

Article

A Retrospective Analysis of Security Dilemma and Nuclear Proliferation: A Recipe for War or Peace?

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Abstract: Nuclear weapons proliferation remains a critical issue in international relations, simultaneously acting as a deterrent to war and a source of escalating tensions. The pursuit of nuclear capabilities by states seeking security often triggers regional and global instability through the security dilemma, where one state's defense measures heighten the perceived threat to others. This study examined the dual role of nuclear proliferation in both promoting peace via deterrence and exacerbating tensions, using the Security Dilemma and Deterrence Theories as a framework. A qualitative analysis of secondary sources, including academic literature and international documents, revealed that while nuclear proliferation can enhance strategic stability, it also increases the risk of conflict due to mistrust and arms races. The findings highlight the need for diplomatic engagement and international cooperation to mitigate these risks. The study recommends strengthening non-proliferation treaties and fostering regional confidence-building measures to promote global security and progress toward nuclear disarmament.

Keywords: Retrospective analysis, Security dilemma, Nuclear proliferation, War, Peace

1. Introduction

The study investigates the complex nature of the security dilemma and its role in nuclear proliferation within international relations. The security dilemma, as articulated by scholars like Herz (1950) and Jervis (1978) posit that actions taken by a state to enhance its security can inadvertently threaten other states, prompting an arms race. This dynamic is particularly acute in nuclear proliferation, where states' pursuit of nuclear deterrence can escalate tensions, leading to an unstable balance of power. The Cold War offers a prominent example of this, wherein the United States and the Soviet Union engaged in an arms race that resulted in massive nuclear stockpiles under the doctrine of mutually assured destruction (MAD) [1]. The historical context of the Cold War continues to influence contemporary debates, framing nuclear weapons both as tools for maintaining peace through deterrence and as potential catalysts for global conflict.

In recent years, the security dilemma has become evident in regional contexts, especially with regard to the nuclear ambitions of countries like North Korea and Iran [2]. North Korea's development of nuclear weapons exemplifies the security dilemma, as its actions have spurred neighboring countries, such as South Korea and Japan, to consider bolstering their military capabilities in response [3]. Similarly, Iran's nuclear program has heightened regional tensions, with states like Israel and Saudi Arabia expressing concerns about a potential arms race in the Middle East [4]. The international response to these

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developments underscores the persistent challenge of addressing nuclear proliferation in an environment where states are motivated by security concerns.

Advocates of nuclear deterrence argue that the possession of nuclear weapons acts as a significant force in preventing conflicts and maintaining global peace. The premise is built on the concept of Mutually Assured Destruction (MAD), which posits that the threat of complete and catastrophic retaliation deters states from engaging in large-scale wars [5]. This argument is exemplified by the Cold War era, where nuclear deterrence between the United States and the Soviet Union prevented direct military confrontations despite the intense rivalry and ideological differences [6]. Proponents believe that nuclear weapons create a balance of power, as states are compelled to avoid conflict due to the high stakes involved in potential nuclear warfare [7].

Further, it is suggested that nuclear deterrence creates strategic stability. The presence of nuclear weapons raises the costs of war to unacceptable levels, leading states to pursue diplomatic and peaceful resolutions over direct military engagements. For instance, the nuclear standoff between India and Pakistan is often cited as a situation where nuclear deterrence has led to relative stability in the region despite ongoing tensions [8]. Even in cases of smaller conflicts or provocations, the overarching nuclear threat discourages escalations to full-scale war. Moreover, advocates argue that nuclear deterrence serves as an equalizing force in international relations. For weaker states, nuclear weapons can act as a defensive shield against stronger adversaries, thereby preserving sovereignty and preventing domination by more powerful states. North Korea's development of nuclear capabilities is seen by many as a means to safeguard its regime against perceived threats, particularly from the United States and South Korea, thus reducing the likelihood of external intervention [9]. In essence, the supporters of nuclear deterrence view it as a stabilizing factor that fosters peace by making the costs of war intolerably high.

Critics of nuclear deterrence, however, contend that the proliferation of nuclear weapons does not necessarily lead to peace; instead, it heightens the risks of accidental war, miscalculation, and nuclear terrorism. One of the primary concerns is that the spread of nuclear capabilities increases the chance of an inadvertent conflict due to errors in judgment, technical failures, or miscommunication [10]. History has recorded several close calls, such as the Cuban Missile Crisis and the NORAD computer malfunction of 1980, where nuclear war was narrowly avoided. Critics argue that as more states acquire nuclear weapons, especially those with less sophisticated command and control systems, the probability of a miscalculated or accidental nuclear exchange grows exponentially [11].

Additionally, the acquisition of nuclear weapons by states with volatile political climates, internal instability, or ongoing regional disputes poses a significant danger to global security. For instance, Iran's nuclear ambitions have triggered a regional security dilemma in the Middle East, causing neighboring countries to consider their own nuclear options [12]. Similarly, North Korea's nuclear development has heightened tensions in East Asia, leading to increased military postures by the United States, Japan, and South Korea, which could inadvertently escalate into conflict [13]. Critics assert that nuclear weapons do not inherently stabilize regions but instead exacerbate existing hostilities and mistrust. Furthermore, there is the risk of nuclear terrorism. As nuclear technology proliferates, the likelihood of non-state actors acquiring nuclear materials increases. The potential for terrorist groups to obtain nuclear weapons or materials and use them against civilian populations represents a profound threat to global security [14]. The fear of such actors gaining access to nuclear arsenals also compels states to maintain high levels of alert and military readiness, which, in turn, elevates the risk of conflict through misinterpretation or miscommunication of intentions. In this view, nuclear deterrence is a precarious strategy that relies heavily on rational decision-making and the flawless functioning of systems, neither of which can be guaranteed.

