

# Beyond Blockades: The Sanction Evasion Strategies of North Korea's Authoritarian Resilience

Kento Yanase

[kento.yanase@icloud.com](mailto:kento.yanase@icloud.com)

## ABSTRACT

This research inquires how a heavily sanctioned state can endure and adapt by developing multiple evasion strategies. Using North Korea as a case study, the research examines how and under what conditions countries can adapt to the effects of international sanctions. The research relied on secondary sources, including United Nations reports, academic literature, news investigations, and a small portion of expert interviews. The key findings reveal that North Korea's authoritarian regime has made use of both external assistance and internal economic adjustments to keep operating under the United Nations and multinational sanctions. Key results highlight third-party "black knight" states that support illicit trade, the development of black markets and cyberattacks that produce hard currency and domestic control (propaganda, oppression, and resource distribution), all of which maintain regime stability in a harsh economic environment. The case study of North Korea shows that when a sanctioned country has access to third-party states, an illicit economy, and strong internal unity, sanctions are unlikely to accomplish their goals.

## I. INTRODUCTION

Economic sanctions have become one of the most employed tools in global society, used by major powers to pressure enemies and uphold international norms (Sabatini & Isard, 2025, p.10-11). To this date, more than 100 countries imposed sanctions while more than 150 nations have been sanctioned (Wang et al., 2025); yet, their effectiveness in changing the behavior of target states remains a controversial issue. Some researchers, including Tadeas Pala, argue that sanctions do not achieve their intended outcomes, due to factors ranging from a lack of "universally valid metrics" in measuring the success of sanctions (Pala, 2021) to finding ways to reduce the pressure, including building more commercial relationships with third-party states (Early, 2015). North Korea is a famous example: despite facing multiple UN and multinational sanctions since 2006, the nation has progressed its nuclear weapons program with little sign of slowing down (Jiawen, 2017). This adaptation raises the question of how and under what conditions sanctioned countries can mitigate international sanctions and blockades. Understanding the procedures behind such adaptation is not only a matter of academic research but also has urgency. If target states can survive or thrive, sanctioning countries (sender states) must rethink how sanctions are designed and enforced.

Notably, much of the existing sanctions literature has approached the issue from the perspective of the sender states, focusing on the economic damage inflicted or the success in coercing concessions. Far less attention has been paid to the target state's perspective. That is, the strategies and conditions that have allowed a nation to cope with or evade the impacts of sanctions (Dizaji et al., 2020, p.6). This research seeks to address that gap. Specifically, it asks: *how and under what conditions can countries adapt to and*

February 2026

Vol 4. No 1.

*mitigate international sanctions and blockades?* In exploring this question, the paper places North Korea as a crucial case study. North Korea's survival under the harshest sanctions today suggests that it has developed solid mechanisms for evading sanctions. By examining these methods, the study identifies a series of factors allowing sanctions adaptation. This paper will discuss a combination of external support frameworks and internal strategies to reveal how North Korea circumvented the impact of sanctions. Through this analysis, the paper aims to gain a deeper understanding of the effectiveness of sanctions, exposing the flaws in the current international sanctions strategy.

## II. LITERATURE REVIEW

### 2.1 - Sanctions Effectiveness and Evasion - Theoretical Overview

Early research on economic sanctions posed a question: Do sanctions “work”? Much of the traditional literature has evaluated whether sanctions achieve their stated pre-determined foreign policy objectives, such as coercing target states into compliance (Andreas, 2010). Classical studies, however, noted that sanctions rarely coerce significant political concessions, with Hufbauer’s quantitative analysis revealing that, among 115 historical cases of sanctions, only 40 succeeded. Pape’s qualitative analysis even highlighted that only five of these instances were deemed successful (Pala, 2021; Hufbauer et al., 2007). Recent literature continues to highlight how sanctions can be ineffective or even counterproductive. One common observation is that sanctions frequently impose greater costs on the sender than on the targeted elites. Pape’s research, for instance, found that “It was not Saddam Hussein and his protégés who suffered the consequences of the sanctions, but the population that was cut off from various commodities... Up to 567,000 children could have hypothetically lived if they had been given medication, vaccination and like [which were cut off under Iraq’s sanctions in the 1990s].” Furthermore, if a sender misjudges global market dynamics, a trade embargo might hurt the sender’s businesses more than the target economy (Pala, 2021). Another issue is that target states often respond and adapt to the pressure of sanctions. Authoritarian regimes, in particular, can manipulate sanctions as a political tool to withstand them. During an interview, one expert on international political economy also stated “What we see in practice is that... more often than not, [sanctions] do not work at all... the population... actually become more supportive of the targeted regime... using rhetoric and propaganda... ‘we’re under attack’... and we must stand firm (Expert on International Political Economy, personal communication, July 4, 2025).” In Iraq under Saddam Hussein and Serbia under Slobodan Milošević, for instance, the leaders combined authoritarian control with nationalism to incite animosity against the sender states. This “rally-around-the-flag” effect can contribute to increased public unity and political stability (Pala, 2021). Sanctions, therefore, can precipitate a chain of adjustment and resistance, rather than compliance.

