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국제학석사학위논문

Assessing the U.S. Missile Defense Strategy in East Asia:

*A Review of Mutually Assured Destruction and
the Power Transition Theory*

미국의 동아시아 지역 미사일방어 전략에 대한 분석 연구:
상호확증파괴 이론 및 세력전이 이론을 중심으로

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서울대학교 국제대학원
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Assessing the U.S. Missile Defense Strategy in East Asia:

*A Review of Mutually Assured Destruction and
the Power Transition Theory*

A thesis presented

By

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Abstract

Assessing the U.S. Missile Defense Strategy in East Asia :

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On July 8, 2016, the United States made an agreement with the South Korean government to deploy a Terminal High Altitude Area Defense (THAAD) battery to Korea. This was in line with the U.S. Missile Defense (MD) policy in the Asia-Pacific, which adopted a phase-adaptive approach to gradually deploy more advanced MD capabilities in the region. In January 2019, the United States announced that it will revive key development programs such as Airborne Laser and Space-based sensors/interceptors, further diversifying the MD capabilities of the United States.

Continuous technological advances and forward deployment of U.S. Missile Defense have been met with severe backlash from its strategic rivals, most notably China. Despite U.S. argument that MD will ensure regional stability, U.S. pursuit of MD innovation and forward advances have only led to further modernization of Chinese nuclear arsenals.

Why is the United States pursuing MD strategy in East Asia when according to Mutually Assured Destruction (MAD), this will only destabilize the established order of nuclear

deterrence? What are the implications of pursuing an expansive MD strategy in East Asia?

To answer these questions and provide an explanation of the U.S. Missile Defense strategy in East Asia, this paper employed the theoretical framework based on the power transition theory proposed by Kyungkook Kang and Jacek Kugler. These scholars argue that the optimal choice for the dominant power is to maintain a preponderant advantage over the challenger. Under this framework, a situation where the challenger has enough capacity to match the defender is dangerous and unstable, therefore the defender tries to maintain the advantageous distribution of nuclear power.

With the application of this framework, this paper shows that contemporary U.S. missile defense strategy in East Asia provides strong empirical evidence in support of this argument. An assessment of the U.S. Missile Defense strategy in East Asia clearly shows that the United States views China as a challenger, as it plans to maintain an obvious nuclear advantage by establishing and further diversifying defensive capabilities, while also modernizing the U.S. nuclear inventory for possible “attack options”.

The implications of these findings suggest that a U.S. missile defense strategy that follows the logic based on power transition theory will ultimately lead to a “nuclear security dilemma”, where the U.S. and its contender – China – will compete in a nuclear arms race.

Keywords: Missile defense, Nuclear deterrence, Mutually Assured Destruction (MAD), Power transition, Security Dilemma

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I. Introduction

On 13 December 2001, President George W. Bush announced that the United States would be withdrawing from the Anti-Ballistic Missile (ABM) Treaty. The ABM Treaty, signed between the United States and the Soviet Union in 1972, limited the both countries to deploy two ground-based defense sites, with 100 missile interceptors each.¹ With the abandoning of its 30-year-old legacy bequeathed by the Reagan Administration, the United States became free to pursue the development of unlimited Ballistic Missile Defense (BMD) systems. Indeed, after leaving the ABM Treaty, the United States has been investing billions of dollars² to continuously develop and upgrade Missile Defense (MD) systems, which also led to the creation of the Missile Defense Agency (MDA) in 2002.

Heavy investments in MD capabilities have produced state-of-the-art technology in sensors, interceptors, and communications. These innovative weapons systems have been deployed in various sites around in U.S. territories around the world to ensure American homeland protection. Moreover, the United States has continuously pursued the forward deployment of its MD systems to its overseas military bases, as well as its allies. Today, U.S.-led MD systems are deployed around the world, most notably in Eastern Europe, the Middle East, and East Asia.

Particularly in East Asia, the United States has been actively furthering its MD capabilities on its allies and its overseas territories. In South Korea, the United States Forces in Korea (USFK) operates PAC-2 and PAC-3 interceptors, as well as the recently deployed

¹ While the Soviet Union deployed its defense site near Moscow, the United States deployed its defense site near Grand Forks, North Dakota. At this site, the United States operated 100 missile interceptors to protect against a potential ICBM attack. However, the U.S. shut down its ABM site only months after its activation, in October 1975. The financial costs of operating it were considered too high for the little protection it offered. (<https://www.armscontrol.org/factsheets/abmtreaty>)

² For detailed history of U.S. missile defense budget, see Appendix A.

THAAD (Terminal High Altitude Area Defense) system, which includes a powerful AN/TPY-2 X-band radar³. The U.S. government is also working with the ROK government to help the Korean forces operate their own PAC-3 battalions, as well as integrating the indigenous Korean Air and Missile Defense (KAMD) system to become interoperable with the U.S. BMD architecture⁴. The U.S. is also operating another THAAD battalion in Guam. In Japan, the U.S. is operating two forward-based AN/TPY-2 X-band radars⁵ at its radar sites. Japan and the United States also work in close cooperation in the operation of sea-based BMD, which uses a mixture of Standard Missile-3 and -6 (SM-3, SM-6) interceptors, along with advanced shipborne air defense radars on Aegis Destroyers.⁶ Most recently, the two countries are collaborating to construct a land-version of Aegis BMD, with the U.S. State department's approval to sell Aegis Ashore to Japan in January 2019⁷.

Continuous technological advances in U.S. MD capability and the series of plans to deploy them to forward bases and U.S. allies have been met with severe backlash from its strategic rivals, most notably Russia and China. Washington has been consistent in its messaging that MD systems are aimed at defense against regional threats such as North Korea and Iran, and that "it will rely on nuclear deterrence to address the large and more sophisticated Russian and Chinese ballistic missile capabilities⁸." However, Beijing and Moscow are not convinced. In fact, U.S. pursuit of MD innovation and forward advances

³ "USFK upgrades Patriot missile defense system to counter N. Korea." (2017, Aug 17). *The Dong-a Ilbo web*.

⁴ "Interoperable missile defense architecture: official." (2015, May 21). Yonhap News Agency.

⁵ Second Missile Defense Radar Deployed to Japan. (2014, December 26). *U.S. Department of Defense News Release*.

⁶ "Japan launches next-generation destroyer carrying latest version of the Aegis anti-missile system." (2018, July 30). *Japan Times*

⁷ "US State Department approves \$2.15 billion Aegis Ashore sale to Japan." (2019, Jan 30). *The Diplomat*. <https://thediplomat.com/2019/01/us-state-department-approves-2-15-billion-aegis-ashore-sale-to-japan/>

⁸ *Ballistic Missile Defense Review Report*. (2010). Washington, D.C.: Office of the Secretary of Defense. pp.5

have only led to further modernization of Russian and Chinese arsenals, igniting an arms race between the United States and its rivals.

As such, U.S. pursuit of MD is only destabilizing the nuclear balance, which is the foundation of Mutually Assured Deterrence (MAD) between the U.S., Russia, and China. From the MAD proponents' perspective, U.S. pursuit of MD is terrifying and mindboggling.⁹ In East Asia, China has been explicitly vocal about its opposition against Missile Defense and its strategic implications. U.S. Ballistic Missile Defense Review (BMDR) report, released in January 2010, highlights Chinese concern about U.S-led MD. Yet, a decade later, the United States has only expanded its MD capabilities in the East Asian region, and has expressed plans to double down its expansion.

Therefore, the question is, why is the United States pursuing a development and proliferation of Missile Defense systems, when according to MAD theorists, this will only destabilize the established order of nuclear deterrence provided by MAD? Why is the U.S. pursuing an expansive MD strategy in East Asia, and what are its strategic implications?

To answer the above research questions, this thesis will first examine a series of literature review on previous scholars' research and analysis of U.S. Missile Defense. Then, it will introduce a particular interpretation of the Power Transition theory by scholars Kyungkook Kang and Jacek Kugler. The research design of this thesis will draw heavily on the theoretical framework proposed by these two scholars. This paper will distinguish itself from the work of Kang and Kugler by applying their theoretical framework to real world events that have occurred during the most recent U.S. administrations, by presidents Obama and Trump. This paper will provide analyses of U.S. MD strategy implemented in East Asia, as well as the corresponding actions taken by the Chinese government, based on a power

⁹ David Joël La Boon. (2019) "*From Mutually Assured Destruction to Mutually Assured Stability*", master's degree thesis, Seoul National University Graduate School of International Studies, pp.2

transition theory framework. The events that have occurred during the two most recent U.S. presidential administrations, Obama and Trump, will be provided as “Case Studies.” In accordance with the Kang-Kugler power transition framework, this paper will also analyze the corresponding actions taken by the Chinese government and its military during the same timeframe. By examining these two cases, this research will supplement the argument that U.S. MD strategy in East Asia can be explained and understood from a power transition perspective. In the conclusion section of this thesis, based on the findings of the analyses, an assessment of the U.S. MD policy will be proposed, and as well as its implication on regional actors.

II. Literature Review

Realism

As one of the prominent schools of thought in international relations, Realism relies on three assumptions – 1) states are the basic unit of actors, 2) the state actors always seek power as an end or a means to ends, and 3) their actions are rational or observable as such.¹⁰ The state, as the most basic actor in international politics, perceives threats to its existence, and correspondingly formulates strategies to minimize those threats by utilizing all of its resources at disposal, either independently or as a coalition with other states. The international system does not hold a supreme authority, and states are left to defend themselves in order to survive, in a perpetual state of anarchy. Within the international system of anarchy, states strive to attain power through all available means. As Morgenthau illustrates, states “think and

¹⁰ Keohane, Robert O. (1986) *Neorealism and the Study of World Politics*. Cambridge, UK: Columbia University Press. pp.7-8.

act in terms of interest defined as power.¹¹ In accordance with the state's interest, each state will act rationally to maximize benefits while minimizing threats. The rational calculation between costs and benefits influence states to create affiliations, which will ultimately result in the forging of powerful blocks of states. This way of thinking paints a very Hobbesian picture to international relations, in which states must navigate successfully in order to survive. Survival through acquisition of power is the prime objective, and all states are left to help themselves in a world without rules or laws to lend protection.

In the international order of anarchy, which proposes that the arrangement of two opposing blocks as the sole endgame situation, any actions taken by states will only result in small relative gains in a perpetual zero-sum game. In a configuration of two opposing power blocks, the increase in power and security of one side will automatically lead to decreasing security of the other side. The zero-sum game structure of the international order incentivizes states to defend against other states and counter their threats by internal balancing - the act of enhancing its security by mobilizing its internal, organic resources - or by external balancing - enhancing its security through creating affiliations with other powerful states. Through balancing actions, the power distribution would eventually move towards equilibrium. However, Morgenthau notes that equilibrium is not an inevitable outcome. States who obtain an advantage against the others will seek to maintain the status quo. On the other hand, Waltz proposes an alternative interpretation of realism, arguing that an equal balance of power must emerge necessarily. Waltz's Balance of Power theory assumes that balancing interactions between states occur recurrently, which constantly affects the power balance and state affiliations. These minor shifts in power distribution are the result of, or the source of

¹¹ Morgenthau, Hans J. (1948) *Politics among Nations: The Struggle for Power and Peace* (New York: Alfred A. Knopf), pp. 7.

interstate conflict.¹²

Waltz posits that states form a “Balance of Power” through two alternative means. The first is “internal balancing,” in which states attempt to augment their economic, military, and strategic policy capabilities within their domestic boundaries. The other is through “external balancing”, in which states implement actions which involve external actors in order to augment their security. External balancing is achieved traditionally by building alliances. As balances are formed, they are also subject to continuous adjustments arranged by state interactions. States that form the block with an advantageous distribution of power will seek to maintain the status quo, while those excluded from the advantageous block will seek to “revise” and upset the status quo.

Deterrence Theory

Deterrence theory builds upon the theoretical foundations laid by the Realist school of thought, by assuming that balance of power is the underlying condition of the international order. Deterrence theory goes on to theorize that “probability of war decreases as the absolute costs of war between contending parties increase.”¹³ In other words, once an equal distribution of power between two contending blocks of power are created, the cost of war would far outweigh the possible gains from war, to a point where states believe that war is unreasonable and therefore unthinkable¹⁴. John Mearsheimer, a prominent theorist and advocate of the deterrence theory, illustrated his point simply by explaining, “the more

¹² Keohane, R. (1986) *Neorealism and the Study of World Politics*. pp. 13.

¹³ Claude, IL Jr. (1962) *Power and International Relations*. New York, NY: Random House.

¹⁴ Waltz, K. (1993) The emerging world structure of international politics. *International Security* 18(2): pp. 44–79.

horrible the prospect of war, the less likely it is to occur.¹⁵”

In terms of nuclear deterrence, Bernard Brodie, an American military strategist known as “the American Clausewitz”, was one of the first theorists to propose that fear of a massive nuclear retaliation would lead to stability¹⁶. Brodie came to this conclusion by incorporating the vastly destructive capability of nuclear weapons with the classical deterrence theory, supported by the Balance of Power and the Realist school of thought. Brodie provided his assessment of nuclear weapons and their role in national defense in his book, *Strategy in the Missile Age* (1959)¹⁷. Here, he provided an outline of the theoretical framework of nuclear deterrence, which illustrates that the destructive nature of nuclear weapons greatly enhances the cost of war, due to a potential massive nuclear strike by the opponent. Therefore, nuclear weapons are the ultimate pacifier which provides deterrence capability. Brodie's nuclear deterrence theory has impacted the evolution of theoretical structures which provided the logical base for any changes and updates to nuclear policy in international politics.¹⁸

Classical deterrence theory, augmented by its theoretical extension, the nuclear deterrence theory, presumes that the development of nuclear weapons have perpetually transformed the nature of war. Ever since the development of nuclear weapons and their use in warfare, the potential of an apocalyptic, massively destructive nuclear warfare has created a balance of terror which is inherently stable. The potential threat of a nuclear retaliation

¹⁵ Mearsheimer J (1990) Back to the future: Instability in Europe after the Cold War. *International Security* 15(1): pp. 5–56.

¹⁶ Brodie B (1946) *The Absolute Weapon: Atomic Power and World Order*. New York, NY: Harcourt, Brace.

¹⁷ Brodie B (1959) *Strategy in the Missile Age*. Princeton, NJ: Princeton University Press.

¹⁸ Kang, Kyungkook and Jacek Kugler. (2015). "Assessment of Deterrence and Missile Defense in East Asia: A Power Transition Perspective." *International Area Studies Review*, vol. 18, no. 3 (July 2015): pp. 280–296. SAGE, DOI:10.1177/2233865915595762.

renders the cost of war too immense, which influences the actors to rationally conclude that the costs far exceed the benefits, making war unwinnable and unthinkable. Deterrence theory leads to the logical conclusion that in order to ensure stability in a world of anarchy, both adversaries on each side of the power game must eventually possess nuclear weapons, which enables them access to the means to destroy one another. Once both sides secures enough nuclear weapons with the capacity to obliterate each other, Mutually Assured Destruction (MAD) is achieved, which greatly lowers the possibility of war and conversely, ensures stability.