A deep dive into the existing literature revealed some existing gaps which necessitate the current study. A study by Liff and Ikenberry (2014), examines the security dilemma in Asia, specifically focusing on China's rise and its impact on regional nuclear proliferation. Utilizing a mixed-methods approach, the researchers analyzed quantitative data on military spending, missile tests, and nuclear capabilities across Asian states while incorporating qualitative assessments through interviews with policymakers. The findings reveal that China's growing military and nuclear capabilities have prompted neighboring states, like Japan and South Korea, to reconsider their defense postures. The study concludes that nuclear proliferation in Asia is primarily driven by strategic uncertainties and the perceived need for a nuclear deterrent, highlighting the crucial role of regional power dynamics in shaping nuclear policy decisions [15].

Kaye (2007) explores how the security dilemma affects nuclear proliferation in the Middle East, particularly focusing on Iran's nuclear program. The study employs a case study methodology, analyzing historical diplomatic efforts, sanctions, and international agreements. Through content analysis of official documents and interviews with regional experts, the study found that Iran's pursuit of nuclear technology is driven by a combination of national security concerns and regional power competition. The research concludes that the security dilemma in the Middle East is intensified by mutual distrust, with nuclear ambitions perceived as both a means of defense and a potential trigger for regional conflict. The study recommends strengthening diplomatic initiatives and regional security frameworks to address these challenges [16].

Hecker (2010) investigates North Korea's nuclear program using a longitudinal case study approach, examining the evolution of North Korea's nuclear capabilities from the 1990s to the present. The study utilizes primary sources, including North Korean state publications, and secondary sources, such as international reports and academic analyses. Findings indicate that North Korea's nuclear proliferation is driven by its security concerns, primarily due to perceived threats from the United States and South Korea. The study concludes that North Korea's nuclear program serves as both a deterrent and a bargaining tool, complicating efforts for denuclearization and raising the risks of miscalculation in regional security dynamics.

In their study, Müller (2017) evaluates the effectiveness of arms control and non-proliferation treaties in curbing nuclear proliferation in the 21st century. The research employs a policy analysis framework, reviewing key treaties such as the Non-Proliferation Treaty (NPT) and analyzing their impact through a combination of qualitative assessments and statistical data on nuclear arsenals [17]. The study finds that while arms control treaties have been instrumental in limiting the spread of nuclear weapons, their effectiveness has been undermined by major powers' modernization programs and non-compliance by certain states. Müller concludes that without renewed diplomatic efforts and stricter enforcement mechanisms, nuclear proliferation will continue to pose a significant threat to global security.

Hymans (2012) undertook a study titled *Nuclear Proliferation and the Security Dilemma*. This study employs a qualitative case study methodology to explore how the security dilemma influences states' decisions to pursue nuclear weapons. Focusing on countries like North Korea and Iran, Hymans uses document analysis and interviews with policy experts to investigate the relationship between perceived security threats and nuclear ambitions [18]. The findings reveal that nuclear proliferation is often driven by states' perceptions of external threats and a desire to achieve strategic deterrence. The study concludes that the security dilemma is a critical factor in understanding why some states choose to develop nuclear weapons, emphasizing that global efforts to curb nuclear proliferation must address the underlying security concerns of states [19].

Ganguly and Kapur (2010) carried out an investigation into *The Security Dilemma and Nuclear Policy in South Asia*. This research adopts a mixed-methods approach,

utilizing both qualitative analysis of diplomatic communications and quantitative data on military expenditures to examine the nuclear arms race between India and Pakistan. The study finds that the security dilemma is central to understanding the nuclear dynamics in South Asia, as both countries have pursued nuclear deterrence in response to each other's military developments. Ganguly and Kapur conclude that the presence of nuclear weapons in the region has both stabilized and exacerbated tensions, highlighting the precarious balance between deterrence and the risk of conflict escalation. The authors suggest that confidence-building measures are essential to mitigating the risks posed by the security dilemma in the region [20].

Kang (2015) also carried out a research study entitled *Nuclear Deterrence in East Asia: Managing the Security Dilemma*. Kang's study uses a comparative case study approach to analyze the nuclear strategies of North Korea, Japan, and South Korea. By examining policy documents, military postures, and regional security alliances, the study illustrates how the security dilemma shapes nuclear policy decisions in East Asia. The findings suggest that North Korea's nuclear program has triggered a security dilemma, leading to increased military readiness and nuclear considerations by neighboring countries. Kang concludes that regional nuclear deterrence is a double-edged sword: while it may prevent direct conflicts, it also increases the risk of miscalculation and accidental warfare. This research underscores the need for a multilateral framework to address the security concerns of all regional actors [21].

Tannenwald (2017) carried out a study entitled *The Role of International Norms in Nuclear Non-Proliferation*. This study uses a constructivist approach, employing discourse analysis to explore the influence of international norms on nuclear proliferation. Tannenwald examines the impact of global treaties like the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) on state behavior, focusing on case studies of Iran and North Korea. The findings indicate that while international norms and treaties have been effective in curbing nuclear ambitions in some states, they are less successful in addressing the security dilemma faced by states in volatile regions. Tannenwald concludes that strengthening international norms alone is insufficient; a comprehensive approach that considers regional security concerns is necessary to prevent nuclear proliferation [22].

While the aforementioned studies provide valuable insights into the interplay between the security dilemma and nuclear proliferation, several gaps remain. First, much of the existing research, such as Hymans (2012) and Ganguly & Kapur (2010), primarily focuses on specific regional contexts without adequately exploring the global implications of nuclear proliferation. This study seeks to bridge this gap by providing a more holistic retrospective analysis that considers both regional and global perspectives. Second, although Kang (2015) highlights the role of regional actors in managing the security dilemma, there is limited exploration of how international cooperation can address the root causes of the security dilemma. This study aims to investigate the potential of multilateral frameworks to mitigate security concerns and promote nuclear disarmament [23].