### 2.2 - Mechanisms of Sanctions Evasion and Adaptation

A wide range of mechanisms by which targeted countries mitigate sanctions has been recorded. Key strategies include secret economic and diplomatic measures to avoid the imposed restrictions. Major mechanisms include:

**2.2.1. Illicit or informal economies:** Target states depend on underground markets, smuggling, and other black-market activities for revenue, like North Korea (Jiawen, 2017). These systems work outside official monitoring, enabling the trade of banned goods using front companies (United Nations Security Council, 2024, p.25). Over time, evasion has become institutionalized.

“Since the 1970s, North Korea has systematically smuggled alcohol, tobacco, drugs, and other

February 2026

Vol 4. No 1.

contraband through its diplomatic networks abroad. These activities continue today, and with North Korean capabilities expanding into the cyber realm, sources of illicit income will likely continue to constitute an underestimated part of the regime's hard-currency revenue flows (East Asia Forum, 2023)." The UN Panel of Experts has estimated that North Korea still earned around \$370 million from sanctioned coal exports in 2019 by secretly shipping cargo (mainly to China), even though the UN bans had prohibited its official export (East Asia Forum, 2023). Furthermore, as a former UN Panel of Experts Member also noted, "North Korea has... shifted focus toward increasing the production and export of goods that are not explicitly prohibited... such as watch movements and recently, wigs (Takeuchi, personal communication, August 1, 2025)," showing that North Korea has developed detours to produce trade revenue by sending out not only sanctioned items but also alternative goods that are not prohibited by sanctions. This underscores how black-market revenues and informal economies help sustain the economy despite sanctions.

**2.2.2. Third-party support ("Black Knight States"):** One of the most important factors undermining comprehensive sanctions is the existence of third-party nations willing to trade with the target states. These so-called "black knight" states fill the economic damage imposed by sender states, replacing lost export markets or providing essential imports (Pala, 2021). . Similarly, Iran, under US sanctions, nurtured closer economic ties with Gulf states and Asian partners; the nation increased trade with neighbors and used re-export hubs (e.g., via the UAE or Oman) to gain prohibited goods, thereby mitigating the impact of Western sanctions (Dizaji et al., 2020, p.6). These instances show that when cooperation is lacking, a target state can shift towards alternative markets and allies. Even when many countries come together to impose sanctions, a few states can significantly reduce their effectiveness. Analyses point to situations like apartheid-era South Africa. In this case, despite sanctions, it found trading partners including Japan and West Germany (Pala, 2021). To address this, sending nations sometimes threaten secondary sanctions, which punish third-party states for trading with the target state. However, secondary sanctions can worsen diplomatic relationships and do not ensure compliance (Pala, 2021). Third-party states are, hence, a crucial condition that allows target states to survive.

**2.2.3. Internal economic adjustments:** Targeted countries may also adjust their economies for self-reliance. When cut off from global trade, some nations pursue "import-substitution industrialization," which involves creating local industries to replace foreign goods. Historical examples show mixed results. South Africa in the late 1980s faced significant damage due to sanctions, but it stabilized its economy by increasing domestic production and achieving some level of self-sufficiency (Pala, 2021). Russia, after facing Western sanctions, "launched an internal financial system of transactions and communication, including the 'Mir' payment system, and rapid financial transactions....capable to function as a doomsday option (Kirkham, 2024, p.154)."

**2.2.4. Ideological and political tools:** Another way target nations adapt is by relying on ideology. Authoritarian regimes often use propaganda and oppression to alleviate dissatisfaction with the government. They can depict sanctions as an attack from foreign powers that citizens must resist. This depiction helps bring the nation together against a common enemy and justifies people's hardships (Pala, 2021). Research has also noted that sanctions sometimes solidify the target regime's internal control by weakening opposition, accusing domestic critics of being the "inner enemy" and a "fifth column (Pala, 2021)." This situation overlaps with North Korea's repressive political system. The government's absolute control over information enables it to oppress opposing forces and maintain political stability. Lankov points out that "few if any of the

[communist regimes] could rival in maintaining a self-imposed information blockade (Lankov, 2013, p.43)." By cultivating patriotism, the target regimes could avoid the political threat posed by economic sanctions to their authority.

