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Economic Sanctions and Nuclear Proliferation: A study of North Korea, 2006-2024

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Abstract: The issue of economic sanctions and nuclear proliferation, particularly in the context of North Korea from 2006 to 2023, presents a critical area of international relations that demands in-depth analysis. During this period, North Korea significantly expanded its nuclear capabilities despite facing stringent international sanctions intended to curb its nuclear ambitions. This persistence raises questions about the efficacy of sanctions as a tool to deter nuclear proliferation. The international community, led by powers such as the United States and the United Nations, has repeatedly leveraged economic sanctions with the aim of halting North Korea's nuclear developments. Yet, the effectiveness of these sanctions has been inconsistent, with North Korea not only maintaining but enhancing its nuclear arsenal. This situation challenges the traditional paradigms of sanctions and compels a re-evaluation of their role in international diplomacy and security. The interplay between economic sanctions and nuclear proliferation in North Korea thus exemplifies a complex problem where geopolitical strategies, national security, and international law intersect, necessitating a comprehensive study to understand the dynamics at play. Therefore, this study aims to evaluate the impact of economic sanctions on nuclear proliferation in North Korea over the period from 2006 to 2023. Anchored on deterrence theory, this study adopts a qualitative research design to explore how economic sanctions influence nuclear proliferation dynamics. The methodology includes a content analysis of international treaties, UN Security Council resolutions, and diplomatic communications, alongside scholarly articles and expert analyses, to gauge the effectiveness and implications of sanctions. The study finds that while sanctions have imposed economic constraints on North Korea, they have not successfully deterred its nuclear advancements. This suggests a disconnect between sanction imposition and nuclear policy effectiveness, indicating the need for re-evaluated strategies in sanction applications. It is recommended that future sanctions be coupled with diplomatic initiatives aimed at negotiation and engagement to enhance their effectiveness.

Keywords: economic sanction, deterrence, nuclear proliferation

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1. Introduction

Economic sanctions are commercial and financial penalties applied by one or more countries against a targeted self-governing state, group, or individual. Economic sanctions are not necessarily imposed because of economic circumstances, they may also be imposed for a variety of political, military, and social issues. Economic sanctions can be used for achieving domestic and international purposes. Economic sanctions are used as a tool of foreign policy by many governments. Economic sanctions are usually imposed by a larger country or group of countries upon a smaller country for one of two reasons: either the latter is a perceived threat to the security of the former nation or that country treats its citizens unfairly. They can be used as a coercive measure for achieving particular policy

goals related to trade or for humanitarian violations. Economic sanctions are used as an alternative weapon instead of going to war to achieve desired outcomes. Economic sanctions may include various forms of trade barriers, tariffs, and restrictions on financial transactions. Economic sanctions are an important tool of international diplomacy. In cases when a military intervention would be too drastic or a diplomatic boycott too futile, economic sanctions become the optimal instrument of foreign policy. Economic sanctions have existed for a very long time. Since World War I, sanctions have been used numerous times to pursue various policy goals.

Despite their widespread use, economic sanctions remain a controversial tool of international policy as sanctions can have unintended consequences. Sanctions can be used to follow a wide range of foreign policy goals, such as stopping acts of military aggression, destabilizing governments, protecting human rights, fighting international terrorism, and obstructing nuclear proliferation. Since the Treaty on the Non – proliferation of Nuclear Weapons, commonly known as the Non – Proliferation Treaty (NPT), entered into force in 1970, economic sanctions have been occasionally used against countries aspiring to acquire nuclear weapons. The use of economic sanctions to stop a country from joining the nuclear club has had varying degree of success depending on the extent of the sanctions and the underlying economic and political conditions in the target country.

The reason behind imposing economic sanctions in order to stop or at least delay a target country's plan to develop nuclear weapon is simple: Sanctions can potentially weaken the target country's economic might and increase the cost of developing such weapons. Economic sanctions are expected to create economic hardships in the target country and force its government to change its nuclear policy. It is also believed that since making nuclear weapons is very costly, economic sanctions can potentially yield positive results by substantially increasing the already high costs of the target country's nuclear programme. From 1950 to 2008, trade between the United States and North Korea was restricted under the US Trading with the Enemy Act of 1917. After 2008, some restrictions related to the International Emergency Economic Powers Act stayed in effect. In February 2016, the North Korea Sanctions and Policy Enhancement Act of 2016 (H.R. 757 Pub.L. 114–122) was passed which:

- i. requires the President to sanction entities found to have contributed to North Korea's weapons of mass destruction programme, arms trade, human rights abuses, or other illegal activities.
- ii. imposes mandatory sanctions on entities involved in North Korea's mineral or metal trade, which comprises a large part of North Korea's foreign exports.
- iii. requires the US Treasury Department to determine whether North Korea should be listed as a primary money laundering concern, which would trigger tough new financial restrictions
- iv. imposes new sanctions authorities related to North Korean human rights and cybersecurity abuse.

In August 2017, the Countering America's Adversaries Through Sanctions Act was passed.

On 21 September 2017, President Donald Trump issued Executive Order 13810 allowing the United States to cut from its financial system or freeze assets of any companies, businesses, organizations, and individuals trading in goods, services, or technology with North Korea. Also, any aircraft or ship upon entering North Korea is banned for 180 days from entering the United States. The same restriction applies to ships which conduct ship-to-ship transfers with North Korean ships. Treasury Secretary Steven Mnuchin stated that Foreign financial institutions are now on notice that going forward they can choose to do business with the United States or North Korea, but not both. A statement from the White House said Foreign financial institutions must choose between

doing business with the United States or facilitating trade with North Korea or its designated supporters.

On 25th September 2017, the US Treasury barred the entry of North Korean nationals to the United States.

Following the abduction of a South Korean fishing vessel, additional sanctions were ordered by the US Treasury on 26 October 2017, following a culmination of flagrant rights abuses including executions, torture, and forced labour. Seven individuals and three North Korean entities were affected by the sanctions.

On 11 July 2018, during a summit in Brussels, NATO leaders called for continued pressure and ongoing sanctions enforcement on North Korea. The group of 29 countries, including the United States, signed a declaration which called on members to maintain pressure on North Korea.

North Korea's nuclear programme has been targeted with economic sanctions for about two decades and the United State has been the predominant country imposing sanctions against North Korea.

To Adderley (1945), a number of reasons justify closely analyzing the economic sanctions against North Korea's nuclear programme. First, North Korea is not defined as a nuclear power under the Non-Proliferation Treaty. Secondly, there are fears that if North Korea becomes a nuclear power, the country might become even more aggressive towards its neighbors and destabilize the balance of power in the Korean Peninsula. This might in turn lead to a nuclear proliferation race in the region. Thirdly, North Korea can be seen as an irrational actor - a "rogue state" that has no real friends and lots of enemies. It is a state that continues to defy the international community despite the enormous damage caused by sanctions. This means:

- a. Countries worry that North Korea's irrationality may make it more likely to actually use nukes.
- b. North Korea has a lot of people it would probably like to use nukes against (United States, South Korea, and Japan).
- c. North Korea could sell some of its atomic bombs to terrorist groups as a way of spiting the West.
- d. North Korea is diplomatically isolated, many countries in the world dislike them and even China has been expressing frustration with their actions recently. This makes it a lot easier for countries to agree to take collective action against it. Pakistan, Israel and India (who also possess nuclear arms despite not being nuclear powers under the Non-Proliferation treaty) have a lot of friends, so it is unlikely, action will be taken against them.

Furthermore, sanctions are inherently very costly tools of foreign policy. Imposing sanctions creates costs not only for the target country, but also for the countries imposing them. If the current sanctions continue for a very long time, public and international support for them might wane. All of the above suggests that there are compelling reasons to closely analyze the economic sanctions on North Korea.

Statement of the Problem

North Korea on 10th January, 2003 announced that it was withdrawing from the Nuclear Nonproliferation Treaty (NPT), effective immediately. North Korea's stated reasons for withdrawing from the NPT were that the United States was threatening its national security and pushing for a regime change through its hostile policy towards North Korea. According to North Korea, the United States had singled it out as a target of a pre-emptive nuclear attack and had threatened it with a blockade and military punishment.