Mutually Assured Destruction

The atomic bombings in Hiroshima and Nagasaki marked a significant transitioning point in the history of warfare. It was during these bombings in the midst of World War II, where nuclear weapons were used for the first time in warfare. Since then, nuclear weapons have completely transformed the pre-existing concept of warfare based on their unprecedented, largely destructive capabilities. In the following decades after World War II, nuclear weapons technology was quickly proliferated to the Soviet Union, the United Kingdom, France, and China. Concurrently, the concept of Mutually Assured Destruction (MAD) was coined as a term to describe the balance of terror and of mutual deterrence enabled by the possession of nuclear weapons.

The term Mutually Assured Destruction (MAD) was first proposed by Donald Brennan, in the report submitted by the Hudson Institute, where the scholar worked as a national defense strategy analyst¹⁹. The term was used to describe a condition where a

¹⁹ Daniel., Deudney .1983. *Whole earth security: geopolitics of peace*. Washington: World watch Institute. pp. 80

credible threat of a second, massive retaliatory nuclear strike would lower the opponent's interest in launching a first strike using nuclear weapons. Since the advent of this concept, MAD, which has its roots in the theory of Balance of Terror, has been utilized as the foundation of stable deterrence. The conditions stipulated by MAD theorists call for a simple policy prescription. The nation must build sophisticated nuclear weaponry, as well as a large stockpile of nuclear warhead, in order to secure a credible second strike capability. Possession of such capability would ensure that any initial nuclear strike would be met with a secondary strike with devastating consequences, which would lead to an end state of mutual destruction²⁰. In accordance with this theory, the two superpowers – the United States and the Soviet Union – would acquire second-strike capabilities by accumulating large and complex nuclear arsenals, thereby increasing the threat of mutual destruction, decreasing the threat of nuclear warfare, and paradoxically, securing stability during the Cold War²¹.

It is important to note that the layout of relative gains and losses by both players, as explained under the MAD theory, is similar to that of a chicken game²². Both actors have higher gains and are therefore more incentivized to confront conflict, when discounting the expected decision of the other player. However, when you consider that the opponent would also choose to confront rather than to yield, this scenario would lead to the worst outcome (mutual destruction), and therefore for a rational actor, it is more beneficial to yield rather than to confront, as it would produce the least worst outcome. Therefore, rational actors playing the chicken game would both choose the lower risk option of yielding – in application

²⁰ Kang, Kyungkook and Jacek Kugler. (2015). "Assessment of Deterrence and Missile Defense in East Asia: A Power Transition Perspective." *International Area Studies Review*, vol. 18, no. 3 (July 2015): pp. 280–296. SAGE, DOI:10.1177/2233865915595762.

²¹ Intriligator M and Brito D (1984) Can arms races lead to the outbreak of war? *Journal of Conflict Resolution* 28(1): 63–84.

²² Schelling, T (1960) *The Strategy of Conflict*. Cambridge, MA: Harvard University Press.

to the MAD theory, a decision to refrain from first strike – in order to avoid the least favorable and most destructive outcome. In summary, this layout of cost-and-benefit would eliminate the possibility of a nuclear war between two superpowers. This is the theoretical origin of “the stability of deterrence equilibrium.” Other MAD theorists further developed the idea to conclude that rational actors are expected to behave more risk-averse. In accordance with this logic, it is wiser to avoid a risky military challenge when a state holds an even balance of power with its adversary, which yields a 50% chance of victory, at most. With the advent of nuclear weapons, the risks and threats associated with war had been dramatically increased, forcing actors to become even more risk averse.

One of the most controversial implications of MAD theory was posed by Kenneth Waltz, who advocated the gradual spread of nuclear weapons, highlighting their efficient power in securing stability. Waltz argued that nuclear proliferation would promote stability rather than conflict, under the condition that a state of MAD was secured. According to him, “nuclear weapons make conquest so unprofitable that possessing them provides absolute security.²³” He explained that the stabilizing power of nuclear weapons would prove effective, particularly in conflict-affected and high-risk regions of the world. In his article “Why Iran Should Get the Bomb” in *Foreign Affairs* (2012), Waltz opposed the nuclear non-proliferation logic, which was the general consensus of the foreign policy community at the time. Instead, he made his case in support of the claim that the United States must allow Iran to develop its own nuclear weapons, emphasizing that “the Middle East is unstable because it *lacks* a nuclear balance²⁴.” According to him, the status quo where Israel holds a monopoly on nuclear weapons in the destabilizing factor in the Middle East, and this should be countered

²³ Waltz, Kenneth. (1981) *The Spread of Nuclear Weapons: More May Be Better*. London: Adelphi Papers, London: International Institute for Strategic Studies.

²⁴ Waltz K (2012) Why Iran should get the bomb. *Foreign Affairs* 91(4): pp. 2–4.

by a nuclear-armed Iran to bring about balance and stability. Waltz went on further to claim that even after acquiring nuclear weapons, Iran would not risk further proliferation of nuclear technology and weapons to terrorist organizations for fear of becoming the target of such terrorists.

Before Waltz, Mearsheimer had also underlined the pacifying effect of nuclear weapons, by explaining in his article in *Foreign Affairs* his case for advocating a nuclear-armed Germany, and for Ukraine retaining its nuclear force after the dissolution of the Soviet Union.²⁵

Despite the theoretical consistency and compelling argument made by Mearsheimer and Waltz, empirical evidence in U.S. nuclear policy actions disprove the perceived effect of MAD as “the ultimate stabilizer.” Following the withdrawal from the ABM treaty in 2002, the U.S. has consistently pursued a policy of deploying MD systems in East Asia and Central Europe.

The pacifying effect of MAD has also been profoundly refuted by theorists who tackle the assumption that all actors make rational decisions, a critical logical foundation of Realism. Deterrence is vulnerable to failure in conditions where an “irrational” command authority can direct a strike employing nuclear weapons, or when unintended, inadvertent use of nuclear weapons is permitted. Powell posited that an unanticipated accident could inadvertently cause nuclear war as an unintended outcome. Zagare explained that “irrational leadership or failure of procedural safeguards within a rational command authority” could incite accidental or irrational initiation of nuclear aggression²⁶. Zagare’s doubt on the stability

²⁵ Mearsheimer J (1993) The case for a Ukrainian nuclear deterrent. *Foreign Affairs* 72(Summer): pp. 50–66.

²⁶ Zagare F (2004) Reconciling rationality with deterrence: A re-examination of the logical foundations of deterrence theory. *Journal of Theoretical Politics*. 16(2): pp. 107–141.

of MAD is best expressed in his observation: “nuclear war has been avoided not because of nuclear weapons, but in spite of them.²⁷”

MAD and Missile Defense

Missile Defense as a pillar of national strategy has its origins in the Nuclear Utilization Target Selection (NUTS) theory. NUTS emerged as an alternative to MAD in the late 1970s. President Jimmy Carter first codified the Nuclear Weapon Targeting Policy in his Presidential Directive-59²⁸ (PD-59) on July 25, 1980. In this document, Carter posited that MAD cannot be considered as an effective deterrent under all situations, contending that in case of a limited nuclear attack, the automatic unfolding of massive destructive retaliation from both sides would eliminate any chance for bargaining and de-escalation.

The crux of NUTS theory is this: by launching a surgical strike, a state can destroy the opponent’s nuclear arsenal without threat to its own capacities, by securing protection from the enemy’s retaliation provided by a reliable missile shield²⁹. Three key developments would provide the necessary conditions and background for NUTS to become effective. First is the high precision performance of U.S. missile guidance and targeting systems; the second is the destructive and devastating power of nuclear warhead technology; the third is the guarantee of future advance and deployment of missile defense and intercepting capabilities, which would neutralize any subsequent threats. Under these three key enablers, the U.S. could

²⁷ Zagare F and Kilgour DM (2000) *Perfect Deterrence*. Cambridge, UK: Cambridge University Press. pp. 25.

²⁸ “The Carter Transformation of Our Strategic Doctrine.” *Secret Memorandum from President Jimmy Carter to National Security advisor Zbigniew Brzezinski*. National Archives. <https://fas.org/irp/offdocs/pd/pd59.pdf>

²⁹ Žižek, Slavoj. (December 28, 2017). “The U.S. is pursuing two contradictory strategies with North Korea and it could lead to nuclear war.” *The Independent*. <https://www.independent.co.uk/voices/trump-americanorth-korea-kim-jong-un-nuclear-war-contradictory-strategies-zizek-a8131176.html>

gradually shift its focus from traditional MAD-based nuclear deterrence strategy to NUTS-based missile defense, which eliminates the potential of a limited nuclear strike by applying surgical strike capabilities, matched with missile ‘shields’ designed to negate the opponent’s attack capacity.

As the Soviet Union collapsed and nuclear tension between two superpowers gradually decreased after 1990, NUTS dogma gained increasing acceptance in U.S. national security policy. In the post-Cold War years that followed the Soviet collapse, U.S. nuclear strategists started to direct more attention to the threat of ‘rogue states’³⁰ acquiring nuclear weapons technology and hardware. These scholars argued that ‘rogue states’ and their potential nuclear capacities do not meet the threshold for MAD, and therefore, in these cases, MAD could no longer be applied.

However, NUTS grounds its theory on assumptions that are inconsistent with its own predictions. According to NUTS logic, the possibility of a limited nuclear strike provides certain conditions where one side is advantageous in a nuclear stand-off situation. This prediction conveniently dismisses the Russian “escalate to de-escalate” policy and the logical fallacies associated with it. The phrase “escalate to de-escalate” has been used by U.S. nuclear strategists to describe a strategy supposedly followed by Russia, which involves a plan to use limited nuclear strikes in a regional conflict, believing that the escalation to a nuclear conflict would shock the adversary to de-escalate tensions and negotiate for peace³¹. While NUTS explains that surgical strike paired with missile defense eliminates a limited nuclear strike

³⁰ The term “rogue state” has been criticized by some scholars as a loose terminology. See Robert S. Litwak. (2000) “A Look at... Rogue States: A Handy Label, But a Lousy Policy” *Washington Post*. (February 20, 2000).

³¹ U.S. Department of Defense. (2018). “Nuclear Posture Review Report.” Washington, DC. pp. 8. <https://media.defense.gov/2018/Feb/02/2001872886/-1/-1/1/2018-NUCLEAR-POSTURE-REVIEW-FINALREPORT.PDF>

from ever occurring, “escalate to de-escalate” strategy calls for limited nuclear strike as a means to end conflict by threatening a mutually suicidal nuclear war through brinksmanship. Under the conditions of the latter, a winnable scenario in a nuclear stand-off situation would never exist.

Since the inclusion of Missile Defense (MD) in the nuclear strategy formula, MAD and NUTS proponents have found themselves in opposing camps. Classical MAD advocates warn against the destabilizing of MD, underlining their capability to degrade the adversary’s retaliatory capabilities and their credibility. These theorists also argue that MD incentivizes first-strike options, and destroys the balance created by MAD, leading to arms racing and security dilemmas. To the contrary, NUTS supporters argue that MD is a key enabler of national security, providing the state with reliable protection from a limited nuclear attack. With the addition of MD, the U.S. would possess an overwhelming advantage against limited nuclear threats, and the scenario of a winnable nuclear war would exist. This goes in direct contradiction to MAD theorists’ assumptions that any conflict involving exchange of nuclear attacks would be implausible and suicidal, because of the tremendous casualties that would result as an outcome of such conflict.

MD also incentivizes both adversaries to escalate the level of nuclear strike from a limited attack to an all-out attack³². By employing the maximum number of nuclear warheads at their disposal, both sides aim to overwhelm the enemy’s defensive capacity and act preemptively to avoid the chances of their own missile being intercepted and neutralized. Such behavior would increase the chances that the nuclear attack launched by either side would successfully escape the defensive shield of the opponent, and inflict as much damage as possible.

³² Lieber, Keir A. and Press, Daryl G. “The New Era of Counterforce: Technological Change and the Future of Nuclear Deterrence.” *International Security*, Vol 41, No.4. (Spring 2017). MIT Press. pp. 9-49

In reality, which camp prevailed in the theoretical debate? As evidenced in Carter's PD-59, and later in Reagan's proposal of the Strategic Defense Initiative (SDI), policymakers eventually moved the theoretical foundation of nuclear policy from classical deterrence to NUTS. In time, strategists seem to have grown opposition to the idea that MAD ensures stability. The empirical evidence that the United States, since the end of the Cold War, has sought to achieve and maintain a clear nuclear advantage rather than nuclear parity suggests a striking case against the validity of deterrence theory.

Growing dissatisfaction with the logical disconnect between MAD and its predictions, along with rising empirical challenges, have led scholars to propose alternatives to the MAD theory. Among many of these theoretical attempts, this thesis turns to the work by Kyungkook Kang and Jacek Kugler, who base their predictions on the principles of power transition. According to these scholars, deterrence based on power parity is "tenuous", while an overwhelming imbalance of power skewed to the defender of the status quo is most "stable." This theoretical model also adds other factors such as risk and dissatisfaction in addition to power distribution among two adversaries. The following section of this thesis will provide a summary of the Kang-Kugler theoretical framework. The latter sections will entail an application of the framework to empirical cases, the first being actions undertaken by the United States and China during the Obama Administration, and the second under the Trump Administration.

III. Theoretical Framework

To highlight the research question, I restate the puzzle posed by classical deterrence theory. Classical deterrence theory suggests that, as the absolute costs of war between

contending parties increase, the probability of war decreases. If so, why does empirical evidence suggest otherwise? Why is the United States pursuing development and deployment of MD systems, which potentially destabilizes the established order of nuclear deterrence provided by MAD?

Kang-Kugler's Adaptation of Power Transition Theory

Power transition theory was first proposed by Organski(1958)³³, then was subsequently amended and supplemented by Organski and Kugler(1980)³⁴. Power transition's most distinctive theoretical diversion from realism is that while realism sees the international system as an anarchy, power transition sees it as a loosely knit system of hierarchy. States form a hierarchical order under the leadership of a hegemonic, or dominant state, and each state under the hierarchy may have varying evaluations of its position in the status quo. The United States and the Soviet Union are seen as dominant states who have created such hierarchical order.