Furthermore, Tannenwald's (2017) focus on international norms emphasizes the importance of treaties in nuclear non-proliferation. However, the study does not sufficiently address how the erosion of these norms, as seen in the recent dissolution of key arms control agreements, influences the security dilemma [24]. This gap warrants further exploration, particularly in light of renewed nuclear modernization programs by major powers. By examining both the historical and current challenges in the context of the security dilemma, this study aims to provide a more comprehensive understanding of nuclear proliferation from 1945-2023. It will also explore policy options that could help prevent a new wave of nuclear arms races, thereby contributing to the discourse on global security. Specifically, the study seeks to:

- a) Examine the factors that led to the nuclear weapons in international politics.

- b) Retrospectively investigate the security dilemma and nuclear proliferations among states in international politics
- c) Ascertain whether the possession and development of nuclear weapons act as a deterrent that fosters peace or, conversely, as a catalyst for conflict and war.

Theoretical Underpinning

The paper is anchored on the Security Dilemma and Deterrence Theories.

Security Dilemma Theory: The concept of the security dilemma was first introduced by John H. Herz in 1950 as part of his analysis of international relations within an anarchic global system [25]. Herz articulated the idea that in an international environment where no central authority exists to enforce rules and provide security, states must rely on self-help mechanisms to ensure their survival. The theory suggests that actions taken by a state to increase its security, such as developing military capabilities or, in this case, nuclear weapons, can be perceived as a threat by other states [26]. This perception leads those other states to enhance their security measures in response, ultimately resulting in a cycle of mistrust and arms build-up. The security dilemma, therefore, is not rooted in states' aggressive intentions but rather in the structural constraints of the international system, where uncertainty about others' intentions fuels mutual suspicion and defensive postures [27]. The theory holds particular relevance to nuclear proliferation, as the pursuit of nuclear arsenals by one state often leads to similar pursuits by others, exacerbating global tensions.

A key assumption of the security dilemma theory is that states operate in a condition of anarchy, lacking a higher authority to ensure their safety and security [28]. In this anarchic context, the accumulation of military power, including nuclear weapons, is seen as a rational response to perceived threats. However, this response can paradoxically lead to greater insecurity. For instance, when a state develops nuclear capabilities for defensive purposes, neighbouring states may view this action as aggressive, prompting them to pursue their own nuclear arsenals. This dynamic has been evident in various regions, such as South Asia, where India's nuclear tests in 1998 triggered Pakistan's rapid development of its own nuclear weapons programme [29]. The theory also assumes that states are primarily concerned with relative power, meaning they are sensitive to changes in the balance of power within their region or globally. As states perceive shifts in power dynamics, they may engage in arms races to prevent being dominated by their rivals, which further perpetuates the security dilemma.

The security dilemma theory is highly relevant to the study "A Retrospective Analysis of Security Dilemma and Nuclear Proliferation: A Recipe for Global/Regional War or Peace" as it provides a foundational framework for understanding the intricate link between nuclear proliferation and international tensions. The theory helps explain why states, despite recognising the risks of nuclear war, continue to pursue nuclear weapons as a means of securing their national interests. For example, North Korea's nuclear development can be seen as a response to the perceived threats posed by the United States and South Korea, thus creating a regional security dilemma in East Asia [30]. Similarly, Iran's nuclear ambitions are often framed as a defensive measure against regional adversaries, particularly Israel and the United States, resulting in heightened security concerns in the Middle East [31]. By anchoring the study in security dilemma theory, the paper opined that nuclear proliferation not as a result of aggressive intentions but as an outcome of states' attempts to navigate the uncertainties and insecurities inherent in the international system. This framework thus allows for a nuanced exploration of how the pursuit of security through nuclear armament can inadvertently lead to greater instability and the potential for conflict.

Deterrence Theory: This theory is the cornerstone of strategic studies, was developed during the Cold War by scholars like Bernard Brodie (1946) and later expanded by theorists

such as Thomas Schelling in the 1960s. The theory's primary assumption is that the possession of formidable military capabilities, particularly nuclear weapons, discourages adversaries from initiating conflict due to the fear of devastating retaliation [32]. The essence of deterrence lies in maintaining a credible threat of significant punishment, making the costs of aggression outweigh the potential benefits. During the Cold War, the theory evolved into the concept of Mutually Assured Destruction (MAD), positing that the risk of complete annihilation would prevent nuclear-armed states from engaging in direct conflict [33]. The theory assumes rational actors who are capable of assessing the risks and consequences of their actions. As long as states perceive that nuclear retaliation is both possible and probable, they are likely to refrain from initiating hostilities. This assumption underpins modern strategic policies, where nuclear arsenals and second-strike capabilities serve as instruments of deterrence to ensure national and international security [34].

Deterrence Theory provides a lens through which to examine how the development and possession of nuclear weapons influence global security dynamics. In cases like India and Pakistan, nuclear deterrence has arguably maintained a fragile peace in South Asia, where both states refrain from escalating conflicts to full-scale war due to the risk of mutual nuclear destruction [35]. Similarly, North Korea's nuclear capabilities can be seen as a strategic effort to deter perceived external threats, particularly from the United States, thus anchoring its nuclear policy within the framework of deterrence [36]. The theory is instrumental in explaining why states pursue nuclear arsenals, as they aim to prevent adversaries from considering military aggression. However, it also highlights the inherent risks of nuclear proliferation, suggesting that while deterrence may foster strategic stability, it simultaneously perpetuates the security dilemma and the potential for miscalculations. This duality is central to understanding the study's focus on the complex interplay between nuclear deterrence, security dilemmas, and the quest for peace or the risk of conflict.