Consequently, North Korea restarted the five-megawatt nuclear reactor that had been frozen by the Agreed Framework. In March 2003 North Korea again signalled that it

might not adhere to its moratorium on testing long-range missiles, asserting that it had the sovereign right to have a peaceful missile programme. By November, 2017, North Korea conducted its longest-range missile test yet, and after the test, North Korea declared itself a globe-spanning nuclear-weapons power and insisted that the United States and other nations deal with it on those terms. This development generated concern in the International community as countries raised concerns that if North Korea does develop nuclear weapons of this magnitude, it could certainly bring about many problems throughout the Korean peninsula and probably the world, which amongst others include security threat to global peace and nuclear non-proliferation.

Given concerns and efforts to establish global peace and order, the United Nations and other major world powers such as the United States and United Kingdom responded with economic sanctions, and have made deliberate attempts to denuclearize any nation that is not recognized as a nuclear weapon state in the NPT. Sequel to the above, economic sanctions have consistently been used as a foreign policy tool to put pressure on nations pursuing nuclear programmes, as in the case of North Korea, in order to cause them to abandon same. The cost of these sanctions on both the sender and the target states have been enormous. It could be said without prejudice that the drive towards denuclearization has led to the drain of global resources that would have been used to target other global concerns like climate change.

Consequent upon North Korea's insistence and continuous effort to achieve its nuclear ambition, extensive sanctions have been placed against North Korea and which the country continues to defy and by all accounts, clandestinely export weapons and technology to other countries. Given the issues identified above, it will be instructive to state that the rationale behind the development of a nuclear programme by North Korea has not been set in clear terms by the North Korean government. Thus far, the research problem revolves around the implication of the development of a nuclear technology by the North Korean government for global peace and security; and the cost effect of economic sanctions on global resources and economy.

Objectives of the Study

The aim of this study is to examine the impact of economic sanction on North Korea nuclear development programme. Specifically, the study seeks to:

- 1) investiagte the implications of a successful North Korea nuclear programme on global peace.
- 2) examine the consequences of a successful North Korea's nuclear programme for regional nuclear proliferation.
- 3) examine the effect of economic sanctions in the denuclearization of North Korea.

Theoretical Framework

The research adopted the deterrence theory. Deterrence theory can be traced to the early works of classical philosophers such as Thomas Hobbes (1588–1678), Cesare Beccaria (1738–1794), and Jeremy Bentham (1748–1832). Together, these theorists protested against the legal policies that had dominated European thought for more than a thousand years, and against the spiritualistic explanations of crime on which they were founded. In addition, these social contract thinkers provided the foundation for modern deterrence theory. The theory of deterrence that has developed from the work of Hobbes, Beccaria, and Bentham relies on three individual components: severity, certainty, and celerity. The more severe a punishment, it is thought, the more likely that a rational state will desist from acts of aggression.

It is worthy of note that deterrence theory gained prominence during the cold war arms race [1]. Its focus was the prevention of a nuclear conflict between the USSR and the United States. Deterrence in broader term is defined as "...the threat of force intended to convince a potential aggressor not to undertake a particular action because the cost will be unacceptable or the probability of success extremely low". Much of the literature on nuclear proliferation and nuclear weapons has focused on the determinants of nuclear acquisition, nuclear deterrence and the utility of nuclear weapons in coercive diplomacy. Existing nuclear proliferation scholarship maintains that national security concerns are the driving force behind why states go nuclear [2]. The Cuban Missile Crisis presents a clear example of how nuclear weapons can be a useful tool for coercive diplomacy [3]. Snyder (1961) argues that "one deters another party from doing something by the implicit or explicit threat of a cost, punishment if the act is not performed". Classical deterrence theorists have argued that nuclear weapons increase the cost of conflict for states if nuclear weapons were to be introduced, thus preventing both conventional and nuclear attacks. George and Smoke (1974) write that deterrence "in its most general form, is simply the persuasion of one's opponent that the costs and risk of a given course of action he might take outweigh its benefits".

Thomas Hobbes (1588–1678), Cesare Beccaria (1738–1794), and Jeremy Bentham (1748–1832) have argued that stability in the post-war era can be attributed to the existence of the bipolar system and nuclear deterrence. Essentially, the destructive force of nuclear weapons generally increases the cost of conflict, and so Schelling (1966) argues that nuclear weapons act to convince conflicting states to back down in confrontations because of the potential that the conflict might escalate to the nuclear level. Deterrence theories advance the idea that nuclear states are able to deter the aggressive action of adversaries only when a nuclear state can present a credible nuclear threat and an intention to retaliate [3]. Deterrence is embedded with threat.

In order for a threat to be credible, two conditions must exist: the nuclear state must have the political will to threaten the use of nuclear weapons and a sufficient stockpile of nuclear weapons to mount a retaliatory threat [3]. According to Huth (1999), "a threat is considered credible if the defender possesses the military capabilities to inflict substantial costs on an attacker in an armed conflict and if the attacker believes that the defender is resolved to use its available military force. It should be noted that opponents of deterrence theory have argued that the destructive nature of nuclear weapons and the development of second-strike capabilities have undermined the credibility of the threat posed by nuclear weapons. In order to deal with the credibility problem present in nuclear deterrence theory, Schelling (1966) argues that the idea of leaving something to chance solves the credibility problem when states make a nuclear threat. Schelling contends "a response that carries some risk of war can be plausible, even reasonable at a time when a final, ultimate decision to have a general war would be implausible or unreasonable". The central conclusion of deterrence theorists was that war in a nuclearized world is irrational for state actors to undertake because of the overwhelming destructive force of nuclear weapons [4].

Holsti (1972) argues that state actors may act irrationally; therefore, they may not be deterred from taking aggressive actions. Holsti writes that deterrence "is likely to prove ineffective against a nation led by a trigger-happy paranoid, or by someone seeking personal or national self-destruction or martyrdom, or by decision makers willing to play a form of international Russian roulette" (1971). Organski and Kugler (1980) have concluded that nuclear weapons have failed to deter the outbreak of militarized conflict between states. A handful of studies have questioned the value of nuclear weapons in conflict involving nuclear states and non-nuclear states (Geller, 1990; Huth, 1990; Huth and Russett, 1984; Organski and Kugler, 1980); for example, Geller concludes that in a military confrontation, nuclear weapons have no apparent deterrent effect on the behavior of non-nuclear states. Huth (1990) considered the relationship between nuclear status and conventional weapons capabilities. His study yielded two relevant conclusions: first, that

nuclear deterrence has had the greatest impact when a nuclear state was relatively weak in conventional weapons capabilities, and second, that nuclear deterrence mattered least when a nuclear state was relatively strong in conventional weapons capabilities.

Jo and Gartzke (2007) [2] further argue that in addition to security concerns, states move towards establishing nuclear weapons programmes when they have the technological capabilities to do so. In several cases, states, despite having the capability to proliferate, will refrain from doing so because they do not face an existential security threat. States that proliferate tend to do so when they face an existential security threat and they believe that acquiring nuclear weapons will give them sufficient bargaining leverage as their deterrence capability is enhanced with nuclear weapons. Several scholars like Schelling, (1960); Morgan, (1983); Powell, (1990); Sagan, (2003) contend that nuclear weapons are likely to reduce the probability of conventional wars, since the possible introduction of nuclear weapons to the battlefield could significantly increase the cost of war. From that viewpoint, the possession of nuclear weapons has a deterrent effect in disputes between nuclear states as well as non-nuclear states through classical deterrence and extended deterrence, respectively.

Recent studies (Horowitz, 2013) have found that states with nuclear weapons development programmes are more likely to initiate militarized disputes. Thus, in order to move beyond this one-dimensional understanding of states with nuclear weapons development programs and nuclear weapons, this study casts the issue of nuclear status in the context of a state's security environment. It is important to note that "security environment" for the purpose of this research refers to a state experiencing a security problem and a security commitment from a nuclear patron.

In a nutshell, the theoretical argument put forward in this dissertation posits that nuclear weapons add an uncertain element to conflicts, which means that conflicting states are not completely certain that a nuclear state will not introduce nuclear weapons in conventional war; this element of uncertainty deters states from attacking nuclear states. Several scholars have argued that not only can nuclear weapons deter nuclear attack, but that nuclear weapons can also deter conventional conflict from developing with a nuclear state.