### **2.3 - Gaps in the Literature and This Study's Contribution**

While the literature has identified many of the sanction evasion mechanisms across various cases, a key gap remains in understanding. Most prior studies tend to examine aspects of sanction mitigation or focus on sanctions' effects mainly from the perspective of sender states, usually a global power, including the US. Comprehensive analyses are scarce from the target states' perspective, analyzing the detrimental effects of sanctions on the target states' economies. What is more problematic is that "there is a lack of literature on the possible sanctions coping policies that target nations may develop to prevent compromising their security, especially economic security, as well as neutralize the negative impact of sanctions (Dizaji et al., 2020, p.6)." Moreover, traditional sanctions research has been criticized for a Western-centric mindset, often written by experts far removed from the reality in the target states (Kirkham, 2024, p.15). Understanding how sanctions impact target societies and how those societies adapt requires escaping this mindset and hearing the voices coming from different cultural backgrounds in the target states. Amid such criticisms, this study contributes by concentrating solely on the target's adaptive strategies. The paper focuses on North Korea's mechanisms of sanction evasion, bringing together the international and domestic factors into one case study. By thoroughly analyzing North Korea's sanction-evasion strategies from illicit trading networks and third-party alliances to internal propaganda and economic controls, this research supplements the existing literature in detail on how a target state can endure sanctions. The insights gained in this paper will not only enhance understanding of the theoretical flaws of sanctions but also become an indicator for policymakers on how to refine the measure. The following sections will build on this literature review to examine North Korea's case, identifying the strategies and conditions that have allowed it to mitigate international sanctions and what that indicates for the future of the measure.

## **III. METHODOLOGY**

The research relied heavily on secondary sources to gain details about methods of sanctions evasion. A case study was conducted, examining North Korea in detail, as the nation represents an extreme case of sanctions resilience as one of the world's most heavily sanctioned states. The sources examined include reports by the UN Panel of Experts on North Korea's sanctions violations, government documents, think-tank findings, and articles in academic journals.

These sources were selected based on three standards: (1) institutional credibility (e.g., UN, East-West Center), (2) peer-reviewed publication, and (3) direct relevance to sanction-evasion strategies. By adhering to these standards, the research sought to achieve reliable insights into North Korea's sanction evasion strategies, thus establishing a holistic landscape of how sanctioned states adjust to such measures.

Furthermore, to supplement the secondary data, two written and oral interviews were conducted (see Appendices A and B for questions and transcripts). Open-ended responses were used to interview Takeuchi Maiko, a former member of the UN Panel of Experts and an academic expert on international political economy. The sampling method employed in the interview was convenience sampling, involving the personal recruitment of experts in international relations and North Korean sanctions. The questions examined sanction evasion strategies in North Korea to gain insight into how North Korea's evasion

mechanisms operate. Due to the sensitivity of the topic discussed, the interviews included informed consent, ensuring the interviewees that they had the option to remain anonymous or withdraw from the study at any time. As this was a student-led research project, it did not undergo formal review from the ethics board; however, all ethical safeguards were complied with.

One of the major methodological challenges in this research is the data imbalance between the sender states and the target states. As section 2.3 of the paper highlights, researchers are generally reliant on data from sender states when analyzing sanctions, which makes it difficult to obtain direct data from target states. This is particularly true in North Korea, where the government controls domestic information, making it difficult to access information on the economy, public opinion, and politics.

This study, however, considers the lack of access to information as part of the target state's environment. In an authoritarian regime, "state media outlets are subject to stringent government requirements regarding topic selection and the content of news reports," and as a result, "valuable but unfavorable content is filtered or not publicized (Wang et al., 2023, p.11)." In this case, the absence of reliable target-state data is itself important, as it provides an overview of the structural factors that affect sanctions' effectiveness in practice.

Instead of attempting to infer patterns from inaccessible information, the study focuses on observable behaviors such as smuggling, informal economy, cyber activities, and overseas labor development. These are analyzed by comparing different reports from various academic journals that meet the selection criteria above. When information is consistent across reports and interviews, it constitutes evidence of potential strategies to mitigate sanctions, even if individual sources exhibit biases and errors.

These examinations enable the study to analyze the target states' position without relying on information that is inaccessible. By analyzing how North Korea responds to sanctions in observable, tangible terms, the study remains empirically grounded and provides insight into the country's responses.

## **IV. RESULTS**

### **4.1 - BACKGROUND**

Collective economic sanctions against North Korea were first executed by the UN in 2006 amid the nation's first nuclear test (Preble & Willis, 2024), constraining imports of military technologies and luxury goods. The UNSC underscores that the use of sanctions is "to ensure international peace and security, and ensure lasting stability in north-east Asia at large and to resolve the [proliferation of nuclear weapons] through peaceful, diplomatic and political means (Jiawen, 2017, p.520)." These restrictions have constantly been amplified due to the nation's atomic tests and ballistic missile launches, including an embargo on natural resources and food supplies (Mallory, 2021, p.18). Sanctions on the agricultural sector, for instance, include "hand tools and spare tractor parts," which constrain the capability to produce food (Haggard & Noland, 2023). Various other nations have also implemented their sanctions to augment those of the UN. A notable case is the US's imposition of secondary sanctions against third-party states that engage in any economic transactions with North Korea (Mallory, 2021, p.19). These sanctions have consequently led to North Korea's increased isolation from international capital, resulting in a 31.2 percent decline in its trade imports (OHCHR, 2021), which highlights the significant impact of sanctions on North Korea's economy.

#### **4.2 - EVASION MECHANISMS OF NORTH KOREAN SANCTIONS**

Having covered the context of North Korean sanctions, there now needs to be an answer to the mechanisms by which North Korea can sustain its regime without facing economic collapse. Based on the research conducted, it has become clear that North Korea has employed numerous sanctions evasion techniques to mitigate the detrimental effects on its economy.