2. Materials and Methods

The study employed a qualitative approach to analyse the security dilemma and nuclear proliferation. Data were gathered from secondary sources, including textbooks, journal articles, UNGA and UNSC resolutions, and reputable international news outlets such as CNN, BBC, Al Jazeera, Reuters, and ABA, along with other relevant academic publications. These sources provided a comprehensive overview of the topic. The collected data were then rigorously examined using content and thematic analysis to identify key patterns, themes, and insights into how the security dilemma influences nuclear proliferation, ultimately assessing its impact on global and regional security dynamics [37].

3. Results and Discussion

3.1 Factors that Led to the Nuclear Weapons in International Politics

The emergence of nuclear weapons in international politics stems from a confluence of scientific breakthroughs, geopolitical competition, and the strategic imperatives of ending World War II. The development and deployment of nuclear weapons have had far-reaching consequences on global security, significantly shaping post-war international relations and fuelling an ongoing debate about nuclear deterrence.

Scientific Breakthroughs and the Race for Military Superiority: Advances in nuclear physics during the early 20th century laid the groundwork for the development of nuclear weapons. The discovery of nuclear fission by Otto Hahn and Fritz Strassmann in 1938, and the subsequent understanding of chain reactions, provided the scientific basis for nuclear energy and weaponry [38]. As World War II intensified, fears that Nazi Germany was pursuing nuclear weapons prompted a race among Allied nations to harness atomic power

for military purposes. In response, the United States initiated the Manhattan Project in 1942, a secret programme that brought together prominent scientists like Robert Oppenheimer to develop the first atomic bomb [39]. This effort reflected not only a quest for military superiority but also a response to the potential existential threat posed by enemy possession of nuclear weapons. The successful testing of the atomic bomb in 1945 marked a watershed moment in warfare and international politics, showcasing nuclear weapons as a transformative force in military strategy and statecraft. The technological achievements of the Manhattan Project would go on to define the nature of conflict and power dynamics in the nuclear age.

The subsequent decades saw rapid technological advancements that further enhanced nuclear weapons' capabilities. The development of thermonuclear weapons, intercontinental ballistic missiles (ICBMs), and submarine-launched ballistic missiles (SLBMs) in the 1950s and 1960s expanded the strategic reach of nuclear arsenals. This technological evolution created an arms race between major powers, primarily the United States and the Soviet Union, as they sought to achieve strategic superiority through advancements in nuclear delivery systems. The resultant growth of nuclear arsenals underscored the role of scientific progress in driving the proliferation of nuclear weapons, shaping international politics' security and power dynamics.

Ending World War II and the Strategic Use of Nuclear Weapons: A critical factor driving the development of nuclear weapons was the desire to end World War II swiftly. By mid-1945, the Allied forces faced the daunting prospect of a prolonged and bloody invasion of Japan, raising concerns over the human cost of continued conflict. The use of nuclear weapons, exemplified by the bombings of Hiroshima and Nagasaki in August 1945, was primarily motivated by the objective of forcing Japan's unconditional surrender and avoiding further casualties. President Truman and his advisers believed that demonstrating the immense destructive power of the atomic bomb would compel Japan to capitulate, which it eventually did on August 15, 1945. Although the bombings elicited widespread condemnation for their humanitarian impact, they marked the beginning of nuclear weapons' profound influence on international politics. The atomic bombings not only hastened the end of World War II but also conveyed a potent message about nuclear capability as a tool of national policy, both for deterrence and for geopolitical leverage. This realization set the stage for the nuclear arms race of the Cold War, as other states sought to acquire similar strategic advantages by developing their own nuclear arsenals.

The Concept of Deterrence and Strategic Stability: The development of nuclear weapons was also significantly driven by the concept of deterrence, which posits that the possession of nuclear weapons prevents conflicts by imposing catastrophic costs on potential aggressors. During the Cold War, the doctrine of mutually assured destruction (MAD) emerged, arguing that the existence of large nuclear arsenals on both sides made the prospect of nuclear war too devastating to contemplate. This theory of deterrence suggested that nuclear weapons served as a powerful tool for maintaining strategic stability, as neither side would initiate a conflict that could lead to its own destruction.

The logic of nuclear deterrence has since influenced many states' decisions to pursue nuclear capabilities. For example, states like India and Pakistan have developed nuclear weapons to establish a deterrent posture against each other, thereby stabilising their strategic environment despite enduring regional tensions. Similarly, countries like Israel have adopted an ambiguous nuclear posture, believing that the mere perception of possessing nuclear weapons serves as an effective deterrent against existential threats. While deterrence is viewed by its proponents as a stabilising factor in international relations, critics argue that it also perpetuates an arms race and increases the risk of accidental war. Nonetheless, the quest for strategic stability remains a key driver of nuclear weapons development in international politics.

Power, Prestige, and the Security Dilemma: Beyond security concerns, the pursuit of power and prestige has been a significant factor in the proliferation of nuclear weapons. Possessing nuclear weapons is often perceived as a symbol of national strength and technological prowess, conferring a sense of status and influence within the international community. This prestige factor has motivated states to develop nuclear capabilities not solely for security purposes but also to assert themselves on the global stage. The case of France's nuclear programme, known as "Force de frappe," is an example where nuclear weapons development was partly motivated by a desire to assert national independence and international stature.

Furthermore, the security dilemma plays a crucial role in nuclear proliferation. In an anarchic international system where states cannot fully trust one another, the enhancement of one state's security through nuclear armament can be perceived as a threat by others, prompting them to seek similar capabilities. This dynamic has been particularly evident in regions like the Middle East and East Asia, where the nuclear ambitions of states such as Iran and North Korea have heightened regional insecurities and triggered discussions on nuclear armament by neighbouring states. The security dilemma thus creates a feedback loop where the pursuit of nuclear weapons by one state compels others to follow suit, perpetuating nuclear proliferation and complicating efforts for arms control and disarmament.