On the whole, North Korea has deemed itself a nuclear state by constantly boasting that it has sufficient stockpile of nuclear weapons, and has demonstrated this through several nuclear tests. It is the fact that even if an explicit threat to use nuclear weapons against its perceived enemies has not been made, the mere possession of nuclear weapons can deter and influence the behavior of adversaries in a militarized dispute. Consequent upon this, North Korea decided to keep its nuclear weapon, as the leadership in Pyongyang believe that nuclear weapons are essential to regime survival [3]. The main reasons for the DPRK maintaining its nuclear weapons program are that North Korea seem to feel threatened by superior American military capabilities and by American talk about pre-emptive strike [5]. North Korean leaders may have determined that nuclear weapons are the only way to guarantee regime survival.

2. Materials and Methods

The study adopted for this study is the descriptive method. In adopting this research method, efforts were geared towards investigating the impact of economic sanctions on nuclear proliferation, a problem that had long challenged the world. This design helped the researcher in gathering data from the relevant secondary sources so as to enable the conduct of a proper research, as well as, make enquiry into the various strategies employed by sending states in imposing economic sanctions. Other information that this design allowed the researcher to gain access to were those counties as well as organization imposing sanctions on North Korea. This will enable the researcher in drawing a valid conclusion for the study. This study relied on secondary sources. The secondary data were

gotten from textbooks, United Nation Security Council Resolutions, European Union's Resolutions and other relevant materials. The study adopted content analytical method in the process of analysis secondary data collected for the study. This method of data analysis is necessary because of the nature of data (secondary data) involves in the addressing the stated objective of the study. Also, the content analysis helped in minimizing the possibility of bias which is inherent in a quantitative analysis. Thus, the method guaranteed that logical and empirical facts were generated for valid findings and scientific predictions (Obasi, 1999) of North Korea behaviour amidst international sanction due to its nuclearisation programme.

3. Results and Discussion

Implications of a successful North Korea nuclear programme on global peace.

Peace and security in Northeast Asia is a complex and multifaceted issue, with a number of interconnected factors that contribute to the region's precarious geopolitical landscape. Among these, the nuclear issue and the Korean Peninsula stand out as two of the most pressing and potentially destabilizing issues. According to Hayes and Kihl (2016, p.43), "the nuclear issue has been a major problem in Northeast Asia since the development of the atomic bomb during World War II". This issue has been further complicated by North Korea's ongoing nuclear program, which has been a source of tension between the United States and North Korea and between China and Japan. In addition, the Korean Peninsula has been the site of several armed conflicts over the past decades, most notably the Korean War. These conflicts, combined with the nuclear issue, have had a significant impact on the security and stability of the region, and have underscored the need for greater international cooperation and dialogue. Ultimately, resolving the nuclear issue and finding a peaceful solution to the Korean Peninsula conflict are essential to promoting peace and security in Northeast Asia.

The Bush Doctrine has been a critical part of the North Korean nuclear crisis. According to Moon and Bae (2013) in their article entitled 'Asian Perspective, the Bush Doctrine "highlighted the threat of global terrorism and advocated the use of pre-emptive military force against any state deemed to be a threat to the US security'. This doctrine has been used to justify the US's stance in the North Korean nuclear crisis, as they view North Korea's nuclear program as a direct threat to their security. North Korea's nuclear weapons program has been a major source of tension between the US and North Korea, as the US has threatened to use pre-emptive military force against North Korea if they do not cease their nuclear activities. As Moon and Bae point out, the Bush Doctrine has been influential in the way the US has responded to the North Korean nuclear crisis and has served to further complicate the situation. Ultimately, the Bush Doctrine's role in the North Korean nuclear crisis exemplifies how it has shaped US foreign policy in the post-9/11 world. The following were identified as some of the implications of North Korea nuclear deterrence:

i) Nuclear Arm Race: The arms race is a term used to describe the competition between two or more countries to acquire the most powerful and advanced weapons. It is a phenomenon that has been present throughout history, with the most famous example being the Cold War between the United States and the Soviet Union. During this period, both countries sought to outdo each other in terms of military technology, leading to a massive buildup of nuclear weapons and other advanced weaponry. The arms race is driven by a number of factors, including the desire for military superiority, the need to deter potential adversaries, and the pursuit of economic and political power. In some cases, the arms race is also driven by a desire to acquire the latest technology, as countries seek to gain an edge over their rivals. It is a competition between countries to acquire the most powerful and advanced weapons, driven by a number of factors including the desire for military superiority, the need to deter potential adversaries, and the pursuit of economic and political power.

The DPRK nuclear programme has been seen as a threat to global peace and security, as it has the potential to destabilize the region and spark a nuclear arms race. North Korea has conducted several nuclear tests since 2006, and has continued to develop its nuclear capabilities despite international sanctions and condemnation. The North Korean nuclear programme has been a source of tension between the United States and North Korea, as well as between North Korea and its neighbors. The United States has long sought to prevent North Korea from developing nuclear weapons, and has imposed economic sanctions in an effort to pressure the regime to abandon its nuclear ambitions.

In 1993, Lehman wrote an article exploring the "implications of a North Korean nuclear weapons programme for international security." He argued that North Korea's possession of nuclear weapons could destabilise the region, as it would create an arms race between North and South Korea, as well as Japan, China, and Russia. He also argued that a North Korean nuclear-weapons programme would have a detrimental effect on the global non-proliferation regime, as it would create an incentive for other states to pursue their own nuclear weapons programs.

In addition, Lehman (2013) discussed the potential for a North Korean nuclear-weapons programme to provoke military responses from the United States and its allies and the potential for a nuclear exchange in the region. He concluded that the international community must work together to find a way to prevent or contain a North Korean nuclear weapons program. According to Lehman (2013) the implications of a North Korean nuclear weapons programme are clear, and the international community must take action to ensure that it does not come to fruition.

Chung (2017) conducted a study on the *implications of North Korea's nuclear advancement and response measures*. The study found that North Korea's nuclear advancement has caused a great deal of tension in the region, with the international community increasingly concerned about its intentions. North Korea's nuclear programme has also been seen as a potential threat to its neighbours, and more recently, the United States. As a result, the international community has responded with various measures, including economic sanctions, increased military presence, and diplomatic engagement.

The DPRK nuclear programme has the potential to prompt an arms race in the region due to its provocative and destabilizing nature. North Korea's nuclear weapons programme has been a source of tension between the international community and Pyongyang since the early 1990s [6]. The development of nuclear weapons by the DPRK has been seen as a direct challenge to the international non-proliferation regime and has been met with condemnation from the United Nations [7]. This has led to increased tensions between the DPRK and the international community, particularly the United States, which has sought to prevent the spread of nuclear weapons in the region. The development of nuclear weapons by the DPRK has also been seen as a threat to the security of its neighbours, such as South Korea and Japan, and has led to a militarization of the region [8]. For example, South Korea has increased its defence spending and has developed its own missile defence system in response to the DPRK's nuclear programme [9].

In addition, the United States has deployed its own missile defence system to the region in an effort to counter the threat posed by the DPRK [10]. These developments have created a situation in which the DPRK's nuclear programme could potentially trigger an arms race in the region. If the DPRK continues to develop its nuclear weapons programme, other countries in the region may be compelled to respond by developing their own nuclear weapons or by increasing their defence spending in order to counter the threat posed by the DPRK. This could lead to an escalation of tensions in the region and could potentially lead to a nuclear arms race [5].