##### **1. The Role of Third-party States (“Black Knight States”)**

According to the investigations of the UN, around 140 nations, nearly two-thirds of the world's nations, are reportedly engaged in sanction-evasion activities worldwide. A former UN Panel of Experts member notes that “Asian countries are particularly vulnerable due to historical, economic, and diplomatic ties with North Korea... countries in the areas with limited attention to North Korean issues, such as the Middle East, Latin America, and Africa tend to spare limited resources for sanction implementation, and become vulnerable (Takeuchi, personal communication, August 1, 2025).” In particular, China and Russia are the leading supporters of North Korea, accounting for “just over one-half” of all detected such activities between 2010 and 2022 (Mallory et al., 2025). China, North Korea's trade partner, continues to engage in trade despite sanctions. This precipitates a serious impact on the effectiveness of sanctions, with recent analyses showing that “as economic sanctions are imposed, North Korea's trading network becomes dominated by countries less willing to enforce sanctions on it (such as China) and less economically dependent on trade partners who enforce sanctions (e.g., Japan, South Korea, and Western countries) (Preble & Willis, 2024).” UN investigations also found that “foreign facilitators, overseas representatives, [and] North Korean diplomats” assist in generating revenue and handling sanctioned items on behalf of the government (Mallory et al., 2025). Indeed, as one former UN Panel of Experts member wrote, “Financial institutions and shipping companies often operate across borders, but sanctions enforcement relies heavily on national legal frameworks and domestic policies... International judicial cooperation is essential for investigations. However, often such international cooperation is difficult (Takeuchi, personal communication, August 1, 2025).” Such a structural flaw in sanction enforcement creates supporters who cooperate with transferring funds between North Korean banks and trading firms, weakening sanctions designed to isolate the regime from international markets. Both China and Russia also protect North Korea during international meetings, reducing the effects of sanctions. They have repeatedly dismissed or ignored sanctions when it serves their interests. Russia has imported North Korean weapons in violation of the UNSC resolutions during the Russia-Ukraine War, and it has recently strengthened ties with North Korea. In 2023, Russia signed a treaty with North Korea, pledging mutual military assistance and economic cooperation to circumvent international sanctions (Bowen & Manyin et al., 2025). Support from these major powers ultimately reduces North Korea's isolation, enabling the country to explore potential markets, suppliers, and sources of political support, even amid global sanctions.

##### **2. The Role of an Authoritarian Regime**

North Korea is considered one of the most repressive countries in the world, famous for its human rights violations against its citizens. In light of such total control over the citizens' lives, it is easy to assume that the regime shuts down any opposition towards the government, which, in turn, is becoming one of the crucial mechanisms that North Korea executes to avoid the impact of sanctions.

###### **I. “Rally-around-the-flag” effect**

A. One trait of North Korea, like other authoritarian states, is that the government utilizes external pressure to bolster its authority. State media emphasizes sanctions and threats from the US and other countries as attacks on all North Koreans. This framing encourages compliance by redirecting public discontent toward external actors. The regime's propaganda blames foreign governments for the people's struggles: "the US government is seen as responsible for the sanctions which are blamed for the privations suffered (Beal, 2005, p.7)." By shifting anger towards foreign enemies, the government creates a situation where withstanding economic hardship becomes a duty. An expert also notes that "In some ways, the elites... actually become more dependent on Kim Jong-un, not less dependent, if the whole country is sanctioned (Expert on International Political Economy, personal communication, July 4, 2025)." This rally-around-the-flag effect leads to popular support, or at least compliance, for the government. Many North Koreans see Kim Jong-Un as defending the nation against hostile foreign "imperialists" rather than blaming him for shortages.

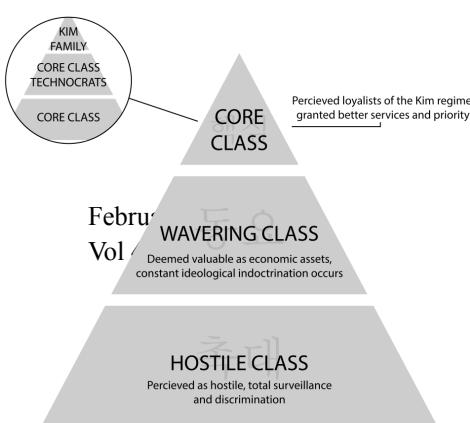
## II. State propaganda and information control

A. North Korea continues to manipulate propaganda to shape perceptions and suppress dissent. The Kim regime spreads to citizens with absolute superiority of the leadership and the viciousness of enemies, while eliminating all sources of alternative information. All media are state-run, and there is a near-total blockade of external news and cultural influences. Over the decades, this closed information environment, combined with indoctrination, has proven effective. As Lankov notes, "North Koreans are bombarded by an anti-American propaganda whose hysterical pitch has reached heights undreamed of even in the Soviet Union of Stalin's times...going over for many decades (Lankov, 2007, p.62)." Ultimately, citizens interpret sanctions-induced adversity through the regime's propaganda (heroic self-reliance amid foreign aggression), which sustains loyalty and discourages rebellion.