To crown it all, the development and proliferation of nuclear weapons in international politics have been driven by a confluence of technological innovations, the logic of deterrence, the pursuit of power and prestige, and the dynamics of the security dilemma. Technological advancements in nuclear physics and missile delivery systems have enabled the creation and deployment of sophisticated nuclear arsenals. The theory of deterrence has justified the possession of nuclear weapons as a means of preventing conflict and maintaining strategic stability. Additionally, nuclear weapons serve as a marker of prestige for states seeking to assert their influence in the global arena. However, these developments have also perpetuated a security dilemma, fuelling an arms race that continues to shape international politics.

3.2 A Retrospective Analysis of Security Dilemma and Nuclear Proliferation Among States in International Politics, 1945-2023

The development and spread of nuclear weapons since 1945 have been heavily influenced by the concept of the security dilemma, a situation in which actions taken by a state to increase its security cause other states to respond with similar measures, leading to a cycle of tension and potential conflict. A retrospective analysis of nuclear proliferation from 1945 to 2023 highlights how this security dilemma has shaped global politics and regional security dynamics.

The Origins and Evolution of the Security Dilemma in the Nuclear Age: The advent of the nuclear age began with the bombings of Hiroshima and Nagasaki in 1945, marking the start of a profound shift in international politics. The United States' monopoly on nuclear weapons was short-lived, as the Soviet Union successfully tested its first nuclear bomb in 1949, thereby initiating an arms race underpinned by the security dilemma. The subsequent Cold War period saw an escalation in nuclear stockpiles, as both superpowers sought to secure their interests and maintain strategic stability. The logic of mutually assured destruction (MAD) became the cornerstone of nuclear deterrence, premised on the belief that the possession of large arsenals would prevent direct conflict between nuclear-armed states. However, this period also illustrated the paradox of the security dilemma: the pursuit of security through nuclear armament resulted in a pervasive sense of insecurity, prompting an ongoing arms race.

As nuclear technology became more sophisticated, the strategic competition between the United States and the Soviet Union intensified, leading to the development of intercontinental ballistic missiles (ICBMs) and submarine-launched ballistic missiles

(SLBMs). The doctrine of nuclear deterrence not only shaped superpower relations but also set the stage for other states to consider the pursuit of nuclear weapons as a means of ensuring their security. This led to the proliferation of nuclear weapons beyond the original nuclear states, further entrenching the security dilemma in international politics. For instance, the United Kingdom and France developed their nuclear capabilities in the 1950s and 1960s, motivated by a desire to maintain strategic autonomy and deter potential threats. This early phase of nuclear proliferation laid the groundwork for the complex security dynamics that continue to influence global and regional politics today.

Regional Security Dilemmas and the Spread of Nuclear Proliferation: In the decades following the Cold War, the security dilemma manifested itself in various regional contexts, driving states to pursue nuclear weapons as a response to perceived threats. South Asia provides a vivid example, where India and Pakistan's nuclear weapons programmes have been largely driven by mutual suspicion and historical conflicts. India's initial nuclear tests in 1974 and subsequent tests in 1998 were partly a reaction to China's nuclear arsenal, while Pakistan's pursuit of nuclear capabilities was a direct response to India's nuclearisation. This regional security dilemma has resulted in an ongoing arms race and heightened tensions, despite the presence of nuclear deterrence. The strategic stability in South Asia remains precarious, as both countries continue to modernise their arsenals and develop new delivery systems, raising concerns about potential miscalculation and escalation.

A similar security dilemma can be observed in the Middle East, where Iran's nuclear programme has been a source of regional tension. Iran's pursuit of nuclear technology has been framed as a means of securing national sovereignty and deterring external threats, particularly from Israel and the United States. In turn, Israel, which maintains an ambiguous nuclear posture, perceives Iran's nuclear ambitions as a direct threat to its security, thereby contributing to regional instability. This dynamic has prompted discussions in other Middle Eastern countries, such as Saudi Arabia, about the potential need for their own nuclear deterrents, thereby perpetuating the cycle of insecurity in the region. These regional security dilemmas underscore how the pursuit of nuclear weapons, intended to provide security, often leads to increased tensions and the risk of proliferation.

