Should nuclear weapons be banned?

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Abstract

This paper stresses the necessity of having nuclear weapons prohibited. To understand the complexities of why these weapons pose an existential threat and are redundant in the 21st century, it is essential to first understand in the conceptual background the logic of them being built by delving into the key theories of scholars from the neorealist school and complement it with the rationale of nuclear deterrence and coercion. Within the following section the dynamics of the "Cold War" era, with focus on the nuclear arms race between the two superpowers and the nuclear near miss in the "Cuban Missile Crisis", will be taken into consideration to later evaluate whether the arguments supporting nuclear weapons in theory hold up on the grounds of practicality, morality and chances of being used today. The result of this paper is that nuclear weapons are immoral since they put the lives of people at risk, irrelevant as they do not have any practical use and incredibly dangerous as they continue to pose a threat nowadays, especially in a multipolar environment dominated by less rational state and non-state actors. The idea is advanced that the Articles of the Non-Proliferation Treaty (NPT) should be put into force to mitigate further horizontal and vertical proliferation.

1. Introduction

The aim of this essay is to assess whether nuclear weapons should be banned. As simple as this subject seems at first glance, it is highly relevant as their presence and proliferation poses a great risk in our multipolar world. The paper argues that despite the perceived advantages of nuclear deterrence and coercion, as outlined by defensive and offensive realism, nuclear weapons should be banned on the basis of their immorality to kill many civilians indiscriminately, their lacking utility in balancing power or coercing states to achieve certain objectives and their continuation of potential threats stemming from past and current vertical and horizontal proliferation. To gain an understanding behind the logic of having nuclear weapons built, it is necessary to look into the primary literature of key scholars of neorealism such as Kenneth Waltz, Stephen Walt and John Mearsheimer. Within the conceptual background of this paper the theories of these academics will be expanded upon in the school of nuclear deterrence and coercion. In the next section, these theories will be applied in the "Cold War" context to see whether the proposed advantages hold up given the ensuing nuclear arms race and the possibility of a nuclear near miss. The analysis in the last part will reveal whether the use of nuclear arms is justified, how useful such weapons are and if they threaten the stability of our world. The paper concludes that given their immorality, impracticality and chances of being used nuclear weapons should be banned, advancing the idea of enforcing the NPT to deter the further build-up and spread of nuclear weapons.

2. Conceptual Background: Importance of Nuclear Weapons according to Neo-Realism

2.1. Core Principles of Neo-Realism

The invention of nuclear weapons has radically changed the landscape of war and security. Being developed and tested for the first, and currently, last time on another country, in the case of Nagasaki and Hiroshima during the Second World War, one of the causes why these types of arms even exist in the first place, according to the security model, is for countries to maintain their "national security against foreign threats, especially nuclear threats".[1] This line of thinking fits the realist tradition, with focus on neorealism and its branches of defensive and offensive structural realism, as it underlines that our international system is defined by "power, fear and anarchy"[2], with states having the ability to maintain their survival from foreign threats by balancing power and maximizing their own power capabilities. As the found of neorealism Kenneth Waltz (1979) argues in *"Theory of International Politics"* that there are three elements in political structures, mainly a non-existent overarching authority, which shows that the ordering principle is one of anarchy; that all units within the system have the same character, being functionally alike, and that the distribution of capabilities is the main structural variable, depending on whether the system is multipolar or bipolar.[3] For him, the behaviour of states is based on their choice of either competing or following "norms" in terms of what gives them the most "benefit".[4] States behaviour is therefore based on rationality and self-interest.

Branching from Waltz's theoretical foundations of neorealism, defensive realism focuses on the rational choice of actors; the variable of offence-defence which makes the possibility of conflict less likely given that more defence is maintained through prevailing technologies; and the state's' desire to preserve the existing state of affair Stephen Walt (1987) argues in his 'balance of threat' theory that aggressive and revisionist behavior only leads to self-defeat and that the status quo should be maintained through policies that enact restraint.[5] In order to avoid a security dilemma, other defensive structural realists such as Glaser (2016) contend that states can invest in 'signals' such as the reduction of their arsenals or build up arms for defense and deterrence purposes with a limited offensive utility to show that their intentions are peaceful. These signals are essential to mitigate arms races and war.[6] As another branch of neorealism, offensive structural realists such as Mearsheimer (20014) argue that in an uncertain

