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THESIS

KOREAN UNIFICATION: THE RISING COSTS AND IMPACT OF SANCTIONS

by

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KOREAN UNIFICATION: THE RISING COSTS AND IMPACT OF SANCTIONS

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ABSTRACT

This thesis seeks to address how to overcome the economic divide that separates North and South Korea should reunification transpire. The focus of this thesis will be centered on two aspects of the North Korean economy lagging behind South Korea. The first is the gap of development in industry, agriculture, national infrastructure, and education. The second area of focus will be the economic and governance costs that international sanctions have imposed on North Korea. International sanctions have been shown to cause the following: increased disputes; erosion of governance capacity; empowering of anti-reform leaders and factions; disempowering of civil society; increased likelihood of violence; potential humanitarian effects; and detrimental economic impacts on the country, region, and its allies.

Findings show that North Korean economic policy decisions are largely responsible for the DPRK's economic plight. Since the division between North and South Korea, DPRK leadership has consistently enacted economic policy decisions that can be characterized as short-sighted. These policy decisions often ignore, or are unaware of, the long-term consequences that they will create. While short-sighted, they are consistent in an attempt to maintain self-sufficiency despite a growing sense of insecurity. Decisions to maintain a strong military industrial complex and pursue nuclear weapons have resulted in international and economic isolation.

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LIST OF ACRONYMS AND ABBREVIATIONS

CGE	Computable General Equilibrium
DM	Deutschmark
DPRK	Democratic People's Republic of Korea
GDP	Gross Domestic Product
IAEA	International Atomic Energy Agency
ICOR	Incremental Capital Output Ratio
ILSA	Iran-Libya Sanctions Act
JCPA	Joint Comprehensive Plan of Action
JPA	Joint Plan of Action
NATO	North Atlantic Treaty Organization
NPT	Treaty on the Non-Proliferation of Nuclear Weapons
OM	Ostmark
PDS	Public Distribution System
SEZ	Special Economic Zone
UN	United Nations
UNSC	United Nations Security Council
UNSCR	United Nations Security Council Resolution
USD	United States Dollar

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I. INTRODUCTION

A. MAJOR RESEARCH QUESTION AND FINDINGS

For many Koreans, unification of the North and South remains highly desirable. This was recently evidenced during the 2018 Winter Olympics with the North and South Koreans marching together under the Korean Unification Flag.¹ The desire for unification in-part stems from a shared history, culture, language, familial ties, and oppression. However, unification of the Korean Peninsula requires that several major obstacles be overcome to ensure an orderly transition under unified rule. One central obstacle that must be overcome for peaceful unification to occur is the ever-growing economic divide between North and South Korea. While the international community has voiced their support of a peaceful unification scenario between the North and South, the economic burden would largely fall upon South Korea. Failure to bridge the economic divide could trigger famine, mass emigration, or violence to occur.

This thesis seeks to address how to overcome the economic divide that separates North and South Korea should reunification transpire. The focus of this thesis will be centered on two aspects of the North Korean economy lagging behind South Korea. The first is the gap of development in industry, agriculture, national infrastructure, and education. The overall costs associated with unification will be evaluated and compared with the South Korean Gross Domestic Product (GDP). To aid in this cost estimate, data compiled by the Korean Institute for National Unification (KINU) will be utilized to provide economic information regarding the two economies.

The second area of focus will be the economic and governance costs that international sanctions have imposed on North Korea. International sanctions have been shown to cause the following: increased disputes; erosion of governance capacity; empowering of anti-reform leaders, factions, and disempowering civil society; increased

¹ Kathrine Lam, "North and South Korea to March Together in Winter Olympics Opening Ceremony Under Unification Flag," *Fox News*, January 17, 2018, <https://www.foxnews.com/world/2018/01/17/north-and-south-korea-to-march-together-in-winter-olympics-opening-ceremony-under-unification-flag.html>.

likelihood of violence; potential humanitarian effects; and detrimental economic impacts on the country, region, and its allies.² North Korea's prolonged exposure to international sanctions has made them vulnerable to each of these costs. This thesis assumes that the sanctions will be incrementally lifted as the unification process proceeds. Comparison data will be evaluated using Iran as a case study to show the relationship that economic sanctions can have on an economy.

Findings show that North Korean economic policy decisions are largely responsible for the DPRK's economic plight. Since the division between North and South Korea, the DPRK leadership has consistently enacted economic policy decisions that can be characterized as short-sighted. These policy decisions often ignore, or are unaware, of the long-term consequences that they will create. While short-sighted, they are consistent in an attempt to maintain self-sufficiency despite a growing sense of insecurity. Decisions to maintain a strong military industrial complex and pursue nuclear weapons have resulted in international and economic isolation.

North Korea's decisions to pursue nuclear weapons have transformed the country into a target for multilateral economic sanctions. Studies show that until recently economic sanctions have had very little impact upon deterring the North Korean leadership from pursuing its nuclear weapon program. North Korean leadership has placed the development of nuclear weapons on par with that of economic development. By doing so, North Korea continues to increase its international isolation and increase the disparity between North Korean and South Korean GDP. Similarly, inducements and engagement strategies have also failed to convince North Korea to abandon its weapons program leaving little chance that a solution will be found to denuclearize the Korean Peninsula.

The unwillingness of North Korea to give up nuclear weapons leaves little room that a peaceful unification scenario can occur. Instead, it creates an environment of rising

² William Luers, Iris Bieri and Priscilla Lewis, "Weighing the Benefits and Costs of International Sanctions Against Iran," *The Iran Project*, <https://www.scribd.com/document/115678817/IranReport2-120312-2#fullscreen>.

tensions. Under these circumstances, unification is far more likely to occur under a crisis scenario.

B. SIGNIFICANCE OF THE RESEARCH QUESTION

According to a 2016 Unification Perception Survey conducted by Seoul National University for Peace and Unification Studies, 53.4 percent responded by saying that unification of the peninsula was necessary while 22.0 percent felt that unification wasn't necessary.³ These numbers reflect a 2.4 percent increase from a similar unification perception survey conducted in 2015.⁴ However, the staggering economic and political costs associated with uniting the two countries remains a barrier today. To some these barriers have caused a number of people to rethink the necessity of reunification.⁵ While many Koreans favor and support the reunification of the peninsula, the manner and timing in which unification will happen continues to be studied in order to plan for measures that will need to be taken. Proper planning will help to prevent instability within the peninsula, as well as mitigate a possible humanitarian crisis and/or social disturbance from occurring.

The reunification of Germany in 1990 shows that a national unification process will bring many problems that must be planned and accounted for. Examining different potential scenarios will allow for Korea to prepare for the future and help to shed light on what will be required for a successful unification. In the event of unification, some of the factors that must be looked at and planned for include: rapid distribution of food and emergency supplies to prevent crisis, establishing institution and aid structures capable of preventing mass migration to South Korea and China, dismantling of the military in a manner that prevents violence and crime from erupting, planning considerations for how

³ Keunsik Jung et al., *Unification Perception Survey 2016* (Seoul: Institute for Peace and Unification Studies, 2017), 34.

⁴ Jung et al., 34.

⁵ Jung et al., 34.

to handle government and party elites post reunification, and planning for markets and government structures capable of re-integrating into the international community.⁶

Additional implications for reunification emerge from the fact that North Korea's pursuit of its nuclear and weapons programs have made it a frequent and long-time target of international sanctions. More than two decades worth of sanctions since North Korea has removed itself from the Nuclear Proliferation Treaty in 1993 mean that the effects of these sanctions on the North Korean economy and regime can be evaluated.

Economically, North Korea has suffered under sanctions and has been restricted in its ability to import and export certain critical items such as coal and oil. Lifting the international sanctions from North Korea will allow for increased economic activity to emerge. This will result in increased opportunities to engage in international trade with China, South Korea, and others allowing the North to normalize international relations. Moreover, economic activity is only one cost associated with sanctions. Additionally, removal of sanctions can impact the regime's source of legitimacy and social stability and allow new factions to rise to power.

C. LITERATURE REVIEW

Scholarly research concerning reunification of the Korean Peninsula has led to different definitions being used to define reunification and debate as to how a process of reunification might officially occur. The literature review that follows will begin by offering definitions for unification and cost of unification that will be used through this thesis. Following these definitions four different potential scenarios for reunification will be discussed. These reunification scenarios will lead into a discussion about the German reunification and the similarities that exist between Korea and Germany. The literature review will conclude by discussing the impacts of sanctions and inducements and how this relates towards reunification.

⁶ Byung-Yeon Kim and Gerard Roland, "Scenarios for a Transition to a Prosperous Market Economy in North Korea," *International Economic Journal* 26, no. 3 (September 2012): 513–517.

1. Definition of Unification and Unification Costs

Before discussing unification scenarios or the total cost of unification of the Korean Peninsula it is necessary to define what these terms mean. Various institutions have presented different models and costs associated with unification. In virtually all the models presented, only capital costs are calculated.⁷ Capital costs under these circumstances are defined as those that will contribute to bridge the gap of Gross Domestic Product (GDP) per capita between North and South Korea. These costs normally include: emergency relief, construction of infrastructure, provision of education and health care, and integration of institutions.⁸ Costs directly associated with purposes such as humanitarian aid, social, and psychological costs are ignored for calculating unification cost scenarios.

Definitions for when unification will be said to have occurred officially vary between scholars. One definition of unification, presented by Wolf and Akramov, defines unification to occur when the North Korean GDP per capita doubles.⁹ Under Wolf and Akramov's definition, unification is assumed to occur over a five year period and achieve complete convergence with South Korea after 20 years.¹⁰ After GDP per capita doubles, it is assumed that capital transfers between the North and South and the rest of the world would proceed "in more or less familiar ways that such transactions typically occur in internal and international commerce."¹¹ Other studies which use models to determine the cost of Korean reunification set similar ratios of North Korean GDP in comparison with South Korea. A second method to estimate cost of Korean reunification utilizes an aggregate cost method. Aggregate cost estimates calculate the total expenses needed to

⁷ Charles Wolf and Kamil Akramov, *North Korean Paradoxes: Circumstances, Costs, and Consequences of Korean Unification* (Pittsburgh: RAND Corporation, 2005), 46.

⁸ Byung-Yeon Kim, *Unveiling the North Korean Economy: Collapse and Transition* (Cambridge: University Printing House, 2017), 293.

⁹ Wolf and Akramov, *North Korean Paradoxes: Circumstances, Costs, and Consequences of Korean Unification*, 48.

¹⁰ Wolf and Akramov, 46.

¹¹ Wolf and Akramov, 47.

achieve unification. Using these methods, Korean reunification models calculate the total cost between 50 and 3,947 billion USD.¹² These estimates correspond to annual South Korean GDP payments of 3.8 to 12.0 percent.¹³ The extreme cost range between these estimates does not allow individual unification studies to be compared, but instead must be examined individually. Variations such as the time allotted for unification to occur, and the nature of unification (gradual versus radical) greatly influence the final cost estimation.

2. Unification Scenarios

Unification of the Korean Peninsula remains a focus of study today dating back to the division of the peninsula in 1945. In general, the many uncertainties surrounding North Korea, as well as its internal operations and stability, has prompted several unification scenarios to arise. Among scholars there are four general theories for how unification of the peninsula could take place. These scenarios include: “unification through peaceful integration and negotiation, unification through absorption following a collapse, unification through conflict or war, and sustained disequilibrium and potential external intervention.”¹⁴ Peaceful integration and negotiation scenarios are considered to be the cheapest form of unification as the need to provide social safety nets will decrease. In contrast, transition achieved through conflict or collapse of government will require immediate social safety nets to be put into place to prevent a major humanitarian crisis.

Each scenario brings a distinct set of requirements for a successful unification. Across scenarios, a comparative framework is necessary that assesses: “(1) major characteristics, (2) potential indicators, (3) preferred and variant paths, and (4) strategic implications which include current and future regional geopolitics.”¹⁵ Each method of unification would incur different costs, and likely prompt different reactions from the

¹² Kim, *Unveiling the North Korean Economy: Collapse and Transition*, 293.

¹³ Kim, 293.

¹⁴ Jonathan Pollack and Min-Lee Chung, *Preparing for Korean Unification* (New York: Amacom, 2010), 45.

¹⁵ Pollack and Chung, 46.

international community. Among the major countries likely to be affected under these scenarios are China, Japan, South Korea, North Korea, and the United States.

3. The German Reunification Experience

The reunification of East and West Germany in 1990 sparked renewed interest and research into looking at the costs and consequences associated with unification. Many parallels exist between German and Korean unification. In both cases, the two sides (East and West Germany on one hand, and North and South Korea on the other hand) share a language and culture, only to have been subject to a protracted separation. The divided nations also have the shared experience of two separate economic systems: centrally planned, regimented economic systems in East Germany and North Korea; and market systems integrated with the global economy in West Germany and South Korea.¹⁶

Equally important in comparing German reunification to Korean reunification are the dissimilarities that exist. Some dissimilarities include the population, size of economy, communication, and military strengths. In 1990, East Germany's population was about one fourth that of West Germany. Today, North Korea's population is estimated at approximately half that of South Korea. East Germany's economy was estimated at about 8–9 percent that of West Germany while North Korea's economy is estimated at 3–5 percent of South Korea.¹⁷ Another notable difference between Germany and Korea is that the extent of trade, communication, and flow of information was much greater between East and West Germany than is observed today between North and South Korea. All of these factors suggest that the economic costs of the reunification of Korea will be larger than that experienced by Germany.

Nevertheless, valuable lessons can be learned from the German unification experience. German unification costs have been estimated at “about 1.4 trillion *deutsche*

¹⁶ Pollack and Chung, 51.

¹⁷ Pollack and Chung, 51.

marks (DM) by 2000 and added an additional 1 billion DM each year through 2004.”¹⁸ These costs accounted for approximately 5–6 percent of West Germany’s GDP per year while undergoing reunification.¹⁹ According to the 2016 World Atlas report, similar costs today would cost South Korea between 69 and 83 billion USD annually.²⁰ The large cost has become a deterrent for contemplating the costs to reunify Korea in the fear that the actual costs would ultimately be much higher. One factor that contributed to the high German reunification cost this was through establishing a parity between the *deutsche mark* and the *ostmark* immediately despite the significant disparity between the two currencies valued between 3:1 and 4:1.²¹ Establishing currency parity damaged East Germany’s economy through reducing the East Germany’s ability to remain competitive in the marketplace, increased social welfare costs, and introduced inflation. Kim and Roland suggest that an alternative would be to allow the currency exchange rates between the two Koreas to stabilize at market prices, thereby facilitating free trade between the countries. In turn, capital would flow into the North in order to take advantage of cheap labor and markets, thereby stimulating growth for the North.²²

Kim and Roland also suggest the importance of providing incentives on a scale large enough to encourage North Koreans to remain in North Korea while discouraging migration into China or South Korea.²³ These incentives could include providing social safety nets and land redistribution sufficient to prevent a flood of immigrants. Social safety nets would provide government subsidies and guaranteed loans to cover private entrepreneurial expenses and state-owned enterprises for a period of time—and this

¹⁸ Wolf and Akramov, *North Korean Paradoxes: Circumstances, Costs, and Consequences of Korean Unification*, 28.

¹⁹ Wolf and Akramov, 52.

²⁰ “South Korea GDP,” *World Atlas*, May 9, 2017, <https://www.worldatlas.com/finance/south-korea/gdp.html>.

²¹ Wolf and Akramov, *North Korean Paradoxes: Circumstances, Costs, and Consequences of Korean Unification*, 28.

²² Byung-Yeon Kim and Gerard Roland, “Scenarios for a Transition to a Prosperous Market Economy in North Korea,” 515–516.