Since the end of the Cold War, the United States and its allies have been in general consensus that their position in the status quo international order is favorable, and that they have more potential net gains from mutual cooperation than from conflict. On the other hand, states that are discontent with the status quo order of the international system exist. According to power transition theory, powerful states that have the intention and capacity to challenge the dominant hegemon also exist in the international system, and such states are identified as challengers. Such challengers have the intent to revise the status quo distribution of power

³³ Organski AFK (1958) *World Politics*. New York, NY: Alfred A. Knopf

³⁴ Organski AFK and Kugler J (1980) *War Ledger*. Chicago, IL: University of Chicago Press.

and international order, because they are discontent with the existing rules of international system and believe that abiding by those rules would not provide the benefits equal to their expectations or long-term aspirations. When these challengers, through various interest-seeking activities, manage to amass enough power to reach a state of relative power parity or surpass the dominant state, they perceive that the preconditions for power transition are set. Once these powerful and dissatisfied states catch up to the dominant states, they calibrate the right timing for waging a winnable war against the dominant state. Such an event would lead to an overtaking and transition of dominant power status through war. Therefore, the most unstable situation is where the challenger and dominant defender are at a state of relative power parity. Under such condition, the probability of war would increase substantially increase if the challenger is dissatisfied with the status quo international order, which is headed by the dominant defender.³⁵

Another key distinction from MAD is that from a power transition theory perspective, the introduction of nuclear weapons has had no effect in transforming the general mechanics of the conditions and expected outcomes for war versus peace. While classical deterrence predicts that nuclear warfare is an unacceptable and unreasonable outcome that would only seem plausible under accidental or inadvertent conditions, power transition sees it as a rational, actionable option considering the challenger's rent-seeking nature. This key distinction signifies that there is no need to amend or reformulate the theoretical framework in assessing stability under the power transition theory, due to the addition of nuclear weapons into the formula. Therefore, the explanatory power provided by the power transition framework remains unchanged in the nuclear era. Even with the addition of nuclear weapons, a condition where the relative capacities of the defender and challenger reach a stage of power

³⁵ *Ibid.*

parity is the most dangerous and unstable state. Under this condition, the defender and the challenger would seek an appropriate timing to wage a war, although such decision would be seemed extremely risky, as the relatively equal balance of power would yield an uncertain chance of victory for either side.

However, the evaluation of the status quo from the challenger's perspective also affects the challenger's decision to adopt a more risk-taking versus risk-averse behavior. While the decision to refrain from war would clearly be the less risky option, it also means that abiding by the existing rules of the status quo order, which provides no additional benefits that match the challenger's long-term aspiration. In contrast, a decision to launch a war would be deemed extremely risky, but if the challenger is successful in modifying the international order, this option may yield benefits that far exceed the returns that the challenger would receive from the status quo. In summary, the addition of a dimension of 'perception' of the status quo from the challenger's perspective changes the dynamics and scheme of costs-and-benefits of two players in a chicken game. Under conditions where the challenger has an excessively negative evaluation of the status quo order, and where the challenger's power roughly matches that of the defender, power transition predicts that nuclear deterrence would fail.

In accordance with the above logical foundations of the power transition theory, Kang and Kugler propose a framework which incorporates two factors:

1. *Relative **capability**, which determines the odds of winning and losing.*

2. *Relative assessment of the status quo, which determines the maximum willingness of the challenger to risk the possible consequences associated with war in its calculus.*³⁶

The implications of the power transition theory, incorporating these two factors into the analysis of nuclear deterrence are in stark contrast with the prospects suggested by classical deterrence theory.

Firstly, a state of power parity where the challenger's killing capacity roughly matches that of the dominant defender is a critical precondition for war. The killing capacity of the challenger in relation to the defender would increase gradually as nuclear proliferation progresses and the challenger accumulates enough stockpiles and technology to counter the defender. As the relative gap of power distribution between the power of the two actors closes, a window of opportunity opens for the challenger. Once this precondition is met, at a certain decisive point, the challenger determines the most opportune timing to launch an attack, which has the greatest potential to achieve victory. If successful, the challenger can alter the status quo order to receive maximum returns, diminishing the expected returns of its opponent. Therefore, contrary to MAD's predictions, the stage where two superpowers meet relative nuclear power parity is deemed most unstable and risky, as it forms one of the preconditions for deterrence failure.

Secondly, a dimension of perception from the perspective of the potential challenger is added to the risk evaluation formula. The challenger's dissatisfaction with the status quo affects its behavior and tendency to become more risk-taking, rather than risk-averse. If the

³⁶ Kang, Kyungkook and Jacek Kugler. (2015). "Assessment of Deterrence and Missile Defense in East Asia: A Power Transition Perspective." *International Area Studies Review*, vol. 18, no. 3 (July 2015): pp. 280–296. SAGE, DOI:10.1177/2233865915595762.

previous preconditions are met, the odds of winning and losing in an armed conflict situation becomes roughly equal. The decision to initiate war against the defender, however, would nevertheless be considered an immensely risky undertaking. Here, the challenger's evaluation and degree of dissatisfaction with the status quo would induce the challenger to appraise the risky option as an "opportunity" rather than "danger." Thus, even under a condition where both states have a substantial nuclear arsenal with credible second strike capability, the deterring power provided by MAD is tenuous, highly dependent upon the challenger's perception. This highlights another distinguishing characteristic of power transition from MAD. While deterrence theory assumes that all rational actors would adopt risk-averse postures and therefore applies the pacifying effect of MAD universally, power transition takes into account that capable and dissatisfied actors may assess the situation differently, and be more risk-adoptive. In short, the "subjective value of the status quo" is the second critical variable in estimating the reliability of nuclear deterrence.

To summarize, the Kang-Kugler adaptation of the Power Transition Theory in analyzing nuclear deterrence makes two key arguments that run counter to the classical deterrence theory.

- 1. Contrary to classical deterrence theory, an equal distribution of nuclear capability will lead to instability, while skewed distribution of capability to the defender will lead to stability.*
- 2. Dissatisfaction with the status quo leads the challenger to adopt risky postures. When MAD is achieved, the subjective value of the status quo perceived by the challenger becomes a critical variable in determining the success of nuclear deterrence.*

Contrary to the classic theory of nuclear deterrence, MAD is not a desired state by the defender of the status quo. Its optimal goal is to maintain a predominant distribution of nuclear power, because under MAD, nuclear deterrence is in a fickle state because the risk-adopting challenger may act to revise the status quo if it sees an opportune moment.

In this context, missile defense systems, when developed and deployed by the dominant defender (e.g. the United States), increases the relative nuclear capability of the defender, thereby enhancing deterrence against a potential attack by a challenger. Power transition theory proposes that the defender's possession of an overwhelming preponderance of nuclear capability is the ultimate stabilizing condition. Missile defense systems provide the defender with a significant advantage by undermining the destructive power of challenger's nuclear arsenal. By reducing the risks associated with the challenger's nuclear capacity, the defender has relative gains in the power distribution dynamic. Deployment of MD has the effect of strengthening the defender's preponderance of power without further developing offensive nuclear capabilities by amassing a larger nuclear stockpile or diversifying/modernizing effective delivery mechanisms of nuclear warhead. Given that the latter two options have been capped due to disarmament and non-proliferation commitments, MD is the most cost-effective option for a defending hegemon such as the United States in order to fortify its nuclear preponderance against potential challengers.

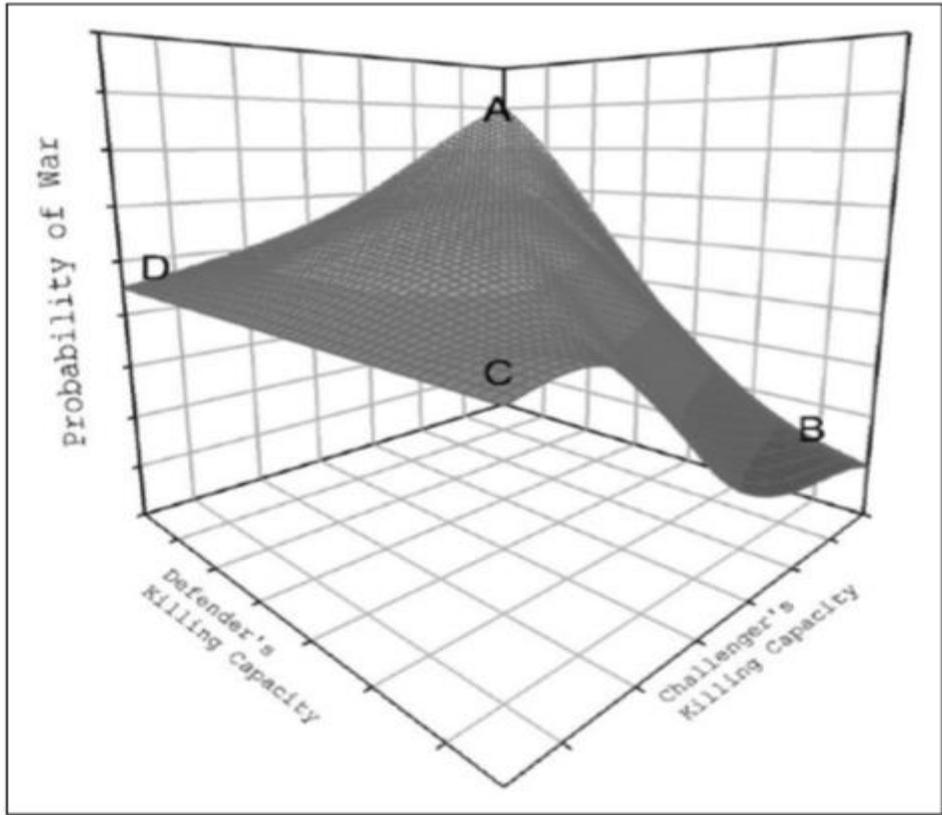
Figure 1 is a visual demonstration of nuclear deterrence based on the power transition theory, proposed by Kang and Kugler. The two horizontal axes represent the dynamic of nuclear power distribution, as they show the defender and challenger's killing capacity. The vertical axis represents the probability of war.

To summarize, the Kang-Kugler framework explains that achieving a state of **B: Stable nuclear deterrence** is the optimal goal for the dominant defender. Under this

framework, the development and expansion of U.S.-led missile defense systems is a realistic strategy to achieve this optimum, as it undermines the nuclear capabilities of its challengers, successfully repressing their desires to alter the status quo. Table 1 provides a visual matrix that represents the Kang-Kugler framework.

<Table 1: Kang-Kugler Framework Matrix>

Distribution of Nuclear Capability	Actor	Assessment of Status Quo	Attitude toward Risk	Stability	Expected Course of Action
Paired (MAD)	Defender	Satisfied	Risk-averse	Unstable	Enhance its own nuclear capability while undermining the Challenger's capability by building missile defense.
	Challenger	Dissatisfied	Risk-adopting		Seek the "right time" to use force to overtake the defender and revise the status quo
Skewed to the Defender	Defender	Satisfied	Risk-averse	Stable	Maintain the advantageous distribution of capabilities by continuously enhancing its capability to deny enemy nuclear power.
	Challenger	Dissatisfied	Risk-adopting		Develop its nuclear capability to reach a state of parity in order to overtake the dominant defender.



<Figure 1>³⁷

A	<p>Conventional conflict:</p> <p>Neither side has nuclear capability, leading them to use conventional weapons. Most unstable.</p>
B	<p>Stable nuclear deterrence:</p> <p>Defender retains preponderant capability, effectively deterring the challenger from taking revisionist action. Most stable.</p>
C	<p>Tenuous MAD:</p> <p>Opportunity for conflict will emerge as two sides approach power parity. Unstable.</p>
D	<p>Highly unstable nuclear deterrence:</p> <p>Challenger has dominance over killing capacity. No empirical case.</p>

³⁷ Kang, Kyungkook and Jacek Kugler. (2015). "Assessment of Deterrence and Missile Defense in East Asia: A Power Transition Perspective." *International Area Studies Review*, vol. 18, no. 3 (July 2015): pp. 280–296. SAGE, DOI:10.1177/2233865915595762.

IV. Research Design

Application of the Kang-Kugler Model

The purpose of this study is to analyze the logical foundations behind U.S. MD strategy and to gain better insight into the calculus behind strategic decisions made with regards to U.S. missile defense in East Asia. In this section, the Kang-Kugler model is applied to provide a theoretical analysis of the United States' Missile Defense strategy in East Asia. For the purpose of this study, I direct the focus of analysis on the U.S.-China dyad. Specifically, this paper will analyze the U.S. MD strategy in East Asia implemented by the two most recent U.S. presidential administrations, Obama and Trump. The corresponding actions taken by the Chinese government and its military during the timeframe of the two U.S. administrations will also be taken into account, in order to provide a holistic picture of the U.S.-China dyad. The events that occurred between this dyad during Obama and Trump administrations will be presented as case studies where the Kang-Kugler power transition framework will be applied.

Potential Criticisms

U.S.-China nuclear imbalance

Potential criticism against basing my analysis on the U.S.-China dyad is that nuclear weapons have never played a role in United States' relationship with China as they have in the U.S.-Russia relationship³⁸. So far, the story behind U.S.-China relationship has mostly centered on economic rivalry, trade imbalances, and technological competition. The United

³⁸ Roberts, B. (2015). *The Case for U.S. Nuclear Weapons in the 21st Century*. Stanford Security Studies.

States has maintained quantitative and qualitative primacy in terms of strategic nuclear weapons when compared to that of China. As shown in <Figure 2> below, as of September 2020 the United States maintains an inventory of 5,800 nuclear warheads versus the Chinese inventory of 300.

However, in the following sections of this thesis, I demonstrate that this aspect of their relationship has been changing in the past few decades, corresponding to changes in political and security dynamics between these two major powers. Although the size of the Chinese nuclear arsenal stands small at the time being, recent developments point to a significant trend that will continue to develop in the years to come. The nuclear relationship has also become a key variable in the so-called ‘Rise of China’, and seems likely to become increasingly corrosive as the U.S.-China strategic rivalry continues its intensification.