## III. Public Distribution System (PDS) and dependency

A. The regime's control over food and basic goods through the PDS has been a key method of control. Since the late 1950s, every North Korean household has relied on state rations of grain and essentials, offered at low prices. The PDS entrenched loyalty by making survival contingent on state provision, which is a powerful incentive to obey. In the 1980s, for example, the monthly ration (grains, soy sauce, and some vegetables) cost only 5~10 won (Lankov, 2007, p.9), effectively free, and was viewed by people as a generous welfare policy of the Leader. However, by design, ration size was distinguished by political priority, as shown in Figure 1 (McGrath, 2012).

Under this system, the regime ensured that only trusted groups continued to receive food: "During the affluent 1970s, the privileged inhabitants of Pyongyang received more than half of their grain rations in rice, while in the countryside nearly the entire ration came as corn and wheat flour, with rice being a luxury food reserved for special occasions (Lankov, 2013, p.35)." The Committee for Human Rights in North Korea has also shown that "the size of the three social classes is about the same as the size of the



nutritional categories (no evidence of malnutrition, moderate malnutrition and severe acute malnutrition)," indicating the management of "public distribution system based on [the citizens'] songbun classification (Collins, 2012)." This selective distribution thus rewarded key supporters, preventing potential unrest. The PDS system helps the regime maintain stability by binding the populace in dependency and rewarding loyalty.

**Figure 1: Diagram of the Songbun System**

#### **IV. Repressive security and suppression**

- A. North Korea's domestic stability under sanctions is also secured through oppression. The state's security institutions make organized opposition extremely costly and difficult (38 North, 2010). Citizens know that any hint of disloyalty can result in extreme punishment. In contrast to most countries, where a critic might merely lose a job, in North Korea, "political criminals are sent to the camps [without trial]...the incarceration of the whole family of a purported family is obligatory as well (Lankov, 2007, p.239)" This policy of collective punishment instills deep fear, allowing the regime to oppress any political dissatisfactions against the regime. Today, political prison camps house tens of thousands of alleged traitors (Lankov, 2007, p. 239), and public executions are used to intimidate potential critics (Park et al., 2021). These mechanisms significantly reduce the likelihood of organized resistance, allowing the regime to survive economic hardship without facing uprisings. The regime's totalitarian social control, through surveillance, propaganda, and fear, ensures that sanctions do not lead to political instability or revolt.

#### **3. North Korea's Involvement in the Black Market**

The black market, also known as the illegal market, refers to "an economic activity that occurs outside government-sanctioned channels (Kenton, 2025)." In North Korea, despite state control over its markets, the collapse of the PDS due to the famine known as the "Arduous March" led to the rise of jangmadang (black markets) (RIETI, 2023). While originally grassroots, the black market has become a nationwide activity, with both state and non-state actors involved. A former UN Panel of Experts member asserted that "one of the most resilient and adaptive strategies North Korea has employed to maintain regime stability under increasing sanctions pressure is its ability to secure foreign currency through alternative and illicit means (Takeuchi, personal communication, August 1, 2025)." Observing as many as 3 quarters of the whole North Korean population rely on jangmadang for survival (Ernst & Jurowetzki, 2016), the black market has become a critical sanction evasion mechanism for the regime and the population in the past few decades. This growth of the black market can be analyzed through the concept of Principal-Agent Theory (ScienceDirect, n.d.), which explains how the North Korean regime (the principal), facing limited enforcement capacity, has come to tolerate or rely on autonomous actors (agents), from state-approved smugglers to local traders, whose informal activities disobey government order but ultimately sustain the regime under sanctions.

##### **a) State Actors**

One key sanctions-evasion strategy has been the North Korean state's direct participation in black market and criminal activities abroad. Since the 1970s, the North Korean government, working through diplomats and intelligence officers, has participated in smuggling and illicit trade to earn foreign currency. During that decade, North Korean officials were repeatedly caught carrying "large amounts of expensive contraband, illicit drugs, and counterfeit money" (Lankov, 2013, p.20) across borders.

### **I. Bootlegging**

- A. In one 1976 incident, Norwegian police discovered North Korean embassy staff selling 4,000 bottles of smuggled liquor and a large amount of smuggled cigarettes to dealers (Lankov, 2013, p.20). The seized alcohol and tobacco had an estimated value of about \$1 million (in 2011 prices), highlighting how profitable this business can be. Investigations revealed that this was not an isolated case; bootlegging activity was also widespread across Scandinavia, with operations exposed in Denmark, Finland, and Sweden. One Swedish student even mocked the Pyongyang diplomats by displaying a "Wine and Spirits Co-op" sign outside the North Korean embassy in Stockholm (Lankov, 2013, p. 21).