²³ Kim and Roland, 515–516.

would incur less costs upon the government than having to provide for the unemployed.²⁴ Land redistribution would grant ownership of the land to North Koreans but would not be transferrable until a certain amount of time has passed as defined by the South Korean Government. As some North Koreans would inevitably want to migrate to the South, these incentives would be forfeit for those that leave the North.²⁵

4. Sanctions and Inducements

Sanctions have been employed historically for a wide range of purposes which are predominantly economic but also can include political and military causes.²⁶ Common reasons for sanctions to be implemented are “to discourage proliferation of weapons of mass destruction and ballistic missiles, promote human rights, end support for terrorism, thwart drug trafficking, discourage armed aggression, protect the environment, and oust governments.”²⁷ For these reasons, North Korea has been frequently targeted for international sanctions to discourage such actions. Global evidence has shown that economic sanctions have proven to work only about a third of the time.²⁸ Further sanctions have been able to become more effective when they can be narrowly targeted in order to only affect certain groups or individuals.

The overall effectiveness of sanctions is in part dependent upon the target regime type and upon the level of enforcement. The desired outcome of a sanction is much less likely to occur if the regime can impose the costs on the citizenry.²⁹ For this reason broad sanctions are often ineffective because the costs can be transferred by certain regime types to the public as a whole. Regime types which can impose the costs upon its

²⁴ Kim and Roland, 515–516.

²⁵ Kim and Roland, 515–516.

²⁶ Richard Haass, “Sanctioning Madness,” *Foreign Affairs* 76, no. 2 (December 1997): 74.

²⁷ Haass, 74.

²⁸ Haass, 76.

²⁹ Stephan Haggard and Marcus Noland, *Hard Target: Sanctions, Inducements, and the Case of North Korea* (Stanford, CA: Stanford University Press, 2017), 19.

citizenry have been classified as “hard targets.”³⁰ Under these circumstances, sanctions are most likely to be effective if they can be targeted at the political leadership.

Another way to increase the efficacy of sanctions is to avoid unilateral sanctions.³¹ Multilateral sanctions have been shown to be more effective as it eases the economic burden of enforcing the sanctions while also lessening the resources of any given country necessary to enforce them.

One alternative to sanctions are inducements, often viewed as less hostile measures than sanctions because they provide increased incentives for compliance. Inducements work to effectively change the cost-benefit ratio of the decision-making process.³² Inducements can offer an effective form of engagement that is willing to offer concessions in return for gradual compliance. For “hard-target” states inducements can come in the form of humanitarian aid, reduced sanctions and penalties, and increased foreign economic assistance.

D. POTENTIAL EXPLANATIONS AND HYPOTHESES

This thesis will focus on assessing the economic costs associated with the first scenario: unification through peaceful integration and negotiation which occurs gradually.³³ Resting on the causal expectation that this first scenario is most plausible, the impact of international sanctions can be further analyzed towards the impact of peaceful unification. This thesis also rests on the causal expectation that South Korea will take the lead on all matters concerning unification.

Gradual transition to unification presents the most likely peaceful scenario to occur. Under this scenario social safety nets can be implemented to minimize the number of North Koreans leaving and prevent the outbreak of a social crisis or humanitarian issue from developing. Members of the regime would be able to be employed as members of

³⁰ Haggard and Noland, 20.

³¹ Haass, “Sanctioning Madness,” 77.

³² Haggard and Noland, *Hard Target: Sanctions, Inducements, and the Case of North Korea*, 17.

³³ Pollack and Chung, *Preparing for Korean Unification*, 46.

the bureaucracy overseeing the North through the transition years and military members could ensure the peace. Additionally, this would provide ample time for inducements to encourage transition and sanctions to be removed. By doing so, North Korea would be gradually allowed to re-enter the international community as a normal member able to trade and sell its goods until complete unification has occurred.

By contrast, peaceful rapid unification is not possible due to the extreme divergence of North and South Korea. Rapid unification led by the North would require that South Korea remove their democratically elected government and removal from the international global economy in favor of a state-sponsored economy. Rapid unification led by the South would entail dismissal of many of the elite members of the Korean Workers Party, and subsequent disarmament of the large military complex that has been created in the North. Both of these situations are untenable. The South has become accustomed to a rapid increase in living conditions and has developed a sense of pride in their ability to mobilize for public protests. Recently, this can best be seen in the successful impeachment of South Korea's President Park in 2016. For the North, many elite members would find themselves without governmental protection and face charges of humanitarian crimes. Additionally, the economic elite of North Korea would find little use of their skills in a highly developed South Korean economy. Rapid dismissal of the Korean Workers Party without allowing a buffer time to adjust to the changes would likely lead to violence, riots, and mass emigration to China and South Korea prompting massive international assistance.

Additionally, it is unlikely that reunification of the Korean Peninsula could be achieved through forceful regime collapse. The division of North and South Korea carries with it a legacy of the Cold War. The most likely international actors to become involved under this hypothesis would be the United States, China, or Japan. The Korean Peninsula is a modern division between socialism and capitalism. As such, China "has three priority interests on the Korean Peninsula: maintaining peace, preserving stability, and promoting

denuclearization.”³⁴ Destabilization could result in a political or economic emergency triggering refugee flows into China and leading up to a humanitarian crisis or social instability.³⁵ Social instability or a humanitarian crisis would be likely to prompt intervention from the United States military. This scenario would be unacceptable to China as it poses a security risk to China’s economic, political, and military stability.

Thus, the most plausible expectation regarding Korean reunification is that it occurs gradually through peaceful integration and negotiation. The thesis will examine the underlying economic challenges associated with this model of reunification and assess the potential costs of reunification.

E. RESEARCH DESIGN

As limited raw data is available regarding the North Korean economy, the method of research will draw heavily from secondary source analyses of the current state of the North Korean economy. Defector testimonies are important for providing insights into the operation of the North Korean regime and size and growth of the informal economy that exists. These data are known to be imperfect due to personal bias and lack of information but are able to provide insight to general trends that are present.

Because unification of the Korean Peninsula has not occurred yet, the German reunification experience case study will be used to help highlight how such a unification can occur. Case study information on international sanctions will also be utilized to help determine the impact that sanctions have had on the North Korean economy. International sanctions that have been enforced in Iran and Iraq offer similar comparisons that can be drawn as more information is available on these countries and provide economic impacts. Both Iran and Iraq have been subjected recently to modern UN sanctions to varying degrees of effectiveness and outcomes. While much of the North Korean economic numbers are unavailable to be analyzed, these case studies can be used to help determine the effectiveness of current sanctions imposed on North Korea.

³⁴ Bonnie Glaser and Yun Sun, “Chinese Attitudes Toward Korean Unification,” *International Journal of Korean Unification Studies* 24, no. 2 (August 2015): 75.

³⁵ Glaser and Sun, 75.

F. THESIS OVERVIEW AND DRAFT CHAPTER OUTLINE

This thesis is organized in five chapters. This first chapter has offered a brief introduction presenting the thesis question, objectives, and the significance of the question as it pertains to the reunification of the Korean Peninsula.

The second chapter offers an overview of the history and early economic policies enacted by North Korea. To do this, the chapter begins by illustrating the circumstances under which Korea was divided and the rationale behind fighting the Korean War. Chapter II follows North Korea policies through the rebuilding from the Korean War, the collapse of the economy in the 1990s and its attempts to rebuild afterwards.

The third chapter analyzes how sanctions have contributed to the state of the North Korean economy. Economic sanctions further contribute to the deteriorating North Korean economy through limiting economic growth through trade. Through denial of North Korean goods, the DPRK is constrained from fully developing its economy due to shortfalls in cash gained through exports and difficulty in importing needed goods. Case studies of economic sanctions placed upon Iran are used as a comparison for the costs associated with economic sanctions and for understanding of when economic sanctions are most likely to succeed at achieving their strategic objective. This analysis highlights the incentive for the North Korean case and potential benefits which through lifting of sanctions.

The fourth chapter compares the South Korean economy against the North Korean economy. A German reunification case study is used to show the similarities which exist and further illustrate the difficulty of unifying the two countries. Chapter IV concludes with estimates and scenarios under which reunification can occur.

The fifth chapter concludes by summarizing the key findings and discusses the implications that this has upon major international actors including the United States and China.

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II. THE NORTH KOREAN ECONOMY

The history of North Korea gave life and power to Kim Il-Sung and what would later become the Kim Dynasty. The history and narrative of North Korea help to shed light on the path and policy decisions that have been made. The narrative of North Korea has helped to influence many of the policies enacted under the Kim Dynasty. By gaining a better understanding of the history of North Korea and its leaders, the present-day issues such as pursuing nuclear weapons, or continuing to remain isolated from information become clearer. Understanding why decisions are made can help influence future decisions such as embark upon reunification.

The remainder of this chapter begins by outlining a brief history of the division of the Korean Peninsula and the subsequent Korean War. These two historic events have been critical to the shaping and influencing the development of the North Korean economy. The chapter then proceeds to describe North Korean policy decisions and how they setup the prerequisite conditions which established the conditions for economic collapse, a devastating famine, and the following emergence of an informal economy.

A. DIVISION OF THE KOREAN PENINSULA

1. North and South Divided

The origins of a single unified Korea date back to 676 AD when the kingdom of Silla, along with the help of Tang, a Chinese dynasty, were able to defeat Goguryeo and Baekje. Modern Korean history, culture, and language can all be traced back through the subsequent dynasties. Independent, unified Korea ended with the last emperor of the Chosun dynasty being forced to sign an annexation treaty with Japan in 1910 signifying the beginning of the Japanese occupation of Korea.³⁶

The occupation of Korea continued until 1945 with Japan's defeat during World War II. Following the surrender of Japan, liberation of Korea ended with negotiations settled between the United States and the Soviet Union which divided the country into a

³⁶ Kim, *Unveiling the North Korean Economy: Collapse and Transition*, 41.

trusteeship. According to this arrangement, the Soviet Union would control the north and the United States would be given control of the southern region. The division of the country was strongly opposed by Koreans who were left without a voice in the decision to divide the country.³⁷ The division of the peninsula kindled a desire in both the north and south to eventually unify the country as one. This desire to unify remained intact even as road blockades and barriers were installed fortifying the divide restricting all unauthorized trade and travel between the north and south.

This political decision to divide the country laid the foundations for the economies which would later emerge in both North and South Korea. The American decision to divide the country stemmed from fear, that if left unchecked, communism would continue to spread and threaten the American way of life. This divide prevented the spread of communism across the entire Korean Peninsula. Fearing that the Soviet Union would take possession of the entire Korean Peninsula following the unconditional surrender of Japan, the United States arbitrarily drew a line across the 38th parallel as a division point while keeping the Korean capital, Seoul, in the southern region.³⁸ This separating line was drawn in order to split Korea approximately in two granting equal political influence from the United States and Soviet Union. The 38th parallel dividing line was a military decision without regard for any other political concerns such as economic importance, population distance, historical claims, or ethnic consideration.³⁹ The divide was approved by President Truman on 13 August and was sent to Moscow for subsequent approval.⁴⁰ Surprising many, the Soviets agreed to the decision to divide the country along the 38th parallel.

The decision to split the peninsula set the stage for the future economic policies and systems that developed across both the southern and northern regions of Korea. This divide split the population, leaving roughly one-third in the north and the other two-thirds

³⁷ Kim, 41.

³⁸ Michael Seth, *A Concise History of Modern Korea* (Lanham: Rowman & Littlefield, 2016), 94.

³⁹ Seth, 94.

⁴⁰ Seth, 94.

in the southern region (7.9 million and 15.6 million respectively).⁴¹ Additionally, this divide introduced a massive economic shock and hardships to both regions. The divide left most of the mineral resources, heavy industry, and 92 percent of the electricity being generated in the North.⁴² While the South retained the bulk of food and light industry production. By comparison, the southern region produced 65 percent of food and 80 percent of all consumer goods leaving the north with only 35 percent of food production and 20 percent of all consumer goods manufactured.⁴³ The North however was producing 95 percent of steel and 85 percent of all chemicals being manufactured pre-divide.⁴⁴

The unequal nature of the split and the influence of the Soviet Union encouraged the North to adopt an economy modeled after that of the Soviet Union. The Soviet influence upon the North helped to focus their efforts to pursue heavy industry to help further industrialize and develop their economy. The South's economy, by contrast, became heavily influenced by the United States. With little access to electricity and heavy industry, the South turned their focus onto developing a market-oriented economy. Receiving both economic and military aid from the United States allowed for the beginnings of a market-oriented society to emerge. With access given to the United States markets the South had large markets in which they could continue to pursue and sell their consumer goods.

2. Lasting Effects of the Korean War on the North Korean Political Economy

Many policies which helped to shape the early North Korean economy can be traced back and attributed to after-effects of the Korean War. The war, which began as an effort to reunify the divided country under Korean leadership, ended instead by further reinforcing the divide that separated the North and South. The economic advantages that

⁴¹ Kim, *Unveiling the North Korean Economy: Collapse and Transition*, 41.

⁴² Kim, 41–42.

⁴³ Kim, 42.

⁴⁴ Kim, 42.

North Korea initially inherited were shattered through the massive civilian and military casualties sustained in the war. Additionally, any industrial advantages in the North were destroyed through the massive bombing campaign from the United States.

While the extent of the losses from the Korean War is unknown, estimates approximate that between 10 and 15 percent of the total North Korean population perished.⁴⁵ With an initial population of 10 million, an estimated 300,000 North Korean soldiers were killed through the course of the war.⁴⁶ It's estimated that as many as 1.5 million Chinese and North Koreans were killed during the fighting.⁴⁷ This initial loss of life would leave a lasting impact upon the labor force of North Korea as it tried to rebuild following the armistice of 1953.

Perhaps the largest lasting impact of the war was the destruction of the major industrial centers and cities. Over the course of the war, the United States dropped 635,000 bombs and an additional 32,000 tons of napalm.⁴⁸ Official U.S. estimates of the destruction describe 18 of the 22 largest North Korean Cities destroyed between 50 and 90 percent.⁴⁹ This destruction included the capital city, Pyongyang, major industrial centers, and critical infrastructure. This extensive destruction further increased North Korea's economic dependency upon the Soviet Union to rebuild the shattered country.

Despite the damage inflicted upon North Korea, the war strengthened Kim Il Sung's hold on power. Andrei Lankov wrote that this war "untied the hands of" Kim Il Sung by weakening the political influence that the Soviet Union would hold over North Korea.⁵⁰ While China sent military aid to North Korea, China ultimately left the domestic politics of North Korea alone. This act allowed North Korea to become military dependent upon China and consequently increased North Korea's political independence

⁴⁵ Seth, *A Concise History of Modern Korea*, 120.

⁴⁶ Seth, 120.

⁴⁷ David Halberstam, *The Coldest Winter: America and the Korean War* (New York: Hyperion, 2007), 4.

⁴⁸ Seth, 121.

⁴⁹ Seth, 121.

⁵⁰ Seth, 122.

from the Soviet Union. Stalin's order to retreat into Manchuria during the war may have further influenced Kim Il Sung to rationalize that security would only come through becoming military self-sufficient. While Kim Il Sung ultimately failed to reunify the peninsula, he placed North Korea on a warlike path which placed a high value on security.

B. "PLAN-LESS" PLANNED ECONOMY

Following the 1953 armistice, North Korea enacted several policies that have had a detrimental impact in the North Korean economy. These policies turned one of the most industrialized countries of the 1940's into one of the most isolated and economically backwards countries of the 20th century. These early policies would culminate with the disastrous floods and famines which ravaged North Korea in the 1990s. Many of the early economic policies which were implemented can be viewed as motivated by short-term political rationales that downplayed long-term economic consequences. Two such decisions with grave future consequences were the unbalanced emphasis placed on heavy industry and the attachment to the *juche* ideology, which emphasized economic self-sufficiency.

In September of 1953, the CIA estimated that North Korea received US\$250 million in aid from the Soviet Union.⁵¹ In December of that same year, the Soviet Union remitted North Korea's war debts.⁵² North Korea is also estimated at receiving as much as US\$500 million in loans and credit from China over the same decade.⁵³ This money was used to help foster and rebuild North Korea following the destruction of the Korean War. Under the Soviet Union's growth plan, half was to go to the military, 25 percent to heavy industry, and another 25 percent towards light industry.

One economic policy choice of the North Koreans was to focus on heavy industry. This emphasis offered short-term benefits while often ignoring the long-term

⁵¹ Victor Cha, *The Impossible State: North Korea, Past and Future* (New York: Ecco, 2013), 112.