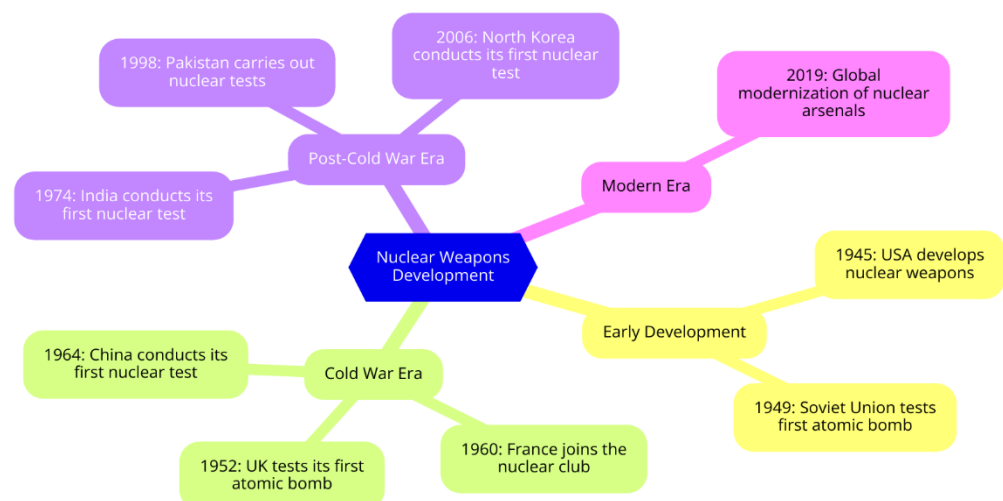


Figure 1. Nuclear Weapons Development

Author's Computation, 2024

- a) Initial Development (1945-1960s): The first nuclear weapon was developed by the United States in 1945. This was soon followed by the Soviet Union in 1949, marking the beginning of the nuclear arms race. In the 1950s, other major powers, such as the United Kingdom (1952) and France (1957), developed their own nuclear arsenals. China joined the nuclear club in 1964, contributing to the growing nuclear arms race during the Cold War.
- b) Cold War and the Expansion of Nuclear States (1970s-1990s): The Cold War period saw an increase in nuclear proliferation, particularly with India's first nuclear test in 1974. By the end of the Cold War in 1991, there were seven recognized nuclear states. The arms race and geopolitical tensions during this period significantly influenced nuclear strategies and policies worldwide.
- c) Post-Cold War Developments (1990s-2019): After the Cold War, nuclear proliferation slowed down, with Pakistan conducting nuclear tests in 1998 and North Korea joining the nuclear states in 2006. By 2019, there were nine nuclear-armed states, indicating a shift from rapid proliferation to a more controlled and regionally focused nuclear development.

Post-Cold War Dynamics and Emerging Security Concerns: The end of the Cold War brought hopes for nuclear disarmament, but the persistence of the security dilemma has continued to shape nuclear proliferation in the post-Cold War era. The 1990s and early 2000s saw efforts to curb nuclear proliferation through international treaties such as the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) and various arms control agreements. Despite these efforts, the security dilemma has resurfaced in different forms, particularly in East Asia. North Korea's development of nuclear weapons in the early 2000s has significantly altered the regional security environment, as neighbouring countries, including South Korea and Japan, reconsider their security postures in response to Pyongyang's nuclear capabilities. The United States' commitment to extended deterrence in the region further complicates the security dynamics, creating a delicate balance between reassurance and escalation.

In recent years, the erosion of arms control agreements and renewed modernisation of nuclear arsenals by major powers, such as the United States, Russia, and China, have raised concerns about a new arms race. The development of advanced nuclear technologies, including hypersonic missiles and low-yield nuclear weapons, has introduced new strategic uncertainties, reinforcing the security dilemma in international politics. As states seek to adapt to these changing security environments, the risk of miscalculation and unintended conflict increases. Moreover, the potential for non-state actors to acquire nuclear materials poses an additional layer of complexity to the security dilemma, highlighting the challenges of managing nuclear proliferation in an increasingly multipolar world.

This retrospective analysis of the security dilemma and nuclear proliferation from 1945 to 2023 reveals a persistent pattern where the pursuit of security through nuclear weapons often results in heightened tensions and an arms race. The Cold War's legacy, regional rivalries, and the evolving nature of global power dynamics continue to shape the discourse on nuclear weapons in international politics. While nuclear deterrence has contributed to strategic stability in some cases, it has also entrenched the security dilemma, prompting ongoing proliferation and the risk of conflict. As technological advancements and geopolitical shifts introduce new uncertainties, addressing the security dilemma remains a central challenge for policymakers seeking to promote global security.

3.3 Possession and Development of Nuclear Weapons: A Deterrent Fostering Peace or a Catalyst for War?

The debate over whether nuclear weapons act as a deterrent that fosters peace or as a catalyst for war remains a central concern in international relations and security studies.

Proponents of nuclear deterrence argue that the threat of mutually assured destruction (MAD) prevents large-scale wars between nuclear-armed states, contributing to strategic stability. In contrast, critics assert that the proliferation and possession of nuclear weapons heighten the risk of accidental war, escalation, and security dilemmas, potentially igniting conflicts.

Nuclear Deterrence: A Stabilising Force That Fosters Peace. Nuclear deterrence theory suggests that the possession of nuclear weapons contributes to peace by making war too costly for any rational actor to consider. The cornerstone of this theory, mutually assured destruction (MAD), posits that when two or more states possess nuclear weapons, any initiation of conflict would result in catastrophic consequences for all parties involved. This perspective is rooted in historical instances, most notably the Cold War, where the nuclear arms race between the United States and the Soviet Union arguably prevented direct military confrontation. Scholars like Waltz (2013) argue that nuclear weapons create a balance of power and strategic stability, as states are compelled to avoid large-scale wars due to the existential risks associated with nuclear conflict.

Furthermore, nuclear deterrence has influenced regional stability in areas with historical animosities. For instance, the nuclear capabilities of India and Pakistan have arguably fostered a “cold peace” in South Asia, preventing full-scale wars despite ongoing border disputes and periodic skirmishes. The presence of nuclear weapons in both countries has led to a situation of restraint, with both sides aware that any escalation could quickly spiral into a nuclear conflict with catastrophic outcomes. Similarly, Israel’s ambiguous nuclear posture is perceived as a deterrent against existential threats, influencing its adversaries to reconsider direct military aggression. In these contexts, the threat of nuclear retaliation serves as a powerful mechanism that fosters caution and restraint, thereby reducing the likelihood of war.

However, the effectiveness of nuclear deterrence in fostering peace is contingent on rational decision-making and effective communication between nuclear-armed states. The premise of deterrence theory assumes that states act rationally to avoid mutual destruction, maintaining a credible second-strike capability to dissuade any initial attack. Advocates argue that as long as nuclear weapons exist and states adhere to rational calculations, the possibility of direct, large-scale war remains minimised, thereby maintaining a form of uneasy peace in the international system.