### **II. Drug trafficking**

- A. After issues with tax-free liquor and cigarettes, North Korean operations expanded into drug trafficking. In 1976, Egyptian customs officers caught a group of North Korean diplomats with a large amount of hashish, which was the first of many such cases (Lankov, 2013, p.21). Weeks later, a similar case occurred in Norway, where diplomats were caught handing over suitcases of hashish to local drug dealers. Over decades, North Korean diplomats and agents were engaged in heroin and methamphetamine smuggling across Asia, Europe, and the Middle East (Lankov, 2013, p.21). "Diplomatic channel is used for smuggling," notes a former UN Panel of Experts Member. "While the UN Security Council sanction requires vigilance in checking the travelers to/from North Korea, including hand luggage, this is one of the difficult provisions to implement (Takeuchi, personal communication, August 1, 2025)." A notable event occurred in 2003 when the North Korean ship Pong Su was seized off Australia while attempting to offload 125 kilograms of heroin. An Australian investigation later estimated the ship's illicit cargo at \$50 million in street value (Rademeyer, 2017, p.4).

### **III. Illicit trade**

- A. In addition to drugs, North Korea executed currency counterfeiting. Beginning in the 1980s, evidence emerged that North Korea was producing forgeries of US\$100 bills to provide foreign currency for its economy (Lankov, 2013, p.21). Similarly, the state manufactured counterfeit cigarettes (e.g. fake Marlboros) for illegal export. It even engaged in smuggling endangered wildlife products like rhino horn (Greitens, 2014, p.32-33), while also selling conventional arms and military technology to conflict zones (such as the Middle East and Africa) (Greitens, 2014, p.65). A US Congressional study in 2008 estimated that at its peak, North Korea's illicit activities, from weapons sales to drugs and counterfeit goods, generated on the order of \$700 million to \$1 billion per year for the state

(Rademeyer, 2017, p.4). This represents a primary source of revenue that helps the regime mitigate losses from formal sanctions.

#### **IV. Bureau 39**

- A. Western experts have frequently described North Korea as a “state-level crime family,” given the extent of its government-run illicit trade (Rademeyer, 2017, p.2). Indeed, internal evidence suggests that these criminal activities are state-ordered. Many of these schemes have been linked to Office 39 (also known as Bureau 39), which is under the ruling Workers’ Party dedicated to obtaining funds for the ballistic missile development and the prosperity of the Kim Regime. Office 39 has been described as “the state apparatus that directs illicit activities to include the manufacture and distribution of illegal drugs, the counterfeiting of US currency, and the manufacture and distribution of counterfeit cigarettes (Greitens, 2014, p.40).” In other words, North Korea’s highest authorities have organized and supervised these black-market businesses as a policy. Notably, Lankov observes that since the mid-1970s, overseas North Korean missions had to follow a self-reliance principle, relying on smuggling liquor and cigarettes, drug dealing, and the production of counterfeit goods to raise cash (Lankov, 2013, pp. 20-21). This secret privatization of North Korean officials, with diplomats turning into smugglers, underscores how sanctions’ pressure transformed the regime’s behavior, promoting it deeper into criminal activities to survive.

#### **b) Non-state Actors**

Equally crucial to state-linked North Korea’s sanction evasion strategies is the informal economy that has developed inside the state, primarily driven by ordinary citizens operating outside the state-controlled economic system. In the aftermath of the 1990s economic collapse due to famine, the state’s PDS broke down, and informal markets known as Jangmadang sprang up across North Korea.

#### **I. Gender and the Informal Economy**

- A. A notable feature of North Korea’s black-market economy is women’s role as market participants. Under socialist law, men are required to remain in their state jobs. In contrast, married women were not guaranteed employment and could be classified as full-time housewives. As Lankov notes, when the state-run system began to collapse in the 1990s, “the situation for women was markedly different [from men]. They had spare time, and their involvement with private trade was seen as politically less dangerous – precisely because of the patriarchal nature of [North Korean] society where only men really mattered (Lankov, 2013, p.84).” In practice, women, often trading food, household goods, or homemade wares, became the primary earners in the new informal markets. By the 2000s, women had emerged as “the major breadwinners in the majority of North Korean families,” and roughly three-quarters of all North Korean market vendors were female (Lankov, 2013, p.26, 84). The domination of women in the black market was significant in that authorities then banned men from marketplaces entirely. A 2006 decree, for example, prohibited non-disabled males from trading (men could work only as vendors if they were officially unemployed dependents in their household) (Lankov, 2013, p. 122).

## II. Black Market as a Sanction Evasion Mechanism

- A. The rise of black markets has served as a lifeline for North Korean society, promoting evasion of sanctions. These private markets distribute food and consumer goods that the state either cannot provide or that sanctions have made scarce. Chinese merchants and smugglers (often in cooperation with North Korean traders) bring in everything from rice and cooking oil to electronics and medicine, transcending official channels. It is estimated that “between 1998 and 2008, the share of income from informal economic activities reached 78 percent of the total income of North Korean households (Lankov, 2013, p.82).” In effect, an underground economy operates alongside the state, maintaining daily life where the distribution system has failed. This system mitigates the impact of international sanctions; even as exports and imports are restricted, North Koreans continue to obtain necessary supplies (often through smuggled imports from China) through the black markets. By maintaining people’s lives and domestic food supply, the markets prevent hardship or unrest that sanctions might cause.