⁵² Cha, 112.

⁵³ Cha, 112.

consequences of not investing in agriculture and light industries. North Korea's Three-Year Economic Plan of 1954–1956 devoted 81 percent of all resources towards heavy industry leaving only 19 percent left to be used for light industry.⁵⁴ This lopsided growth strategy allowed North Korea to rebuild most of its industrial capacity and cities by 1957.⁵⁵ However, such a large focus on heavy industry proved unsustainable over the long-term. The extensive capital required for this strategy strained relations with the Soviet Union and China.

North Korea's lopsided emphasis on heavy industry became a reason of concern for the Soviet Union. This development plan required extensive capital to be imported and lead down a path which would be ultimately unsustainable for long-term economic growth. Diverting so many resources to heavy industry required mobilization of labor. This massive mobilization came at the expense of the work forces in agriculture and light industry. Prior to the mobilization, North Korean farmers managed to produce enough food to feed its population. Estimates place this requirement between 5.0 and 5.5 annual million metric tons of grain.⁵⁶ Through the early 1990s, North Korea continued to manage to feed its people. However, torrential rains and flooding led to a nation-wide food shortage. The North Korean grain yield in 1996 is estimated at 2.5 and 2.8 million metric tons of grain in 1996.⁵⁷ Massive food shortages were felt throughout the country.

A second detrimental impact upon North Korea's ability to maintain self-sufficiency to feed itself resulted from a state-controlled agricultural sector. North Korean farms relied upon large amounts of chemical fertilizers, and artificial irrigation systems to operate.⁵⁸ North Korea initially benefitted from its chemical fertilizer factories and pumping stations, which were built under Japanese occupation, but a decline in relations

⁵⁴ Cha, 113.

⁵⁵ Seth, *A Concise History of Modern Korea*, 131.

⁵⁶ Andrei Lankov, *The Real North Korea: Life and Politics in the Failed Stalinist Utopia* (New York: Oxford University Press, 2013), 80.

⁵⁷ Lankov, 81.

⁵⁸ Lankov, 80.

with the Soviet Union left North Korea without access to cheap energy necessary to run its fertilizer factories or pumping stations. This end-result was that North Korean farmers were deprived of the water and fertilizer needed to farm the non-arable lands.

A third policy of North Korean farms which later became detrimental was the terraced farm system which borrowed heavily from Chinese farming.⁵⁹ The terraced farm system allowed North Koreans to access previously inaccessible land and raise the potential overall yield of food. However, it was later discovered that terracing had a negative consequence which increased overall soil-erosion. Terracing removed North Korea's protection from the elements and increased its vulnerability to natural weather conditions. The torrential rains of 1995–1996 were proved significant by destroying 1.9 million tons of grain and causing \$15 billion USD in damage.⁶⁰

Another side effect of overinvesting into heavy industry was North Korea's lack of trading partners. The Soviet Union and China virtually became North Korea's sole trading partners throughout the Cold War years.⁶¹ The North Korean Regime would view this as a trade-based vulnerability.⁶² This vulnerability influenced North Korea to divert resources toward restoring industries deemed to constitute a basis of national power. Vulnerability to foreign influences pressured North Korea's decision to pursue a heavy industrial complex to augment domestic national security and strengthen the growing North Korean military-industrial complex.

One aspect of North Korea which eventually became an influential factor on decisions across all aspects of the North Korean sphere, including economic policies, was the invention of its own national ideology, *Juche*. Juche is normally translated as “self-sufficiency,” but this can be misleading to its interpretation. Lankov argues that a better interpretation would be “self-importance” or “self-significance.”⁶³ These later

⁵⁹ Lankov, 80.

⁶⁰ Stephan Haggard and Marcus Noland, *Famine in North Korea: Markets, Aid, and Reform*, (New York: Columbia University Press, 2007), 83.

⁶¹ Cha, *The Impossible State: North Korea Past and Future*, 112.

⁶² Cha, 112.

⁶³ Lankov, *The Real North Korea: Life and Politics in the Failed Stalinist*, 69.

translations help to better understand the importance given to national interests and peculiarities which only exist in North Korea. Under the guise of Juche, North Korea policy decisions emphasized self-sufficiency in food, agriculture, and light manufacturing.

Juche ideology manifested itself in the North Korean economy through the *Chollima* Movement which was introduced in 1958 and stayed in effect until 1961. This movement centered around the idea that “any shortfalls could be made up for by the ‘revolutionary zeal’ of the people, which resulted in superhuman productivity gains that could outpace that of any other economy.”⁶⁴ This movement was introduced because of decreased material support and funding from the Soviet Union. Under this movement, technological advancement was replaced by longer working hours. Subsequent shortfalls were believed to be able to be overcome through a concentrated mobilization of the people. This movement ultimately encouraged inefficiencies to be incorporated into all facets of the economy. Increased productivity was equated with increased working hours of the laborers rather than investment in more efficient technology.

Under this movement, coal powerplants were embraced to utilize the resources found within the country while providing electricity to the people. However, failure to invest into more efficient technologies amounted to frequent power outages from a shortage of coal needed to operate the power plants. The North Koreans could only excavate five to six tons of coal a day, while continuous operated coal excavator technology at the time could extract exponentially more coal using only a fraction of the labor.⁶⁵ Inability to supply the powerplants further strained the economy through introducing frequent power outages. Limited power availability forced factory output below capacity. Prolonged operation below capacity further weakened the North Korean economy and increased supply shortages. Shortages in supply would diminish agricultural output and revenue obtained through exportation of goods.

⁶⁴ Cha, *The Impossible State: North Korea Past and Future*, 113.

⁶⁵ Cha, 114.

Policy attempts to increase meat and dairy supplies also proved to be short-sighted. Fearing an increased shortage of dairy and meat products, the political decision was made to import goats. This decision also proved to be short-sighted and created long-term devastating effects.

North Korea's rugged landscape contains only 20 percent arable land.⁶⁶ The lack of arable land poses a challenge to raising cows which require large fields to graze on. Goats became the alternative to cows which would provide a supply of both meat and dairy products. The goats were able to graze on the shrubs which grew in the mountainous terrain. Almost overnight the goat population doubled and would triple within a two-year span.⁶⁷

The short-term outlook to increasing the goat population provided a source of meat, cheese, and milk from the goats. However, the long-term effects came about as the goats denuded the shrubs and plant-life, which protected against the annual rains. Lacking natural protection from the annual rain, severe flooding destroyed much of the little arable land and flooded the coal mines wiping out one readily available energy source.⁶⁸

After realizing the shortfalls of running a centrally planned economy, North Korean officials adapted the economic system to emphasize the common effort of workers to increase productivity and self-reliance of firms. This became known as the Daeam Management System, which was named for an electronics firm that Kim Il-Sung visited in 1961.⁶⁹ The Daeam Management System rested on three principles. The first established that political priorities would take precedence over economic priorities. Second, this system deemphasized material rewards. Instead, emphasis was placed on the moral and spiritual benefits of hard-work. The third principle increased the influence of the Korean Workers' Party Committee over that of the management and supervision.

⁶⁶ Victor Cha, *The Impossible State: North Korea, Past and Future*, 113.

⁶⁷ Cha, 110.

⁶⁸ Cha, 110.

⁶⁹ Kim, *Unveiling the North Korean Economy: Collapse and Transition*, 44.

Under this system, the Korean Workers' Party Committee gained the decision making and dominance over the operation of firms.

The Daean Management System sought to implement practical changes to improve efficiency. Firms that supplied raw materials and intermediate goods were established to eliminate chronic shortages which plagued the North Korean economy. However, shortages in planning and an increasingly complex economy would ultimately lead to increasing severity of shortages and difficulties in supplying the critical inputs needed for North Korea's economic plans to succeed.

The drive for self-reliance continued to compound North Korea's economic problems. The North Korean narrative of self-reliance required a strong military to survive. The net result was an increasingly reckless approach to managing the economy. To fuel the growth of the military, resources were diverted away from other areas of the economy such as light industry and agriculture. Despite having half the population of South Korea, North Korea spent more on military expenses each year than South Korea from 1968 to 1979.⁷⁰ Over these same years, the armed forces swelled from 485,000 to 680,000.⁷¹ Along with personnel, North Korea invested heavily into developing its Scud missile program, submarine and surface fleet, rockets and artillery, armored personnel carriers, and other combat equipment. By 1992, North Korea had double the number of tanks and artillery that the US-ROK forces had combined.⁷²

To pay for the dramatic buildup of force, the North turned towards implementing an import substitution economic policy. Borrowing money from foreign countries they attempted to import large plants, machinery, and other technology as an attempt to catch up with the Western countries. However, decreasing prices on nonferrous metals, one of North Korea's primary exports, resulted in an inability to pay back its debts in the late

⁷⁰ Cha, *The Impossible State: North Korea Past and Future*, 116.

⁷¹ Cha, 116.

⁷² Cha, 116.

1970s.⁷³ North Korea's self-reliance policies prevented it from taking other rational actions such as selling bonds to pay off its debts. North Korea's debt today is estimated at \$12.5 billion and is not expected to be paid off by the international community.⁷⁴

The debt problem that North Korea experienced in the mid-1970s complicated its ability to continue to acquire capital goods. North Korea's inability or unwillingness to pay back foreign debts eventually resulted in substantially reduced subsidies and economic aid from a frustrated Soviet Union in the mid-1980s.⁷⁵ In a desperate attempt to continue to accumulate foreign capital the DPRK promulgated in 1984 a Joint Venture Law designed to attract foreign investment. This act attracted 148 instances of foreign investment at an estimated value of US\$200 million.⁷⁶ However, the majority of this came from ethnic Korean residents from Japan.⁷⁷

Failing to attract a large sum of foreign investment, North Korea turned to the Soviet Union to renew economic cooperation between the two countries. This too would prove to be short-lived. Soviet subsidies to North Korea collapsed with the liquidation of the Soviet Union in the 1990s.⁷⁸ By 1993, Soviet Union imports fell to only 10 percent of their 1987–1990 average.⁷⁹ The collapse of the Soviet Union released an economic shockwave through North Korea. Previously subsidized inputs into the DPRK disappeared. Subsidized inputs, such as oil needed to operate the factories, became increasingly difficult to obtain. Failure to acquire these resources adversely affected the North Korean economy. Exports decreased between 50 and 60 percent between the years 1990 through 1995.⁸⁰

⁷³ Kim, *Unveiling the North Korean Economy: Collapse and Transition*, 46.

⁷⁴ Cha, *The Impossible State: North Korea Past and Future*, 117.

⁷⁵ Haggard and Noland, *Famine in North Korea: Markets, Aid, and Reform*, 46–47.

⁷⁶ Kim, *Unveiling the North Korean Economy: Collapse and Transition*, 46.

⁷⁷ Eberstadt, *The North Korean Economy: Between Crisis & Catastrophe*, 66.

⁷⁸ Eberstadt, 66.

⁷⁹ Haggard and Noland, *Famine in North Korea: Markets, Aid, and Reform*, 50.

⁸⁰ Haggard and Noland, 50.

The dissolution of the Soviet Union left the DPRK with two fundamental choices: loosen the reins of the government and introduce economic reforms or continue to maintain the status quo by reinforcing the command economy.⁸¹ The DPRK elected to continue to pursue current policy and implemented the “Let’s eat two meals a day” campaign in an effort to stave off the decreasing amount of aid and subsidies available to the North Korean government. The regime maintained these policies until the famine came into full effect in the spring of 1995. After which, the government made pleas for international support claiming floods and natural disasters as the reason for the outreach.

C. ECONOMIC COLLAPSE

1. Famine and Economic Break Down

The failure to attract large scale foreign investment and the breakdown of the Eastern bloc gave way to increasingly deteriorating conditions within North Korea, which eventually led to the breakdown of the established economic system. Making matters worse, in 1993, China who supplied 77 percent of oil imports and 68 percent of food imports to North Korea, demanded that payments be made in cash.⁸² Additionally, China withheld crucial exports of corn to North Korea in 1993.⁸³ Payments in cash became increasingly difficult due to increased sanctions stemming from the nuclear crisis.

Deteriorating economic conditions during this time placed the Public Distribution System (PDS) under severe stress leading to its eventual breakdown. PDS was a central controlling mechanism over the population controlling the distribution of critical consumable items including food and clothing. Prior to 1987, PDS distributed between 700 and 800 grams of food daily for high ranking officials while the average urban population received as little as 600 and 700 grams daily.⁸⁴ PDS distributions were

⁸¹ Haggard and Noland, 46–47.

⁸² Haggard and Noland, 53.

⁸³ Haggard and Noland, 54.

⁸⁴ Haggard and Noland, 78.

reduced by 10 percent in 1987 and again in 1992.⁸⁵ By 1993, 30 percent of North Korean defector interviews state that PDS had stopped food distribution altogether.⁸⁶ In 1996, 93 percent of defector interviews would state that PDS had stopped distribution.⁸⁷

At the onset of the famine in 1994, PDS distributed 60 – 70 percent of all food to at highly subsidized prices. In 1992, a kilo of rice was .08 won through PDS.⁸⁸ By comparison, a kilo of rice through the informal market system at the time sold for 25 won.⁸⁹ The market prices reflected a 300 percent increase and was comparable to about 35 percent of the monthly salary.⁹⁰ Most of the urban populations became dependent upon PDS for the distribution of their only access to food.

Rural farmers only fared slightly better. Farmers had the ability to preharvest grain or focus their efforts on private plots which were allowed for state and cooperative farmers. By hiding the extra grain farmers could protect themselves in ways that were not available to the urban areas.

Breakdown of PDS threatened one of the central pillars of control which the central government held over the population. PDS became a controlling mechanism over maintaining central control over the entirety of the population. By controlling the food and access to it, political and social control was maintained by the government. Central control allowed for a hierarchy to be established where high ranking officials, the military, and heavy laborers all received higher food distribution than the rest of the population. At the bottom of the hierarchy were children, the elderly, and the disabled who all had lesser caloric needs. Children, elderly, and the disabled would all become the most vulnerable to the effects of famine.

⁸⁵ Tudor and Pearson, *North Korea Confidential: Private Markets, Fashion Trends, Prison Camps, Dissenters and Defectors* (Clarendon, VT: Tuttle Publishing, 2015), 18.

⁸⁶Haggard and Noland, *Famine in North Korea: Markets, Aid, and Reform*, 78.

⁸⁷ Haggard and Noland, 78.

⁸⁸ Haggard and Noland, 73.

⁸⁹ Haggard and Noland, 73.

⁹⁰ Haggard and Noland, 73.

The following year placed the PDS under severe stress. The country experienced severe flooding in 1994 and 1995, which destroyed more than 1.5 million tons of grain.⁹¹ Additionally, the flooding destroyed much of the critical infrastructure and 85 percent of North Korea's electricity generating capacity.⁹² To cope with the destruction, the food ration size was reduced from 450 grams to 128 grams of food per day.⁹³ By 1997, the average reported ration size was 30 grams of food per person daily.⁹⁴ The absolute minimum number of grams required daily for a 1,600 calorie diet is 457 grams.⁹⁵ The system that was originally the primary source of food for the population became restricted such that only six percent of the population had access to it.

The breakdown of PDS and the inability to feed its population set in motion a famine that lasted from 1994 to 1998.⁹⁶ While distribution of food varied from month to month based on farmers grain harvests, from 1994 to 1998 the average PDS distribution never reached the minimum 450 daily grams needed for survival. Unofficial estimates for the destruction of the famine range from 200,000 casualties to as many as three million North Koreans.⁹⁷ These estimates place the death toll ranging from one percent to a staggering 16 percent of the population over this time.⁹⁸ While deaths at the high end are thought to be exaggerated, closer analytical estimates place the number of deaths between 600,000 and one million during this time period, which equates to three to five percent of the total population.⁹⁹

⁹¹ Tudor and Pearson, *North Korea Confidential: Private Markets, Fashion Trends, Prison Camps, Dissenters and Defectors*, 18.

⁹² Tudor and Pearson, 18.

⁹³ Tudor and Pearson, 18.