[1] Scott D. Sagan, "Why Do States Build Nuclear Weapons?: Three Models in Search of a Bomb," *International Security* 21, no. 3. (1997)): 55. https://doi.org/10.2307/2539273.
[2] Paul D. Williams and Matt McDonald, *Security Studies: An Introduction* (London: Routledge, 2018), 18.
[3] Kenneth N. Waltz, *Theory of International Politics*. (Reading MA: Addison – Wesley, 1979), 88 – 99.
[4] Ibid., 88 - 99.
[5] Stephen Walt, *The Origins of Alliances*. (Ithaca: Cornell University Press, 1987), 264– 283.
[6] Charles Glaser et al., "Correspondence: Can Great Powers Discern Intentions?," *International Security* 40, no. 3 (Winter 2016): 136 – 138.

anarchic environment there is a possibility for states to use their power to threaten the national security of other states.[7] He further emphasizes that since great powers, as rational actors, fear each other's offensive military capabilities, their main goal is survival through the maximization of their relative power.[8] For Mearsheimer only states that have the most power in the system can ensure their safety.[9]

2.2. Application of Realist Principles in the Nuclear Weapons Context

When applying the principles of neorealism in the context of nuclear weapons it becomes clear why their development is seen as necessary and how they can be utilized. As a proponent of the rational deterrence theory and as a nuclear optimist, Waltz (2003) contends that more nuclear weapons will lead to more stability given the rationality of these actors, making wars less likely through retaliatory nuclear deterrence.[10] This argument promotes vertical proliferation where states that are currently armed with nuclear weapons are acquiring more, enhancing, therefore, their stockpile.[11] Three main characteristics can be expanded upon Waltz's arguments. First of all there are types of nuclear deterrence, with central nuclear deterrence focusing on the retaliation to a nuclear attack on one's territory whereas extended nuclear deterrence being the protection offered to an ally by a nuclear weapon state against potential threats.[12] Moreover, credibility plays an important role being the "quality of being believed"[13]. States are not only credible in their ability to "inflict harm" since they also need to be able to have "the adversary convinced of one's will to conduct a strike if needed".[14] Lastly, rationality is further essential for nuclear deterrence as it underlines the certainty that nuclear weapon states act in accordance with their expected utility and the cost-benefit of their actions. With these points in mind, the variable of offense-defense from defensive realism and the 'balance of threat' theory have great application in nuclear deterrence, especially in the theory of Mutual Assured Destruction (MAD). MAD states that stability is ensured in an arms race when actors are vulnerable to a retaliatory nuclear strike in the case they have pursued a first nuclear strike. In order for nuclear deterrence to function, a nuclear weapon state must be believable both in intention and ability to have nuclear weapons used in case of retaliation.[15] The buildup of nuclear

[7] John Mearsheimer, *The Tragedy of Great Power Politics* (New York: W.W. Norton, 2014), 30 –31.
[8] Ibid., 32 – 36.
[9] Ibid., 140 –155.
[10] Scott D. Sagan and Kenneth N. Waltz, *The Spread of Nuclear Weapons: A Debate Renewed* (New York: W.W. Norton & Company, 2003), 89 – 124.
[11] Andrew Futter, *The Politics of Nuclear Weapons* (London: SAGE: 2015), 56.
[12] Lawrence Freedman, *Deterrence* (Cambridge: Polity Press, 2004), 35.
[13] Patrick M. Morgan, "Deterrence Now," *Cambridge University Press* (2009): 15, https://doi.org/10.1017/CBO9780511491573.
[14] Thomas C. Schelling, *Arms and Influence* (London: Yale University Press, 2008), 35.
[15] Andrew Futter, *The Politics of Nuclear Weapons*, 71.

weapons, in this case, will serve, as argued by Gaser (2016), as a signal of deterrence. With this in mind, it would not be beneficial for any rational party to strike the other with a nuclear weapon as this will result in mutual annihilation. Deterrence is, therefore, achievable as states want to avoid the "threat of punishment"[16] where countervalue targets, population centers, or counterforce targets, military bases, would be struck in a retaliation attack. The success of deterrence lies in opponents not doing anything out of fear of mutual annihilation, maintaining therefore the status quo.