The North Korea Factor

Another key criticism against the application of the Kang-Kugler model is grounded upon the stipulations made in U.S. security documents. The United States has been consistent in its messaging that MD is not directed against its superpower rivals, but regional and limited WMD threats posed by ‘rogue states’ and non-state actors. For example, the 2010 U.S. Ballistic Missile Defense Review (BMDR) states that “Russia and China have the capability to conduct a large-scale ballistic missile attack on the territory of the United States, but this is very unlikely and not the focus of U.S. BMD.³⁹” Later, in the 2019 Missile Defense Review, the U.S. DoD further elaborates on this statement, expressing that “The United States relies on nuclear deterrence to address the large and more sophisticated Russian and Chinese

³⁹ *Ballistic Missile Defense Review Report*. (2010). Washington, D.C.: Office of the Secretary of Defense. pp.4

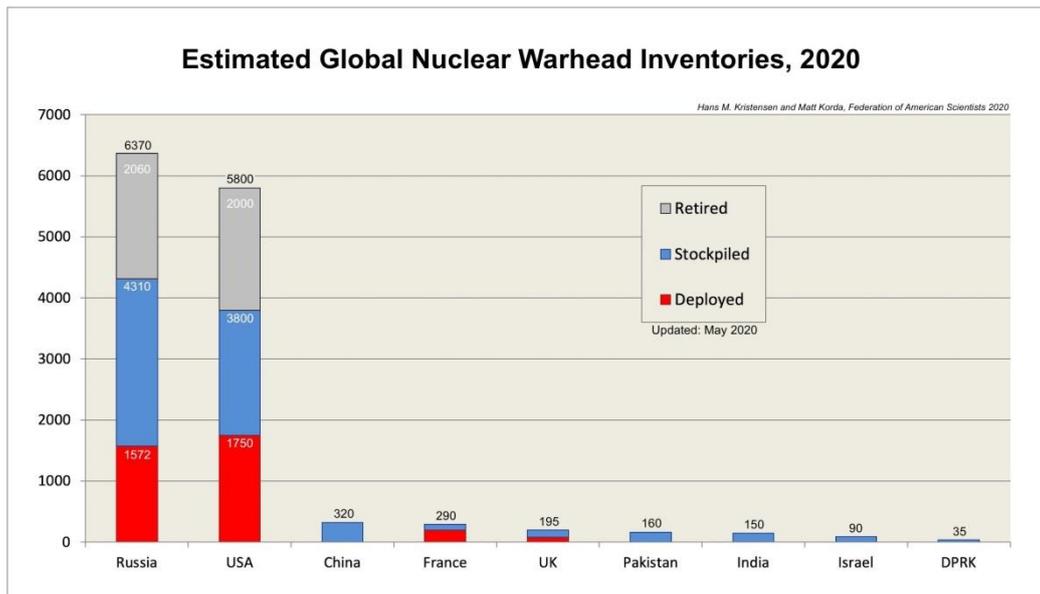
intercontinental ballistic missile capabilities...”⁴⁰ Conversely, North Korea’s progress in developing nuclear weapons capabilities have been consistently stated in U.S. defense documentations as the central driving force behind MD in East Asia.

North Korea’s nuclear capabilities are too weak to compare to U.S. capabilities within the Power Transition framework. Although North Korea’s nuclear program has met some significant milestones in the recent decade, its capabilities are feeble when compared to the nuclear giant that is the United States. North Korea maintains only about 30 nuclear warheads in its inventory, and lacks an operational nuclear triad of delivery capabilities, composed of Inter-Continental Ballistic Missiles (ICBMs), Submarine-Launched Ballistic Missiles (SLBMs), and strategic bombers.

However, North Korea’s nuclear program has significant impact upon U.S.-China dynamic because it provides rationale for U.S.-led MD, at least nominally. As long as Pyongyang continues to develop and improve its nuclear capabilities, this fuels anxiety among U.S. deployed forces and its allies in the region, prompting them to further pursue regional MD.

Unlike Washington, Seoul, and Tokyo, Beijing does not perceive North Korean nuclear missiles as a direct threat to its national security. Notice that the second factor of the Kang-Kugler framework is the “perception of the status quo” subjective to both the challenger and the defender. The North Korea factor drives a wedge directly between the threat perceptions of the U.S. alliance and China, which affects their decisions in forming a nuclear balance.

⁴⁰ *2019 Missile Defense Review*. (2019). Washington, D.C.: Office of the Secretary of Defense. DOI: https://www.defense.gov/Portals/1/Interactive/2018/11-2019-Missile-Defense-Review/The%202019%20MDR_Executive%20Summary.pdf



<Figure 2: Estimated Global Nuclear Warhead Inventories, 2020>

Source: Federation of American Scientists(FAS)⁴¹

V. Analysis

In the analysis section of this paper, the Kang-Kugler framework based on the Power Transition Theory will be employed to analyze the courses of action taken by the U.S. and Chinese governments with regards to nuclear policy, especially Missile Defense. As explained in the previous section, the analysis will focus on the dynamics between the U.S.-China nuclear relationship. This study will focus mostly on the developments made in the past decade, by comparing the changes to the MD policy made during the Obama and Trump administrations and analyzing the Chinese nuclear program during the corresponding period.

⁴¹ Christensen, H. M., & Korda, M. (2020, September). Status of World Nuclear Forces. Retrieved November 15, 2020, from <https://fas.org/issues/nuclear-weapons/status-world-nuclear-forces/>

1. The Obama Administration

Changes to the Bush MD Plan

When Obama started the presidential race as a candidate, he seemed determined to follow his party line, which advocated the downsizing of expenditure on MD development and reducing the role of MD in national security policy. During his election campaign, he pledged to cut “tens of billions of dollars of wasteful spending” such as those involving “investments in unproven missile defense systems.” However, he did offer qualified support for BMD, declaring that the United States “must seek a nuclear missile defense ... that use resources wisely to build systems that would actually be effective.⁴²” He demanded “far more rigorous testing to ensure [that MD] is cost-effective and, most importantly, will work.” Throughout the election campaign, he maintained his skeptical position on the cost-effectiveness and practical performance of some MD programs, but never voiced an outright opposition to MD as a crucial element of U.S. national security.

After successfully winning the presidency, President Obama travelled to Prague in April 2009 to deliver one of the first major foreign policy addresses of the new U.S. administration⁴³. He focused on the threat of nuclear weapons and declared, “I state clearly and with conviction America’s commitment to seek the peace and security of a *world without nuclear weapons*.⁴⁴” Obama’s proclamation of a ‘nuclear-free’ world entailed a detailed plan for arms reduction, including the ratification of a New START (Strategic Arms Reduction)

⁴² Obama, Barack. 2007. “Remarks of Senator Barack Obama to the Chicago Council on Global Affairs.” Chicago, April 23. Council on Foreign Relations website. <http://www.cfr.org/elections/remarks-senator-barack-obama-chicago-council-global-affairs/p13172>.

⁴³ Mayer, M. (2014). *US Missile Defense Strategy: Engaging the Debate*. Lynne Rienner Publishers.

⁴⁴ Obama, Barack. 2009. “Remarks by President Barack Obama.” Prague, Czech Republic, April 5. White House website. http://www.whitehouse.gov/thepress_office/Remarks-By-President-Barack-Obama-In-Prague-As-Delivered/.

treaty as well as the Comprehensive Test Ban Treaty (CTBT), and strengthening the Non-Proliferation Treaty (NPT) regime.

Obama also stayed true to his word during his election campaign, where he vowed to cut down “wasteful defense spending” on “unproven MD systems.” In April 2009, few days before the Prague speech, U.S. Defense Secretary Robert Gates announced that \$1.4 billion would be cut from the Missile Defense Agency’s (MDA) budget. This reduction would gradually rebound in the following years of the Obama presidency, as evidenced in <Figure 3>. Gates also announced that missile defense programs would be restructured “to focus on the rogue state and theater missile threat⁴⁵”, cancelling the deployment of additional Ground-based Interceptors (GBI) in Alaska, reducing the Airborne Laser (ABL) program to a research and development effort, and terminating the Multiple Kill Vehicle (MKV) program.

Then-MDA director Lt. General O’Reilly provided additional details on the updates to the MD program in the following month. O’Reilly confirmed that the Kinetic Energy Interceptor (KEI) program would be terminated and the ABL downgraded to a research and development program. Instead, MDA would focus on making successful intercepts at the later phase of the flight path, during the midcourse and terminal phases⁴⁶. The alterations to the Bush Administration’s MD programs and the corresponding shift away from boost phase intercept to a later phase intercept brought the consequence of eroding a multi-layered defense system for U.S. homeland defense. Such changes indicated that the MD strategy under the Obama Administration was altered and streamlined to better suit the concept of regional- or theater- ballistic missile defense.

⁴⁵ Gates, Robert. 2009. “Defense Budget Recommendation Statement.” Arlington, VA. April 6. <http://www.defense.gov/speeches/speech.aspx?speechid=1341>

⁴⁶ O’Reilly, Patrick. 2009. “Lieutenant General Patrick J. O’Reilly, USA Director, Missile Defense Agency Before the House Armed Services Committee Strategic Forces Subcommittee.” Washington D.C., May 21. Missile Defense Agency. http://www.mda.mil/global/documents/pdf/ps_hasc052109.pdf.

Missile Defense Agency Funding

PRESIDENT'S REQUEST, IN BILLIONS OF 2015 DOLLARS



SOURCES: U.S. Department of Defense, Missile Defense Agency, Budget Information, http://www.mda.mil/news/budget_information.html (accessed June 9, 2016), and Heritage Foundation calculations.

BG 3141  heritage.org

< Figure 3 >

MDA Funding during the Obama Administration⁴⁷

The European Phased Adaptive Approach (EPAA)

As an embodiment of this policy shift towards regional defense, on September 17, 2009, President Obama stood before the White House press and announced his administration's decision to cancel the Bush administration's MD plans in Central Europe. He announced that the DoD has shelved the plan to deploy a radar in the Czech Republic and ten GBIs in Poland, because a "new approach⁴⁸" would provide better protection against possible attacks by Iran and other rogue states. The Bush administration had designed the forward deployment of these capabilities in order to enhance the defense of the U.S. homeland from

⁴⁷ Dodge, M. President Obama's Missile Defense Policy: A Misguided Legacy. Heritage Foundation (September 15, 2016). Web. 8 Nov. 2020, <http://www.heritage.org/defense/report/president-obamas-missile-defense-policy-misguided-legacy>.

⁴⁸ Obama, Barack. 2009c. "Remarks by the President on Strengthening Missile Defense in Europe." Washington D.C., September 17. The White House website. http://www.whitehouse.gov/the_press_office/Remarks-by-the-President-on-Strengthening-Missile-Defense-in-Europe/.

Russian ICBM threats by adding another layer and window for successful intercept. The reversal of the Bush MD plan in Central Europe invited much criticism, as it clearly indicated the U.S. MD system's priority has shifted to regional defense.

In return, Obama introduced his own project which would bring about the construction of a European missile shield, named the "European Phased Adaptive Approach (EPAA)." The EPAA would be implemented in four phases, based on the Aegis BMD technology as its backbone. The first phase consisted of a plan to deploy Aegis BMD- capable ships to be permanently deployed to Rota, Spain, and a AN/TPY-2 early warning radar to be deployed in Turkey. The second and third phases called for deployments of Aegis-Ashore, a land-based variant of the Aegis BMD technology, in Romania and Poland. The fourth and final phase entailed plans to deploy the upgraded SM-3 Block IIB interceptors, which were designed to provide enhanced protection against ICBM threats. The final phase was ultimately canceled in March 2013⁴⁹. Secretary of Defense Chuck Hagel announced that under "restructuring" of the European program, the Pentagon would redirect funding to address the threat from the other side of the hemisphere. Additional fourteen GBIs would be fielded in Alaska by 2017, and a second X-band radar would be deployed in Japan, to address rising nuclear threats from North Korea.

Asia-Pacific Phased Adaptive Approach (APPAA)

The Obama Administration also officially implemented a more systematic plan for MD policy in the Asia-Pacific. In its BMDR Report, released in February 2010, the U.S. DoD stated its plans to "pursue a Phased Adaptive Approach (PAA)" in the Asia-Pacific. According

⁴⁹ BBC News, March 16, 2013 "US scraps final phase of European missile shield."
<https://www.bbc.com/news/world-us-canada-21812161>

to the report, the approach would be “tailored to the threats unique to the region, and the capabilities available and most suited for deployment.”⁵⁰

In accordance with the statements provided in the BMDR Report, the Obama Administration implemented several measures as part of its comprehensive MD plan in the Asia-Pacific region to respond to emerging North Korean ballistic missile threats. The BMDR also mentioned that “China’s ballistic missile forces, although they are not a stated focus of U.S. BMD programs, are of some concern to the United States.”⁵¹ Unlike the MD plan in Europe, the Obama Administration’s comprehensive MD policy roadmap in the Asia-Pacific lacked an official label. Some scholars have unofficially given the name “Asia-Pacific Phased Adaptive Approach (APPAA)⁵²” in reference to the EPAA in Europe.

Under the Obama Administration, the United States maintained its clear position that “North Korea’s ballistic missiles and their continued development and deployment are ... a central focus of U.S. BMD policy.” In order to address the North Korean ballistic missile threats, the BMDR stated that the U.S. would continue to cooperate and consult with regional allies; Japan, the South Korea, and Australia.⁵³ In addition, the “U.S. would foster security cooperation between U.S.-Australia- and U.S.-Japan-South Korea trilateral relationships and encourage India to take a more proactive role in Asia-Pacific security.”⁵⁴

⁵⁰ *Ballistic Missile Defense Review Report*. (2010). Washington, D.C.: Office of the Secretary of Defense. pp. 23.

⁵¹ Frank A. Rose, “Ballistic Missile Defense and Strategic Stability in East Asia,” remarks as prepared for delivery to the Federation of American Scientists, Washington, DC, February 20, 2015.

⁵² Murphy, T. M. (2014). *The Pacific Phased Adaptive Approach: U.S. BMD in Response to the DPRK. The Pacific Phased Adaptive Approach: U.S. BMD in Response to the DPRK.*

⁵³ 이수형, & Soo Hyung Lee. (2016). 미국의 미사일방어정책: 역사적 고찰과 전략적 함의. 한국과국제정치(KWP), 32(3), pp. 1-26.

⁵⁴ Rinehart, Ian E., Steven A. Hildreth, and Susan V. Lawrence. 2013, “Ballistic Missile Defense in the Asia-Pacific Region: Cooperation and Opposition,” *CRS Report for Congress*, R43116, June 24 (Washington, D.C.: CRS (Congressional Research Service)).

Other than fostering trilateral security cooperation and BMD inter-operability among regional allies, the Obama Administration ordered a series of specific actions to increase homeland and regional missile defense capabilities. In March of 2013, the U.S. DoD announced that it plans to increase the number of GBIs stationed in Alaska from thirty to forty-four, and to deploy one additional AN/TPY-2 radar in Japan. Subsequently, the DoD also deployed the The Terminal High Altitude Area Defense (THAAD) to the U.S. territory in Guam. THAAD deployment in Guam was made permanent in 2015. In July 2016, American and South Korean military officials agreed to deploy the THAAD system at a site in Seongju, located in the southern portion region of the Korean peninsula.⁵⁵

An academic paper published by Lt. Murphy from the U.S. Naval Postgraduate School suggested a break-down of steps to be taken under the APPAA. In this paper, Murphy suggests phase one call for an increase in the number of U.S. BMD ships in the Asia-Pacific. This plan would also entail the organic naval capabilities of Japan and South Korea whose navies also operate Aegis BMD-capable ships. The first phase also includes a plan to station a second AN/TPY-2 radar in Japan and permanently station a THAAD battery in Guam. Phase two suggests a deployment of another THAAD battery to the southern tip of South Korea, and a redistribution of SM-3 interceptors. Phases three and four mirror the action plans provisioned in the EPAA; these phases call for stationing of land-based Aegis Ashore systems in Japan and reactivate the SM-3 Block IIB program for additional capability against ICBMs.⁵⁶ In retrospect, many of the suggestions made by Murphy were implemented during the Obama Administration. <Table 2> provides an overview of the MD systems deployed and delivered in the Asia-Pacific region under the Obama Administration.