⁹⁴ Haggard and Noland, *Famine in North Korea: Markets, Aid, and Reform*, 78.

⁹⁵ Haggard and Noland, 78.

⁹⁶ Tudor and Pearson, *North Korea Confidential: Private Markets, Fashion Trends, Prison Camps, Dissenters and Defectors*, 18.

⁹⁷ Tudor and Pearson, 18.

⁹⁸ Haggard and Noland, *Famine in North Korea: Markets, Aid, and Reform*, 90.

⁹⁹ Haggard and Noland, 93.

2. Rise of the Informal Economy

With the state unable to continue providing for the welfare of its population, informal marketplaces began to take greater importance out of desperation for survival.¹⁰⁰ Private commerce emerged as a form of survival. In 1995 huge markets began to grow in major cities and became a focal point for economic life.¹⁰¹ At first, households began to barter for food with household items while farmers began to grow extra food on illicit plots of land. Household production would soon take over as a means of gaining family income.

Believing that life would eventually return to normal, the able-bodied men continued to work at their state-held jobs.¹⁰² Married women, who were exempt for working for the state, became the primary market operators. It became quickly apparent that it was possible to make the equivalent of an annual salary in only a few days. Successful business women soon began to move up from retail into wholesale markets. By the early 2000s, new enterprises began to develop including: eateries, transportation, and storage facilities.¹⁰³ In only a few short years, the North Korean markets became far more diverse and complex than in previous years. Small amounts of capital received from relatives outside of North Korea helped to transform and replace many of the state-owned enterprises which had previously dominated the state.

Officially, privately-owned businesses do not exist in North Korea. Officially, businesses are considered by default state-owned businesses managed by relevant local government agencies. However, private investors can make deals with government officials. In return for hiring employees, buying equipment, and offering kickbacks to government officials, businesses can be run with little to no interference from government officials. While some earnings are expected to go towards the state budget,

¹⁰⁰ Alexander Dukalskis, "North Korea's Shadow Economy: A Force for Authoritarian Resilience or Corrosion?" *Europe-Asia Studies*, no. 68 (March 2016): 489.

¹⁰¹ Lankov, *The Real North Korea: Life and Politics in the Failed Stalinist Utopia*, 85.

¹⁰² Lankov, 86.

¹⁰³ Lankov, 87.

the rest can be kept as profits. One study performed in 2009 estimates that 58.5 percent of restaurants and 51.3 percent of retail shops were privately operated.¹⁰⁴

The emergence and growth of the markets is characterized as a grassroots development which has had a substantial economic and social impact upon North Korea and its citizens. While official data is limited regarding the size of the markets today, it is estimated that between 30 and 50 percent of North Korea's GDP came from market activity.¹⁰⁵ 70 Percent of household expenditures are made in the informal economy where supply and demand determines prices.¹⁰⁶ What remains unclear is why these markets have been allowed to develop to the size they operate at today. Some critics argue that the government is supportive of the growth. Other critics take a stance that the government was powerless to stop marketization and so played a more passive role in allowing the markets to develop.¹⁰⁷ From the mid-1990s until today, the markets have undergone distinct periods of government policy regarding their existence.

From 1990–2002 the informal markets existence can be categorized as grudging tolerance permitted by the state. Private sales of grain were banned in 1957.¹⁰⁸ Along with grain, many consumer goods were initially illegal including television, radio, and other electronics. As a result, much of the early activity occurring in the markets remained illegal. During this period, government crackdowns occurred infrequently and could result in the markets being closed for weeks at a time. However, as the food situation began to deteriorate, government officials would backtrack and resume a passive tolerance toward the operation and sales of food and grain.

The next period of marketization occurred from 2002–2005. On July 1, the government unveiled the “Economic Management Improvement Measures of 1st July.”

¹⁰⁴ Lankov, 87.

¹⁰⁵ Andrei Lankov. “North Korea's Markets: A Brief History of Crackdowns and Tolerance.” *NK News.org*, September 7, 2015. <https://www.nknews.org/2015/09/north-koreas-markets-a-brief-history-of-crackdowns-and-tolerance/>.

¹⁰⁶ Kim, *Unveiling the North Korean Economy: Collapse and Transition*, 251.

¹⁰⁷ Lankov, “North Korea Markets: A Brief History of Crackdowns and Tolerance.”

¹⁰⁸ Lankov, “North Korea Markets: A Brief History of Crackdowns and Tolerance.”

Under these measures, legalization of certain market activities occurred, private goods were legalized for sale, and state-factory managers gained additional autonomy over their employees including the ability to raise salaries.

Of note, the July 1 measures included the opening of the Sinuiju Special Economic Zone (SEZ). By designating Sinuiju as a SEZ, the government granted it certain rights and privileges that had not existed before under North Korean rule. This SEZ was given its own legal system, border controls, and banking system. To show the import that North Korea gave to this measure, it brought in a Chinese National, Yang Bin, to run the SEZ instead of appointing a North Korean official.

While these measures showed some promise of reform, they would be short-lived. Manager authorities quickly lost their autonomy and the SEZ unraveled. The July 1st movement can be interpreted as an attempt to institutionalize markets without making a transition to a market economy.¹⁰⁹ Market economies rely on private ownership and market coordination. The July 1st movement failed to introduce either of these. Failure to introduce these elements into the July 1st measures indicate that the government was unwilling to implement radical reforms or to recognize that private ownership and market coordination are essential to achieving growth which was needed to restore their failing economy.¹¹⁰

2005–2009 government policies reflect an attempt by the central government to strengthen its control while undermining market activities. Policies implemented during this time frame restricted who was eligible to work in the markets, established market operating hours, increased enforcement on the sale of grain, and established maximum prices on foodstuffs.¹¹¹ Males were forbidden from working in markets and age limitations were placed on females.¹¹²

¹⁰⁹ Kim, *Unveiling the North Korean Economy: Collapse and Transition*, 51.

¹¹⁰ Kim, 55.

¹¹¹ Lankov, “North Korea Markets: A Brief History of Crackdowns and Tolerance.”

¹¹² Kim, *Unveiling the North Korean Economy: Collapse and Transition*, 65.

November of 2009 introduced a currency reform in an attempt to directly attack markets. Under this reform, 100 won was exchanged to one won. Additionally, maximum amounts of currency conversion were established to reassert state-control. By placing upper limits on maximum currency exchange, business suppliers and individuals lost money that had been saved through gains in the market. The results of this currency reform led to decreased purchasing power of the consumers and deteriorating economic effects. Economic reforms and currency conversion reinforced the idea that the state continues to maintain total control over the economy.

These policies would also be short-lived. Local party officials could be bribed from vendors to remain in business. Law enforcement was lax as it recognized the need to operate the markets. Public anger and declines in economic activity led to the authorities to reopen markets, declare the currency reform a failure, and the public execution of Pak Nam Ki, a high-level public official.¹¹³

The market economy from 2010 to present continues to play an important role for North Korea's economy. The acknowledged failure of the 2009 currency reforms have reverted the markets back to the reform era of 2005, which acknowledged the presence of markets. While attempts to reform private markets has not occurred since 2010, an unwary co-existence remains between the state and private enterprises.¹¹⁴

¹¹³ Kim, 66.

¹¹⁴ Dukalskis, "North Korea's Shadow Economy: A Force for Authoritarian Resilience or Corrosion?" 489.

III. SANCTIONS AND NORTH KOREA

The potential success of Korean reunification is challenged by the economic sanctions imposed on North Korea. In short, these economic sanctions act to amplify the detrimental effects of the DPRK's short-sighted economic policy choices. Failure to lift these sanctions will prevent North Korea, or a unified Korea, from enjoying the benefits of normalized economic relations. As a result, economic difficulties will not be alleviated merely by achieving successful unification. Instead, limitations on trade imports and exports will continue to deter growth and increase the overall costs of unification. Normalization of trade relationships will be necessary to maximize the growth and capacity of the economy.

This chapter begins examining the reasoning behind why economic sanctions have become a preferred policy choice and why they are frequently implemented to deal with rogue regimes. The chapter then follows with examining the conditions which make sanction regimes more likely to succeed, and in North Korea's case why they have failed to achieve compliance. A case study examining sanctions imposed upon Iran will be used to compare the outcome with North Korea. This chapter concludes by illustrating the impact which economic sanctions have upon North Korea.

A. WHY ARE SANCTIONS IMPLEMENTED?

Since the termination of World War II, sanctions have become increasingly favored by policy-makers as a means of response when diplomacy fails. The decision to implement sanctions carries a price for the sanctioned as well as the sanctioner. However, the cost to implement sanctions for the sanctioner is often viewed as less than a direct military action while offering some action for international disputes. Reasons to implement sanctions vary, but in all cases, sanctions must be carefully considered before being enforced in order to achieve maximum effect while mitigating the consequences often associated with sanctions. Economic sanctions become favorable as foreign policy

options when military responses are either inappropriate or impossible to execute.¹¹⁵ Reasons for implementation of sanctions vary but often include: restoring democratically elected leaders, restoration of territorial aggression, promotion of human rights, acts of terrorism, promoting disarmament, and persuading belligerents to peace negotiations.¹¹⁶

Sanctions can be categorized as a blunt instrument which attempt to achieve a desired objective. There is no standardized international norm for the imposition of sanctions, nor how they will affect the sanctioned state.¹¹⁷ As such, sanctions do not always bring about the desired changes. Instead sanctions work to promote change in the social, political, or economic spheres of influence through denial of customary interactions, or the threat to deny such actions between states.¹¹⁸ Once implemented, the threat of additional sanctions, or perceived benefits for lifting the sanctions continues to serve as motivation for behavioral change.

For a reasonable chance of behavioral change to occur, the sanctions must be communicated in a way which clearly outlines the policy objective of the sanction as well as the actions which can lift or ease the sanction. This “carrot and stick” method clearly defines to both the sanctioner and sanctioned the reasons for implementation of the sanctions and the inducements which can be received through compliance. Neta Crawford and Audie Klotz determined that compliance with sanctions will fall under one of four categories.¹¹⁹ The first and most often targeted source of gaining compliance through sanctions is compellence.¹²⁰ Compellence can be achieved by raising the cost-

115 Simon Chesterman and Beatrice Pouligny, “Are Sanctions Meant to Work? The Politics of Creating and Implementing Sanctions Through the United Nations,” *Global Governance* 9, no. 4 (Oct. – Dec. 2003): 503.

116 Chesterman and Pouligny, 503.

117 Neta Crawford, “Trump Card or Theater? An Introduction to Two Sanctions Debates,” in *How Sanctions Work: Lessons from South Africa*, ed. Neta Crawford and Audie Klotz (New York: St. Martin’s Press, 1999), 5.

118 Crawford, 5.

119 Neta Crawford and Audie Klotz, “How Sanctions Work: A Framework for Analysis,” in *How Sanctions Work: Lessons from South Africa*, ed. Neta Crawford and Audie Klotz (New York: St. Martin’s Press, 1999), 29.

120 Crawford and Klotz, 29.

benefit calculus associated with a specific policy. When the policy being targeted by sanctions is no longer viewed as cost-effective, then behavioral change is more likely to occur. In this way, change occurs by incrementing the cost of maintaining certain policies until the benefits no longer value the cost.

The second method for achieving compliance is through normative communication.¹²¹ Normative communication seeks to appeal to the elites and policymakers through use of moral arguments against actions which are in violation against international norms. Normative arguments are posed to achieve common ground based through ideological concerns. The action of placing sanctions highlights the moral issue and seeks change. Under these conditions, the price of the sanction often is outweighed by the violation of moral standards.

Resource denial is the third possibility for sanctions to be effective at changing behavior.¹²² This condition requires that the sanctioned state be dependent upon foreign materials to continue the action being opposed. Through sanctions, critical items needed for a continued policy can be interrupted. However, resource denial is further complicated by constraining targeted resources from a single country. If the resource can be acquired in multiple locations, unilateral actions cannot be effective in this regard without gaining support from the other producers of the commodity. A second complication for resource-denial is that certain products are dual-use in nature. Dual-use items can be a needed commodity for everyday life while also having a military or weapons application. Imposing sanctions on dual-use items can increase the difficulty in acquiring these military capabilities while simultaneously raising prices for every day essential items. Dual-use items can have secondary and third order effects where humanitarian goods prices are increased including food stuffs and clothing.

The fourth reason listed by Crawford and Klotz for gaining compliance through sanctions is political fracture.¹²³ Political fracture recognizes the power of the

¹²¹ Crawford and Klotz, 29.

¹²² Crawford and Klotz, 29.

¹²³ Crawford and Klotz, 29.

government, but also recognizes the inherent strength within society. Sanctions under this method seek to weaken the regime by removing its legitimacy. These sanctions seek to encourage social movements capable of demanding change and weakening the support base of the ruling government. Failure to conform will destabilize the government and potentially lead to regime change.

Each of these strategies for implementing sanctions carries a price which must be paid to carry out the desired changes in behavior by all parties involved. As the burden of paying the prices of the sanctions becomes greater than maintaining the policy objective, the likelihood of sanctions working improves. However, the cost of imposing sanctions must also be looked at from the perspective of the sanctioner. These costs come in the form of reduced economic activity with the targeted state, reduced diplomatic international relations, and inadvertently lead to second and third order effects where retaliation sanctions are imposed.

Other costs can be incurred in the political sphere. Rising cost of goods resulting from political actions must ultimately be paid for by the public. Rising cost of goods decreases domestic consumption and creates drag on the economy. Additionally, businesses are affected through rising costs of goods needed for imports, and reduced competitiveness. Limited access to critical resources such as aluminum, steel, or energy further impacts net output and stunts economic growth. Continued duration of these costs can weaken a political party support base overtime. Failure to gain public support for a given policy action or imposed sanction can lead to demands for change prior to achieving the desired outcome.

As a result, governments which rely on strong public support are more vulnerable to the effects of sanctions than a more authoritarian style of government. Democratic governments which rely on public elections remain under constant pressure to implement policies which are in the best interests of their own public. The voice of the public can influence and drive policy action. Democratically elected governments become more prone to compellence and to normative arguments which seek to prevent actions or policies in violation of international norms. Similarly, resource denial can be most effective when depriving goods and materials which the public is reliant upon for

domestic consumption. Rising prices due to shortages of consumer products will not be tolerated without first gaining massive public support.

In contrast, authoritarian governments become a “hard target” to sanctions due to their ability to push the costs onto the public without risking their political power base.¹²⁴ Authoritarian governments can absorb the political and economic pressures by pushing the costs upon the public with little reprisal or consequence to their political power base. Instead, narrowly focused sanctions which target the political leadership and their supporters are likely to impact change where the sanctions limit the capability of authoritarian regimes from performing rent-seeking activities or target luxury item goods.¹²⁵

B. WHEN ARE SANCTIONS MOST EFFECTIVE?

Several debates exist whether sanctions work and whether they should continue to be employed. While nobody is advocating for direct military use for each international rule violation, arguments continue to arise over how to effectively implement change for states which fail to comply to international norms. In this way, economic sanctions have become the liberal alternative to war.¹²⁶ Direct military action is reserved for larger and more ambitious policy objectives such as forcing regime change, seizing foreign territory, or altering foreign military behavior.¹²⁷ Economic sanctions offer an alternative method for applying force to change behavior. When examining foreign policy options, economic sanctions present a cleaner and cheaper alternative to military intervention.¹²⁸

Comprehensive studies examining economic sanctions have concluded that most of the time sanctions fall short of their objectives. One key study which evaluated the

124 Haggard and Noland, *Hard Target: Sanctions, Inducements, and the Case of North Korea*, 44–46.

125 Haggard and Noland, 44–46.

126 Robert Pape, “Why Economic Sanctions Do Not Work,” *International Security* 22, no. 2 (Fall 1997): 90.

127 Pape, 90.

128 Haass, “Sanctioning Madness,” 75–77.

effectiveness of sanctions was conducted by Gary Hufbauer, Jeffrey Schott, and Kimberly Ann Elliot. This study was initially conducted in 1985 and updated in 1990 during which they examined global sanctions implemented between 1914 and 1990. The results of the study identified 115 separate instances of sanctions being applied.¹²⁹ Of the 115 cases, only 40 (34 percent) were evaluated as successful in meeting their objectives.¹³⁰ In reexamining this same study, Robert Pape made the assertion that of the 40 successful cases of economic sanctions, only five can be considered actual successes solely resulting from sanctions.¹³¹ The remaining 35 cases were rejected by Pape on grounds that other factors were the cause for change in policy objective including direct and indirect military action.¹³²

Likewise, other examinations of the effect of sanctions have found evidence that the sanctions may actually undermine achieving the desired outcome. A study by the National Bureau of Asian Research concluded that economic sanctions imposed on Burma undermined social reform from happening.¹³³ Rather than causing political change, sanctions are believed to have inhibited any opposition movements from forming to bring about change in Burma. By weakening social reform groups, the political rulers of Burma were able to strengthen their hold onto power and become entrenched in their policy decisions.