Besides deterrence, nuclear weapons can also be used for coercive purposes. Nuclear states can compel others through blackmail to accomplish their political interest. According to the Nuclear Coerionist School, since states are rational, they will compel to the wishes of a nuclear coercer out of fear having, for instance, their major cities destroyed potentially killing, as a result, thousands up to millions of civilians.[17] In essence, nuclear coercion is successful when it is able to modify the status quo in its relationship with the adversary which fears the costs of war resulting from a nuclear threat. The debate in the Nuclear Coercionist School can be divided between nuclear absolutists and nuclear relativists. In accordance to nuclear absolutists any state that possesses a "nuclear arsenal" can blackmail other countries regardless of their "stronger military capabilities".[18] Conversely, the focus of nuclear relativists is on nuclear balance with the argument that nuclear coercion depends on how able a state is to be advantageous over its adversary in terms of nuclear weapons. In this situation, states can use nuclear coercion against non-nuclear states but not against countries with nuclear weapons as they have the capability to retaliate and cause destruction. However, other nuclear relativists further argue that nuclear coercion works also against other nuclear states depending on their "nuclear superiority"[19]. This superiority can be achieved based on the sheer number of nuclear weapons and their technological sophistication. This is reflective of offensive realism which emphasizes the need of power maximization to ensure a state's survival as a coercer can receive through blackmail monetary reparations or a disputed territory as well as change a state's policy that may be essential for its security. When states have a "nuclear superiority" over other states they can apply brinkmanship tactics which increases the chances of a potential crisis from accidental or deliberate use of a nuclear weapon, coercing, therefore, their opponents which out of fear want to avoid a nuclear war.[20]

[16] Ibid, 74.
[17] Tod S. Sechser and Matthew Fuhrmann, *Nuclear Weapons and Coercive Diplomacy* (Cambridge University Press, 2017), 8.
[18] Ibid.
[19] Ibid, 9.
[20] Ibid., 132 – 172.

3. Case Study: Nuclear Weapons Dynamics during the "Cold War"

3.1. Nuclear Deterrence in a Bipolar World

It can be said that Waltz's nuclear deterrence claims are based on the view that during the first nuclear age, the "Cold War" period, nuclear weapons have prevented the outbreak of war. According to him, nuclear weapons in the post-war world have changed the "multipolar structure" to one of "bipolarity" which ensured "more stability" as relative power was easier to estimate and the United States and the Soviet Union relied militarily mainly on their "own military capabilities" than that of their allies.[21] With the US releasing its atomic bombs on Nagasaki and Hiroshima, the Soviet Union was led in August 1949 to develop its own nuclear arms out of fear of having its security threatened. During this time the U.S. has tried to convince the Soviet Union of the threat of using nuclear weapons in the case Western Europe was invaded. From the 1950s and 1960s the U.S. was superior in terms of nuclear forces. Nevertheless, as of the late 1960s the Soviet Union has achieved nuclear parity.[22] With both superpowers entering an arms competition a security dilemma was created, in which tit-for-tat strategies have been used with the improvement in the quantity and quality of their nuclear armament. The result of the arms race has been that from 1945 until 1991 these actors possessed 98 percent of the "128,000 nuclear warheads"[23]. Besides nuclear offensive systems, the arms race expanded to various defensive systems and deployment plans.[24] For both offensive and defensive systems it has been estimated that during this period $3.6 billion have been spent on average.[25]

To make deterrence credible both "the strategy of the U.S. and the Soviet Union was one of preemption".[26] It is argued that the "nuclear war plans "of both superpowers included many targets such as "military forces", "nuclear weapon stockpiles", "industrial centers", and "political centers".[27] It has been even argued by the U.S. Secretary of Defense Robert McNamara in the mid-1960s that to ensure deterrence the level of destruction to an adversary should be 20 to 33 percent of the population and 50 to

[21] Kenneth N. Waltz, "The Spread of Nuclear Weapons: More May Be Better," *London Institute for Strategic Studies*, no 171 (1981): 1 – 35.https://doi.org/10.1080/05679328108457394.
[22] Andrew Futter, *The Politics of Nuclear Weapons*, 70 - 73.
[23] Ibid., 54.
[24] Richard K. Betts, "The New Threat of Mass Destruction," *Foreign Affairs* (January 1998), 26 – 41. https://doi.org/10.2307/20048360
[25] Kevin O'Neil, "Building the Bomb," *Atomic Audit: The Costs and Consequences of U.S. Nuclear Weapons Since 1940*, ed. Stephen I. Schwartz. (Washington D.C.: Brookings Institution Press, 1998), 83.
[26] David A. Rosenberg, "The Origins of Overkill: Nuclear Weapons and American Strategy, 1945 – 1960," in *Strategy and Nuclear Deterrence*, ed. Steven E. Miller (Princeton: Princeton University Press, 1984.), 113 – 181.
[27] Ball, Desmond, "U.S. Strategic Forces: How Would They Be Used?," in Miller, *Strategy and Nuclear Deterrence*, 217.

