lynne Rienner Publishers

Sanger, D. (2003) 'US penalizes 6 Asian firms for helping Iran Arm itself', Available at: <https://www.nytimes.com/2003/07/04/world/us-penalizes-6-asian-firms-for-helping-iran-arm-itself.html>, accessed 12 April 2022.

Tong, Z. (2011) China's Role in Reshaping the Global Nuclear Non-Proliferation Regime, *St. Anthony International review*, Volume 6, number 2, pp 67-82. [China's Role in Reshaping the Global Nuclear Non-Proliferation Regime on JSTOR](#)

Sabga, P. (2020) 'Nuclear Gulf: Is Saudi Arabia pushing itself into a nuclear trap?', Available at <https://www.aljazeera.com/economy/2020/7/21/nuclear-gulf-is-saudi-arabia-pushing-itself-into-a-nuclear-trap#:~:text=Like%20the%20UAE%2C%20Saudi%20Arabia,sworn%20off%20developing%20nuclear%20weapons>, accessed May 29.

- Serafettin, Y. (2015). The Iranian nuclear dilemma: A Comparative analysis of Chinese and US strategy. International Journal of China Studies. Volume 6. Pp. 45-62. Available at: <https://icsum.org.my/wp-content/uploads/2020/02/yilmaz.pdf> Accessed 16 June 2022.
- Scobell, A. (2018) 'The South China Sea and U.S China rivalry', Political Science Quarterly, Volume 133, Number 2, pp. 199-224. <https://doi.org/10.1002/polq.12772>
- Scobell, A. (2017) China and North Korea Bolstering a Buffer or hunkering down in Northeast Asia? Available at: <https://www.rand.org/pubs/testimonies/CT477.html> Accessed 29 March 2022
- Schlaikjer, S., Kerevel, A., Chen, D., Frochester, T., Lecky, J., and Davis, M. (2013) China-Iran: A limited partnership. Available at: <https://www.uscc.gov/sites/default/files/Research/China-Iran-A%20Limited%20Partnership.pdf> Accessed June 23 2022
- Schneider, J. (2020) Beyond Assurance and Coercion: US Alliances and the Psychology of Nuclear Reversal, Security Studies, Volume 29, Number 5, pp. 927-963. DOI: 10.1080/09636412.2020.1859125
- Schneider, R. (1994). Nuclear Proliferation and Counter-Proliferation: Policy Issues and Debates. Mershon International Studies Review, Volume 38, Number 2, pp 209–234. <https://doi.org/10.2307/222715>
- Siddiqi, R (2016) The Politics of the Indian-US nuclear deal. Available at http://issi.org.pk/wp-content/uploads/2016/07/SS_No_4_2015_Dr-Rashid-Ahmed.pdf Accessed 2 June 2022
- Smith, J. (2021) 'S. Korea says its developing more powerful missiles to deter North Korea', available at <https://www.reuters.com/world/skorea-says-it-is-developing-more-powerful-missiles-deter-nkorea-2021-09-02/>, accessed 16 April 2022.
- Snyder, J. (2009) 'One World Rival theories', Foreign Policy, Volume 145, pp. 53–62. <https://doi.org/10.2307/4152944>
- Sonne, J.(2018) 'Trumps says US shouldn't be spending money on wargame with South Korea', Available at: https://www.washingtonpost.com/world/national-security/pentagon-no-decisions-made-about-suspending-future-exercises-with-south-korea/2018/08/29/08cf70da-abab-11e8-8f4b-ae063e14538_story.html, Accessed April 15 2022.

- Stokes, J. (2021) Tangled threats: integrating US strategies towards North Korea and China. Available at: <https://www.cnas.org/publications/reports/tangled-threats> Accessed 1 May 2022
- Tellis, A. (2010) The China Pakistan deal: separating facts from fiction. Available at https://carnegieendowment.org/files/china_pak_nuke1.pdf Accessed 13 June 2022.
- Wai, T. (2019) China's Asia: Triangular dynamics since the cold war *China Review*, Volume 19, Number 4, November 2019, pp. 197-199 [Project MUSE - <i>China's Asia: Triangular Dynamics Since the Cold War</i> by Lowell Dittmer \(review\) \(jhu.edu\)](#)
- Wang, Z. (2013) 'Chinese Dream of National Rejuvenation: Concept and Context', *Journal of Chinese Political Science/Association of Chinese Political Studies*, Volume 9, pp. 1-13 DOI 10.1007/s11366-013-9272-0
- Weiss, L. (2007) US-India Nuclear cooperation, *The Nonproliferation Review*, Volume 14, Number 3, pp. 429-457, DOI: [10.1080/10736700701611738](https://doi.org/10.1080/10736700701611738)
- Weltman, J. (1981). Managing Nuclear Multipolarity. *International Security*, Volume 6, Number 3, pp. 182–194. <https://doi.org/10.2307/2538613>
- Wright, T. (2021) 'US and South Korea Scrap ballistic missile range limits', available at <https://www.iiss.org/blogs/analysis/2021/06/us-south-korea-ballistic-missile-range-limit>, accessed on April 15 2022.
- Yahuda, M. (2013) 'China's new assertiveness in the South China Sea', *Journal of Contemporary China*, Volume 22, Number 81, pp.446-459. <https://doi.org/10.1080/10670564.2012.748964>
- Yilmaz, S. and Xiangyu, W. (2019). Power transition theory revisited: When rising China meets dissatisfied United States. *China Quarterly of International Strategic Studies*, Volume 5, number 3, pp. 317-341 <https://doi.org/10.1142/S2377740019500192>