Critics further site the unethical nature of imposing sanctions. Sanctions are often implemented as a means to an end. As such, sanctions are designed to inflict as much pain as possible to maximize pressure on the target government.¹³⁴ In pressuring the

¹²⁹ Gary Hufbauer, Jeffrey Schott, Kimberly Elliot, and Barbara Oegg. *Economic Sanctions Reconsidered*, 2nd edition (Washington, D.C.: Peterson Institute for International Economics, 2007).

¹³⁰ Hufbauer, Schott, and Elliot.

¹³¹ Pape, "Why Economic Sanctions Do Not Work," 93.

¹³² Pape, 93.

¹³³ Murray Hiebert, "Study Suggests U.S. and EU Need to Rethink Myanmar," *Wall Street Journal*, 25 March 2004, A15.

¹³⁴ Charles Rarick, "Economic Sanctions: Failed Foreign Policy Tool and a Cost to American Business," *Institute of Economic Affairs* 27, no. 3 (September 2007): 68.

government, “the citizens of the sanctioned country are used as a means to achieve the foreign policy objectives.”¹³⁵ Secondary effects of sanctions can result in reduced education, healthcare, and lower economic output of the state.¹³⁶ The increased burden upon the citizens raises the ethical nature of sanctions into question.

The end state sought through implementing sanctions is often used to justify imposing additional hardships on the citizens. Consequentialism theory uses the outcome of actions to determine what is wrong and what is right. By doing so, any short-term consequences that result from sanctions being implemented can be justified by achieving a change in policy which outweighs the increased burden of the citizens. As a result, the ethical component of sanctions continues to be debated.

As economic sanctions continue to be employed, evidence and research has begun to emerge in factors which contribute to an increased chance of success. Miljkovic concluded that economic sanctions are most likely to succeed when the following conditions are met: “(1) modest policy change is sought, (2) sanctions are comprehensive, i.e., both trade and financial sanctions are imposed, (3) the target does not receive significant support from a third party, the sender has much greater economy than the target, (5) there is international co-operation in the imposition of sanctions, and (6) the target is economically and politically weak.”¹³⁷ However, achieving these conditions can be difficult. Determining what constitutes a modest policy will differ from country to country. Additionally, completely isolating a country from third-party support can be near impossible to achieve. North Korea is a good example of a country who has thrived with the aid of third-party support from China while facing comprehensive economic sanctions.

¹³⁵ Rarick, 68.

¹³⁶ Rarick, 68.

¹³⁷ Dragan Miljkovic, “Economic Sanctions as the Propositional Satisfiability Problem,” *Policy Sciences* 35, no. 1 (2002): 1.

Dean Lacy and Emerson Niou contend that evaluating economic sanctions as either a success or failure “miss the real impact of sanctions as a policy tool.”¹³⁸ Lacy and Niou argue instead that sanctions operate in an environment where neither side has a full understanding of the outcome. In this model, sanctions function like punishments. While sanctions do not always correct behavior, the threat of additional punishment can alter future decision-making processes. Often, the threat alone of imposing sanctions can act as a deterrent to cause change or prevent further actions which would bring additional punishment.

Under this game theory application of sanctions, if the behavioral actions were known to both sides prior to implementing sanctions then economic sanctions should never be implemented at all.¹³⁹ If complete information were available to both sides, then sanctions would only be threatened if they would be guaranteed to succeed. If sanctions were destined to fail at achieving behavioral change then threatening sanctions would only incur costs on both sides without achieving any gains. Lacy and Niou conclude that threat of imposing sanctions by itself is a foreign policy choice which can bring about positive change.¹⁴⁰ If the act of threatening sanctions fails to bring about change then it is less likely that the imposition of sanctions will have the desired outcome. Imposing sanctions after the threat has failed is still important as it can affect decision makers consideration of future threats of sanctions.

If an action is threatened but never carried out it will signal that the sanctioner is bluffing. By doing so, future threats of sanctions lose their ability to create change as they are more likely to be considered bluffs. Additionally, implementing sanctions can still create incentives for change fearing that more damaging sanctions will be implemented when no change in policy is observed.

138 Dean Lacy and Emerson Niou, “A Theory of Economic Sanctions and Issue Linkage: The Roles of Preferences, Information and Threats,” *Journal of Politics* 66, no. 1 (February 2004): 25.

139 Lacy and Niou, 27.

140 Lacy and Niou, 38–39.

The success rate of economic sanctions is low in bringing about policy change. As previously discussed, economic sanctions alone have only been successful in directly achieving stated policy objectives between five percent and 35 percent of the time without other means of intervention. However, there is some evidence supporting the continued use of economic sanctions as a foreign policy tool. Elizabeth Rogers shows her optimism for sanctions by stating that “economic sanctions are more effective than most analysts suggest. Their efficacy is underrated in part because unlike foreign policy instruments sanctions have no natural advocate or constituency.”¹⁴¹ The influence that sanctions have on behavioral change cannot be observed directly. Determining the success or failure of a sanction is only observable in hindsight, while the intermediate effects are left unknown.

Implementation of economic sanctions changes the status-quo and casts a vote in future policy making decisions. Imposing economic sanctions makes pursuit of the policy objective more difficult. By limiting resources and directly increasing the cost of policies that violate international norms, future decisions are altered. Difficulty in obtaining resources and material will alter the calculus of decision-making in weighing the cost-benefit analysis of future decisions that are also in violation of international law by the sanctioned state as well as observing nations not impacted by the original sanction. While direct measures of sanctions cannot be directly measured, their psychological effects cannot be discounted entirely either.

C. SANCTIONS AGAINST NORTH KOREA AND IRAN

The DPRK along with Iran are two of the most heavily sanctioned countries in the world. In both cases, the objectives of the sanctions have been clearly defined and go beyond looking to cause regime change or even collapse. Sanctions have been imposed against Iran and North Korea with the clear intent of preventing the proliferation of nuclear weapons. Both states have been branded as “rogue states” by the United States administration and yet the outcomes of sanctions have witnessed noticeably different

¹⁴¹ Elizabeth Rogers, “Using Economic Sanctions to Control Regional Conflicts,” *Security Studies* 5, no. 4 (July 1996): 72.

outcomes. In 2013, Iran agreed to abide by the Joint Plan of Action (JPA), which provided sanction relief equal to seven billion USD in return for agreeing to stop development of its nuclear program.¹⁴² This agreement was followed up in 2015 by the Iranian government agreeing to the terms of the Joint Comprehensive Plan of Action (JCPA). The JCPA provided terms and conditions for Iran to receive additional concessions by preventing it from acquiring non-peaceful nuclear capability.¹⁴³ The JCPA provided relief measures of financial and oil-related restrictions placed on Iran totaling \$100 billion USD.¹⁴⁴ By contrast, North Korea has pursued a different trajectory seeking to acquire nuclear weapons and ballistic missile technology despite increasing sanctions being leveraged against the North Korean Regime. Sanctions and inducements have had very little impact upon changing North Korea's pursuit of nuclear and missile technologies. The explanation for different trajectories in part can be explained by the inherent differences in the two countries history and status of nuclear programs.¹⁴⁵

1. Iranian Sanctions

Economic sanctions were initially introduced against Iran following the 1979 Iranian hostage crisis when 52 U.S. hostages were taken and held captive for 14 months. The hostage crisis prompted U.S. President Jimmy Carter to respond by authorizing an executive order to seize Iranian property located within the United States. This action "deprived Iran of more than \$12 billion USD in bank deposits, gold, and property."¹⁴⁶

¹⁴² Kenneth Katzman, "Iran Sanctions," *Current Politics and Economics of the Middle East* 4, no. 2 (2013): 188.

¹⁴³ "Joint Comprehensive Plan of Action: Major Provisions of the Nuclear Agreement with Iran," *Congressional Digest* 94, no. 9 (November 2015): 5–6.

¹⁴⁴ Jackie Northam, "Lifting Sanctions Will Release \$100 Billion to Iran. Then What?" *NPR*, July 16, 2015, <https://www.npr.org/sections/parallels/2015/07/16/423562391/lifting-sanctions-will-release-100-billion-to-iran-then-what/>.

¹⁴⁵ Daniel Wertz and Ali Vaez, "Sanctions and Nonproliferation in North Korea and Iran: A Comparative Analysis." *Federation of American Scientists* (June 2012), 5. <https://fas.org/pubs/docs/IssueBrief-Sanctions.pdf>.

¹⁴⁶ Robert Carswell, "Economic Sanctions and the Iran Experience," *Foreign Affairs* 60 no. 2 (Winter 1981): 247.

This executive order was followed by additional executive orders prohibiting U.S. citizens from travelling to Iran, as well as imposing an embargo on exports and imports to and from Iran. These actions caused Iranian oil exports to dry up (down from 2.8 million barrels per day in July 2011 to under 1 million barrels per day in July 2012) and depleted Iranian financial reserves.¹⁴⁷

The exact reasons for Iran's decision to release the hostages in January of 1981 and to agree to the Declarations of Algiers remains unclear. However, U.S. actions, both direct and indirect, seem to have played an influential role in bringing about a peaceful resolution to the hostage crisis. Economic sanctions forced Iran into waging a battle of attrition during the Iran-Iraq war, which began in September 1980. Denial of resources made this war increasingly more expensive and difficult to maintain. Despite Iran narrowly avoiding additional sanctions being placed on them through the UN Security Council, as a result of a veto by the Soviet Union, U.S. influence managed to persuade other friendly allies to reduce trade with Iran. This resulted in Iranian oil exports being significantly reduced and limiting Iran's capacity to finance the Iran-Iraq war. It also left them unable to pay for needed imports. Closure of the U.S. embassy, as well as positioning of a carrier strike group in the Indian Ocean all worked to send a message that Iran was vulnerable and faced international isolation. Economic sanctions, in this case, helped to set the stage for peaceful resolution through diplomatic measures.

Three years following the Iranian hostage crisis, Iran again became subject to new sanctions for their part in the 1983 bombing of U.S. marines in Lebanon. Iran was designated as a state sponsor of terrorism by President Ronald Reagan for sponsoring the terrorist group Hezbollah, which was responsible for the bomb that killed 241 U.S. marines in Beirut.¹⁴⁸ Being designated as a state-sponsor of terrorism immediately triggered restricted access to loans and imports of "dual-purposed" arms exports. In 1987, these sanctions were expanded under Executive Order 12613 issued by President Reagan

¹⁴⁷ Haggard and Noland. *Hard Target: Sanctions, Inducements, and the Case of North Korea*, 232.

¹⁴⁸ Katzman, "Iran Sanctions," 193.

which imposed increased import restrictions from Iran. Executive Order 12613 was designed as a punishment for the Iranian state's involvement in sponsoring terrorist organizations and hostile actions towards non-threatening vessels.¹⁴⁹

The 1990s demonstrated an increased U.S. reliance on sanctions as a foreign policy tool. The 1990s and 2000s against Iran can be viewed as an attempt to limit the scope and prevention of the Iranian nuclear program from being developed for non-peaceful purposes. Sanctions against Iran were expanded in 1992 to target technological improvement contributing to the advancement of selected Iranian programs.¹⁵⁰ In 1995, following the Iranian government's allowance of foreign direct investment into its oil and gas sectors, President Clinton limited U.S. companies' ability to invest into Iranian oil and gas industries.¹⁵¹ In 1996, the Iran-Libya Sanctions Act (ILSA) expanded previous sanctions on Iran to limit investment to no more than \$20 million USD in Iran's energy sector.¹⁵² This arbitrary cap on investment was loosened in 1999 when companies were permitted to invest greater than \$20 million USD into Iran's energy sector. The loosening of sanctions also allowed for the export of certain food and medical equipment. Between 2004 through 2010, the UN joined the United States by passing seven resolutions targeting the Iranian government to prevent the proliferation of nuclear materials. The economic difficulties resulting from sanctions helped stage Iran's eventual acceptance of the JPA in 2013 and JCPA in 2015. In return for halting Iran's nuclear development programs, Iran agreed to abide by the conditions of the JPA and JCPA to receive economic relief.

¹⁴⁹ Anthony Cordesman, Bryan Gold, and Chloe Coughlin-Schulte, *Iran: Sanctions, Energy, Arms Control and Regime Change*, (New York: Rowman & Littlefield, 2014), 40.

¹⁵⁰ Richard Haass, *Economic Sanctions and American Diplomacy*, (New York: Council on Foreign Relations, 1998), 85.

¹⁵¹ Haass, 87.

¹⁵² Kenneth Katzman and Library of Congress Washington, DC Congressional Research Service, *The Iran-Libya Sanctions Act (ILSA)*, 2006. <http://handle.dtic.mil/100.2/ADA475550>.

2. North Korean Sanctions

North Korea, like Iran, has been subject to continuous sanctions that have become progressively more comprehensive as a result of their nuclear ambitions. North Korea's invasion of the South at the onset of the Korean War enacted a total export embargo on North Korea.¹⁵³ This was followed by the Trade Agreement Extension Act of 1951. This act prevented North Korea from being eligible to receive the most favorable tariff terms on all U.S. imports from North Korea.¹⁵⁴ North Korea was subsequently branded as a terrorist state in 1987 for sponsoring the bombing of passenger flight KAL 858 from Baghdad, Iraq destined to Seoul, South Korea.¹⁵⁵ Since this incident, North Korea remained listed as a state-sponsor of terrorism until 2008. However, North Korea was relabeled a state-sponsor of terrorism in 2017.¹⁵⁶

U.S. Economic sanctions against North Korea have coincided with the development of North Korea's nuclear weapons. North Korea first ratified the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) on 12 December 1985.¹⁵⁷ On April 10, 1992, the safeguards of the NPT became binding for North Korea. In May 1992, North Korea submitted its initial report to the International Atomic Energy Agency (IAEA) under the NPT agreement. Inconsistencies between North Korea's initial report and findings from IAEA inspections led IAEA inspectors to believe that that North Korea was harboring undeclared plutonium. Later attempts by the IAEA requesting additional information and access to sites suspected of storage of nuclear waste were denied by

¹⁵³ Daniel Wertz and Ali Vaez, "Sanctions and Nonproliferation in North Korea and Iran: A Comparative Analysis." 5.

¹⁵⁴ Semoon Chang, "Should U.S. Economic Sanctions Against North Korea Be Lifted?" *North Korea Review* (Fall 2006): 37.

¹⁵⁵ Chang, 36.

¹⁵⁶ Dan Merica, Jeremy Diamond, and Zachary Cohen, "Trump Names North Korea a State Sponsor of Terrorism," *CNN*, November 21, 2017, <https://www.cnn.com/2017/11/20/politics/president-donald-trump-north-korea-terrorism/index.html/>.

¹⁵⁷ "Chronology of U.S.-North Korea Nuclear and Missile Diplomacy," *Arms Control Today* 48, no. 3 (n.d.).

North Korea.¹⁵⁸ These events would escalate and eventually lead to North Korea announcing their intent to withdraw from the NPT on March 12, 1993.