75 percent of the industry"[28]. According to the "MAD theory", it can be argued that the Soviet Union and the United deterred each other from going to war fearing their ability to punish the other as both superpowers had the capacity of retaliation through counter value or counter force targeting. The logic behind this theory is best shown in 1972 when both parties signed the "Anti-Ballistic Missile Treaty (ABM Treaty)" which "banned them from deploying defence systems against anti-ballistic missiles" as this would only exacerbate the security dilemma since the adversary will increase its offensive capabilities. [29] Given that this undermined the condition of stable mutual deterrence, the offence had to be advantageous over the ability of the defence. Less defence would ensure the vulnerability of the two actors in the case of retaliation, maintaining, therefore, stability in the bipolar system.

3.2. Nuclear Coercion in the "Cuban Missile Crisis"

The "Cuban Missile Crisis" is considered to be a successful case of nuclear blackmail where the United States was able to coerce the Soviet Union not to escalate the conflict to a nuclear war.[30] Feeling threatened of the increasing strategic superiority of the Soviet Union, the U.S. started to station nuclear missiles on the territory of NATO partners for defensive means.[31] With the stationing of missiles in Turkey in 1961, Khrushchev saw this as a threat to Moscow leading him, at the start of September 1962, to introduce nuclear arms in Cuba. His plans were to defend the communist regime of Fidel Castro through extended nuclear deterrence and enhance its credibility of retaliation having the ability to strike the U.S. at a closer proximity.[32] As soon Kenedy learnt that missile sites have been constructed on the island, he had Khrushchev warned "the gravest issues would arise"[33] if the Soviet Union introduced ballistic missiles or bases in Cuba. Khrushchev disregarding Kennedy's threat escalated to a crisis which lasted for thirteen days, bringing both superpowers very close to engaging in a nuclear war.[34]

There were two alternatives which the United States could undertake in order to solve the situation of having the missiles of the Soviet Union based in Cuba. The first was to launch an airstrike to destroy the

[28] Lawrence, Freedman. *The Evolution of Nuclear Strategy*, 2nd ed. (New York: St. Martin's Press, 1989), 246 – 249.
[29] "Treaty on the limitation of anti – ballistic missile systems," open for signature 26 May 1972, Treaty Series: Treaties and International Agreements Registered of Filed and Recorded with the Secretariat of the United Nations, no. 13446 (1972): 14 – 17, https://treaties.un.org/doc/Publication/UNTS/Volume%20944/volume – 944 – I – 13446 – English.pdf
[30] Marc Trachtenberg,"The Influence of Nuclear Weapons in the Cuban Missile Crisis," *International Security* 10, iss. 1, (1985): 137 – 163. https://doi.org/10.2307/2538793.
[31] Andreas M. Bock and Ingo Henneberg, "Why Balancing Fails," *Lehrstuhl Internationale Politik* (2013): 1 – 38.
[32] Ibid., 21.
[33] Graham Allison and Philip Zelikow, *Essence of Decision Explaining the Cuban Missile Crisis*. 2nd ed. (London: Longman Publishing Group, 1999), 79.
[34]Mark J. White, *Missiles in Cuba: Kennedy, Khrushchev, Castro and the 1962 Crisis.* (Chicago: Ivan R. Dee Inc., 1997): 79 - 106.

missile sites in Cuba while the other was containment. Kennedy and his advisors were in favor of a conventional attack, however, they have settled on imposing a naval quarantine. Nevertheless, as the United States was prepared for the possibility of being attacked by the Soviet Union, they have had planes deployed in Puerto Rico. This was the first time when the United States shifted to DEFCON 2, which was the next step to engaging in a nuclear war.[35] Given the intensity of the situation, it is argued that Khrushchev acted in line with the nuclear coercion theory as he retreaded the missiles from Cuba on the basis of fear from the threats posed by Washington. This is evidenced by Khrushchev's statement on the 28th of October: "We found ourselves face to face with the danger of war and of nuclear catastrophe, with the possible result of destroying the human race. In order to save the world, we must retreat."[36] The "Cuban Missile Crisis" eventually came to an end by the compromise of the Soviet Union to have missiles removed from Cuba in exchange for the U.S. to announce that no invasion of Cuba will occur and that they will have "the nuclear arms in Turkey removed".[37]

[35] Tod S. Sechser and Matthew Fuhrmann, *Nuclear Weapons and Coercive Diplomacy* (Cambridge University Press, 2017) 201 – 224. .
[36] Aleksandr Fursenko and Timothy Naftali, *One Hell of a Gamble: Khrushchev, Castro, and Kennedy, 1958 – 1964.* (New York: W.W. Norton & Company, 1997), 284.
[37] White, *Missiles in Cuba: Kennedy, Khrushchev, Castro and the 1962 Crisis*, 107 – 145.