⁵⁵ Judson, Jen. (July 7, 2016) "THAAD To Officially Deploy to South Korea" *DefenseNews*.
<https://www.defensenews.com/home/2016/07/08/taad-to-officially-deploy-to-south-korea/>

⁵⁶ Murphy, Terence M. 2014, "The Pacific Phased Adaptive Approach: U.S. BMD in Response to the DPRK," Master's Thesis (Monterey, CA: Naval Postgraduate School).

<Table 2: U.S. MD systems in the Asia Pacific under the Obama Administration> Source: Arms Control Association ⁵⁷	
Hawaii	Sea-Based X-Band Radar (SBX) (mobile) Aegis Ashore Test Complex (planned)
Guam	THAAD battery
Japan	Aegis BMD ships Patriot Advanced Capability (PAC-3) AN/TPY-2 radars SM-3 Block IA (co-development with the U.S.) Aegis Ashore (planned)
South Korea	THAAD Patriot (PAC-3) Aegis ships (Korea-operated)
Australia	Aegis BMD ships
Taiwan	Patriot (PAC-3), 7 Batteries

Chinese Nuclear Policy During the Obama Administration

Traditionally, Chinese nuclear strategy had maintained a rather defensive, passive, and limited doctrine, centered around two key ideas, the “No First Use (NFU)” policy and the principle of “minimum deterrence.”⁵⁸ The NFU policy provides China with the moral justification that it is committed to using nuclear weapons solely for self-defense. The principle of minimum deterrence also follows this logic, as it requires China to build a “lean

⁵⁷ “U.S. and Allied Ballistic Missile Defenses in the Asia-Pacific Region” Arms Control Association. <https://www.armscontrol.org/factsheets/us-allied-ballistic-missile-defenses-asia-pacific-region>

⁵⁸ *Huanqiu shibao*, 30 Dec. 2009. ‘Zhong mei gong shou yi xing’ [The new offense–defense posture in Sino-US relations]

and effective nuclear force” capable of retaliation, to provide deterrence capability as a means of self-defense⁵⁹. This principle holds that China can successfully deter a nuclear first strike by a potential enemy by maintaining the mere capability of retaliating with a few dozen large nuclear warheads at several population centers of the enemy. In accordance with this principle, until the 1990s, China had only deployed about thirty strategic nuclear missiles armed with single warheads on ground bases. This illustrates two defining characteristics of Chinese nuclear posture. First is the relatively small number of nuclear warheads and their delivery vehicles. Second is the fact that the Chinese rely solely on a ground-based missile system as its delivery mechanism, unlike the United States, Russia, who maintain a nuclear triad composed of ground-, sea-, and air-based delivery systems. Even compared to the smaller nuclear powers such as the U.K. and France, the credibility of Chinese nuclear deterrence is unreliable, because while the former two operate submarine forces at every hour of every day, the Chinese do not. Therefore, China had long been insecure of the fact that their small and relatively vulnerable nuclear arsenal would not give itself the necessary amount of credibility in its nuclear retaliation capability.

U.S. pursuit of enhancing defensive capabilities against ballistic missiles, added salt to the wound by further diminishing Chinese deterrence capability. In the face of steady maturing of a multi-layered U.S. MD framework, Chinese nuclear experts started to lose confidence in China’s offensive nuclear capabilities. In 2008, Chinese military strategist Wang Wenchao stated in an interview with a Chinese military magazine. “Facing a multi-tiered missile defense system, if any single layer can achieve a success rate of 70%, then 100 single warhead missiles could all be intercepted even if they are mounting a simultaneous

⁵⁹ Liping, Xia. 2012. “Impact of China’s Nuclear Doctrine on International Nuclear Disarmament.”, Nuclear Threat Initiative. Retrieved from: http://www.nti.org/media/pdfs/Xia_Liping.pdf

attack.⁶⁰” As such, the overwhelming consensus of the Chinese perception towards U.S. pursuit of MD was that “US defensive capability has degraded the credibility of its nuclear deterrence and hence justifies a major expansion of Chinese offensive capability.”

Chinese strategists have been acutely following the development of U.S. missile defense capabilities in the East Asia region, particularly in two areas: (1) forward-deployed radars(FDR) and (2) sea-based intercept systems. These two capabilities had been pursued by the Obama Administration to enhance MD targeted against North Korea. Firstly, in the case of forward-deployed radars, Beijing was gravely concerned that, if these radars were deployed close enough to China, they would severely degrade Chinese offensive nuclear capability. Acquiring track information and analyzing tracks at an earlier phase of the missile launch, especially during boost phase, significantly enhances the success rate of missile intercept. Therefore, many Chinese military strategists perceived the deployment of AN/TPY-2 FDRs in Japan as well as the ones in South Korea and Guam as grave threat to Chinese nuclear deterrence. Moreover, advanced sea-based intercept systems such as SM-3 Blk IIA would boost the success rate of intercept at midcourse, by increasing the number of chances for midcourse intercept adding multiple layers to the MD system. Chinese military strategist Wu Riqiang states, “Equipments such as the forward-deployed radars that can greatly increase the effectiveness of BMD systems are unacceptable to China... [they] should be seen as China’s red line, which the United States should not cross.”⁶¹

In response to Washington’s pursuit of MD enhancement, China corresponded by amending its nuclear posture to acquire and develop larger and more advanced offensive

⁶⁰ *Binggong keji* [Weapons Technologies], ‘Zhuanjia xitan dandao daodan di dantou’ [Expert’s analysis of warheads for ballistic missiles], Oct. 2008, p. 23.

⁶¹ Wu Riqiang (2013) “China's Anxiety About US Missile Defence: A Solution, Survival”, 55:5, 29-52, DOI: 10.1080/00396338.2013.841803

capabilities. China's response to U.S. MD can be generally classified into two categories, first is the enlarging the size of its strategic nuclear force, and the second is diversification of deployment patterns. The first is quite self-explanatory: starting in the early 2000s, corresponding with U.S. MD development, China started to amass nuclear warheads, increasing the number of deployed warheads. The second measure involves China's development of advanced delivery mechanisms. Namely, in 2009 China developed the DF-31A missile, which has a range of over 11,000km, capable of striking any target in the United States. Zhang Guangzhong, the commander of the DF-31A squadron boasted of this missiles capability, claiming that the missile "is capable of hitting all important strategic targets."⁶²

As explained in the above sections, Chinese perception towards U.S. MD as a threat to its deterrence credibility led to China pursuing a larger and more capable strategic nuclear force. Thus, Beijing started to use U.S. MD capabilities as a reference point to enhance its offensive capabilities to a level that provides Beijing with a firm and credible ability to retaliate. This reference point would constantly change as U.S. defensive capability would expand over time, resulting in an "offense-defense arms race" between Washington and Beijing.

Although an atmosphere of strategic competition started to prevail during the Obama era, there were also some developments that presented opportunities for a more cooperative U.S.-China relationship. As explained in the earlier section Obama pursued new positions on MD that relieved tension and assured China that their deterrence would not be affected. Specifically policies included cancelling the space-based MD programs launched by the previous Bush administration, killing the MKV and KEI(Kinetic Energy Interceptor)

⁶² *Xinhua News Agency*, 'He daodang fangzhen zhang guangzhong: gai dan ke gongji suoyou zhongyao zhanlue mubiao' [Zhang Guangzhong of the Nuclear Missile Squadron: it can hit all important strategic targets], 6 Oct. 2009, <http://mil.news.sina.com.cn/2009-10-06/1038569252.html>

development programs, declaring a “nuclear-weapons-free world”, and explicitly stating that U.S. MD is not directed at Chinese missile attacks in its 2010 BMDR report. Especially, the 2010 BMDR also stated that the United States is willing to accept mutual deterrence with China. According to the report, “maintaining strategic stability in the US-China relationship is as important to this Administration as maintaining the strategic stability with other major powers.⁶³” This acknowledgement quelled the concern of Chinese strategists by confirming that mutual deterrence is in fact the U.S. principle in dealing its military relationship with China. Zhang Tuosheng, a Chinese military expert, highlighted this point further, stating that “U.S. acceptance of mutual deterrence means that the probability of Sino-U.S. nuclear conflict has been reduced, while the probability of the two sides resolving differences through dialogues has increased.⁶⁴”

Summary

Despite initial apprehension, the Obama Administration eventually came to a full embrace of MD as a component of national defense. The U.S. phased plans to deploy missile defense systems in Europe and the Asia-Pacific signify that under the Obama administration, MD was extensively promoted and deployed overseas, which in turn fueled Chinese anxiety and insecurity of its power in East Asia. Towards the end of his term, Obama put great confidence in U.S. MD capabilities, believing that the deployment of U.S.-led MD would reassure allies, defend its forward-deployed troops, and enhance protection of the American homeland from ICBM threats. Such confidence and embrace of MD in East Asia sparked

⁶³ *Ballistic Missile Defense Review Report*. (2010). Washington, D.C.: Office of the Secretary of Defense.

⁶⁴ Zhang Tuosheng, ‘Meiguo he zhanlue diaozheng xin dongxiang’ [New trends in US nuclear strategy], *Bingqi zhishi* [Weapons], Oct. 2009 (B edition), pp. 28–9.

vehement opposition from China, affecting its negative perception of the status quo regional power balance.

From a domestic politics standpoint, one of Obama's key legacies in MD is that he influenced the Democratic Party to also adopt a supportive posture towards MD. Prior to his administration, support of MD was more along the party lines of the Republicans.

The Obama administration's MD policy gave clear signals that MD was directed at regional defense, and not at altering the nuclear deterrence with China. Termination of boost-phase intercept programs such as ABL and KEI, and other MD programs directed at more advanced nuclear powers such as MKV and SM-3 Blk IIB upgrades served as practical signals that demonstrated the "regional defense-oriented nature" of MD. Under the Obama administration, the U.S. also signed the New START treaty, making commitments to reduce its nuclear warhead stockpile.

Applying the Kang-Kugler framework, motivations behind the United States' MD policies under the Obama Administration can be understood as an attempt to alter the 'perception' of China as the challenger by accommodation and engagement. However, this approach ultimately failed to reassure and placate Chinese apprehension. Contrary to Washington's efforts, Beijing constantly expressed concern toward MD, arguing that these programs pose a threat to its nuclear deterrent. What factors can account for the failure of the diplomatic engagement regarding MD?

Firstly, the balance of power between the United States and China, from a nuclear deterrence standpoint, maintained a massive imbalance highly skewed to the United States. Substantial nuclear power imbalance between Washington and Beijing rendered the Obama Administration's measures to reduce its offensive capabilities as inconsequential. U.S. comparative killing capacity (or the 'power' factor) to China was not altered as the result of

these directives. Considering the size of the Chinese nuclear arsenal and its defensive nuclear policy of “no first use”, extensive deployment of U.S.-led MD capabilities in East Asia, as well as the strengthening of multilateral security partnerships was perceived as threatening and destabilizing China’s nuclear deterrence. This argument is especially convincing when considering that, because of the technological aspects of these systems, U.S. MD capabilities could effectively neutralize China’s second strike capability.⁶⁵

In addition, the North Korea factor also played a crucial role in the vastly diverging threat perceptions between the two great powers. While Washington saw Pyongyang’s continuation of nuclear development and deployment as a threat to itself and regional allies, Beijing did not align with this assessment. Therefore, the rationale that MD is needed to properly address North Korean nuclear threat and to secure regional stability was not compelling from Beijing’s perspective.

In reference to the Kang-Kugler framework, the following observations can be made to summarize the U.S. MD policy in East Asia during the Obama administration.

The United States

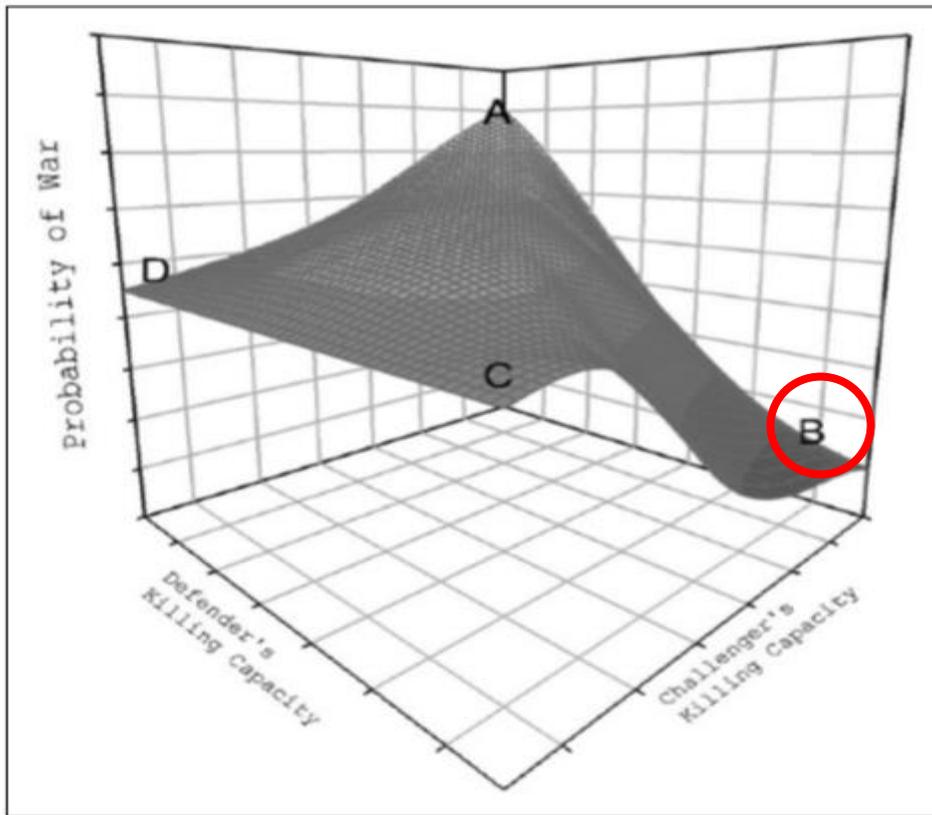
- 1) Lowered its killing capability by making nuclear arms control commitments such as New START.
- 2) Lowered its homeland missile defense capability by cancelling boost-phase MD programs and other airborne and space-borne defense development programs.
- 3) Increased regional MD capability in East Asia, enhancing multi-layered defense on its overseas bases and its allies.

China

- 1) Killing capability was decreased by U.S. MD deployments in the East Asia region.

⁶⁵ Riqiang, Wu. 2013. “Why China Should Be Concerned with U.S. Missile Defense? How to Address It?” *Program on Strategic Stability Evaluation*. Georgia Institute of Technology.