North Korea would later suspend their withdrawal from the NPT in June 1993 after United Nation Security Council Resolution (UNSCR) 825 passed urging North Korea to reconsider its decision to withdraw from the NPT and allow access to IAEA inspectors.¹⁵⁹ In November 1994, North Korea approached the United States seeking to negotiate a solution to the issues that divided them. These talks lead to the signing of the Agreed Framework being signed on October 21, 1994. The Agreed Framework placed a freeze on the North Korean nuclear program, leading to denuclearization of the Korean Peninsula, and provided provisions that would lead to a normalization of relations between the United States and the DPRK.¹⁶⁰

The Agreed Framework would only last until North Korea's effective withdrawal from the NPT on April 10, 2003. This decision to leave the NPT coincided with being placed on President George W. Bush's "Axis of Evil" list alongside Iran and Iraq in 2002. This designation came after the IAEA suspected North Korea was not in compliance with its agreement of denuclearization. In an attempt to reopen negotiations with North Korea, the Six Party Talks commenced in 2003.

The Six Party Talks, comprised of members from South Korea, North Korea, Japan, United States of America, China, and Russia, consisted of six rounds held over a period from 2003 to 2007. Despite best efforts to convince North Korea to abandon their nuclear program, the Six Party Talks failed to achieve any substantial results until the fifth round of talks. The fifth round of talks gained public affirmation that North Korea was willing to shut down its nuclear facilities. In return for this action, North Korea requested "security guarantees, economic and energy assistance, and a willingness to

158 Arms Control Today.

¹⁵⁹ United Nations Security Council, 11 May 1993, Resolution 825 (1993) [https://undocs.org/S/RES/825\(1993\)](https://undocs.org/S/RES/825(1993)).

160 Arms Control Today.

proceed with a peace treaty on the Korean Peninsula.”¹⁶¹ However, the Six Party Talks would eventually fail when North Korea declared on April 13, 2009, that it would pull out of the NPT following condemnation from the United Nations Security Council following a failed satellite launch. This UN condemnation of the North Korean satellite was declared a direct violation of UNSCR 1718. Along with pulling out of the talks, North Korea expelled all nuclear inspectors from the country.

To date, North Korea has conducted six nuclear weapons tests. The first test occurred on October 9, 2006 signifying that it had joined the small list of states possessing nuclear weapons. North Korea’s possession of nuclear weapons directly violates the NPT. Following North Korea’s claim that it had detonated a nuclear weapon, an emergency UNSC meeting was held in which UNSCR 1718 was unanimously passed. UNSCR 1718 established economic sanctions prohibiting the import of luxury goods, heavy arms, and service and technology exports to North Korea.¹⁶² This set of sanctions targeted the ruling party by attempting to weaken the regime through prohibiting luxury goods flowing into the country while also limiting North Korea’s capability to pursue advanced nuclear and weapons technologies.

The second nuclear test conducted May 25, 2009, occurred in roughly the same location as the first, nearly three years after the first nuclear test. This nuclear test was significantly larger than the first, prompting concerns that North Korea continued to pursue nuclear technology despite sanctions. The second test was followed by placing additional economic sanctions on North Korea in the form of UNSC resolution 1874. UNSCR 1874 implemented additional financial restrictions, strengthened prohibitions on arms trade with North Korea, and increased oversight to ensure compliance with the resolution.¹⁶³ Realizing that the initial sanctions had failed to achieve their aims, UNSCR 1874 introduced a more comprehensive set of sanctions designed to strangle the

¹⁶¹ Christopher Hill, “The Elusive Vision of a Non-Nuclear North Korea,” *The Washington Quarterly* 36, no. 2 (April 2013): 12.

¹⁶² United Nations Security Council, 14 October 2006, Resolution 1718 (2006) [https://undocs.org/S/RES/1718\(2006\)](https://undocs.org/S/RES/1718(2006)).

¹⁶³ United Nations Security Council, 12 June 2009, Resolution 1874 (2009) [https://undocs.org/S/RES/1874\(2009\)](https://undocs.org/S/RES/1874(2009)).

North Korean leaderships ability to economically continue pursuing their development. Additionally, this increased set of sanctions signaled politically that the UN would continue to impose additional measures if North Korea continued to violate the NPT.

The DPRK conducted their third test on February 12, 2013, again near the same location where the first two nuclear tests had occurred. This nuclear test was estimated at approximately six kilotons demonstrating North Korea's capability of increasing the payload with each subsequent nuclear test. Also, this test was significant in the fact that it was the first nuclear test under Kim Jong Un. Following the test explosion, an immediate UNSC was called and UNSCR 2094 was passed in response to the nuclear test. UNSCR 2094 further expanded previous sanctions against the DPRK by imposing stricter regulations on international banking transactions and diplomatic personnel.

The fourth and fifth nuclear tests were both conducted in 2016. This was the first time that the DPRK had attempted to test multiple nuclear weapons in such a short time frame. The fourth test was carried out on January 6, 2016. During this test, the North Korean's claimed to have successfully tested a hydrogen bomb. The claim is viewed as doubtful by experts due to the smaller than expected seismic activity associated with the blast. However, the claim of successfully testing a hydrogen bomb significantly increased the worry of North Korea's advancing nuclear technologies. Hydrogen bombs are significantly more powerful than the atomic bombs which have been previously tested by North Korean's. While most experts doubted the validity of North Korea's claim of detonating a hydrogen bomb, it escalated the international crisis which was developing on the Korean Peninsula.

The fifth nuclear test occurring on September 9, 2016, prompted further concerns for the claim that North Korea possessed the capability of mounting nuclear devices onto a rocket. This nuclear detonation came following a North Korean missile launch on February 7, 2016, which occurred despite warnings from Japan concerning the launch of the missile. North Korean's claim that this missile carried an Earth observation satellite but drew scrutiny from the fact that UN sanctions prohibited North Korea from launching weapons to test ballistic missile technologies. Following the launch of the satellite, UNSCR 2270 was passed on March 2, 2016, which condemned further nuclear tests and

long-range missile development.¹⁶⁴ UNSCR 2270 further expanded sanctions previously enacted on the DPRK. As part of UNSCR 2270, all weapons imports and exports involving North Korea became banned. Further restrictions were enacted prohibiting the importation of luxury goods, aviation fuels, designated minerals, as well as all requiring UN member states to inspect all cargo transiting to or from North Korea.¹⁶⁵

The sixth nuclear test occurred on September 3, 2017. This test was the biggest on record being estimated between 50 and 280 kilotons and believed to be the cause of triggering a 6.3 magnitude earthquake and subsequent smaller earthquake.¹⁶⁶ The smaller earthquake is thought to have been triggered as a result of the test site collapsing from the detonation. North Korea also claimed the blast to be caused from a hydrogen bomb. Response to this latest nuclear test was met again by an emergency meeting of the UNSC on September 4, 2017 where the test was strongly criticized. In response, the United States Secretary of Defense, James Mattis, warned of a “massive military response” to any future perceived threatening behavior from the DPRK.¹⁶⁷ North Korea’s actions and persistent pursuit of nuclear weapons and ballistic missile technologies has led to one of the most comprehensive sanction packages being carried out in history with little evidence of being deterred from achieving their goals.

D. SANCTIONS IMPACT UPON NORTH KOREA

Sanctions placed on North Korea resulting from the pursuit and testing of nuclear weapons have two political objectives.¹⁶⁸ The first objective of implementing sanctions

¹⁶⁴ United Nations Security Council, 2 March 2016, Resolution 2270 (2016) [http://undocs.org/S/RES/2270\(2016\)](http://undocs.org/S/RES/2270(2016)).

¹⁶⁵ United Nations Security Council, 2 March 2016, Resolution 2270 (2016) [http://undocs.org/S/RES/2270\(2016\)](http://undocs.org/S/RES/2270(2016)).

¹⁶⁶ *Fox News*, “North Korea Claims Hydrogen Bomb Test was ‘Perfect Success,’ 6th Nuclear Test,” September 19, 2017, <https://www.foxnews.com/world/north-korea-claims-hydrogen-bomb-test-was-perfect-success-6th-nuclear-test>.

¹⁶⁷ Angela Dewan, Taehoon Lee, and Eli Watkins, “Mattis Warns of ‘Massive Military Response’ to NK Nuclear Threat,” *CNN*, September 3, 2017, <https://www.cnn.com/2017/09/03/politics/trump-north-korea-nuclear/index.html>.

¹⁶⁸ Haggard and Noland, *Hard Target: Sanctions, Inducements, and the Case of North Korea*, 228.

upon North Korea is defensive in nature. Defensive sanctions are a tool designed to disrupt the military organization and deter, limit, or prevent the acquisition of materials that are perceived as threatening or dangerous to the international community.¹⁶⁹ To this end, sanctions have been implemented to damage the associated trade and financial goods needed to support their development. Import bans have expanded to include most military arms and items labeled as dual-use, which have both military and civilian uses. Included in the sanctions are freezes in financial assets and businesses which are fundamental to financing and acquiring materials as well as certain luxury goods.

The second objective of sanctions is strategic interactions to bring about change.¹⁷⁰ Economic sanctions achieve this by raising the price of goods of targeted objects. Through raising the costs of goods, the strategic aim of sanctions has been to persuade North Korea to negotiate terms for achieving denuclearization. Prohibiting the importation of dual-use goods can bring secondary order effects which impact trade and increase the costs of goods including some humanitarian items such as food and textiles. Simply by raising the price of goods, strategic sanctions impact the target country. As Trenin stated, “Whether or not they achieve their objectives, sanctions have great economic impact on target countries: their technological development slows down, and their populations grow poorer.”¹⁷¹ The net effect of sanctions has hampered North Korea’s nuclear program from developing at a quicker rate.

Despite, the increasingly comprehensive nature of sanctions placed on North Korea, sanctions have been unsuccessful at deterring North Korea from pursuing its ambitions to acquire nuclear weapons technologies. Figure 1 shows that despite several multilateral sanctions through UN Security Council Resolutions, North Korea’s net exports and imports continued to increase until 2015. The vertical lines in Figure 1 denote the implementation of different security council resolutions imposed upon North

¹⁶⁹ Haggard and Noland, 228.

¹⁷⁰ Haggard and Noland, 229.

¹⁷¹ Dmitri Trenin, “How Effective are Economic Sanctions?” *World Economic Forum*, February 25, 2015, <https://www.weforum.org/agenda/2015/02/how-effective-are-economic-sanctions/>.

Korean trade date. Figure 1 is important in showing the decline of North Korea's trade during the famine years and its recovery during the 2000s and 2010s.

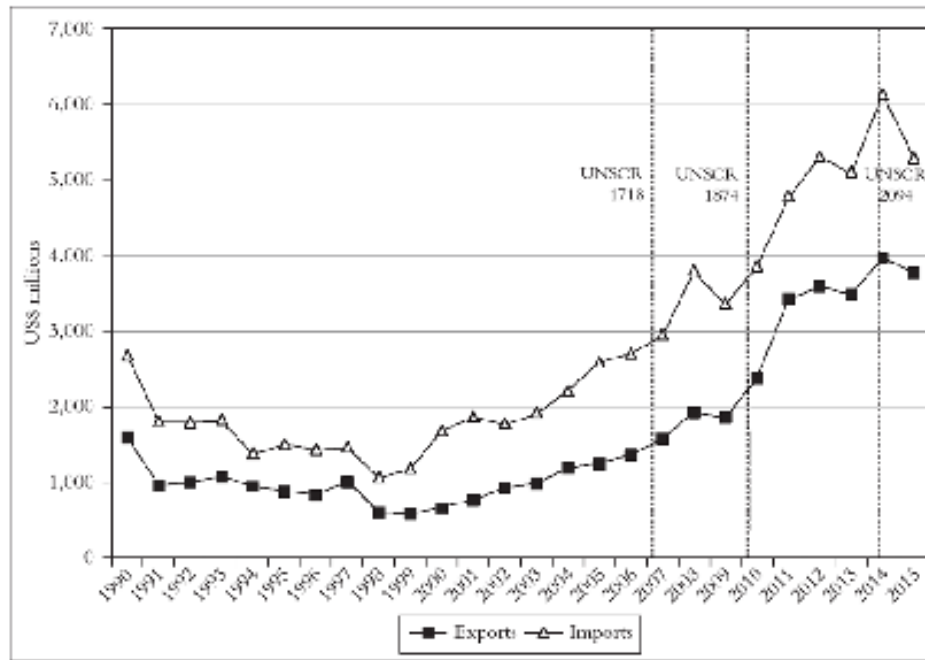


Figure 1. North Korea's Observed Commercial Merchandise Trade. Source: Haggard and Noland (2017, p. 75).

This evidence of sanctions ineffectiveness is further supported in Figure 2, which documents China's net exports of luxury goods into North Korea. Figure 2 is significant in showing evidence that sanctions have not had any significant detrimental impact upon North Korea's ability to import luxury items. Further, Chinese luxury good exports have increased in a nearly linear fashion as additional UNSCRs were implemented. The decline in trade with the European Union was replaced by increased imports of Chinese goods.¹⁷²

¹⁷² Haggard and Noland, *Hard Target: Sanctions, Inducements, and the Case of North Korea*, 77.

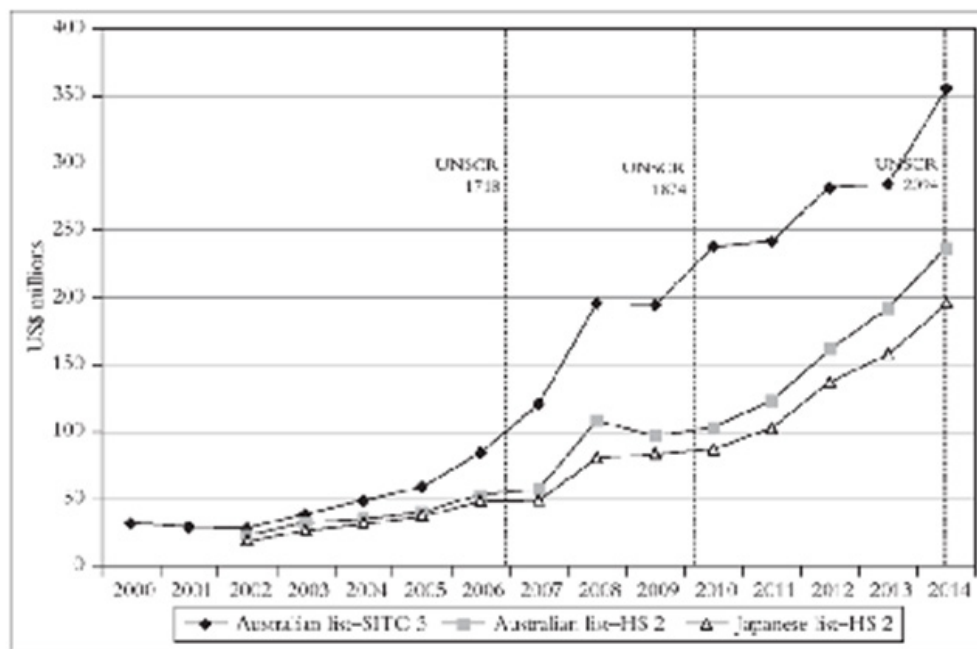


Figure 2. Chinese Goods Luxury Exports to North Korea, 2000–2014. Source: Haggard and Noland (2017, p. 77).

North Korea’s ability to subvert the effects of economic sanctions supports Miljkovic’s conclusion that economic sanctions work best when there is no access to third-party support such as China.¹⁷³ Difficulty in enforcing economic sanctions along with undefined lists which constituted “luxury goods” and “dual-use” items diminished the effectiveness of the sanction regime. Luxury goods remained undefined until UNSCR 2094 was passed in 2013 following the third nuclear test creating ambiguity in the sanctions placed upon North Korea.¹⁷⁴ Additionally, North Korea’s commercial trade was not penalized until UNSCR 2270 was passed in 2016.¹⁷⁵ UNSCR 2270 was important in limiting North Korea’s commercial activities which included placing a conditional ban on China’s imports of North Korean coal and prohibited China’s exports

¹⁷³ Miljkovic, “Economic Sanctions as the Prepositional Satisfiability Problem,” 1.

¹⁷⁴ United Nations Security Council, 7 March 2013, Resolution 2094 (2013) [https://undocs.org/S/RES/2094\(2013\)](https://undocs.org/S/RES/2094(2013)).