4. Analytical Framework: Relevance of Nuclear Weapons in the 21st century

4.1. Immorality of Use

It goes without saying that MAD is flawed from a moral standpoint as it relies through countervalue targeting on having the population of a nation vulnerable to a nuclear attack. However, it is justified to possess nuclear arms when nuclear deterrence ensures one's "survival from a threat posed by an adversary". A moral paradox is therefore created with MAD as there are two contradicting moral claims in this theory.[38] Nevertheless, while nuclear deterrence may be practical from a strategic point of view, the survival of states is undermined if it cannot withstand the first strike of an adversary and if it cannot make a retaliatory attack credible. The morality of these arms must be therefore questioned under the Just War theory on the basis of proportion and discrimination. Proportion means having the minimum amount of side effects when going to war, whereas discrimination refers to not having civilians targeted. Since there is no possibility for being bombed or bombing a city with nuclear weapons without having massive civilian casualties, it is immoral to threat or blackmail a nuclear or non-nuclear weapon state, making the use of these weapons therefore redundant.[39]

Besides putting in danger one's population to achieve nuclear deterrence or policy objectives through nuclear coercion, nuclear weapons are further immoral due to their negative impact on societal welfare, given their exorbitant costs involved in the secretive research, development, production, maintenance and dismantling. According to a study by the Brookings Institute, the U.S. has spent a total of $5.5 trillion, in terms of 1996 dollars, on its nuclear weapons programme from 1940 to 1998. This figure only increases with "the cost for the storage and disposal of radioactive and toxic waste, accumulated over 50 years, is $320 billion".[40] In addition to this, the dismantling of these weapons and the disposal of additional nuclear material will amount to $20 billion.[41] With this in mind, for the next 10 years it has been estimated that the U.S. will spend in the next 10 years $1 trillion on nuclear weapons, which signifies $100 billion every year.[42] This exorbitant spending negatively impacts the social and economic needs of nuclear weapon states since the large allocation of resources on such weapon systems results in budget cuts from education, health and environmental protection. There are also negative consequences on an international level when considering that the annual budget of the United Nations is only "5% of the

[38] Sohail H.Hashmi H. and Steven P. Lee, *Ethics and Weapons of Mass Destruction: Religious and Secular Perspectives*, (New York: Cambridge University Press, 2004): 4.
[39] William V. O'Brien, "Just-War Doctrine in Nuclear Context," *Georgetown University* 44, iss. 2. (June 1983): 191 – 220. https://doi.org/10.1177/004056398304400201.
[40] Stephen I. Schwartz, *Atomic Audit: The Costs and Consequences of U.S. Nuclear Weapons Since 1940*, 3.
[41] Ibid., 122.
[42] Alyn Ware. "Move the nuclear weapons money: A Handbook for Civil Society and Legislators," *IPB, PNND & WFC* (2016), 1 – 20.

annual global nuclear weapons budget"[43], which shows that not enough resources are allocated to solve international humanitarian needs.

4.2. Lack of Utility

It is questionable whether the logic of MAD has been a factor of stability and peace in the international order. While it is a fact that there have been five decades of peace between the two superpowers and that they also possessed a strong nuclear arsenal, there has been no demonstration of a causal connection between peace and possessing nuclear weapons. The logic of nuclear deterrence has relied on the ability of nuclear-armed states to threaten each other's cities with nuclear weapons which dissuades them from engaging in warfare. Nevertheless, the rationale of nuclear deterrence does not maintain the status quo as it actually creates resistance given the aforementioned security dilemma. It is false to claim that during the "Cold War" period nuclear attacks were prevented through nuclear deterrence as it is not known whether one of the superpowers actually intended to attack the other and afterwards refrained due to the threat of retaliation.[44] Indeed, both sides had contingency plans but the evidence is limited to show whether the two superpowers were on the brink of a nuclear war as no party planned a nuclear attack, agreed to engage and was then prevented by the threat of nuclear retaliation. Given that there is a lack of "data on the policy calculations of potential initiators who were presumably deterred"[45], it is difficult to estimate whether deterrence has ever been successful. One can argue that there are other explanations why the war was absent during the "Cold War". For instance it can be said that many major wars are followed by a longer period of relative peace given that the actors involved will suffer from economic exhaustion. This shows us that "polarity is the result of the interaction" of past actors which causes a change in the future behaviour of other actors.[46] The stability in the bipolar system in the "Cold War" could have been a result of the weakening of great powers in the Second World War, which were not able to compete over power resources anymore, and not due to nuclear weapons being developed. For this reason one can argue that the degree of maintaining stability and peace during the "Cold War" through nuclear deterrence is highly speculative.