- 2) Does not share the same threat perception with the U.S. and its allies, and maintains a dissatisfaction towards the status quo distribution of power.



<Figure 4: Visual representation of the Kang-Kugler matrix during the Obama Administration>

Applying the Kang-Kugler framework, the balance of nuclear power between U.S.-China during the Obama administration remained still at point B, where stability is achieved through U.S. preponderance of killing capability. The defining characteristic of the Obama administration's MD policy is that it tried to engage China and accommodate its dissatisfaction with the status quo, by altering its MD program to assuage Beijing's concern about U.S.-MD. Ultimately, perceptions are frail and subjective; and Washington's messages that MD is directed solely at North Korea, and that Pyongyang's nuclear development program poses a threat to regional stability failed to convince Beijing.

1. The Trump Administration

America First

In December 2016, Trump won the U.S. Presidency in a surprising upset, largely unexpected by most spectators around the world. The election of Donald Trump as the President of the United States signified dramatic changes in the U.S. domestic political landscape, as well as challenges to the fundamental principles of U.S. foreign policy. Since World War II, U.S. grand strategy had been shaped by the Hamiltonian and Wilsonian schools of thought, which focused on achieving a stable international system with the United States at the center. The advent of President Trump, however, demonstrated the rising popularity of more nationalist, less globally minded interests, reflected in the Jeffersonian and Jacksonian schools of thought. Jeffersonians and Jacksonians believe that reducing the U.S. global profile would reduce the costs and risks of foreign policy. They seek to define U.S. interests narrowly and advance them in the safest and most economical ways, and remain pessimistic about U.S. involvement in other parts of the world.⁶⁶

Trump's election campaign, "Make America Great Again (MAGA)" illustrates his Hobbesian worldview, that the United States must put its own national interests first, keep itself out of international affairs, and achieve peace through economic and military strength⁶⁷. In his inaugural address, Trump highlighted his vision of "America First." "For many decades, we've enriched foreign industry at the expense of American industry; [...] defended other nation's borders while refusing to defend our own; [...] We've made other countries rich while the wealth, strength, and confidence of our country has disappeared over the horizon."

⁶⁶ Mead, Walter Russell. (2017). "The Jacksonian Revolt: American Populism and the Liberal Order," *Foreign Affairs*, March/April (Vol. 96, No. 2).

⁶⁷ 이상현. (2018.) 트럼프 행정부의 국가안보전략(NSS): 국제정세 및 한반도에 대한 함의. *국가전략*. 2018년 제24권 2호

He declared that the next vision of the United States would be America First. “Every decision on trade, on taxes, on immigration, on foreign affairs, will be made to benefit American workers and American families.⁶⁸”

The emphasis on narrowly defined national interests and the pull away from global engagement all signified a pregnant shift in the principles underlining U.S. foreign policy. Under the Trumpist world view, the nature of international relations would follow the logic of political realism, where the quest for power in a zero-sum game is sought after to ensure survival, and only the most powerful state which looks after itself would prevail in a state of anarchy. These ideas form the logical foundations behind the nuclear policy and the overarching national security policy implemented by the Trump Administration.

Principled Realism

The White House released its first National Security Strategy (NSS) under the Trump Administration in December 2017. The document stated that the Trump Administrations security strategy is based on “principled realism [...] based on the view that peace, security, and prosperity depended on strong, sovereign nations that respect their citizens at home and cooperate to advance peace abroad.⁶⁹” The NSS also presumes that the United States faces “political, economic, and military competitions around the world.” It further identifies that China and Russia are challengers to American power, “attempting to erode American security and prosperity.” Under the third pillar of the U.S. security strategy, “Preserve peace through strength,” China and Russia are defined as “revisionist powers” that compete with America

⁶⁸ Trump (2017) REMARKS OF PRESIDENT DONALD J. TRUMP – AS PREPARED FOR DELIVERY INAUGURAL ADDRESS FRIDAY, JANUARY 20, 2017 WASHINGTON, D.C.
<https://www.whitehouse.gov/briefings-statements/the-inaugural-address/>

⁶⁹ Trump (2017) National Security Strategy of the United States of America, December 2017. White House.
<https://www.whitehouse.gov/wp-content/uploads/2017/12/NSS-Final-12-18-2017-0905.pdf>

and have interests to shift regional balances of power in their favor. The document goes further to state specifically that “China seeks to displace the United States in the Indo-Pacific region and [...] reorder the region in its favor.”⁷⁰

The fundamental foundation of Trump’s security policy is the presumption that the international order is competitive, and that the United States, China, and Russia are rivals. These arguments are largely reminiscent of Cold-War political rhetoric, which highlighted great power competition between the United States and the Soviet Union as the underlying world view. Under the zero-sum game involving the two superpowers, an endless power competition produced a perpetual security dilemma; would this become the new reality as Cold War rhetoric strikes back and enters the forefront of U.S. foreign policy?

The 2019 Missile Defense Review

In January 2019, President Trump revealed the U.S. Missile Defense Review (MDR), a congressionally mandated statement of U.S. policy to defend the United States, its forces, and allies against missile attacks. The 2019 MDR was the first update to the U.S. missile defense strategy in nearly a decade, from the former 2010 BMDR released during the Obama Administration. Conspicuous change from the previous document is that the adjective “Ballistic” was dropped from the name of the document. Under the Trump Administration, MD would be expanded to address not only North Korean and Iranian missiles, but also that of China and Russia. Trump recognized new ballistic missile systems such as Multiple Independently Targetable Re-entry Vehicles (MIRVs), Maneuverable Re-entry Vehicles

⁷⁰ Trump (2017) National Security Strategy of the United States of America, December 2017. White House. <https://www.whitehouse.gov/wp-content/uploads/2017/12/NSS-Final-12-18-2017-0905.pdf>

(MaRVs), advanced cruise missiles and hypersonic missiles as “challenging realities [...] that the U.S. missile defense policy must address.”⁷¹

The inclusion of Chinese missile capabilities as part of the threat portfolio addressed by U.S. MD systems indicates a tremendous shift from the language of great-power reassurance that the United States had used since 2001. Previously, the Obama administration claimed that China had nothing to fear about U.S. MD because those capabilities were not directed to address Chinese advanced missile threats, and that nuclear deterrence would be the guiding principle with regards to China. The 2019 MDR, however, emphasized new ballistic missile systems in development by China as potential threats that U.S. MD systems must address.

To deal with Chinese strategic nuclear forces designed to strike the United States, however, the 2019 MDR accepts that for now, “the United States relies on nuclear deterrence” to dissuade China from attacking the United States. Trump’s short-term plans call for the installation of twenty additional interceptors in Alaska, radar upgrades and building one additional interceptor site. The review also calls for an extended role for the SM-3 Block IIA interceptor and additional deployment of BMD-capable ships with a higher load of SM-3. The plan mandates an increase from a fleet of thirty-eight SM-3 loaded ships to sixty by 2023. Increased number of ships with SM-3 interceptors would allow a thicker layered MD structure with higher reliability for mid-course intercept.

Meanwhile, in the long term, the 2019 MDR also states that the U.S. would restart some of the experimental MD programs that were previously called off by the Obama Administration. The review calls for exploring new options to intercept missiles during the

⁷¹ 2019 *Missile Defense Review*. (2019). Washington, D.C.: Office of the Secretary of Defense. DOI: https://www.defense.gov/Portals/1/Interactive/2018/11-2019-Missile-Defense-Review/The%202019%20MDR_Executive%20Summary.pdf

boost phase of flight, enabled by a new space-based sensor layer. The MDR suggests boost phase intercept would be made possible by fitting interceptors to the F-35 fighter, laser-armed drones, and even space-based interceptors. Boost phase intercept capabilities can be perceived by China as potent threats that severely undercut its nuclear deterrence.⁷² All of the MD programs terminated by Obama and later revived by Trump can theoretically be used to intercept advanced Chinese missiles.

Albeit, the 2019 MDR emphasized that “enhanced missile defense is not intended to undermine strategic stability or disrupt longstanding strategic relationships with Russia or China,” and that “the United States relies on deterrence to protect against large and technically sophisticated Chinese ICBM threats.” From the Chinese perspective, however, these statements were not very convincing, considering that the document also blatantly labeled China as a revisionist power engaged in military competition with the United States. Furthermore, in his speech that first unveiled the 2019 MDR to the public, Trump announced in front of the press at the Pentagon that “the goal is simple[...] to ensure we can detect, and destroy any missile launched at the United States, anytime, anywhere and any place.”⁷³

Offensive Nuclear Capability

In response to the threats posed by Chinese and Russian advancements in nuclear weapons technology, the United States under the Trump administration took additional measures to enhance its own nuclear muscle. It is now backing down from previous

⁷² James J. Cameron, Jan. 22, 2019, “How the Trump administration is changing U.S. missile defense” *Washington Post*. <https://www.washingtonpost.com/news/monkey-cage/wp/2019/01/22/the-new-u-s-missile-defense-review-just-came-out-heres-why-the-subtle-shifts-are-important/>

⁷³ Sanger, D. and Broad, W, Jan.17, 2019, “Trump Vows to Reinvent Missile Defenses, but Offers Incremental Plans”. *The New York Times*. <https://www.nytimes.com/2019/01/17/us/politics/trump-missile-defense-pentagon.html/>

agreements that had constrained the U.S. from building more robust nuclear forces.

In February 2019, U.S. Secretary of State Mike Pompeo announced that the United States will suspend its obligations under the Intermediate-Range Forces (INF) Treaty, and pursuant to Article 15 of the treaty, the United States withdrew from the treaty in six months. Russian President Vladimir Putin responded the following day, by announcing that Russia too, will suspend its obligations under the INF. The INF treaty, signed by the United States and the Soviet Union in 1987, required the two states to eliminate and permanently forswear all their nuclear and conventional ground-launched ballistic and cruise missiles with ranges of 500 to 5,500 kilometers⁷⁴. After the treaty effectively expired in August of 2019, the two nations regained their liberty to freely pursue development and testing of intermediate range missiles.

Although the United States and Russia were the only signatories to the treaty, U.S. withdrawal from the INF had implications that go beyond the two countries' bilateral relations. In a radio interview on March 17, 2019, then-Trump's Security Advisor John Bolton admitted that rising missile capabilities of China were also considered in the decision to leave the INF. "China is building up its nuclear capacity now," Bolton said. "It's one of the reasons why we're looking at strengthening our national missile defense system here in the United States."⁷⁵

Scholars and nuclear experts argue that the U.S. decision to withdraw from the INF is the first step in the process of enhancing its nuclear attack capability. According to a recent news article by a Japanese news agency, U.S. government officials have already started to voice the need for a "spear" to go along with its "shield."⁷⁶ In other words, the future of U.S.

⁷⁴ Kimball, Daryl. "The Intermediate-Range Nuclear Forces (INF) Treaty at a Glance." Arms Control Association, n.d. www.armscontrol.org/factsheets/INFtreaty.

⁷⁵ Panda, Ankit. "Bolton: China Is One Reason US 'Looking at Strengthening National Missile Defense.'" *The Diplomat*, 19 Mar 2019. thediplomat.com/2019/03/bolton-china-is-one-reason-us-looking-at-strengthening-national-missile-defense/

⁷⁶ Sonoda, Koji and Funakoshi Takashi. "In Post-INF Treaty World, China, U.S. Risk Arms Escalation." *Asahi Shimbun*, 12 Apr 2019. www.asahi.com/ajw/articles/AJ201904120008.html.

nuclear strategy does not stop at expanding missile defense systems to enhance defensive capabilities; it goes further on to honing its nuclear attack capabilities by modernizing its nuclear warheads and missile technologies.

New START

Besides the INF treaty, Trump had also openly criticized the New START treaty. This treaty, signed in 2010 by Obama and then-Russian President Dimitry Medvedev, limits the United States and Russia to no more than 1,550 deployed nuclear warheads and 000 deployed missiles and bombers. On February 11, 2017, during a phone call with Vladimir Putin, where Putin asked about the possibility of extending the New START treaty, Trump answered by denouncing it, saying, “it was one of the several bad deals negotiated by the Obama administration, which favored Russia.⁷⁷”

Despite Trump’s personal distaste about the treaty, the Trump administration decided to keep communication lanes open, by starting high-level talks at Prague in June. U.S. undersecretary of state for arms control, Andrea Thompson, and Russian Deputy Foreign Minister Sergey Ryabkov met and discussed about the possibility of extending the New START. Delegations from the U.S. and Russia met again in Geneva the following month to further build on the discussion. Later, in December 2019, Putin publicly offered to the United States an immediate extension to the treaty without any modifications. The Russian Defense Ministry also showed its Avangard hypersonic glide vehicle (HGV) to U.S. inspectors, underlining that this action demonstrated that the inspection is a part of transparency measures mandated by the New START. The Trump administration remained reluctant about

⁷⁷ Landay, J. and Rohde, D. (9 February 2017), “Exclusive: In call with Putin, Trump denounced Obama-era nuclear arms treaty”, Washington: *Reuters*, <https://www.reuters.com/article/us-usa-trump-putin-idUSKBN15O2A5>

this offer, as it did not resume high-level discussions until July of 2020.

Recent remarks made by U.S. government officials revealed the cause behind U.S. hesitation about making a decision on the extension of New START: China. According to an anonymous U.S. official, the Trump administration wants the arms control regime to address a wider nuclear issue that goes beyond American and Russian nuclear arsenals, which involves China. According to this source, Trump has “directed [them] to think more broadly than the current arms control construct and pursue an agreement that reflects current geopolitical dynamics and includes both Russia and China.”⁷⁸

U.S. desire to include China in a future arms control construct was demonstrated in July 2020, when the U.S. invited a Chinese delegation to join in the negotiations with Russia. In July 2020, U.S. and Russian delegations met in Vienna for high-level and working-level discussions to see if New START could be salvaged⁷⁹. There, top U.S. arms control negotiator Marshall Billingslea extended an open invitation to Chinese officials to join in the U.S.-Russia discussion on New START. The Chinese delegation did not show up at the meeting, as Beijing had repeatedly stated prior to the invitation that it has no intentions of signing on to the New START, since its arsenal is so much smaller than Washington and Moscow’s⁸⁰.