## III. Principal-Agent Dynamics and Regime Tolerance

- A. Surprisingly, the North Korean regime has often encouraged these informal economic activities because it is in the regime’s interest to maintain stability. This can be described as a principal-agent problem in the authoritarian regime (Investopedia, 2025). The central government (the *principal*) acts for the socialist economic system and announces crackdowns on private enterprise to exert control on its citizens. Yet the security agents on the ground (the *agents*) tend to undermine these orders, either ignoring market activities or participating in them through corruption. During the famine years, those officials who “did not take bribes” and attempted to enforce state rules could not survive, whereas “most petty bureaucrats made a rational choice.” They “adjusted their behavior” and “began to turn a blind eye to illegal activities (Lankov, 2013, p.89).” In many cases, authorities were simply bribed to look the other way, and in other cases, they realized that enforcing prohibitions was “obviously pointless” given the population’s basic needs (Lankov, 2013, p.89). As a result, enforcement of anti-market laws became ambiguous. For example, border security personnel often accept payments to allow smuggling across the Chinese border. A large-scale trader can “pay a few hundred dollars” per shipment to ensure that border guards “always look the other way when necessary,” enabling “sacks of valuable merchandise” to cross the Chinese border undisturbed (Lankov, 2013, p.90). Such an informal trade creates holes in the sanctions wall, as sanctioned goods or luxury items find their way into North Korea through illicit channels prepared by corrupt officials.

## IV. Resistance to Crackdowns and Regime Retreat

When the regime has attempted to suppress the markets, the effort has usually failed, which is often due to grassroots resistance and the unwillingness of local authorities to carry out crackdown measures. A notable case occurred in

2007–2008: the government, alarmed by the growing power of traders, banned women under 50 from market activities (since men were already banned from trading by earlier rules) (Lankov, 2013, p.122). This policy backfired spectacularly. The ban triggered “riots in March 2008” in several cities, particularly in Chongjin, which was a rare display of discontent in North Korea (Lankov, 2013, p.123). Although the security forces initially tried to enforce the new restriction, the traders quickly found workarounds. As Lankov states, “for a brief while the police and officials tried to enforce the ban, so the younger female vendors had to use a number of tricks.” One common tactic was for a woman in her 30s or 40s to bring an elderly female relative (such as a grandmother) to the market and claim the older woman was the seller. “If police asked questions, the vendor explained that it was actually her highly esteemed mother-in-law who did the trading, while she [the younger woman] just dropped by to briefly help the old lady (Lankov, 2013, p.123).” This act played on cultural respect for seniors and gave police a face-saving excuse to “look the other way” for the sake of hungry families. In practice, enforcement evaporated. Many officers were “not too serious about enforcing the ban (Lankov, 2013, p.123).” Within a few months, the ban was quietly ignored. The regime’s later attempts to curtail the market (such as a 2009 currency revaluation intended to wipe out traders’ savings) similarly ended in policy failure, provoking anger without ending private commerce (Lankov, 2013, p.123). Each failed crackdown reinforced the lesson that the informal market was indispensable to North Korea’s social stability and thus, indirectly, to the regime’s survival under sanctions.

#### **4. Cybercrime and cryptocurrency theft**

##### **State-Sponsored Hacking Operations**

For many years, North Korea has utilized hacking groups to avoid international sanctions and gain revenue for the government (Bae, 2025). The RGB of North Korea monitors hackers within North Korea that include the Lazarus Group, Kimsuky, Andariel, and BlueNoroff, all of which have executed a significant number of cyberattacks. According to UN investigators, roughly 90% of North Korean cyberattacks are due to the RGB, highlighting how the state controls these activities (United Nations Security Council, 2024, p.40). The Lazarus Group has been considered to execute some of the most serious cyberattacks. It gained notoriety for its 2014 hacking of Sony Pictures and has been on a large scale, carrying out hacks and ransomware operations to fund North Korea’s ballistic and nuclear activities. Investigations from the US Treasury and Justice Department have directly linked Lazarus with the North Korean regime, establishing that it operates as a hacking team under the RGB’s control (Rajic & Brock, 2025).

The amount of money stolen by Lazarus is immense. Recent analyses estimate that Lazarus alone has stolen \$3.4 billion in cryptocurrency since it appeared over a decade ago (Rajic & Brock, 2025). UN Panel of Experts indicates that between 2017 and 2023, North Korean hackers carried out 58 cyberattacks on cryptocurrency platforms, stealing approximately \$3 billion in funds, which have “reportedly helped to fund the country’s development of weapons of mass destruction (United Nations Security Council, 2024, p.4).” Such data makes North Korea a unique nation that relies heavily on cybercrime as a source of revenue. In 2024, more than a dozen cryptocurrency companies were hacked by North Korean hackers, often disguised as IT contractors or job seekers. One of the hacks in early 2025, the ByBit exchange hack,

provided North Korean hackers with nearly \$1.5 billion in cryptocurrency assets, the biggest crypto breach in history. The operation was quickly linked to the Lazarus Group, highlighting its central role in North Korea's cyber operations (Rajic & Brock, 2025).