The impracticality of nuclear weapons is further evidenced in their inability to coerce other states. This becomes clear when considering that the narrative of nuclear coercion in the "Cuban Missile Crisis"

[43] Ibid., 1.
[44] Rosenberg, David Alan, "The History of World War III, 1945 – 1990: A Conceptual Framework," in *On Cultural Ground: Essays in International History*, ed. Robert David Johnson (Chicago: Imprint Publications, 1994), 217 – 219.
[45] Alexander L. George and Richard Smoke, *Deterrence in American Foreign Policy: Theory and Practice* (New York: Columbia University Press, 1974), 516.
[46] Cimbala, Stephen J. "Nuclear Proliferation in the Twenty – First Century: Realism, Rationality or Uncertainty?." *Strategic Studies Quarterly* (2017), 129 – 146.

is complicated by various factors. First of all, when taking timing into consideration it is questionable whether the nuclear brinkmanship of the U.S. has influenced the Soviets to withdraw their missiles from Cuba. On the ninth day of the crisis, on the 25th of October, Khrushchev wanted to lessen the tensions by having the missiles dismantled as their presence increased the chances of a nuclear war.[47] However, there is evidence that it was unlikely that the nuclear brinkmanship of the U.S. caused Khrushchev to capitulate since the Kremlin was not aware of the move towards "DEFCON 2" when Khrushchev decided to have the missiles removed.[48] Moreover, the conventional superiority of the U.S. has played a more decisive role than its nuclear arsenal. Lieutenant General Nikolai Beloborodov, who was responsible for the stationing of missiles in Cuba, argued that the American capabilities were advantageous in terms of air and naval power which showed their willingness to go to war.[49] This statement shows that the conventional signaling of the U.S., not its nuclear arsenal, made the Soviets back down from Cuba. McNamara further expresses that nuclear weapons were not what coerced the Soviets to dismantle their missiles. Instead, the local superiority of the U.S. through great conventional power was decisive in the crisis.[50] This goes against the necessity of nuclear superiority according to nuclear relativists. While nuclear weapons may have performed a role in Khrushchev deciding to have missiles withdrawn from Cuba, when considering the evidence that conventional power also played a role, it is difficult to estimate the main reason for the retreat making the coercion with nuclear weapons to some degree redundant. Another point worth mentioning is that the U.S. was not entirely victorious after the crisis as Kennedy, being concerned of a nuclear escalation aimed for a diplomatic solution through the pledge of removing nuclear missiles stationed in Turkey.

4.3. **Potential Risk**

One of the greatest threats during the first nuclear age has been the increase in the credibility of a nuclear deterrent, with the increase in the stock of nuclear weapons, which has led to a security dilemma where the U.S. and the Soviet Union strove for military superiority. The consequences of the arms race between them has been the creation of instability as thousands of highly destructive nuclear weapons were built, "reaching together the collective peak of 63,474 in 1986".[51] This shows that the MAD strategy towards defence did not provide any additional security, instead, it has increased the possibility of

[47] Fursenko and Naftali, *One Hell of a Gamble: Khrushchev, Castro, and Kennedy, 1958 – 1964*, 259.
[48] Ibid., 258 – 260.
[49] Anatoly Gribkovet al. *U kraya yadernoi bezdny* [On the edge of nuclear abyss]. trans. Anna Melyakova and Svetlana Savranskaya. (Moscow: Gregory-Paige, 1998), .204 – 213.
[50] Michael Charlton, *From Deterrence to Defence: The Inside Story of Strategic Policy*, (Cambridge Massachusetts: Harvard University Press, 1987), 23.
[51] Max Roser and Mohamed Nagdy. "Nuclear Weapons," Our World in Data, last modified 31 December 2018, https://ourworldindata.org/nuclear – weapons.