Washington’s obsession in getting Beijing involved in the New START negotiations has been criticized by Russians and U.S. arms control scholars. Russian Deputy Foreign Minister Sergei Ryabkov said that “Russia would be unable to force China to join the negotiations and unwilling to try.” He added, “The U.S. administration is currently so

⁷⁸ Ward, A. “The end of arms control as we know it” *Vox* (3 Aug 2020), <https://www.vox.com/world/21131449/trump-putin-nuclear-usa-russia-arms-control-new-start>

⁷⁹ U.S. Department of State, “Meeting of U.S. – Russia Expert Groups on Trilateral Arms Control and for the Space Security Exchange”, Media note, 24 July 2020, <https://www.state.gov/meeting-of-u-s-russia-expert-groups-on-trilateral-arms-control-and-for-the-space-security-exchange/>

⁸⁰ Ward, A. “How Trump’s China obsession could derail nuclear arms control, in one tweet” *Vox*, (22 June 2020), <https://www.vox.com/2020/6/22/21298914/usa-russia-china-nuclear-new-start-vienna>

obsessed with China, that it makes progress impossible. The Chinese idea overshadows, in my view, everything else.⁸¹” Caitlin Talmadge, a nuclear expert at Georgetown University, also expressed a cynical outlook, saying “This is all kabuki designed to give Trump an excuse to withdraw from the New START. That would be a terrible mistake and represent the first time in decades that the two largest nuclear powers in the world lack a treaty constraining their strategic nuclear weapons.⁸²”

More contemporary information revealed that Trump has apparently scrapped the idea of expanding the New START to a trilateral treaty involving China. By Mid-October 2020, Russian and U.S. officials agreed to freeze nuclear warhead production for a year and to extend the treaty by a year. On October 20, 2020, the U.S. State Department announced in a press release that “We appreciate the Russian Federation’s willingness to make progress on the issue of nuclear arms control. The United States is prepared to meet immediately to finalize a verifiable agreement. We expect Russia to empower its diplomats to do the same.⁸³” As of November 2020, however, there have not been any updates to the status of the treaty so far. Should the Trump administration fail to reach an agreement, the incoming administration led by Joe Biden will have few weeks to make a decision before the treaty expires in February 5, 2021.

⁸¹ Simmons, K. and Marx W. “China overshadows nuclear treaty talks between U.S., Russia” NBC News (23 June 2020), <https://www.nbcnews.com/news/world/china-overshadows-nuclear-treaty-talks-between-u-s-russia-n1231692>

⁸² Ward, A. “How Trump’s China obsession could derail nuclear arms control, in one tweet” *Vox*, (22 June 2020), <https://www.vox.com/2020/6/22/21298914/usa-russia-china-nuclear-new-start-vienna>

⁸³ J. Detsch and R. Gramer, “Trump Moves Closer to Renewing Nuclear Treaty with Russia”, *Foreign Policy* (20 October 2020), <https://foreignpolicy.com/2020/10/20/trump-putin-new-start-nuclear-arms-control-treaty/>

Chinese Nuclear Policy During the Trump Administration

In response to U.S. continuous development and technological advances in MD, China has also been rapidly moving towards enhancing its capabilities to reach the level of a genuine medium nuclear power. Although China had long been considered as one of the five major nuclear powers since its first successfully conducted nuclear weapons test in 1964, because of its minimal deterrence policy, its relatively miniscule nuclear arsenal did not qualify as a true minimum nuclear power. However, as an offensive response to U.S. enhancement of defensive capabilities, China has started to rapidly develop, modernize and expand its nuclear forces, so that its enhanced nuclear capabilities would qualify to become a genuine medium nuclear power.

Such changes and advances in the Chinese nuclear force indicate that it is steadily moving from a merely assured, unreliable, ‘minimum deterrence’ to ‘assured destruction.’ China is quickly acquiring the capability for assured destruction through development of a new generation of land- and sea-based strategic missiles, armed with multiple warheads. With the development of these new capabilities, Beijing aims to cultivate the ability to inflict assured retaliatory strike, which will successfully deter a first-strike nuclear attack by a dominant defender and aggressor, the United States.

Notable developments in the Chinese military can be categorized into three key areas: 1) enhancing the survivability of its nuclear warhead, 2) diversifying the delivery vehicles of nuclear warhead, and 3) increasing the number of strategically deployed warhead. In the first category, China has enhanced the capabilities of its DF-5 ICBM missiles so that they can be readily launched from vertical-launching system (VLS) launchers, using solid fuel. This is a major shift from its previous operation method, storing the ICBMS horizontally in storage mines, then setting them up vertically for launch, using liquid missiles. The shift in operation

procedure significantly reduces the necessary preparation time for an attack, which also reduces the chances of being detected by enemy intelligence⁸⁴. Moreover, China has been developing Multiply Independently Targetable Reentry Vehicles (MIRVs), which are systems that allow a single missile to employ multiple warheads, drastically improving the warheads' survivability. U.S. DoD reports state that the Chinese People's Liberation Army (PLA) now operates at least three warheads on a single DF-5 ICBM.⁸⁵ More recently, China has been developing a new variant of DF-5 called the DF-5C missiles, which employ ten warheads on a single missile, according to the Chinese Defense Ministry.⁸⁶ Besides the enhancement programs on the DF-5 variant ICBMs, China has also been enhancing its MRBMs, namely the DF-31 series missiles, which previously had a 7,200km range. Reportedly these missiles are undergoing performance improvements, aimed at enhancing their range to about 11,200km. Most recently, the newest generation of Chinese ICBM under development is the DF-41, which is believed to carry up to 10 MIRVs, with a range of about 12,000-15,000 km, using solid fuel.⁸⁷

Second, the Chinese have been modernizing its nuclear force to diversify the delivery vehicles of nuclear warhead. The most significant step taken by Chinese in this aspect was the breakthroughs in Chinese nuclear submarine development. With the deployment of their Type 094 (or Jin-class) submarines, China has been operating JL-2 Submarine-Launched Ballistic

⁸⁴ 신성호 (2018). "21 세기 미중 핵 안보 딜레마의 심화: 저비스의 핵억제와 안보 딜레마이론을 중심으로" *국가전략*. 2018 년 제 24 권 2 호.

⁸⁵ NASIC. 2017. BALLISTIC AND CRUISE MISSILE THREAT. the National Air and Space Intelligence Center (June 2017) <http://www.nasic.af.mil/LinkClick.aspx?fileticket=F2VLcKSmCTE%3d&portalid=1>

⁸⁶ Gertz, Bill. 2017. "China's Defense Ministry Confirms Multi-Warhead Missile Test: Claims 'normal' test did not target U.S." *The Washington Free Beacon*, February 10, 2017 <http://freebeacon.com/national-security/chinadefense-ministry-confirms-multi-warhead-missile-test/>

⁸⁷ Missile Defense Project, "DF-41 (Dong Feng-41 / CSS-X-20)," *Missile Threat*, Center for Strategic and International Studies, August 12, 2016, last modified October 8, 2019, <https://missilethreat.csis.org/missile/df-41/>.

Missiles (JLBMs) on six new strategic nuclear submarines. The Chinese nuclear submarine force is also under constant performance updates, as a new generation of Type 096 class SSBNs (ballistic missile submarine) are expected to launch in the early 2020s⁸⁸. These new generation SSBNs will be armed with the JL-3 SLBMs, which will operate at a range of up to 12,100 km.⁸⁹ These changes represent a major change in China's offensive nuclear capability, by greatly enhancing the capability of its retaliatory force by keeping them clandestine underwater, and operating at all time. Furthermore, recent U.S. intelligence reports that China is also developing a nuclear air-launched ballistic missile and revealed the H-6N as its first nuclear-capable bomber, capable of refueling in midair⁹⁰. Arguably, with the development and modernization of its SSBN and SLBMs, China has secured a true second-strike nuclear capability, moving further along the power distribution spectrum towards MAD.

Lastly, China has also been steadily increasing the number of strategically deployed warhead since the early 2000s. Currently China deploys about 290 nuclear warheads. In an article in the Chinese state-run newspaper, *Huanqiu Shibao (Global Times)*, Chinese strategist stated that China “needs to expand the number of its nuclear warheads to 1,000 in a relatively short time.” This article also stated that China needs to deploy and operate at least 100 DF-41 strategic missiles in order to better counter “U.S. strategic ambitions.”⁹¹ The Pentagon also

⁸⁸ ["United States Office of the Secretary of Defense: Annual Report To Congress 2017"](#) (PDF). *Department of Defense*. p. 24.

⁸⁹ Gertz, Bill. 2019. “China Tests New Sub-Launched Strategic Missile”” *The Washington Free Beacon*, June 13, 2019 [China Tests New Sub-Launched JL-3 Strategic Missile \(freebeacon.com\)](#)

⁹⁰ Gould, J. 2020. “China plans to double nuclear arsenal, Pentagon says” *Defense News*, September 1 2020, [China plans to double nuclear arsenal, Pentagon says \(defensenews.com\)](#)

⁹¹ “China needs to increase its warheads to 1,000” *Global Times*, May 8 2020, [China needs to increase its nuclear warheads to 1,000 - Global Times](#)

reported to the U.S. Congress that China's nuclear warhead stockpile is estimated to at least double in size over the next decade, in its annual "China Military Power Report".⁹²

As observed in the above examples, China has been steadily improving its nuclear forces through force modernization and accumulating its nuclear stockpile. Such activities can be interpreted as Chinese deliberate intent to counter U.S. defensive capability with more advanced, diversified, and large-scale nuclear force, so that its offensive capabilities would match and overwhelm MD. As seen in the previous example of the Obama administration, as Trump took measures to further develop controversial MD programs such as space-based intercept, and threatened to leave disarmament agreements such as the INF and New START, China has countered the threat by enhancing its own nuclear force. Recent developments in the Chinese PLA indicate that it is moving forward to complete the nuclear triad (composed of GLBMs, SSBNs and SLBMS, strategic bombers and ALBMs), and enlarging its nuclear arsenal, which are measures that will allow China to qualify as a genuine nuclear power, capable of reaching a state of MAD against the United States.

Summary

The Trump administration overturned a vast majority of the decisions made by its predecessor. Such decisions were anticipated from the beginning of his presidential election campaign, "Make America Great Again", which underlined the fallacy of Wilsonian foreign policy, and vowed to keep America out of international affairs for its own benefit. Under

⁹² Department of Defense, "Military and Security Developments Involving the People's Republic of China 2020, Annual Report to Congress", Aug 21 2020, <https://media.defense.gov/2020/Sep/01/2002488689/-1/-1/1/2020-DOD-CHINA-MILITARY-POWER-REPORT-FINAL.PDF>

principled realism, the Trump administration's National Security Strategy stated China as an adversary, and a revisionist power.

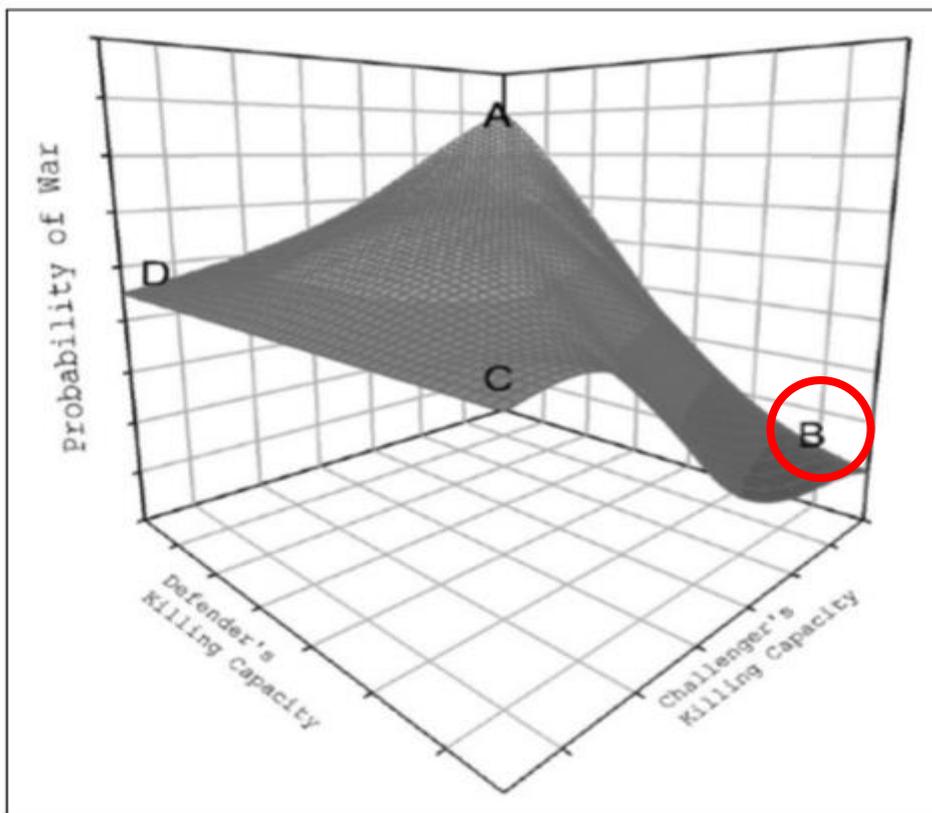
More specifically with regards to Missile Defense, Trump revived the space-based intercept and sensor programs, as well as other boost-phase programs such as Airborne Laser (ABL), airborne interceptor developments based on drones and other fighter aircraft. Although the 2019 MDR document stated that MD is principally aimed against rogue states and not advanced nuclear powers such as China or Russia, all of these capabilities, if successfully developed, could theoretically be used to intercept Chinese and Russian missiles. The ambiguous language in the MDR that states it would protect the country against an attack "from any source", and similar remarks made by Trump himself, further degraded the credibility of great-power reassurance.

In addition to sending an approval for new innovative MD development programs, the Trump administration also made decisions that would alter its offensive capabilities by withdrawing from the INF treaty, which was a key arms control arrangement that capped U.S. medium-range ballistic missile development and deployment. The demise of the INF treaty has allowed the United States to freely deploy intermediate-range ballistic missiles in the Asia-Pacific theater, which would be aimed at China. Trump also ordered the modernization of its nuclear warhead inventory, and further invest in the development of future nuclear warhead technologies, which involve a more limited use.

Applying the Kang-Kugler framework, the Trump administration's MD policy can be understood as an attempt to alter the 'power' or 'killing capability' relation between the defender (United States) and the challenger (China). The defender strives to maintain a preponderant advantage on the distribution of nuclear power, in order to ensure stability under the status quo, which is favorable to the defender. The series of actions taken by the Trump

administration with regards to MD show that its defensive capability was greatly enhanced while its offensive capability was also effectively augmented. Ultimately, the United States maintained a massively disproportionate nuclear power advantage against China. The status of the power balance and possibility of war, as explained by the Kang-Kugler matrix, was maintained at point B: Stable nuclear deterrence. Visual representation is provided in <Figure 5.>

Contrarily, in response to the Trump administration’s MD policy, China, as the defender, constantly developed more advanced technologies to penetrate U.S. missile defense, and simultaneously pursued nuclear weapons modernization to further approach a state of nuclear power parity with the United States. <Table 3> represents the application of the Kang-Kugler framework in analyzing the Trump administration’s MD policy.