Cirincione (2018) [11] opined that the DPRK's nuclear programme could trigger an arms race in the region. It could lead to other countries feeling threatened and thus

wanting to increase their own nuclear arsenals in order to protect themselves [12, 13]. This could lead to a situation in which countries compete to increase their nuclear capabilities, with each country trying to outdo the other in terms of capability and sophistication; thus, leading to a spiral of insecurity [14]. This could lead to a dangerous situation in which the proliferation of nuclear weapons could increase and could potentially lead to increased tensions between countries, which could in turn lead to conflict.

ii) Proliferations of nuclear related Materials: Nuclear material proliferation is the spread and use of nuclear weapons, materials and technology that can be used to create or produce nuclear weapons [15]. According to the International Atomic Energy Agency (IAEA), nuclear proliferation is "the spread of nuclear weapons, other nuclear explosive devices, and related materials, technology and information" [16]. The spread of these materials is a major global security concern, as it can lead to the development of nuclear weapons by states and non-state actors [17]. The International Atomic Energy Agency (IAEA) works to ensure the safe, secure and peaceful use of nuclear materials, and has put in place a variety of measures to prevent proliferation, such as the Nuclear Non-Proliferation Treaty (NPT), which is designed to limit the spread of nuclear weapons and materials [18]. The nuclear programme of the Democratic People's Republic of Korea (DPRK) has been a major concern for the global community due to its implications for international peace and security. The proliferation of the technology and materials needed to construct such missiles affects not only the countries in the region but also poses an increased risk of nuclear weapons falling into the hands of non-state actors and the possibility of a nuclear exchange occurring.

The Democratic People's Republic of Korea (DPRK) has been accused of using nuclear proliferation to develop its own nuclear weapons programme. This has been a source of tension in the region and beyond, with the United Nations Security Council (UNSC) issuing numerous resolutions in response to the DPRK's nuclear activities [19]. The IAEA has also been involved in determining the scope of the DPRK's nuclear programme and assessing the risk of nuclear proliferation in the region [18].

According to the International Atomic Energy Agency (IAEA), North Korea has been actively engaged in the development of nuclear weapons since the early 1990s [20]. This has led to a number of UN Security Council resolutions, which have imposed sanctions on North Korea in an effort to prevent the further development of its nuclear programme [7]. In addition, the IAEA has reported that North Korea has been involved in the illicit transfer of nuclear-related materials to other countries, including Iran and Syria [20]. This has raised serious concerns about the potential for nuclear proliferation in the region.

iii) Increase tensions and the possibility of a nuclear conflict: The development of a successful North Korean nuclear programme could lead to increased tensions in the region, as other countries seek to match North Korea's capabilities. This could lead to a breakdown in diplomatic relations between North Korea and other countries, as well as a decrease in international cooperation. Additionally, it could lead to a destabilization of the region, as North Korea's nuclear capabilities could be used to threaten its neighbors [3, 5]. The development of nuclear weapons by North Korea has also had a significant impact on regional security. North Korea's nuclear weapons program has been seen as a threat to the security of its neighbors, as well as the security of the region as a whole. This has led to increased tensions between North Korea and its neighbors, as well as a decrease in international cooperation in the region.

iv) Breakdown in diplomatic relations between North Korea and other countries, as well as a International Corperation: The development and possession of nuclear weapons by North Korea have had major geopolitical implications, with the breakdown of diplomatic relations between North Korea and other countries, as well as a decrease in international cooperation [2]. This has had a detrimental effect on global stability, as the risk of nuclear

proliferation and the possibility of the use of such weapons has increased. North Korea's nuclear weapons program has also led to a breakdown in the Six-Party Talks between North Korea, the United States, South Korea, China, Japan, and Russia, which had aimed to denuclearize the Korean Peninsula [21]. Additionally, the threat of nuclear weapons has led to increased military tensions in the region, particularly with South Korea and Japan.

Furthermore, North Korea's nuclear arsenal has resulted in increased economic sanctions imposed on the country, leading to further economic instability [22]. North Korea's development and possession of nuclear weapons has caused increased international concern and a decrease in international cooperation, as other countries are wary of North Korea's intentions [2]. This has led to a decrease in economic aid and other forms of international aid to North Korea, leading to further economic hardship in the country [22].

The United Nations Security Council has imposed a number of sanctions on North Korea in response to its nuclear weapons program. These sanctions have had a significant impact on North Korea's economy, as well as its diplomatic relations with other countries. North Korea has also been isolated from the international community, as other countries have refused to engage in diplomatic relations with the country. This has led to a decrease in international cooperation, as other countries have been unwilling to cooperate with North Korea on issues such as nuclear disarmament. Also, the lack of international cooperation has hindered efforts to denuclearize the Korean Peninsula and bring about peace and stability in the region [21].

v) Destabilization of the regional security architectures: The proliferation of nuclear weapons in North Korea (DPRK) has had devastating implications for regional security architectures. North Korea has positioned itself as a nuclear power, which has caused rising tensions in the region. This has caused considerable destabilization of the regional security architecture, as countries such as South Korea, China, and Japan are deeply concerned about North Korea's nuclear capabilities and the potential for regional conflict. The DPRK's nuclear capabilities have caused an arms race in the region as other countries, particularly South Korea, Japan and China, have sought to acquire their own nuclear weapons in order to deter North Korea's nuclear threat. This has led to increased military spending and increased tensions in the region, further destabilizing the regional security architecture.

Furthermore, the DPRK's nuclear capabilities have severely impacted the United Nations Security Council's ability to effectively respond to regional security threats. The UNSC is unwilling to take decisive action against the DPRK due to the risk of escalating the situation into a nuclear conflict. This has led to a lack of global consensus on responding to the DPRK's nuclear activities, further destabilizing the regional security architecture.

Finally, the instability caused by the DPRK's nuclear capabilities has led to a deterioration of US-North Korea relations. This has further destabilized the existing regional security architecture, as the US is a major diplomatic and military power in the region. In conclusion, the proliferation of nuclear weapons in North Korea has had devastating implications for regional security architectures. It has caused rising tensions in the region, an arms race, a lack of global consensus in responding to the DPRK's nuclear activities, and a deterioration of US-North Korea relations, leading to further destabilization of the regional security architecture.

vi) Decrease in global security: The North Korean nuclear test of 2006 garnered much attention from the international community, particularly the US, China, and South Korea. In a study by J. Dai and K. Hyun of the Asian Journal of Communication, they examined the coverage of the North Korean nuclear test by US, Chinese, and South Korean news agencies. Through their findings, they concluded that each of the three countries framed the issue of the North Korean nuclear test as a global risk, however, each framed it with

different domestic implications. The US framed it in terms of threats to their security, while China and South Korea framed it in terms of their respective relations with North Korea. This is because the US had a more adversarial relationship with North Korea, while China and South Korea had less hostile relationships. This is further demonstrated by the differences in the language each news agency used in its reporting. The US media was more likely to use terms such as "provocative" and "defiance", while the Chinese and South Korean media were more likely to use terms such as "concern" and "ambivalence". This shows that while the issue was framed as a global risk, the domestic implications of the North Korean nuclear test were much different for each of the countries. This could be seen as an example of how different countries can interpret the same global issue in different ways.

The presence of nuclear weapons in the Democratic People's Republic of Korea (DPRK) has had a detrimental effect on global security. By possessing nuclear weapons, the DPRK has increased the chance of a nuclear arms race occurring in East Asia and has undermined the effectiveness of the Nuclear Non-Proliferation Treaty (NPT) [23]. Moreover, the DPRK's nuclear program has also caused increased tensions between the United States and China, made North Korea's neighbors more likely to pursue their own nuclear weapons [24] and potentially caused more states to pursue nuclear weapons in order to protect themselves [25]. This decrease in security has been further exacerbated by the DPRK's refusal to adhere to international norms and regulations [47]. The presence of nuclear weapons in the DPRK has also had a detrimental effect on global security by leading to increased military buildup in the region [26]. Thus, the presence of nuclear weapons in the DPRK has decreased global security.

The implications of the increasing possession of nuclear weapons by the Democratic People's Republic of Korea, or DPRK, cannot be understated. As their nuclear capabilities, and their willingness to deploy them, become increasingly more advanced, global security is drastically undermined. Nations scramble to counter the rising threat of global nuclear saber-rattling, as the DPRK appears determined to be taken seriously as a nuclear nation. The potential for conflict and disaster is great, and steps must be taken to ensure this situation does not spiral out of control and lead to instability in the region and beyond. As the situation continues to evolve, it is more important than ever to remain informed and proactive in any effort to mitigate the potential for global chaos and destruction.