offense. The chances for the Soviet Union and the United States to engage in a large-scale nuclear war was only higher through vertical proliferation in pursuit of a first strike capability, whether this could have been the result of a crisis or miscalculation. The risk of preventive nuclear war is even more intensified through the extended nuclear deterrence policies of that period. With the U.S. stationing its "nuclear warheads" at "NATO" allies for defensive means, a "security dilemma" started with the Soviet Union has later deployed their "nuclear weapons in Cuba". While the approximate global nuclear stockpile "has drastically decreased to 10,145 since the peak", with a "remaining 9,060 nuclear weapons" from the "Cold War" legacy of the United States and the Soviet Union, many of these weapons are still usable in theory.[52] According to "SIPRI" in 2017, there were 14,935 nuclear weapons from which 450 are operational.[53] It goes without saying that nuclear weapons today, given the thousands of warheads kept at high alert, and that they have an "8 to 100 times larger"[54] higher destructive capability than those used in Hiroshima and Nagasaki, millions of individuals would die and the environment would be destroyed with contamination persisting over many generations in the case of a preventive war.

Since the collapse of the Soviet Union in 1991, we are currently living in the second nuclear age which is dominated by a higher number of non-state and state actors which have nuclear weapons or nuclear-related technologies within a less stable multipolar strategic context. While MAD relies traditionally on the rationality of actors assuming that they will not strike each other as this will result in mutual annihilation, it remains unclear how rational these new actors are. With this in mind, there are several potential risks which result from horizontal proliferation. First of all, given the uncertainty during the arms race of the "Cold War", the United Kingdom, France, China and, also believed, Israel have acquired nuclear weapons as well to ensure their own protection. In the "post-Cold War" era, three more countries, "India, Pakistan and North Korea" are currently possessing nuclear weapons to maintain their security and prestige in the international system.[55] Proliferation pessimists such as Scott Segan claim that horizontal proliferation only leads to more dangers and a higher chance for nuclear weapons being used. It is argued that in the 21st century the main threat our world faces is "the use of nuclear weapons in a regional conflict".[56] The greatest fear is a regional nuclear arms race in South Asia, in which India designs nuclear weapons to deter Pakistan, for instance, to fight over Kashmir which creates a security dilemma where Pakistan builds its arsenal for military superiority.[57] Furthermore, the threats surrounding

[52] Andrew Futter, *The Politics of Nuclear Weapons*, 54.
[53] SIPRI, "Global nuclear weapons: Modernization remains the priority," last modified 3 July 2017, https://www.sipri.org/media/press – release/2017/global – nuclear – weapons – modernization – remains – priority.
[54] Melissa Gills. *Disarmament: A Basic Guide*. (New York: United Nations Disarmament Affairs, 2012): 18.
[55] Andrew Futter, *The Politics of Nuclear Weapons*, 116 – 123.
[56] Scott D. Sagan. "The Perils of Proliferation: Organization Theory, Deterrence Theory, and the Spread of." *International Security* 18, no. 4. (1994): 67.
[57] Raja Menon,"A mismatch of nuclear doctrines," The Hindu, last modified 22 January 2014, https://www.thehindu.com/opinion/op – ed/a – mismatch – of – nuclear – doctrines/article5602609.ece.

horizontal proliferation are only intensified when considering that many states today, despite not being nuclear powers, have the ability to build a bomb if they choose so. Through nuclear latency, states are able to use technology from civilian nuclear power plants to produce a bomb. This creates a problem as states are allowed under the 1968 Non-Proliferation Treaty (NPT) to freely produce civilian nuclear energy, acquiring, therefore, the ability and expertise of building nuclear weapons, without going against international law. Currently, it is estimated that around 40 countries have the ability to build nuclear weapons with the necessary fissile material. Within this context, we are only relying on the will of these states not to use their expertise and technology for malevolent purposes.[58] Lastly, the result of horizontal proliferation is that through the widespread nuclear latency, nuclear material, such as plutonium and uranium, which is crucial for building nuclear weapons, can be bound to theft and misuse. According to IAEA's Illicit Trafficking Database (ITDB) there have been 222 recorded cases from 2009 to 2010 of nuclear material being used without authorization. One of the most severe cases of this type of illicit trade has been the A.Q. Khan network which for 12 years until 2004 has supplied nuclear weapon technologies to dozens of countries worldwide.[59] It can be argued that one of the largest threats that has resulted from the existence of new nuclear powers, the loose regulations of nuclear latency and the illicit trade in nuclear weapon technology is the possibility for a terrorist group to acquire fissile material to build a dirty bomb. It is likely for such a group to either steal the necessary nuclear material from new nuclear weapon states, which are vulnerable to theft[60], or acquire the material on the nuclear black[61] to build such a bomb that can produce widespread radiation.