Nuclear Weapons as a Catalyst for Conflict and Insecurity: In contrast, critics argue that nuclear weapons do not inherently stabilise international politics and, instead, serve as a catalyst for conflict by increasing the risks of accidental war, miscalculation, and security dilemmas. The proliferation of nuclear weapons introduces complexities in command and control systems, raising concerns about technical failures, miscommunications, and the potential for unauthorised use. Historical incidents such as the Cuban Missile Crisis of 1962 and the NORAD computer malfunction in 1980 exemplify how close states have come to nuclear conflict due to misinterpretation and errors in early warning systems. These incidents illustrate that the mere possession of nuclear weapons can escalate tensions and generate crises, potentially leading to catastrophic outcomes.

The security dilemma further exacerbates the potential for conflict. When one state acquires or develops nuclear capabilities for its security, neighbouring states may perceive it as a threat, prompting them to pursue their nuclear deterrents in response. This dynamic is evident in regions such as the Middle East and East Asia, where Iran’s and North Korea’s nuclear ambitions have heightened regional insecurities and spurred military buildups. In such scenarios, the pursuit of nuclear weapons fosters a cycle of arms racing, mistrust, and confrontation, thereby increasing the likelihood of conflict. The notion that nuclear weapons serve as a catalyst for insecurity is further supported by the risks of nuclear terrorism. As nuclear materials and technology proliferate, non-state actors may attempt to acquire nuclear weapons, posing a severe threat to global security. The possibility of

nuclear materials falling into the hands of terrorist groups elevates the stakes, compelling states to adopt more aggressive security postures, thereby perpetuating a volatile security environment.

Furthermore, critics highlight that the reliance on nuclear deterrence as a stabilising force overlooks the ethical and humanitarian implications of nuclear weapons. The catastrophic humanitarian impact of nuclear warfare, evidenced by the bombings of Hiroshima and Nagasaki, underscores the moral hazard of maintaining and potentially using such weapons. The International Campaign to Abolish Nuclear Weapons (ICAN) and other disarmament movements advocate for the complete elimination of nuclear weapons, arguing that their existence poses an existential threat to humanity. The reliance on nuclear weapons for security, therefore, is viewed as a dangerous gamble that prioritises short-term strategic interests over long-term global security and ethical considerations.

The possession and development of nuclear weapons remain a contentious issue in international politics. While proponents of nuclear deterrence argue that these weapons serve as a stabilising force that prevents large-scale conflicts through the logic of mutually assured destruction, critics contend that nuclear proliferation introduces new risks of miscalculation, escalation, and security dilemmas, potentially acting as a catalyst for conflict. Historical and contemporary cases provide evidence for both perspectives, highlighting the complexity of nuclear politics. Ultimately, the debate hinges on the nature of state behaviour, the challenges of command and control, and the ethical implications of nuclear weaponry. As the global community continues to grapple with nuclear proliferation, the question of whether nuclear weapons foster peace or conflict remains central to the discourse on international security.

4. Conclusion

The study explored the intricate relationship between the security dilemma and nuclear proliferation in international politics, highlighting how the pursuit and possession of nuclear weapons can lead to either strategic stability or increased risk of conflict. By anchoring the research on Security Dilemma and Deterrence theories, it was evident that states often pursue nuclear capabilities as a means of safeguarding their sovereignty and deterring potential threats. The Security Dilemma theory underscored the paradox wherein a state's efforts to bolster its security inadvertently heighten regional and global tensions, leading to an arms race. Similarly, Deterrence theory illustrated how the threat of catastrophic retaliation, particularly under the doctrine of Mutually Assured Destruction (MAD), has historically prevented large-scale wars. The study emphasised that while nuclear deterrence has maintained peace in some regions, it has also perpetuated an arms race and increased the potential for miscalculation and accidental war.

A retrospective analysis from 1945 to 2023 revealed that nuclear proliferation has been driven by technological innovations, geopolitical competition, and states' strategic need for power and prestige. Instances such as the Cold War arms race between the United States and the Soviet Union, as well as regional conflicts like those in South Asia and the Middle East, highlighted the dual nature of nuclear weapons. On one hand, they serve as powerful tools of deterrence that prevent large-scale conflicts; on the other, they exacerbate mistrust and prompt an ongoing cycle of proliferation. The study found that while nuclear deterrence has contributed to strategic stability in some contexts, it has also entrenched the security dilemma, resulting in complex security dynamics that continue to shape global politics.

To crown it all, the study established that the pursuit of nuclear weapons is primarily driven by states' desire for security in an uncertain international system. However, the

accumulation of nuclear arsenals, rather than fostering peace, often triggers regional insecurities and global tensions. This underscores the importance of addressing the root causes of the security dilemma through

- a) Diplomatic efforts, arms control agreements, and multilateral cooperation. By doing so, states can work towards mitigating the risks associated with nuclear proliferation and preventing future conflicts.
- b) There is a need for renewed diplomatic efforts to reinforce international treaties like the Non-Proliferation Treaty (NPT). Strengthening the NPT and establishing stricter compliance mechanisms would mitigate the risks of nuclear proliferation and address the security concerns of states, reducing the security dilemma.
- c) States in regions with heightened security dilemmas, such as South Asia and the Middle East, should engage in dialogue and confidence-building measures. These initiatives could include arms control agreements, transparency in military capabilities, and communication channels to prevent misunderstandings and reduce the risk of escalation.
- d) To address the challenges posed by nuclear proliferation, global powers must take the lead in pursuing multilateral disarmament. By gradually reducing their nuclear arsenals, major nuclear-armed states can set a precedent, alleviate regional insecurities, and contribute to a global environment conducive to long-term peace and stability.