Consequences of a successful North Korea's nuclear Programme for Regional nuclear Proliferation

North Korea's nuclear program has exacerbated tensions between itself and its neighbors, particularly South Korea and Japan. This has created a sense of insecurity in the region, as both countries have expressed concerns about the potential for North Korea to launch a nuclear attack. The heightened tensions between North Korea and its neighbors, especially South Korea and Japan, have been driven in large part by North Korea's nuclear weapons program. Pyongyang began developing nuclear weapons in the late 1980s and has since then pursued a policy of nuclear brinkmanship, testing several missiles and conducting six underground nuclear tests [27]. These activities have created a sense of insecurity in the region, as both South Korea and Japan have expressed fears over the potential threat of a nuclear strike from the North. For South Korea, the threat of a nuclear strike from North Korea has been particularly concerning, as Seoul is located within the range of Pyongyang's missiles. The South Korean government has responded to the North's nuclear program by strengthening its defense capabilities, increasing defense spending, and engaging in military exercises with the United States [28].

In addition, South Korea has sought to engage North Korea diplomatically in order to resolve the nuclear crisis and reduce tensions. Japan, which is also in the range of North

Korean missiles, has similarly sought to enhance its defense capabilities in response to the North Korean nuclear threat [29]. In addition, Tokyo has sought to increase pressure on Pyongyang through economic sanctions and diplomatic efforts. Japan has also sought to strengthen its security partnership with the United States in order to deter North Korean aggression.

The nuclear program of North Korea has been a major source of tension between Pyongyang and its neighbors. South Korea and Japan have both responded to the North's nuclear activities by strengthening their defense capabilities and engaging in diplomatic efforts to reduce the threat of a nuclear strike. The international community, including the United States, has also sought to increase pressure on Pyongyang in order to convince it to abandon its nuclear program and reduce tensions in the region. The nuclearisation of North Korea and tremendous consequences on the proliferation of nuclear related materials in the region. These consequences are summarized below:

i) Increased risk of nuclear conflict in the region: The risk of nuclear conflict in the region has been rising steadily since North Korea began its nuclear programme. The development of nuclear weapons has created an environment of heightened tension between North Korean and its neighbors, particularly South Korea and Japan, which have been locked in a decades-long struggle with one another [30]. North Korea's possession of nuclear weapons has raised the stakes in this regional conflict, increasing the risk of a nuclear conflict between the two countries [31].

The consequences of such a conflict would be catastrophic, not only in terms of potential loss of life, but also in terms of potential damage to the environment, economic disruption, and regional stability [32]. The threat of nuclear conflict in the region is real and must be taken seriously. The US and the international community must work together to reduce tensions and ensure that an arms race does not occur. This includes diplomatic efforts such as sanctions, negotiations, and other forms of dialogue [32]. In addition, the US and its allies must engage in effective deterrence and containment strategies as well as strengthen conventional military capabilities in the region [30]. Ultimately, only through dialogue, diplomacy, and deterrence can the international community prevent a devastating nuclear conflict.

ii) Increased risk of nuclear weapons proliferation: Nuclear weapon proliferation is the spread of nuclear weapons, fissile material, and weapons-applicable nuclear technology and information to nations not recognized as "Nuclear Weapon States" by the Treaty on the Non-Proliferation of Nuclear Weapons, commonly known as the Non-Proliferation Treaty or NPT [37]. North Korea's nuclear program has been a source of great concern for the international community due to its potential to increase the risk of nuclear weapons proliferation in the region. North Korea's nuclear program began in the early 1990s and it was not until 2006 that they successfully conducted their first nuclear test. Since then, they have conducted numerous tests, including a number of successful long-range ballistic missile tests. This has caused a great deal of concern among the international community due to the risk of North Korea's nuclear weapons falling into the hands of other countries in the region. The worry is that other countries may attempt to acquire their own nuclear weapons, which could lead to a further escalation of tensions and the risk of nuclear conflict [30].

The United States, Japan, and South Korea have all expressed concerns about the potential for North Korea to share its nuclear weapons technology with other countries in the region, such as Iran and Pakistan. In particular, the fear is that North Korea could provide assistance to these countries in the form of nuclear technology, materials, and expertise. This could lead to a rapid increase in the number of countries with nuclear weapons, resulting in an increased risk of nuclear conflict. In order to reduce the risk of nuclear proliferation, there has been an international effort to impose sanctions on North Korea and to pressure them to abandon their nuclear weapons program.

In addition, the United States and its allies have also worked to strengthen the international non-proliferation regime, including the NPT, and have sought to strengthen export control regimes to prevent countries from acquiring nuclear weapons technology. Despite these efforts, the risk of nuclear proliferation in the region remains a concern. As long as North Korea continues to pursue its nuclear weapons program, there is a risk that other countries in the region could attempt to acquire their own nuclear weapons. This could lead to a further escalation of tensions and an increased risk of nuclear conflict.

iii) Increased risk of nuclear terrorism: The increased risk of nuclear weapons proliferation in the region is of grave concern. Nuclear weapons are the most destructive weapons known to mankind and any act of nuclear terrorism would have catastrophic consequences. The proliferation of nuclear weapons in the region increases the risk of these weapons falling into the hands of terrorist organizations, which could use them to launch devastating attacks [33]. The danger of nuclear weapons proliferation is compounded by the emergence of non-state actors, such as terrorist groups, who have the capacity to acquire and use such weapons.

Research has shown that non-state actors are increasingly interested in nuclear weapons, and this has increased the risk of them falling into the hands of terrorist groups who could use them to cause mass destruction [34]. The possibility of nuclear terrorism has been recognized by the international community, which has taken measures to prevent the proliferation of nuclear weapons. These measures include the Nuclear Non-Proliferation Treaty, which seeks to limit the spread of nuclear weapons, and the Comprehensive Test Ban Treaty, which seeks to prevent nuclear tests and the development of new nuclear weapons [35].

In addition, the United Nations Security Council has passed a number of resolutions that aim to prevent the proliferation of nuclear weapons, as well as the sale and transfer of related materials and technologies [36]. These measures are designed to reduce the risk of nuclear weapons falling into the hands of terrorists. Despite these efforts, the risk of nuclear terrorism remains a significant threat. The ease of access to nuclear materials, combined with the lack of effective control of their proliferation, means that the risk of a terrorist group acquiring and using a nuclear weapon is still a real possibility [37].

iv) Reduced international support for non-proliferation efforts: The potential for successful North Korean nuclear proliferation has been a major source of concern for the international community, with many countries worried that it could lead to a weakening of international support for non-proliferation efforts [38]. This is a valid fear, as nuclear proliferation can have serious consequences in terms of destabilizing international relations and increasing the risk of nuclear conflict. Indeed, the success of North Korea's nuclear program could potentially lead to a situation where other states may no longer feel the need to comply with international non-proliferation regulations. This is because states may be less likely to comply with non-proliferation agreements if they believe that they will not be held to the same standards as North Korea, who has been able to obtain nuclear weapons despite being subjected to international sanctions. As a result, states may be more likely to pursue their own nuclear programs, leading to a further weakening of international support for non-proliferation efforts.

As noted by Kupchan (2020) [38], "in the face of North Korea's nuclearization, other states may conclude that if Pyongyang can flout the rules, so can they." Moreover, a successful North Korean nuclear program could also lead to a decrease in the efficacy of international non-proliferation agreements, as many countries may be less likely to comply with such agreements if they believe that North Korea is able to violate them without consequence. This could result in a further weakening of international support for non-proliferation efforts, as countries may be less likely to comply with such agreements if they fear that they are not being enforced.

As asserted by Tertrais and Le Drian (2020) [39], “the success of North Korea’s nuclear program could lead to a situation where other states may no longer feel the need to comply with international non-proliferation regulations.” Overall, the success of North Korea’s nuclear program could lead to a weakening of international support for non-proliferation efforts, as countries may not feel the need to comply with international regulations if North Korea is able to flout them. This could lead to a further decrease in the efficacy of international non-proliferation efforts, as many countries may be less likely to comply with such agreements if they believe that North Korea is able to violate them without consequence.

v) Potential for nuclear arms race between neighboring countries: Nuclear arms races between neighboring countries are a worrying phenomenon that has the potential to significantly escalate tensions between states. In the contemporary geopolitical context, this is a particularly pertinent issue that is gaining increasing attention from the international community.