¹⁷⁵ United Nations Security Council, 2 March 2016, Resolution 2270 (2016) [http://undocs.org/S/RES/2270\(2016\)](http://undocs.org/S/RES/2270(2016)).

of aviation fuel to North Korea. The design of the sanction regime allows for third-party states, such as China, to play a spoiler-role and prevent the worst effects from the sanctions to take hold. The difficulty in enforcing sanctions and trouble generating universal support for enforcement of sanctions leads to an ability to bypass the worst effects of any sanction regime.¹⁷⁶

Another conclusion Miljkovic provides states that sanctions will be most effective when seeking to bring about modest policy goal changes.¹⁷⁷ The development of North Korea's nuclear weapons and missile technologies does not constitute a modest policy goal. This is evidenced by North Korea rolling out the *Byungjin* line in 2013, which emphasized the development of nuclear weapons in parallel with economic development. By placing nuclear development to the same degree of importance as economic development, sanctions had little chance of preventing North Korea from pursuing their policy objectives. The *Byungjin* line also suggests that any economic reforms that take place within North Korea will have the potential to increase external tensions.¹⁷⁸ Increases in North Korea's economic development would allow for even greater capacity to further develop its nuclear program.

Case studies focused on Iran and North Korea emphasize the degree in difficulty of relying solely upon sanctions for achieving political results when dealing with an authoritarian regime capable of absorbing the costs of sanctions. While Iran relied on oil exports to fuel its economy, North Korea shares no similar dependency to any single foreign import.¹⁷⁹ North Korea is the paradigmatic "hard target." Days before North Korea's first nuclear test occurred in 2006, United States Secretary of Defense Donald Rumsfeld admitted in a memo to the President that, "it appears that it is not only difficult,

¹⁷⁶ Charles A. Rarick and Thaung Han, "Economic Sanctions Revisited: Additional Insights into Why They Fail," *Institute of Economic Affairs*, (2010), 69.

¹⁷⁷ Miljkovic, "Economic Sanctions as the Prepositional Satisfiability Problem," 1.

¹⁷⁸ Marcus Noland, "Marcus Noland on North Korea Sanctions and Inducements" (lecture, East-West Center, Honolulu, Hawaii, August 8, 2017), <https://piie.com/blogs/north-korea-witness-transformation/marcus-noland-north-korea-sanctions-and-inducements/>.

¹⁷⁹ Haggard and Noland, *Hard Target*, 232.

but possibly impossible, for the U.S. to gain the international diplomatic support sufficient to impose the leverage on Iran and/or North Korea required to cause them to discontinue their nuclear programs.”¹⁸⁰

When sanctions fail, engagement and inducements offer alternative policy options to achieve results.¹⁸¹ Inducements work quid pro quo. In North Korea’s case, inducements have been attempted as payment for negotiations in regards with its nuclear program. Inducements initially showed signs of success by convincing North Korea to return to the Six Party Talks in return for oil and normalization of international relations. Again, inducements were able to convince North Korea to reconsider its withdrawal from the NPT and to readmit IAEA inspectors after it had declared its initial intent to abandon the treaty. However, in both instances, North Korea quickly showed its intent by returning to pursuit of nuclear development. Inducements, like sanctions, have been ineffective in negotiating with North Korea.

Diplomatic engagement attempts by the United States have fallen short of achieving any major breakthroughs in altering North Korean policy. Sanctions, inducement, and engagement all rely upon coordination as well as domestic internal politics of hard targets.¹⁸² Without a thorough understanding of the domestic internal politics of the hard target, sanctions and engagement are likely to continue in wishful thinking.¹⁸³ Rather than pursuing security through negotiations, the North Korean regime has opted for the opposite. The DPRK clings to security through nuclear pursuit, a desperate economic system, and foreign dependence upon China.

Despite diplomatic warnings not to test nuclear weapons, North Korea has conducted several tests. In doing so, North Korea appears to have calculated correctly

¹⁸⁰ Donald Rumsfeld, “Declaratory Policy and the Nuclear Programs of North Korea and Iran,” October 5, 2006. <http://www.rumsfeld.com/>.

¹⁸¹ Noland, “Marcus Noland on North Korea Sanctions and Inducements.”

¹⁸² Noland, “Marcus Noland on North Korea Sanctions and Inducements.”

¹⁸³ Haggard and Noland, *Hard Target: Sanctions, Inducements, and the Case of North Korea*, 240.

that global responses would be modest in response to its actions.¹⁸⁴ North Korea's two principal partners, South Korea and China, appear to have tacitly accepted that North Korea is in fact a nuclear power. Public and private trade data lend support to this argument. In doing so, a dangerous condition is set, where other aspiring nuclear states will seek to imitate North Korea's ascent to becoming a nuclear state.¹⁸⁵

North Korea's *Byungjin* line has left North Korea with few options. Denuclearization would qualify North Korea to receive inducements sorely needed to boost its ailing economy. Denuclearization would also leave North Korea vulnerable to international policy. Continuing pursuit of its nuclear weapons will likely further incur additional sanctions and weaken its economy further. For a peaceful reunification to occur, North Korea's security will need to be assured while finding a solution to denuclearize the Korean Peninsula.

¹⁸⁴ Marcus Noland, "The (Non-) Impact of UN Sanctions on North Korea," *Asia Policy* 7 (January 2009), 76.

¹⁸⁵ Noland, 76.

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IV. ECONOMICS ANALYSIS FOR REUNIFICATION

Many of the decisions that North Korea makes remain shrouded in mystery. Gaps in knowledge exist from a combination of lack of published data, inconsistencies in the published data, and an information vacuum surrounding the internal workings of North Korea. What little is known about the North Korean economy has recently become available through reconstructing and mirroring economic trade data of other countries. By doing so, a picture can be formed which helps illustrate the detrimental impact which policy decisions have brought upon North Korea's economy. These economic policies have led North Korea to teeter at the edge of ruin, while its neighbor to the south excels at a global level. Understanding policy decisions and the state of the North Korean economy can help build an understanding of the difficulties which will be encountered through an attempted reunification of the Peninsula.

This chapter begins by briefly examining the GDP division between North and South Korea. This information leads into showcasing the similarities which exist between a North/South Korean reunification scenario and the German reunification experience. This chapter concludes by offering cost scenarios and estimates for Korean reunification.

A. NORTH/SOUTH ECONOMIC STRATEGIES

Policy differences between North and South Korea have exacerbated the divide between Koreans. What was once a unified country now appear to have little resemblance in economies, governance, quality of life, and opportunity. Indications from the 1960s, 1970s, and even 1980s life expectancy at birth was nearly identical.¹⁸⁶ North Korea's peculiar "development path" has taken a parabolic shape since the armistice of the Korean War in 1953.¹⁸⁷ The extreme focus on developing heavy industry at the cost of light industry and agriculture allowed for rapid structural change and progress to occur, initially. However, inefficiencies eventually gave way to stagnation and finally to decline.

¹⁸⁶ Eberstadt, *The North Korean Economy: Between Crisis & Catastrophe*, 151.

¹⁸⁷ Eberstadt, 151.

The development gap which exists between North and South Korea exists largely due to the economic failing of the North Korean economy. This divide has widened over the past decades, and all indications point to this development gap continuing to increase into the future without intervention. The divergence in economies was illustrated in Figure 3.¹⁸⁸ Immediately following the division of the Peninsula, North Korea's economy was slightly higher than South Korea's owing to its inheritance of heavy industry. Parity between the two countries would remain similar until the 1970s at which point South Korea's economy would surpass North Korea without any signs of ever falling behind. Figure 3 also illustrates the economic collapse of North Korea in 1990s and the economic stagnation which has since set in.¹⁸⁹

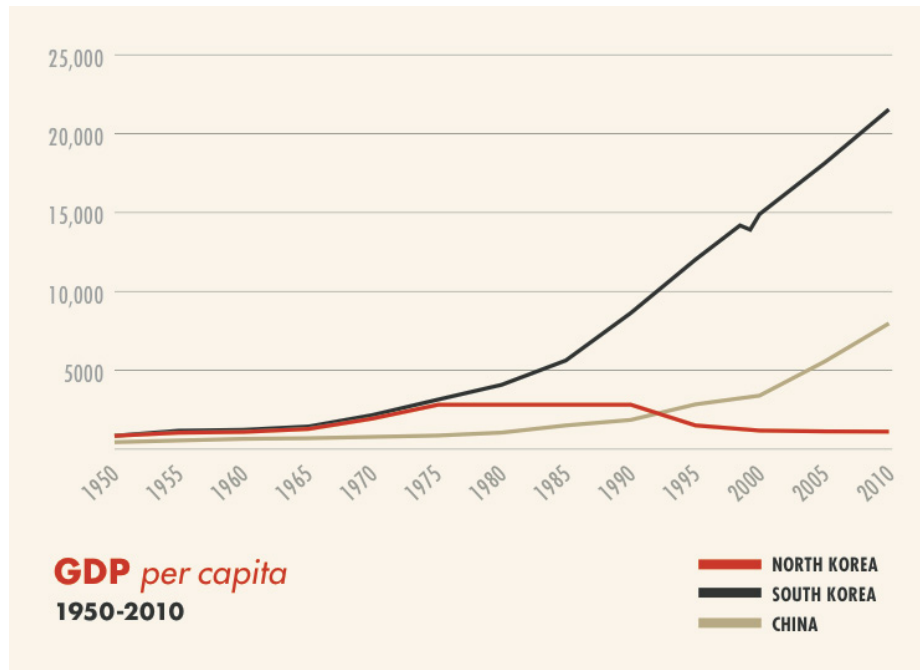


Figure 3. GDP per Capita: 1950–2010. Source: OilPrice (2016).

¹⁸⁸ “North Korea Oil Sanctions Risk Pushing an Unstable Country Over the Edge,” OilPrice, April 5, 2016, <https://www.valuewalk.com/2016/04/north-korea-oil-sanctions-risk/>.

¹⁸⁹ OilPrice, “North Korea Oil Sanctions Risk Pushing an Unstable Country Over the Edge.”

While examining the economic factors which have allowed South Korea to thrive are outside the bounds of this thesis, South Korea's growth emerged through an export-led industrialization strategy.¹⁹⁰ This strategy borrowed heavily from the Japanese institutions which were developed during the occupation period. Close relations between private and public industries helped to develop an industrial sector capable of competing at an international level. This focused development plan proved adaptable to overcome the comparative disadvantages which South Korea inherited and grow to become a global leader in trade.

North Korea's adoption of a planned-socialist economy prevented it from following the Japanese growth model. The DPRK's decision to eliminate private industry created an atmosphere where all economic decisions were made from the top. To maintain isolation, North Korea turned inward to adopt a self-sufficiency ideology which ignores comparative advantage and creates disincentives for promoting innovation and efficient work-practices. The fallout of the Soviet Union eliminated much of the support with which North Korea had become dependent on for energy, technology transfers, and financial aid. As a result, North Korea's economy began to stagnate, while South Korea's economy continues to flourish.

B. EAST-WEST GERMAN REUNIFICATION EXPERIENCE

North and South Korea exhibit many parallels with East and West Germany but exists on an order of magnitude greater. The experience of reunification between East and West Germany and North and South Korea will likely be very different in execution. However, striking similarities exist which can be studied and used to plan for a reunified future. Similar aspects of reunification between Germany and Korea which exist include: population, education, militarization, employment, and migration.

¹⁹⁰ Dwight H. Perkins, *East Asian Development: Foundations and Strategies*, (Cambridge: Harvard University Press, 2013), 71.

Statistical data for North and South Korea's populations shows that in 1993 the DPRK's population was 21 million.¹⁹¹ The same year, South Korea's population was about 44 million giving a ratio of 2:1 South Koreans for every North Korean.¹⁹² A similar ratio comparing West Germany population to East Germany's population was 4:1.¹⁹³ The smaller Korean ratio would likely lead to an increased difficulty in unification of the countries. A lower ratio would increase the burden on South Korea to provide adequate welfare coverage for the North until acceptable levels of reunification could occur.

Another significant comparison between the two Korea's population is that while South Korea has a higher population, North Korea has a younger median average age.¹⁹⁴ Current trends in fertility show that South Korea's replacement levels are negative while North Korea's are positive. Unification of the country could lead to improved fertility levels while decreasing concerns over future population policies.¹⁹⁵

Education between the Korea's also shares a parallel with the German Reunification experience. Under unified Germany, it was estimated that more than 80 percent of East Germans would need to undergo reeducation vocational training to be competitive.¹⁹⁶ The degree of isolation between East Germany and West Germany, and North Korea and South Korea is magnified to even greater proportions. Secondary education attendance in the DPRK was asserted to be at 100 percent by both the DPRK Ministry of Education and the DPRK National Commission for UNESCO.¹⁹⁷ Even if this statistical data is accurate, the ideological training, increased degree of isolation, and

¹⁹¹ Nicholas Eberstadt, *Korea Approaches Reunification* (New York: The National Bureau of Asian Research, 1995), 129–130.

¹⁹² Eberstadt, 130.

¹⁹³ Eberstadt, 130.

¹⁹⁴ Eberstadt, 103–105.

¹⁹⁵ Eberstadt, 120.

¹⁹⁶ Eberstadt, 122.

¹⁹⁷ Eberstadt, *The North Korean Economy, Between Crisis and Catastrophe*, 215.

lack of technology implies that the reeducation efforts of North Koreans will be significant.

The degree of militarization that exists in North Korea is another factor which cannot be overlooked and will have to be carefully planned for any reunification effort to be successful in Korea. The combined military arms of North and South Korea will be more than three to four times that of East-West Germany.¹⁹⁸ Maintaining this large military force would be certain to increase tensions with neighboring countries such as China, Japan, and Russia. While releasing too many of the military force would be sure to increase unemployment and unrest at home. Another point of concern is the stark difference in ideological background.

Employment opportunities is another component which much be studied for any potential reunification scenario. The isolation of North Korean's places them at risk for predatory actors to take advantage of them. Isolated from the world economy, fair practices and prices would endanger the North Korean's to fall prey to unfair practices and business practices from the South.

Another consideration for employment under a reunification scenario would be the excess cheap labor which would present itself to entrepreneurs seeking to expand business in the North. Employment opportunities would develop as working conditions become more efficient and as redundant laborers working in factories are moved from industry to the service sector.

Migration is a final issue which must considered. Lessons learned from the German Reunification scenario show that mass migration and open borders initially upon reunification can lead to unexpected problems. While limited trade was allowed between East and West Germany prior to reunification, large numbers of workers both skilled and unskilled workers migrated to the West creating problems of unemployment. The drain in the labor force created new economic problems which worsened the crisis and hastened the need for reunification between Germanies.

¹⁹⁸ Eberstadt, *Korea Approaches Reunification*, 123.

Monetary conversion became another factor which encouraged migration to occur. According to a currency conversion agreement, *Ostmarks* (OM) were to be converted to *Deutschmarks* (DM) at a 1:1 ratio.¹⁹⁹ The official currency exchange prior to this was 4.4 OM to 1 DM.²⁰⁰ Consequently, superior West German goods became cheaper in East Germany leading to rising unemployment rates and decreased industrial capacity. Savings accounts were converted at an exchange rate of 1.8 DM to 1 OM.²⁰¹ This exchange rate served to eliminate nearly half of all East German savings. Further, state subsidies were eliminated on East German goods making them more expensive. The net effect of this currency exchange was that real disposable income decreased.

By comparison, Korea's borders have been much more isolated. Family members have been divided without ability to communicate with each other since the Korean War. Controlled information and a repressive political structure will likely leave many North Koreans wanting to migrate south. Currency conversions should be initially avoided as a lesson learned from the German experience. Instead, a more stable trading price would result from allowing the North Korean won to exchange in parallel with the South Korean won.²⁰² Uncontrolled migration, like East Germany, will result in deteriorating economic conditions in North Korea. To limit emigration, policies should be implemented which encourage North Koreans to stay in the North for a designated time to allow for a gradual stable transition period.²⁰³

C. ECONOMIC COSTS FOR REUNIFICATION OF THE PENINSULA

The method of unification will in part determine the overall cost needed to achieve complete unification. The East-West German reunification was an example of radical unification where West Germany absorbed East Germany through the

¹⁹⁹ Gabriel Jonsson, *Towards Korean Reconciliation: Socio-Cultural Exchanges and Cooperation* (Hampshire, England: Ashgate, 2006), 27.