REFERENCES

- [1] G. Alperovitz, *The Decision to Use the Atomic Bomb and the Architecture of an American Myth*. Knopf, 1995.
- [2] K. Bird and M. J. Sherwin, *American Prometheus: The Triumph and Tragedy of J. Robert Oppenheimer*. Vintage, 2006.
- [3] J. G. Blight, *The Cuban Missile Crisis: A Confrontation in the Cold War*. Oxford University Press, 2002.
- [4] J. Cirincione, *Bomb Scare: The History and Future of Nuclear Weapons*. Columbia University Press, 2008.
- [5] A. Cohen, *The Worst-Kept Secret: Israel's Bargain with the Bomb*. Columbia University Press, 2010.
- [6] N. N. Eyina and S. M. Anyalebech, "Deterrence, Security Dilemma and the Proliferation of Nuclear Weapons in the International System: A Study of North Korea and Pakistan," *European Journal of Humanities and Educational Advancements (EJHEA)*, vol. 5, no. 5, pp. 97-108, 2024.
- [7] N. N. Eyina, S. C. Chinwendu, and O. N. Dorathy, "North Korea and the Quest for Nuclear Deterrence: Its Implication for South Asian Security," *European Journal of Humanities and Educational Advancements (EJHEA)*, vol. 2, no. 8, pp. 67-86, 2021. [Online]. Available: <https://scholarzest.com/index.php/ejhea/article/view/1165>
- [8] M. Fitzpatrick, *The Iranian Nuclear Crisis: Avoiding Worst-Case Outcomes*. Routledge, 2008.
- [9] S. Ganguly and S. P. Kapur, *Nuclear Proliferation in South Asia: Crisis Behaviour and the Bomb*. Routledge, 2008.
- [10] S. Ganguly and S. P. Kapur, *India, Pakistan, and the Bomb: Debating Nuclear Stability in South Asia*. Columbia University Press, 2010.
- [11] F. J. Gavin, *Nuclear Statecraft: History and Strategy in America's Atomic Age*. Cornell University Press, 2009.
- [12] L. D. Gilbert, *International Relations: A Handbook for Beginners*. Alheribooks, 2011.
- [13] C. L. Glaser, *Rational Theory of International Politics: The Logic of Competition and Cooperation*. Princeton University Press, 2010.
- [14] S. S. Hecker, "North Korea's Choice: Bombs Over Electricity," *Bulletin of the Atomic Scientists*, vol. 66, no. 4, pp. 42-54, 2010.
- [15] J. H. Herz, "Idealist Internationalism and the Security Dilemma," *World Politics*, vol. 2, no. 2, pp. 157-180, 1950.

- [16] B. Heuser, *The Bomb: Nuclear Weapons in Their Historical, Strategic, and Ethical Context*. Oxford University Press, 2010.
- [17] D. Holloway, *Stalin and the Bomb: The Soviet Union and Atomic Energy, 1939-1956*. Yale University Press, 1994.
- [18] J. E. C. Hymans, *Achieving Nuclear Ambitions: Scientists, Politicians, and Proliferation*. Cambridge University Press, 2012.
- [19] R. Jervis, "Cooperation Under the Security Dilemma," *World Politics*, vol. 30, no. 2, pp. 167-214, 1978.
- [20] R. Jervis, *The Meaning of the Nuclear Revolution: Statecraft and the Prospect of Armageddon*. Cornell University Press, 1989.
- [21] R. Jervis, *Why Nuclear Superpowers Don't Fight: Nuclear Weapons and Power Politics*. Harvard University Press, 2009.
- [22] D. C. Kang, *Nuclear North Korea: A Debate on Engagement Strategies*. Columbia University Press, 2015.
- [23] D. D. Kaye, *Talking to the Enemy: Track Two Diplomacy in the Middle East and South Asia*. Rand Corporation, 2007.
- [24] A. P. Liff and G. J. Ikenberry, "Racing Toward Tragedy? China's Rise, Military Competition in the Asia Pacific, and the Security Dilemma," *International Security*, vol. 39, no. 2, pp. 52-91, 2014.
- [25] P. M. Morgan, *Deterrence Now*. Cambridge University Press, 2003.
- [26] H. Müller, *The Nuclear Non-Proliferation Treaty: A History of Political Tension*. Oxford University Press, 2010.
- [27] H. Müller, *The Nuclear Non-Proliferation Treaty: A History of Political Tension*. Oxford University Press, 2017.
- [28] R. S. Norris and H. M. Kristensen, "Global Nuclear Stockpiles, 1945-2002," *Bulletin of the Atomic Scientists*, vol. 58, no. 6, pp. 103-113, 2002.
- [29] J. S. Nye, *Nuclear Ethics*. Free Press, 1988.
- [30] R. Reardon, *Containing Iran: Strategies for Addressing the Iranian Nuclear Challenge*. Rand Corporation, 2012.
- [31] R. Rhodes, *Arsenals of Folly: The Making of the Nuclear Arms Race*. Alfred A. Knopf, 2007.
- [32] R. Rhodes, *The Making of the Atomic Bomb*. Simon & Schuster, 2007.
- [33] S. D. Sagan, *Moving Targets: Nuclear Strategy and National Security*. Princeton University Press, 1996.
- [34] S. D. Sagan, "The Problem of Nuclear Order in South Asia," *Foreign Affairs*, vol. 81, no. 4, pp. 78-91, 2004.
- [35] S. D. Sagan and K. N. Waltz, *The Spread of Nuclear Weapons: An Enduring Debate*. W. W. Norton & Company, 2013.
- [36] D. A. Smith, "The Baruch Plan and the Origins of the International Atomic Energy Agency," *The Journal of Cold War Studies*, vol. 8, no. 1, pp. 3-19, 2006.
- [37] N. Tannenwald, *The Nuclear Taboo: The United States and the Non-Use of Nuclear Weapons Since 1945*. Cambridge University Press, 2017.
- [38] J. S. Walker, *Prompt and Utter Destruction: Truman and the Use of Atomic Bombs Against Japan*. The University of North Carolina Press, 2005.
- [39] K. N. Waltz, *The Spread of Nuclear Weapons: An Enduring Debate*. W. W. Norton & Company, 2013.