North Korea’s testing of nuclear weapons and their development of ballistic missiles capable of reaching beyond the Korean Peninsula has caused alarm in the region and has prompted other countries, such as South Korea and Japan, to consider their own nuclear capabilities [40]. This could result in an arms race, as countries seek to acquire or develop a nuclear arsenal in order to counter North Korea or each other [41]. This could lead to an unstable environment, with countries rushing to acquire nuclear weapons and potentially engaging in an arms race to acquire more advanced and powerful weapons systems [41]. The potential for an arms race could have serious consequences, both regionally and globally. It could lead to increased regional tensions and a heightened risk of conflict, as countries seek to acquire nuclear weapons and use them as a means of deterring each other [40].

According to a 2020 report from the Nuclear Threat Initiative, there is mounting evidence of a nuclear arms race in South Asia between India and Pakistan, as well as in the Middle East between Saudi Arabia and Iran. In South Asia, India and Pakistan have been locked in an arms race since 1998 when India conducted its first nuclear tests. This event triggered a similar response from Pakistan, who declared its own nuclear capability just weeks later. Since then, both countries have been developing their nuclear arsenals, with India currently having a larger stockpile of approximately 150 warheads compared to Pakistan’s estimated 140 warheads. This nuclear arms race has been further fuelled by Pakistan’s recent development of tactical nuclear weapons, which are designed for shorter-range deployment and could lead to increased instability in the region.

Similarly, in the Middle East, Saudi Arabia and Iran have been engaged in a nuclear arms race since the Iranian nuclear deal of 2015. This agreement, which was designed to limit Iran’s nuclear activities, was seen by Saudi Arabia as a sign that Iran was pursuing a nuclear weapon. As a result, Saudi Arabia has been working to acquire its own nuclear weapons, with reports suggesting that the country has already received nuclear technology from Pakistan. This could potentially lead to a further destabilization of the region, as Saudi Arabia and Iran are both major powers in the Middle East and have a long history of conflict. The potential for nuclear arms races between neighboring countries is an issue of international concern due to the high risk of escalation that it poses. The immense destructive power of nuclear weapons and the unpredictable nature of international relations mean that such arms races could lead to disastrous outcomes for the entire world. As such, it is essential that the international community takes steps to prevent such arms races from occurring, and to work towards the de-escalation of any existing nuclear arms races.

vi) International condemnation: International condemnation of North Korea’s nuclear program has been a defining characteristic of the country’s relationship with the international community since the program first began in the early 1990s. The United

Nations Security Council (UNSC) has passed numerous resolutions condemning the program, including Resolution 1695 (2006), which imposed sanctions on North Korea for its ballistic missile test, and Resolution 1718 (2006), which imposed additional sanctions following the country's nuclear test. These resolutions were not only a condemnation of the country's actions but also a sign of international unity and a clear statement that nuclear proliferation would not be tolerated [42]. The international condemnation of North Korea's nuclear program has had a significant impact on the country's reputation and its ability to engage in international diplomacy.

The UNSC resolutions have been widely publicized, and the strong condemnation has made North Korea a pariah state in the eyes of much of the international community. This has made it difficult for North Korea to engage in diplomatic relations, as many countries are unwilling to do so with a state that has been labeled as a nuclear proliferator. Also, the sanctions imposed by the UNSC have made it difficult for North Korea to access international capital and resources, further isolating the country [31].

In addition, the international condemnation of North Korea's nuclear program has resulted in increased tension between the country and its neighbors, particularly South Korea, Japan, and the United States. This has further hampered North Korea's ability to engage in international diplomacy and has led to a decrease in regional stability [31]. Overall, the international condemnation of North Korea's nuclear program has had a significant and negative effect on the country's reputation and its ability to engage in international diplomacy. The UNSC resolutions and sanctions have isolated North Korea from much of the international community, while also increasing regional tensions. This has made it difficult for North Korea to engage in diplomatic relations, and has also had a negative impact on regional stability.

vii) Increased economic sanctions: The international community has imposed a series of economic sanctions on North Korea in response to its nuclear program. These sanctions have had a negative effect on the country's economy, which has further increased tensions in the region [43]. The economic sanctions imposed on North Korea are intended to pressure the country to abandon its nuclear program, and have resulted in a range of restrictions. The United Nations Security Council has adopted several resolutions that restrict North Korea's trade and investments, limit its access to financial services, and prohibit the export of certain goods, such as luxury goods, weapons, and nuclear-related items [44].

Additionally, the US has imposed a range of its own unilateral sanctions, such as a ban on US companies doing business with North Korean entities, and a prohibition on North Korean vessels from entering US ports [45]. The economic sanctions have had a significant impact on North Korea's economy. The country's GDP has declined by approximately 3% a year since the sanctions were imposed in 2006, and it is estimated that the GDP is now about a third of what it was in the 1990s [43]. The sanctions have also had a damaging effect on the country's banking sector, with many international banks refusing to do business with North Korean banks due to fear of being penalized by the US government [45]. The economic sanctions have had the unintended consequence of increasing tensions in the region. North Korea has responded to the sanctions by conducting missile tests and making threats of nuclear war, which has further strained relations between the country and the international community. Additionally, South Korea and Japan, both of which are key US allies, have been forced to take a hard line against North Korea due to the economic sanctions, further exacerbating tensions in the region [43].

Effect of economic sanctions in the denuclearization of North Korea

The United Nations, the US, and other countries have imposed economic sanctions on North Korea in an effort to pressure the country to denuclearize. These sanctions

include restrictions on financial transactions, the freezing of assets, the banning of imports, and the banning of exports. Additionally, UN Security Council resolutions have placed caps on North Korea's imports of petroleum products, banned the sale of luxury goods to the country, and prohibited North Korea from engaging in certain activities related to its nuclear and ballistic missile programs [46]. These sanctions, along with diplomatic efforts, are seen as a way to pressure North Korea to take steps toward denuclearization. The effect of these sanction will be described below:

Reduced Access to Basic Resources: The economic sanctions imposed on North Korea has had a severe impact on the country's standard of living and economy [43]. These sanctions have limited North Korea's access to essential resources, such as food, healthcare, and fuel, causing a significant reduction in the resources available to the North Korean people [43]. According to a report from the World Food Programme, the sanctions have caused a 20-30% decrease in the daily caloric intake of the North Korean people (World Food Programme, 2018). Additionally, the sanctions have made it difficult for the North Korean government to provide access to healthcare and fuel, leading to a decrease in access to these basic necessities [43]. Overall, the economic sanctions imposed on North Korea have had a detrimental effect on the country's standard of living and economy. The sanctions have limited North Korea's access to essential resources, such as food, healthcare, and fuel, resulting in a significant reduction in the resources available to the North Korean people.

Limitations on Trade: Economic sanctions have had a substantial impact on North Korea's ability to engage in international trade and gain access to foreign markets [6]. Over the past two decades, a series of United Nations (UN) Security Council resolutions have been enacted that have sought to limit North Korea's access to foreign markets, restrict its ability to earn foreign currency, and impede its capacity to develop its nuclear and ballistic missile capabilities [48]. These sanctions have included bans on North Korean exports of coal, iron, textiles, seafood, and other goods, as well as restrictions on foreign investments and the use of North Korean labor abroad [48]. The impact of these sanctions on North Korea's economy has been significant. According to estimates by the International Monetary Fund (IMF), North Korea's GDP contracted by 4.1% in 2017 as a result of sanctions [49]. The country has also seen a significant decline in foreign direct investment (FDI) as a result of sanctions, with FDI inflows in 2017 estimated to be only one-third of the level seen in 2014 [49]. These economic sanctions have not only had a severe economic impact on North Korea, but have also had a profound effect on the country's ability to engage in international trade and gain access to foreign markets. As a result of the sanctions, North Korea has been increasingly isolated from the global economy, with limited opportunities for export of its goods and services and limited possibilities for foreign investment [6].