<Figure 5: Visual representation of the Kang-Kugler matrix during the Trump Administration>

<Table 3: Application of the Kang-Kugler Framework>

Distribution of Nuclear Capability	Actor	Assessment of Status Quo	Attitude toward Risk	Stability	Expected Course of Action
Skewed to the United States	Defender: United States	Satisfied	Risk-averse	Stable East Asia	<ol style="list-style-type: none"> 1) Increase capability of missile defense systems. 2) Develop an advanced portfolio of defensive capabilities to address Chinese missile technology advances. 3) Modernize its nuclear warhead inventory for possible “limited attack options.”
	Challenger: China	Dissatisfied	Risk-adopting		<ol style="list-style-type: none"> 1) Develop advanced missile technology to penetrate U.S. BMD systems, 2) Achieve nuclear power parity and MAD.

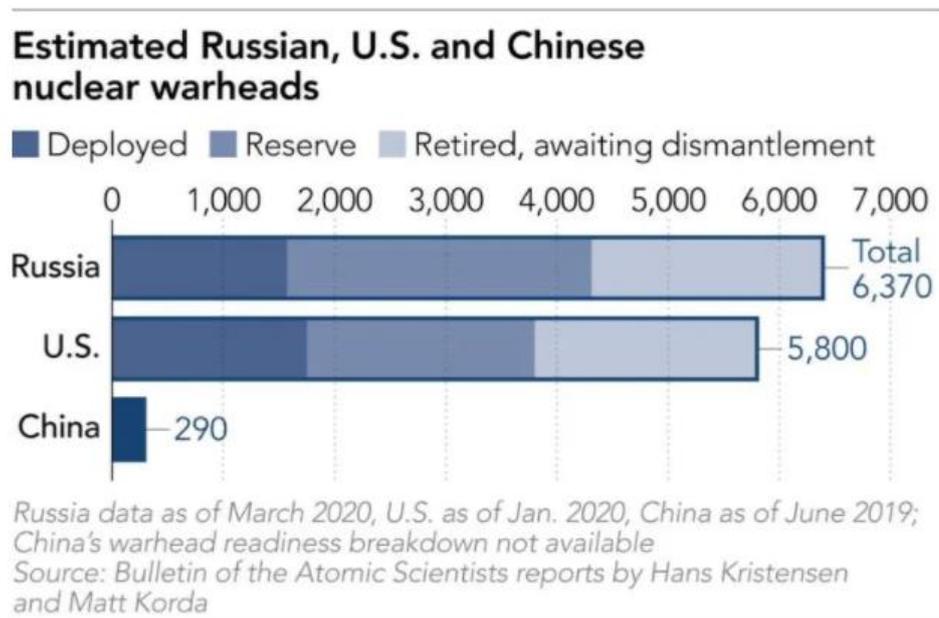
VI. Implications

The Kang-Kugler framework explains that nuclear preponderance of the dominant state – the United States – will lead to stable deterrence. However, there are important implications we need to consider.

Firstly, stable deterrence is achieved, but at what costs? If billions of dollars are being consumed on both sides to develop stronger “spears” to penetrate the opponent’s “shield”, and vice versa, is this a truly stable order? Under this theoretical framework, for the United States to maintain stable deterrence, it must sustain its defensive and offensive nuclear advantage over its opponents, who are constantly challenging this distribution of power.

From the analyses of the two case studies, we can assume that three outcomes are possible in the near future. The first possible outcome, which is also the least probable, is an armed conflict involving nuclear weapons occurring in East Asia. This would be assumed as the most improbable outcome due to the massive imbalance and overwhelming preponderant advantage of nuclear power, skewed to the United States. (See Figure 6: Estimated nuclear warheads deployed by US-Russia-China) The second possible scenario is an arms control regime being negotiated between the U.S. and China. However, because threat perceptions toward North Korea’s nuclear program vastly diverge between U.S. and China, this becomes overtly complicated. In addition, Chinese nuclear capability lags far behind that of the United States, at least for the time being. As long as Beijing maintains its principle of minimum deterrence and a defensive nuclear posture, it is doubtful that Washington can provide some kind of reward or security assurance towards Beijing, while at the same time pursuing advanced MD capability development programs. For example, the limits placed on the maximum number of deployable strategic nuclear warheads, as stipulated by the New START agreement was 1,550. The number of Chinese deployed nuclear warhead is estimated to be

less than 300, which falls far below the limit placed by New START.



<Figure 6: Estimated Russian, U.S. and Chinese nuclear warheads >

The third and most probable outcome of such a dynamic is a never-ending “nuclear security dilemma” between the United States and China. As evidenced in the two Case Studies, ever since U.S. pursuit of MD in East Asia we are witnessing Chinese development of advanced ballistic missile systems such as “multiple independently targetable reentry vehicles (MIRVs)” and “maneuverable reentry vehicles (MaRV)”, as well as decoys and jamming capabilities. Advanced cruise missiles and new “hypersonic glide vehicles (HGVs)” that have the capability to travel at significantly higher velocities than U.S. missile interceptors, are also under development. The United States under the Trump Administration announced plans to respond to these technological advances with technological innovations of its own, with vastly experimental research and development programs that include drones equipped with airborne laser weapons, “maneuverable kill vehicles”, space-based sensors and interceptors.

Another major implication to be explored when applying the Kang-Kugler framework is that, if the goal of the dominant defender is to maintain its nuclear superiority, “how much”,

or “to what degree” of superiority must be maintained? While Kang and Kugler’s theory made the argument that such a position is to be taken by the defender, it does not provide an in-depth explanation of where is its desired point in the spectrum of the distribution of nuclear power. Is the goal to completely diminish and eliminate nuclear weapons of its opponent? Further development of the theoretical model to explain a desired balance by the dominant power could provide useful insights to contemporary U.S. MD strategy in East Asia.

Especially when comparing the size of the nuclear arsenal of the United States and China, one could argue that China’s nuclear capacity is no match to that of the United States. According to the 2020 report by the Federation of American Scientists, the U.S. possesses 5,800 nuclear warheads in its inventory, while China has 320, which is merely 5.5%. In addition, the United States has MD sensors deployed on the Korea peninsula, Japan, Alaska, and Hawaii, along with interceptors that can shoot down a possible nuclear attack from China. Therefore, the United States arguably already has a stable and overwhelming preponderance of nuclear capacity against China, and yet, according to recent publications by the U.S. DoD, it feels threatened by a possible Chinese aggression.

Lastly, we cannot simply presume that all challengers are inherently dissatisfied, and their dissatisfaction with the status quo is fixed. We need to explore the possibility of a situation where the dominant state accommodates the challenger’s complaints and reforms the distribution to provide benefits that better suit the challenger’s elevated status of power. This way, a new dyad of “satisfied” defender – challenger relationship can be established. Under this condition, stable deterrence can be achieved with credible assurance that an “unthinkable” use of attack will be met with equal retaliation, leading to mutual destruction from both sides.

The Obama Administration’s MD policy provides an empirical case of an attempt where the defender tried to engage with the challenger, providing reassurance to China that

U.S.-led MD would not affect the nuclear deterrence between the two powers. However, this diplomatic experiment ultimately failed due to two factors: the massive imbalance between the U.S. and Chinese nuclear capabilities and different perceptions on the North Korean missile threat.

“Threat perception” is a concept that is highly subjective and hard to measure. At the end of the day, perception is transient, unreliable, and intangible; which is why under the Kang-Kugler framework, MAD is not deemed stable but rather tenuous, because stability is dependent upon perception.

In the future, possible ways to improve upon the lessons learned from the Obama administration could be to incorporate China into more cooperative security arrangements and align nations in East Asia with similar evaluations of the status quo. Such an attempt has been made multiple times with Russia, with long history of arms control arrangements such as the INF and the New START (Strategic Arms Reduction Treaty). However, considering the decisions made by the United States under the Trump Administration, the prospect for the U.S. to cooperate with China and Russia for nuclear arms reduction and de-escalation of arms race seems gloomy.

VII. Conclusion

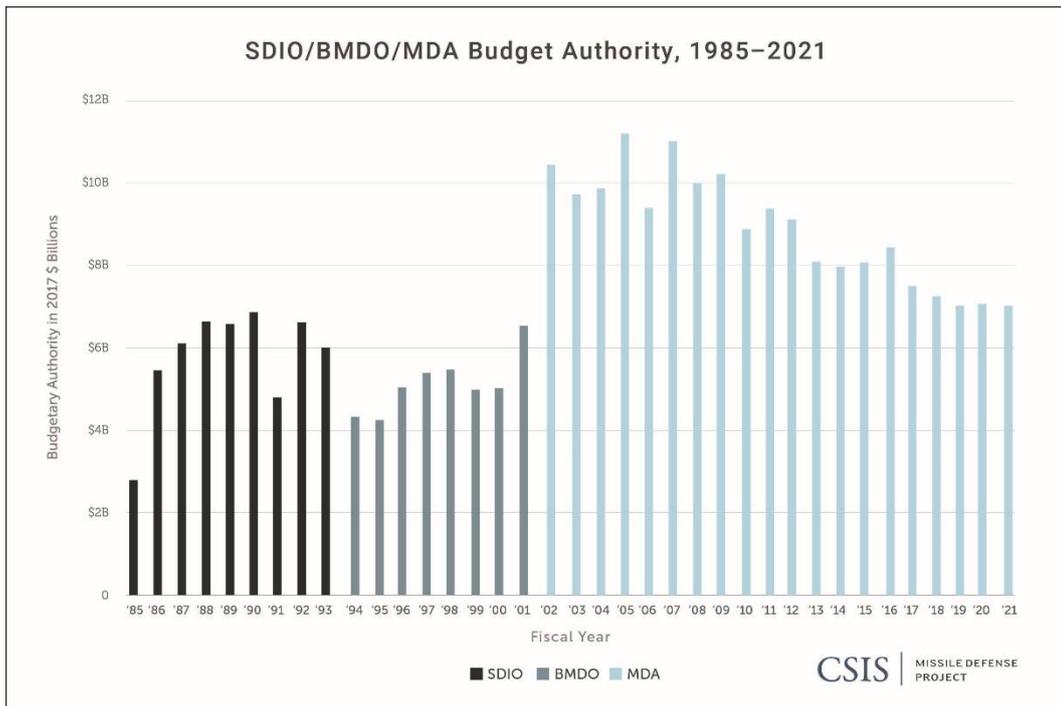
The purpose of this research is to provide an explanation and analysis of the U.S. Missile Defense strategy in East Asia, based on the theoretical framework proposed by Kyungkook Kang and Jacek Kugler. These scholars used the power transition theory to argue

that the optimal choice for the dominant power is to maintain a preponderant advantage over the challenger. Under the power transition theory, a situation where the challenger has enough capacity to match the defender is most dangerous and unstable, therefore the defender tries to maintain the advantageous distribution of nuclear power.

With the application of this framework, this paper showed that contemporary U.S. missile defense strategy in East Asia provides strong empirical evidence in support of this argument. An assessment of the U.S. Missile Defense strategy clearly shows that the United States views China as a challenger to the hierarchical international order established in East Asia, as it plans to maintain an obvious nuclear advantage by establishing and further diversifying defensive capabilities, while also modernizing the U.S. nuclear inventory for possible “attack options”.

The implications from these findings suggest that a U.S. missile defense strategy based on a power transition theory will ultimately lead to a “nuclear security dilemma”, where the U.S. and its contender – China – will compete in a nuclear arms race. A possible solution is to approach China with engagement; and accommodate its interests by socializing Beijing with other regional East Asian states, so that Beijing’s assessment of the status quo is aligned with the rest of the regional community. The biggest obstacle to this approach is the existence of the North Korean nuclear threat, which drives a wedge between the threat perceptions of China and that of the United States and its allies in East Asia. Moreover, the prospect of the U.S. engaging in security agreements with China does not seem optimistic with the current trajectory of the United States heading toward a more confrontational and competitive approach to its “challenger.”

Appendix A.



<History of U.S. Missile Defense budget, 1985-2021>

Source: CSIS, Missile Defense Project (<https://missilethreat.csis.org/mda-and-the-color-of-money/>)

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국문초록

2016년 7월 8일, 미국은 주한미군에 고고도미사일방어체계(사드, THAAD)를 배치하기로 한국 정부와 합의하였다. 이는 아시아태평양 지역에 지속적으로 자국의 미사일 방어(MD) 전력을 배치하고 운영하려는 미국의 방어전략의 일환이었다. 나아가 2019년에는 Airborne Laser, 우주기반 레이더 및 요격미사일 체계 등의 최첨단 미사일방어 무기체계를 개발하겠다는 계획을 발표하기도 하였다. 미국의 지속적인 미사일방어 전력개발은 많은 라이벌 국가, 특히 중국으로부터 큰 반향을 일으켰다. 미국은 자국 MD체계의 역내 배치가 안정을 불러올 것이라 주장하는 반면, 미국의 MD 기술개발 및 전진배치 정책은 중국 핵무기체계의 개발을 불러일으켰다는 비판에 직면해있다. 상호확증파괴(MAD) 이론은 MD의 배치가 핵무기의 절대적인 상호파괴력으로 보장된 안정성을 깨트릴 수 있다고 경고한다. 그렇다면 미국은 왜 지속적으로 동아시아에 MD 개발 및 배치 정책을 고수하고 있는 것인가?

위 질문에 답하기 위해, 그리고 동아시아 지역에서 미국의 MD전략의 이론적 배경을 이해하기 위해 본 논문은 Kyungkook Kang과 Jacek Kugler의 세력전이이론에 기반한 이론적 틀을 활용하려 한다. 이들은 방어적인 패권국이 도전국에 대해 강력한 전력우위를 유지하는 것이 최선의 선택이라 주장한다. 이 이론에 따르면, 도전국의 핵 전력이 패권국의 전력과 대등해지는 상황은 위험하며 불안정하기 때문에, 패권국은 최대한 자국에게 유리한 핵 전력 우위를 유지하려 하며, 이는 상호확증파괴이론과는 상반된다.

본 논문은 미국의 오바마 정부 및 트럼프 정부에서 행해진 일련의 동아시아 지역 미국의 MD관련 정책과, 여기에 대응하는 중국의 반응을 두 개의 케이스 스터디로 분류하여 위의 이론적 틀을 실제 사건에 대입하고 분석하였으며, 이를 통해 패권국인 미국은 도전국인 중국에 대해 절대적인 핵 전력 우위를 유지하기 위해 자국의 MD체계를 동아시아 지역에 배치 및 지속 기술개발을 하고 있다는 결론을 도출한다. 이러한 분석 결과는, 세력전이 이론에 기반한 MD 정책은 결론적으로 미국의 방어적 능력 강화에 여기에 대응하는 중국의 공세적 능력 강화라는 끊임 없는 핵 전력 경쟁 속에 새로운 안보 딜레마에 직면하게 될 것이라는 점을 시사한다.

주요어: 미사일 방어, 핵 억제, 상호확증파괴, 세력전이 이론, 안보 딜레마

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