²⁰⁰ Jonsson, 27.

²⁰¹ Jonsson, 27.

²⁰² Kim, *Unveiling the North Korean Economy: Collapse and Transition*, 286.

²⁰³ Kim, 285.

implementation of institutions and mechanisms in all spheres over a short time span. Under radical transition scenarios, political rights are also bestowed. East Germans were granted the ability to participate in elections and vote. The other method for unification involves a gradual transition where policies and market forces are sequenced giving time for stabilization to occur in the economic and political spheres.

A radical reunification scenario of North Korea would involve North Korea being absorbed into South Korea. While many North Korean citizens would arguably support this happening, the North Korean high-ranking officials would be forcibly removed from their positions. This scenario is unlikely to occur unless brought upon through a forced regime change, or through a collapse of the North Korean government.

Alternatively, a gradual transition scenario would allow for a peaceful transition to occur either through the North Korean government implementing policies to bring about a market economy, or through a temporary separation where North and South Korea agree to a unification scenario later. This method would allow time to establish policies such as ones concerning migration which could lead to lower social costs being incurred.

Ultimately, the method of reunification, gradual or radical, will determine the costs associated with reunification. Under either method, South Korea will bear the burden of the costs. The gradual transition method will be cheaper for South Korea as a radical transition would bring about much higher social safety net costs.²⁰⁴ Unification of the Korean Peninsula brings with it both costs and benefits.

The main costs for any unification scenario include: emergency relief, infrastructure, education, health care, and integrating institutions.²⁰⁵ These costs are included in the sum-total for reunification costs. Wolf and Akramov determine that unification will be considered complete when the North Korean income per capita doubles. By this definition, Wolf and Akramov determine that unification of the Korean

²⁰⁴ Kim, 292.

²⁰⁵ Kim, 293.

Peninsula will cost between US\$50 and US\$670 billion dollars over the course of five years to achieve.²⁰⁶ While two Korean unification research institutes, (Korea Institute for International Economic Policy (KIEP) and Korea Institute for Industrial Economics and Trade (KIET)) have estimated that unification could cost as much as US\$954 billion over 20 years if conducted in a radical unification scenario similar to the German unification, or US\$3,947 billion for 45 years.²⁰⁷ This amounts to 9.5-12 percent of South Korea's annual GDP based on South Korea's reported 2015 GDP.²⁰⁸

While these costs appear to be high, researchers and South Korean policy-makers agree that the economic benefits associated with unification outweigh the costs involved.²⁰⁹ The wide difference in cost estimates arises from different models which are used to predict future growth for both North and South Korea under unification. The two methods commonly employed to determine cost of unification utilize both model-based simulations while the other uses an aggregate cost method.²¹⁰ Under the model-based approach, specific parameters are defined, and values are assigned. With the parameters defined, costs are then added up to give the total costs for unification to achieve the parameters input. Different models used to predict unification include a computable general equilibrium (CGE) model, a model based on incremental capital output ratio (ICOR) and a macroeconomic model.²¹¹ The other method used to predict unification scenarios are aggregate cost scenarios.²¹² Through this alternative method, variables that affect growth are evaluated. The changes associated with these variables are then aggregated to evaluate the impact of growth based upon unification. Recent estimates for unification costs of the Korean Peninsula are detailed in Table 1.

²⁰⁶ Kim, 294–297.

²⁰⁷ Kim, 294–297.

²⁰⁸ Kim, 294–297.

²⁰⁹ Kim, 298.

²¹⁰ Kim, 296.

²¹¹ Kim, 293.

²¹² Kim, 296.

Table 1. Various Estimates of Unification Costs of the Two Koreas

Studies	Unification Scenario	Unification Costs	Methodology	Assumptions
Lee (2003)	Radical	US\$182.7 to US\$561.4 bn	CGE model	In the base year, income per capita of North Korea is 20 percent that of South Korea
Wolf and Akramov (2005)	N.A.	US\$50 to US\$670 bn	ICOR	Achieving a doubling of North Korea's per capita GDP in four to five years
Choi (2008)	Radical	7 to 12 percent of annual South Korea's GDP	Macro model	North Korea's productivity becomes 80 to 90 percent of that of South Korea within 50 to 60 years.
KIEP and KIET (2011)	Radical	US\$954 bn for 20 years	Macro model	Based on German Unification cost
KIEP and KIET (2011)	Radical, medium and gradual	3.8 to 9.5 percent of annual South Korea's GDP	CGE model	Radical, medium and gradual unification are assumed to start in 2020, 2030, and 2040, respectively
National Assembly Budget Office (2014)	Radical	US\$3,947 bn (in 2005 price) for 45 years	Aggregation of expenses	Costs from 2016 to 2060, assuming that unification occurs in 2016

Source: Kim, *Unveiling the North Korean Economy*, 294.

Not surprisingly, different predictive models reach different conclusions. Table 1 highlights some commonalities to all predictions based on cost of Korean unification. The first common trend is that radical unification will incur higher costs than a more gradual unification scenario. Second, is that the longer reunification takes to achieve, the higher the cost to achieve it will be. Third, postponing unification to a later date increases

the sum-total required for unification to occur. However, deciding based on cost alone would fail to recognize the economic benefits which stand to be gained.

Like unification cost estimates, the benefits of unification can also be modeled utilizing a model-based scenario or empirical method. Table 2 summarizes the economic benefits to achieving unification of the Korean Peninsula through a variety of methods. In all predictions, North Korea stands to gain tremendous economic benefits resulting from unification. Likewise, South Korea is predicted to benefit economically under most conditions through unification. Of note, the KIEP and KIET gradual unification model shows remarkable growth as a result of unification with North Korea's GDP rising anywhere between 8.5 and 14 percent over the next 40 years, while South Korea's GDP stands to increase between 2.1 and 7.3 percent over the same period.²¹³

Table 2. Various Estimates of Benefits of Unification of the Two Koreas

Study	Unification Scenario	Unification Benefits	Methodology
Choi (2008)	Radical	North Korea's annual growth rates: 5 to 18 percent for 30 years South Korea's annual growth rates: increase by 0.1 percent point	Macro Model
KIEP and KIET (2011)	Gradual	North Korea's annual growth rates: 8.5 to 14.5 percent for 40 years South Korea's annual growth rates: 2.1 to 7.3 percent for 40 years	DSGE model
Kang et al. (2014)	Gradual	North Korea's annual growth rates: 6.19 percent or lower for 35 years South Korea's annual growth rates: increase by 0.32 percent point or lower for 35 years	Growth accounting based on Cobb-Douglas function
National Assembly Budget	Radical	North Korea's annual growth rates: 4.8 to 13.9 percent for 45 years	Growth accounting/Inter-industry analysis

²¹³ Kim, 297.

Study	Unification Scenario	Unification Benefits	Methodology
Office (2014)		South Korea's value-added: increase by 1.0 percent point for 45 years	
Sung (2014)	Gradual	North Korea's GDP: increase by 656 percent at maximum for 35 years South Korea's GDP: Decrease by at least 2.03 percent for 35 years	CGE model

Source: Kim, *Unveiling the North Korean Economy*, 295.

The benefits of unification are expected to have a profound impact upon growth under a unified Korea. North Korea stands to benefit through a reduction in personnel and national defense expenditures. North Korea would also benefit economically through increased improvements in labor productivity and human capital growth, institutional reforms, and economic stabilization. Additionally, increased inter-Korean economic cooperation and trade reasons to benefit both North and South Korea. South Korea's growth would be derived from reduced security expenditures and through improved efficiency from the use of its resources.

D. CONCLUSIONS

Under any scenario, the cost of unification of the Korean Peninsula is high. This burden would ultimately fall upon the South Korean tax-payers to bear. However, unification would also generate benefits for both South and North Koreans alike. Korea can benefit from studying and applying lessons learned from other transition experiences. The German reunification experience offers a road map which can help lead and guide Korea through its own unification experience.

A successful reunification of the Korean Peninsula offers great benefits. From a social aspect, families would finally be allowed to be reunited after being forcefully separated during the events of the Japanese occupation and the events which followed the liberation from Japan. Additionally, millions of North Koreans would be offered a chance to access information and travel which has been denied to them.

Unified Korea would also benefit from gaining access to cheap labor and an abundant source of natural resources. Increased economic growth opportunities would become available through increased North-South trade opportunities, opening the North up to foreign investment, and increased quality of life in the North.

Politically, North Koreans would gain the ability to participate and exercise their vote in political matters. The famine in North Korea in the mid-1990s could have been avoided. While physical effects such as flooding played a part, famines consist of complex social, political, and economical circumstances. The breakdown of the Soviet Union and trade relations with China are as much to blame as the flooding which occurred destroying crops and fields. Even if enough food exists within the country, failure to distribute the food properly can lead to massive waste and rot occurring while laborers go without food.

Economically, North Korea does not possess a comparative advantage regarding agriculture or wheat production. However, they do possess significant amounts of natural resources and metals which could be used to acquire food needed to maintain and feed the population. Had North Korea opened its doors to international trade, it could have used its abundant natural resources to trade for food. Unification with the South would benefit North Korea through increased trade and access to capital needed to develop its own industries. With increased access to capital and trade, future food shortages can be avoided entirely.

V. CONCLUSIONS

The geo-political decision to divide Korea into two separate states in 1945 did more than simply create a boundary line between North and South Korea. It divided the economy between predominantly heavy industry based in the north and concentrated light industry and agriculture in the south. The division separated economic trade lines, divided families, and created a rift within a culture which had existed since 676 AD. As time passes, this rift continues to widen creating increased differences between North and South Korea. Despite the challenges, it is not surprising that the desire to reunify the two countries remains intact. Although the relationship between North and South Korea has become strained over the past 70 years, shared language, culture, and historical experiences remain.

The Korean Armistice established in 1954 has led to the establishment of one of the most militarized zones in the world. The unresolved conflict between North and South Korea continues to require a U.S. military presence within South Korea. The continuous U.S. military presence within the region has aided in stabilizing the region from further military conflict between the North and South. However, any continued U.S. presence acts to increase tensions within China due to the close proximity of the U.S. forces. A reunified Korea would call into question whether the U.S. forces would continue to be needed in the region. A unified Korea would dissolve the North Korean military threat to the U.S. and its regional allies while also allowing the U.S. to promote support for a liberal international order.

While passing time continues to make the challenges of reunifying the Korean Peninsula harder, it also increases the urgency for reunification to be attempted sooner rather than later. The famine which took an estimated 600,000 to one million lives could have been avoided through trade and political action.²¹⁴ While torrential rains and natural weather conditions contributed to the food shortage, political and economic decisions are equally culpable for these deaths. Studies of the North Korean economy

²¹⁴ Haggard and Noland, *Famine in North Korea: Markets, Aid, and Reform*, 93.

show that the government and leadership made policy choices which isolated North Korea and inhibited economic growth. North Korea's national ideology, Juche, and its desire to protect the regime have fostered a humanitarian crisis where the public's lives serve only to support the elite, with no consideration for their well-being. North Korea's continued isolation and economic policies have not removed the possibility that future famines or humanitarian crises will occur.

North Korean attempts to implement economic reforms have fallen far short of what is required to foster sustained economic growth. Implementation of special economic zones (SEZs) along the borders of China and South Korea failed to attract large amounts of foreign investments. The closed-nature of the Kim Regime prevented large-scale investment into the SEZs. Reasons for the unenthusiastic support of SEZs in North Korea include: lack of sufficient private ownership, autonomy, market coordination, and legal structure.²¹⁵ Other market reforms attempted by the North Korean regime show a reluctance to allow activities, which were already occurring, to exist while still maintaining a strong state authority over economic controls. Without further economic reforms, North Korea's economic potential remains a shadow of what it could achieve.

Economic growth is further threatened within North Korea by the increasingly comprehensive sanctions being implemented against North Korea. While economic sanctions have shown to be ineffective at stopping North Korea from acquiring nuclear weapons and missile technology, they have created other challenges for the North Korean economy. Restrictions on North Korea's ability to import energy sources such as oil and gas limit the capacity for North Korea's economy to function properly. Limitations on energy have created significant electrical shortages and reduced opportunity for North Korean factories to operate at full capacity. These shortages effect the productivity of the North Korean state to grow its economy, while also decreasing products manufactured in North Korea for export purposes. Other actions by the sanctions, such as freezing bank assets or requiring inspection of cargos with imports or exports from North Korea, limit the DPRKs ability to acquire contraband material and further its strategic objectives.

²¹⁵ Haggard and Noland, *Famine in North Korea: Markets, Aid, and Reform*, 211.

North Korea's survival is largely credited to China, which provides the majority of all North Korean trade. The DPRK's close relationship with China allows North Korea to bypass the worst effects of economic sanctions. China continues to provide needed aid in the form of food and energy to stave off crisis. This spoiler role provided by China enables North Korea to play a far greater role in geopolitics than its size would predict. North Korea's location, situated between South Korea and China, allow it to act as a buffer between pro-China and pro-American policies. Dissolution of North Korea would place pro-Western policies on China's borders.

China has expressed concern that a collapse of the North Korean regime would destabilize the region by creating a humanitarian crisis and increasing the likelihood that a refugee crisis would develop.²¹⁶ A refugee crisis would negatively affect both China and South Korea, as they share borders with North Korea, and would be the most likely to receive the refugees. China's support for creating conditions where peaceful reunification can occur are important for maintaining a smooth reunification. However, China is also aware that a unified Korea could also contribute to an increase of pro-American policy being implemented. A unified Korea could amplify any perceived security threats which China views. Reassuring China's security while emphasizing the potential economic benefits to a unified Korea are important for developing the Chinese support needed for a gradual reunification to occur.

The East-West German reunification experience foreshadows that any attempt to reunify the Korean Peninsula will be fraught with difficulties and challenges. While South Korea has risen to become an economic leader on the international stage, North Korea's economy has stagnated and remains in peril of collapsing as a result of previous economic and security policy decisions. The differences in the North-South Korea reunification scenarios mirror the East-West German experience in many aspects offering indications of the challenges which can be expected to be encountered if reunification is attempted. Similarities in populations, institutions, wealth, education, and employment

²¹⁶ Glaser and Sun, "Chinese Attitudes Toward Korean Unification," 81.

conditions all share similarities with divided Germany. However, increasing time of division exacerbate these factors making the challenges of reunification more difficult to achieve.

There are several scenarios under which North and South Korea can reunify. The preferred method occurs through a peaceful gradual process. Gradual reunification enjoys many benefits such as a reduced need to provide immediate social safety nets and an overall lower cost to reunify. A gradual transition to a unified country can also create other effects such as building incentives, which would eliminate a refugee crisis, provide incentives to local landowners, and a phased buildup of infrastructure to foster economic growth.

The alternative to a gradual unification scenario is a radical scenario where transition occurs quickly. This can result from regime collapse, armed conflict or war, or a forced intervention from international actors. These scenarios are almost always less desirable as it entails large costs to prevent social instability. East-West German reunification demonstrated many of the problems which are associated with a radical transition of government. The need to provide social welfare created large costs and an environment which amplified suffering through the transition period.

Reunification of Korea has international implications. Reunification holds large potential for regional economic growth for decades. To achieve this will require international cooperation. Denuclearization of the Korean Peninsula remains a challenge and a threat to international stability. The United States, along with China and South Korean cooperation are necessary to create the environment where North Korea can be persuaded to denuclearize. Sanctions, inducements, and engagement have all failed so far to convince North Korea to cooperate. Diplomatic talks hold the key in convincing North Korea to denuclearize. Acquiring China's cooperation will be necessary to create the conditions necessary to convince North Korea to do so. Failing to do so, will continue to embolden the North Korean regime and reduce the future likelihood of a peaceful gradual reunification occurring.

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