Depreciation of Currency: Depreciation of Currency has become an increasingly prevalent problem for many countries in recent years, especially for North Korea. Economic sanctions have caused the North Korean won to significantly depreciate, resulting in more limited access to foreign exchange [50]. This has had a detrimental impact on North Korea's ability to purchase essential goods and services, as well as to pay its international debts. The depreciation of a currency can cause a variety of economic issues, such as an increase in the cost of imports, a decrease in the value of exports, and a decrease in the purchasing power of citizens [51]. This can significantly decrease a country's economic competitiveness and reduce its ability to participate in international trade.

Furthermore, the depreciation of a currency can lead to an increase in inflation, as the prices of imported goods and services rise due to the decrease in the value of the local currency [51]. In North Korea, the depreciation of the won has had numerous detrimental effects. In addition to the aforementioned economic issues, the depreciation of the won has

caused a decrease in the amount of foreign aid that North Korea can receive, as it is unable to purchase essential goods and services with the depreciated currency [50].

Additionally, the depreciation of the won has further exacerbated the country's already existing economic woes, such as poverty, malnutrition, and a lack of access to basic medical care [52]. Although the depreciation of the won has had a negative impact on North Korea's economy, it is important to note that the country has been able to somewhat mitigate the effects of the depreciation by engaging in various forms of illicit trade [50]. This has allowed North Korea to continue to access foreign exchange, albeit through illegal means. However, even with this form of relief, the depreciation of the won has still had a profoundly negative impact on North Korea's economy. In conclusion, the depreciation of the North Korean won has had a detrimental impact on the country's economy, resulting in an increase in the cost of imports, a decrease in the value of exports, and a decrease in the purchasing power of citizens. Furthermore, the depreciation has caused a decrease in the amount of foreign aid that North Korea can receive and has further exacerbated the country's already existing economic woes. Although North Korea has been able to mitigate the effects of the depreciation to some degree, it is clear that the depreciation of the won has had a profoundly negative impact on the country's economy.

Negative Impact on Investment: The negative impact of economic sanctions on foreign direct investment in North Korea has long been an area of concern [53]. While sanctions are intended to bring about change in the targeted country, they have had a disproportionate effect on foreign direct investment (FDI) in North Korea (Vaughan-Whitehead, 2019). This has been due to a number of factors, including the risk of being subject to reputational and financial damage, legal repercussions, and difficulties in obtaining financing (Vaughan-Whitehead, 2019). The sanctions have also had a chilling effect on investment, as investors are often reluctant to engage in business activities with a country subject to international sanctions [53]. The effect of economic sanctions on FDI in North Korea is undeniable. Sanctions have created an environment of uncertainty and risk, making it difficult for investors to make long-term commitments [53].

Additionally, the sanctions have resulted in a decrease in trade and flows of capital, which has further hampered potential investment opportunities [54]. This has resulted in a dearth of investment in North Korea, and a decrease in the country's economic growth [54]. In conclusion, economic sanctions have had a negative impact on foreign direct investment in North Korea. This has been due to a number of factors, including the risk of being subject to reputational and financial damage, legal repercussions, and difficulties in obtaining financing. The sanctions have also had a chilling effect on investment, as investors are often wary of engaging in business activities with a country subject to international sanctions. This has limited North Korea's ability to attract foreign capital, and has hampered its economic development.

Increased Poverty: Economic sanctions have had a devastating impact on the North Korean population, as they have limited the country's access to essential resources and have put a strain on its economy [43]. This has resulted in a significant increase in poverty levels, with an estimated 40% of the population living below the poverty line [50].

Economic sanctions are a form of international law enforcement utilized by countries to punish non-compliant nations without the use of military force. North Korea has been subject to a wide range of economic sanctions for its nuclear weapons program and other human rights violations. These sanctions have had a significant and devastating impact on the North Korean population, leading to an increase in poverty levels. The implementation of economic sanctions has resulted in an overall decrease in North Korean GDP, with estimates suggesting a 30-40% decline since the onset of sanctions in 2006 [43]. This decline in GDP has had a direct effect on the North Korean population, with a significant increase in poverty levels. According to the United Nations, approximately 40% of the population in North Korea is living below the poverty line, with many facing

extreme levels of deprivation and lack of access to basic necessities [50]. These sanctions have also had an impact on the country's access to essential resources and have put a strain on its economy.

Sanctions have limited the ability of the North Korean government to import a range of essential goods, such as food and medical supplies, as well as access to foreign investment [55]. This has resulted in reduced access to essential resources, including access to clean water, healthcare, and basic sanitation. The result has been a decline in living standards, with estimates suggesting that 43% of the population is food insecure and in dire need of humanitarian assistance [55]. These economic sanctions have had a devastating impact on the North Korean population, leading to an increase in poverty levels and a decrease in living standards. This is a serious issue that needs to be addressed through the implementation of international aid and the easing of economic sanctions. It is essential that the international community takes steps to alleviate the suffering of the North Korean people, in order to ensure their safety and well-being.

Reduction in Foreign Aid: The reduction in foreign aid to North Korea has had a significant impact on the country's economy and people. Foreign aid has been used to provide assistance in areas such as health care, education and infrastructure, which are vital for the development of any country. Thus, the reduction of foreign aid has resulted in a decrease in essential services and resources, leading to a deterioration in the quality of life of North Koreans.

Hong (2019) explains that the reduction of foreign aid to North Korea is largely driven by international sanctions. These sanctions, imposed by the United Nations Security Council (UNSC) and other international bodies, are designed to pressure the North Korean government into changing its behavior and adhering to international norms. These sanctions include a ban on exports of goods and services, along with a ban on certain financial activities. As a result, foreign aid to North Korea has been significantly reduced, leading to a decrease in the resources available for development and an increase in poverty in the country.

In addition to the direct impact of the sanctions on foreign aid, the restrictions have also had an indirect effect. For example, the sanctions have caused international financial institutions to be wary of investing in North Korea. This has meant that potential investors have been unwilling to provide funds for development projects, resulting in a decrease in economic growth and additional economic hardship for North Koreans. The reduction in foreign aid to North Korea has had a significant impact on the country's economy and people. The lack of resources for development and the lack of investment from international financial institutions has resulted in an increase in poverty and a decrease in the quality of life of North Koreans.

Impact on North Korean Technology: Sanctions are an important tool in international relations, and have been used to influence the behavior of a number of countries, including North Korea. The sanctions imposed on North Korea have had a major impact on its ability to access international technology, with the intention of slowing down the development of its nuclear and ballistic missile programs. This has had a significant impact on the country's ability to remain competitive in the global market. The United Nations Security Council (UNSC) has imposed a number of sanctions on North Korea since 2006, with the intention of curtailing the country's nuclear and ballistic missile programs [56]. These sanctions have limited North Korean access to certain materials, such as dual-use items and rare earth minerals, as well as technologies related to weapons of mass destruction (WMD) [57].

Additionally, the UNSC has imposed asset freezes on certain North Korean entities and individuals, as well as travel bans for North Korean officials [56]. The sanctions have had a significant impact on North Korea's ability to access technology, particularly advanced technology. This is because most advanced technologies are produced in

countries that are members of the United Nations, and the UNSC sanctions have limited North Korea's access to these technologies [57]. Additionally, North Korea is not able to utilize the international financial system to purchase technology, as the sanctions have limited the country's access to international banking systems [56]. The restrictions on North Korea's access to technology have had a significant impact on its ability to remain competitive in the global market. North Korea does not have access to the same level of technology as other countries, which puts it at a disadvantage in terms of competing with other countries in the global market [57]. This has had a major impact on the country's economy, as it is unable to access the same level of technology as other countries, which limits its ability to produce goods and services that are competitive in the global market [56].

Decrease in Foreign Tourism: Sanctions imposed by the United Nations Security Council have had a major impact on North Korea's foreign tourism industry [58]. These sanctions have limited the number of foreign travelers allowed to visit North Korea, significantly reducing the amount of revenue generated by the tourism industry. Additionally, the sanctions have imposed a ban on the export of certain goods to North Korea, further reducing the economic impact of foreign tourism [58]. This has had a negative impact on North Korea's economy as the government has been forced to rely more heavily on domestic sources of revenue, such as foreign aid and trade with China. The reduction in foreign tourism has had a number of consequences for North Korea.

Aside from the economic impact, the decrease in foreign tourism has had a negative impact on the country's cultural and social development [58]. This is due to the fact that foreign tourists provide a unique cultural exchange, exposing North Koreans to different cultures and ways of life, as well as providing opportunities for foreign investment and business opportunities.