[58] John Muelle, *Atomic obsession: nuclear alarmism from Hiroshima to Al – Qaeda*, (Oxford: Oxford University Press, 2010), 93.
[59] Matthew, Bunn and William C. Potter, "Introduction: The Problem of Black – Market Nuclear Technology Networks," *Cambridge University Press* (2018): 1 – 22. https://doi.org/10.1017/9781316681671.001.
[60] Peter Feaver, "Command and control in emerging nuclear nations," *International Security* 17, no. 3 (1992), 160 – 187. https://doi.org/10.2307/2539133.
[61] Simon Shuster and Georgia Tbilisi. "Inside the Uranium Underworld: Dark Secrets, Dirty Bombs". Time. Last modified 10 April 2017.http://time.com/4728293/uranium – underworld – dark – secrets – dirty – bombs/.

5. Conclusion

In conclusion, nuclear weapons should be banned on the basis of the immorality of their use, their lack of utility and impracticality as well as due to the great risks they pose to our world. When using the main principles of neo-realism in the framework of nuclear arms there is a wide range of arguments that favour of nuclear deterrence and coercion. In an international environment dominated by anarchy, rational state actors can only survive through the equilibrium of power and the maximization of their own power capabilities. While nuclear deterrence, in line with defensive realism, can ensure stability of the status quo in the anarchic system through MAD that constrains states from engaging in warfare due to their vulnerability to a retaliatory nuclear strike, nuclear coercion, according to offensive realists, can change, with their superior nuclear arsenal, the status quo through blackmailing non-nuclear and nuclear weapon states. Nevertheless, these perceived advantages fall short when uncovering the realities of the nuclear arms competition between the Soviet Union and the U.S. as well as of the "Cuban Missile Crisis". While nuclear deterrence and coercion may have played a role during the "Cold War", the possibility of use on population centers resulting from the security dilemma between these superpower, especially the nuclear near miss in the "Cuban Missile Crisis", is without a doubt immoral as the lives of many innocent civilians was put at risk through, given the non-discriminatory nature of nuclear weapons, on both sides. Moreover, as an issue of the past and present, it is immoral to secretly spend such an exorbitant amount of money on nuclear weapons, which can be allocated to improving societal welfare the international humanitarian needs. The lack of their utility has been additionally evidendenced in the the case of nuclear deterrence due to the lack of causality between peace and possessing nuclear weapons, as well as the possibility for alternative variables that could have led to peace. The same can be said for nuclear coercion in the "Cuban Missile" Crisis when realizing that nuclear weapons only played a minimal role in the withdrawal of the missiles serving the interests of the U.S. to some extent as it had to compromise to achieve this outcome. Nuclear weapons also pose a great hazard today as part of the "Cold War" legacy with many continuing to be operational and newer ones having a higher destructive capability, all being subject to accidental use. Moreover, the rationality of new actors, which either acquired nuclear weapons during the "Cold War" due to the existing security dilemma or in the "post-Cold War" era to maintain their security is questioned as horizontal proliferation has raised the chances of nuclear arms being used. This has been especially the case with nuclear latency with states having the ability to misuse nuclear technology and the possibility of nuclear material being stolen and potentially provided to terrorist networks through illicit networks. With these grave disadvantages in mind, it goes with saying that nuclear weapons only threaten the lives and welfare of individuals, are impractical for deterrence or coercion and their existence as well as proliferation continue to pose a great threat today. Hence,

collective efforts are needed to stop horizontal and vertical proliferation, under the Article I, II and VI of the NPT. Only through their entry into force can "nuclear non-proliferation" and "nuclear reduction" and "disarmament" respectively to ensure the stability and survival of our world. [62]

[62] "Treaty on the Non-Proliferation of Nuclear Weapons," entered into force 5 March 1970. Treaty Series: Treaties and International Agreements Registered of Filed and Recorded with the Secretariat of the United Nations, INFCIRC/140 (1970): 1 – 5, https://www.iaea.org/sites/default/files/publications/documents/infcircs/1970/infcirc140.pdf

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