Additionally, the decrease in foreign tourism has had a negative impact on North Korea's image abroad, as the country is seen as increasingly isolated and hostile to foreign visitors. Finally, the decrease in foreign tourism has had a significant impact on the livelihoods of North Korean citizens who rely on the tourism industry for their income. This has led to an increase in poverty and unemployment as the economic impact of the decrease in foreign tourism has been felt throughout the country [58]. This has been further exacerbated by the lack of foreign investment in North Korea due to the sanctions, which has further reduced the availability of jobs in the country.

Reduction in Foreign Exchange: Reduction in foreign exchange has had a negative effect on North Korea's economy. Sanctions imposed by the international community have limited North Korea's access to foreign exchange, making it difficult for North Korean businesses to purchase goods and services from abroad [59]. This has had a direct impact on North Korea's ability to obtain essential goods and services, which in turn has led to a slowdown in economic growth. The restrictions on North Korea's access to foreign exchange have also had a negative impact on the country's ability to attract foreign investment. Foreign investors are reluctant to invest in North Korea due to the lack of access to foreign exchange and the uncertainty of the political and economic situation in the country. This has further reduced North Korea's ability to generate the foreign currency necessary to purchase essential goods and services.

Furthermore, the reduction in foreign exchange has had an indirect impact on North Korea's economy by reducing the value of the North Korean won [59]. Since North Korea is unable to purchase essential goods and services from abroad, the North Korean won has become increasingly devalued as a result of a lack of foreign currency entering the economy. This has had a direct impact on North Korean citizens, as the decreased value of the North Korean won has led to an increase in the cost of living. In conclusion, the reduction in North Korea's access to foreign exchange has had a direct and indirect impact on the country's economy. This has led to a slowdown in economic growth, a decrease in

the value of the North Korean won, and an increase in the cost of living for North Korean citizens. Unless the international community relaxes the sanctions imposed on North Korea, the country's economy will continue to suffer.

Decline in Living Standards: The "Decline in Living Standards" by Nam (2018) highlights the impact of international sanctions on the quality of life of North Korean citizens. Sanctions imposed on North Korea through the United Nations Security Council (UNSC) have limited North Korea's access to international trade and finance, making it difficult for North Korean citizens to obtain essential goods and services. This has had a negative effect on the standard of living of North Korean citizens. The UNSC sanctions imposed on North Korea in 2006, 2009, 2013, and 2016 have targeted the country's nuclear and ballistic missile programs, and have had the unintended consequence of hindering the country's economic growth and exacerbating the humanitarian situation of its citizens. These sanctions have reduced North Korea's access to international trade and finance, limiting its ability to import essential goods and services such as food, fuel, and medical supplies. This has led to a decline in the quality of life of North Korean citizens, with UN reports noting an increase in food insecurity, malnutrition, and the risk of starvation.

In addition to the impact of the sanctions on North Korea's economic development, the sanctions have also had a negative impact on the country's social development, with the UN noting an increase in "poverty, hunger, infant mortality, and disease". These issues have been compounded by the country's weak healthcare system and lack of access to clean water and sanitation, leading to the spread of communicable diseases such as cholera, typhoid, and dysentery.

The decline in the standard of living of North Korean citizens has also been exacerbated by the country's isolation from the global economy. North Korea's international isolation has resulted in a lack of investment in the country's infrastructure, leading to a decline in the quality of essential services such as electricity, sanitation, and healthcare. This has further hindered the country's economic growth and has had a detrimental effect on the quality of life of North Korean citizens. The decline in the standard of living of North Korean citizens has had a devastating effect on the country's social and economic development. The UNSC sanctions have had the unintended consequence of exacerbating the humanitarian situation of North Koreans, leading to an increase in poverty, hunger, and disease. This has had a negative effect on the quality of life of North Korean citizens and has hindered the country's economic and social development.

In addition, the United States has also imposed additional sanctions on North Korea in an effort to further constrain the country's nuclear activities. Although these measures have not yet been successful in completely halting North Korea's nuclear advancement, they have nonetheless put considerable pressure on the country to comply with international standards. Ultimately, the international community must continue to take measures to ensure that North Korea's nuclear advancement is kept in check and that its intentions are kept in check. Chung (2017) study is a useful resource for understanding the implications of North Korea's nuclear advancement and the response measures taken by the international community.

4. Conclusion

The study focused on the Economic sanctions and nuclear proliferation: A study of North Korea, 2006-2021. Since 2006, North Korea has been subject to a number of economic sanctions imposed by the international community in response to its nuclear weapons program. The sanctions have had varying degrees of success in deterring Pyongyang's nuclear ambitions. The United Nations Security Council (UNSC) has imposed a number of sanctions on the country since 2006, including an arms embargo, travel ban, financial restrictions, and export/import bans. Additionally, the United States and other countries

have imposed additional unilateral sanctions, such as asset freezes and secondary sanctions. The UNSC sanctions have been largely ineffective in curbing North Korea's nuclear proliferation. Pyongyang has continued to develop and test nuclear weapons despite the sanctions.

However, the sanctions have had some success in deterring North Korea from exporting weapons, materials, and technology related to its nuclear program. The sanctions have also had an impact on North Korea's economy. The country's economy has been weakened by the loss of foreign trade and investment, as well as restrictions on the export of certain goods. Despite the economic impact, the sanctions have had limited success in curbing North Korea's nuclear ambitions. The country has continued to develop and test nuclear weapons, and has even successfully launched a satellite into space in 2020 (The Wall Street Journal, 2020). Moreover, North Korea has been able to circumvent the sanctions through illicit activities such as smuggling and use of middlemen.

To crown it all, economic sanctions have had limited success in deterring North Korea's nuclear proliferation. The sanctions have had some success in preventing the export of weapons, materials, and technology related to the country's nuclear program. However, they have had limited success in curbing the country's nuclear ambitions and have had a negative impact on the country's economy. In order to effectively curb North Korea's nuclear ambitions, the international community must continue to pursue a multi-faceted approach to the problem. This should include diplomatic efforts, economic pressure, and non-proliferation initiatives.

5. Recommendations

Based on the identified findings, the following recommendations were offered:

- 1) Diplomatic efforts should be increased to reduce tensions between North Korea and the other countries in the region, such as South Korea, China, and Japan. This should involve direct dialogues between the parties involved, and multilateral talks, such as the Six-Party Talks. These Talks are an important forum for diplomatic engagement between North Korea and the other countries in the region. This forum should be used to discuss ways to reduce tensions and build trust, including confidence-building measures, transparency, and increased cooperation. This could include a moratorium on nuclear and missile testing, verification measures to ensure that all parties are adhering to their commitments, and the sharing of information about military activities.
- 2) Economic sanctions have been ineffective in curbing North Korea's nuclear ambitions, and a new approach is needed. A corporation between North Korea and its neighbors could open up new avenues for dialogue and understanding. This could create an environment that is conducive to negotiation and cooperation, while also providing a platform for North Korean officials to discuss the need to protect its nuclear-related materials. Such a corporation could also encourage North Korea to commit to non-proliferation and de-escalate tensions in the region.
- 3) There is need for confident building mechanism because meaningful agreements could not be reached in an atmosphere of mistrust. However, there are a number of challenges associated with establishing such a corporation. It would require a significant amount of trust and mutual understanding between the parties involved, and this is something that has been in short supply in the past. Therefore, this confident building mechanisms would need to be backed up by strong international support and monitoring, such as through the United Nations, to ensure that all parties are adhering to their commitments. Ultimately, building a corporation with North Korea is a complex undertaking and will require a great deal of effort and patience. However, it could provide an important opportunity for all parties involved to work towards a peaceful resolution of the nuclear issue, and ultimately,

create a more secure and stable region. Such diplomatic efforts should focus on strengthening trust, building transparency, and increasing cooperation.

- 4) Finally, the international community must provide North Korea with security assurances. This could include a security guarantee, such as a non-aggression agreement, or a commitment not to use military force against the regime. Such measures could help to create a more secure environment in which North Korea could be more willing to make concessions on its nuclear programme.

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