Hacking organizations controlled by North Korea use various techniques for successful hacking. They utilize spearphishing, social engineering, vulnerability exploits, and watering holes to invade financial systems. For example, Lazarus hackers have appeared as recruiters on LinkedIn to attract employees of defense and crypto firms into downloading malware under a fake hiring process. Microsoft and private cybersecurity firms have also noted how North Korean hackers target defense industries worldwide, stealing intellectual property “that can be used to advance the country’s weapons of mass destruction and ballistic programmes or be sold to further generate revenue for the country’s weapons programmes (United Nations Security Council, 2024, p.40-41).” North Korea’s hacking groups ultimately operate as tools of the state to compensate for economic losses due to sanctions.

### **Cryptocurrency Laundering and Sanctions Evasion**

Facing international sanctions that restrict its access to global finance, North Korea has accepted cryptocurrency theft as a major source of revenue. Unlike traditional banking transactions, stolen cryptocurrency can be sent through inconspicuous networks. This helps North Korea achieve foreign currency by avoiding international restrictions, allowing it to transfer resources for its military and leaders. As cybersecurity analysts point out, digital theft may be an ideal way to evade sanctions. It carries less risk than smuggling physical goods, and the hackers are protected by the internet’s anonymity (Rajic & Brock, 2025).

North Korea’s success in cyberattacks is also due to its ability to transfer cryptocurrency across nations. Investigations show that the nation exploits other countries’ networks, especially in China, Russia, and Southeast Asia, to disguise the origin of funds. For instance, North Korean money laundering has occurred in casinos and lightly regulated exchanges in locations such as Myanmar, Cambodia, Thailand, and Laos (Bae, 2025). The US Treasury’s Financial Crimes Enforcement Network (FinCEN) identified the Huione Group in Cambodia, which transferred \$37.6 million linked to North Korea from 2021 to 2025 (Bae, 2025). The funds flowed through casino venues and the internet, taking advantage of minimal surveillance. Furthermore, some North Korea-linked officials have even established stablecoins to exchange stolen cryptocurrency for assets that authorities cannot seize, making sanction enforcement more difficult (Bae, 2025).

The laundering process involves multiple steps. North Korean hackers have cooperated with local criminal groups and brokers in Asia, seeking support in moving funds across borders. Southeast Asia’s lax regulation has thus allowed North Korea to transfer its cryptocurrencies. Officials have also been caught using accounts under fake identities and shell companies in China and Hong Kong to execute cyberattacks. In one case revealed by the US Department of Justice, North Korean money launderers and their Chinese facilitator were prosecuted for using alternative account holders to help North Korea make \$5 million (Bae, 2025). These practices show a sophisticated method for avoiding sanctions. With the use of cryptocurrencies and financial loopholes, North Korea continues to move illegal money even though it is isolated from the formal banking system. Every successful hacking, including the \$1.5 billion ByBit theft in 2025, turns into missiles, luxury imports, or other expenditures that UN sanctions aim to block (Rajic & Brock, 2025). Cybercrime, hence, becomes North Korea’s key sanctions evasion, with hacking providing a significant amount of foreign currency for the state.

### **5. Use of Overseas Labor**

February 2026

Vol 4. No 1.

## **Extent and Sectors of North Korea's Overseas Labor Deployment**

North Korea continues to dispatch thousands of workers abroad to earn foreign currency for the state. UNSC Resolution 2397 required all member states to send back North Korean overseas laborers by the end of 2019. Yet, as of 2023, an estimated 100,000 North Koreans were working in roughly 40 countries in defiance of the ban. These laborers work in a wide range of sectors, including construction, sewing, medical services, and information technology. For instance, China allowed a large number of North Korean staff to work in seven dozen restaurants, while Russia employed at least 58 North Korean workers in the far east (United Nations Security Council, 2024, p.51, 53). A member state informed the UN Panel of Experts that most North Korean overseas workers are initially sent on student or tourist visas, or even using false identities, to avoid sanctions. Notably, North Korea has also signed contracts to dispatch up to 400,000 additional workers abroad once borders fully reopen, revealing its intent to increase labor exports if possible (United Nations Security Council, 2024, p.50).

In Southeast Asia and Africa, North Korea has manipulated its relationships with other countries to place its domestic workers. For example, North Korean IT contractors have worked in countries including Cambodia and Laos, providing money for the regime despite sanctions (Bae, 2025). North Korea's Mansudae Overseas Project Group of Companies is notable for building museums in Southeast Asia in the previous decades. The restaurant industry is another source of income; North Korean-run restaurants exist in at least five countries (primarily in China and Southeast Asia), where they attract local and foreign tourists (United Nations Security Council, 2024, p.50). These restaurants are managed by North Korean managers and staff, including singers who act as part of illegal financial operations. The UN Panel of Experts found that these restaurants remain open in China as well as in countries like Laos, generating \$700 million in revenue for North Korea per year (United Nations Security Council, 2024, p.51). North Korea's overseas labor network ultimately extends worldwide and includes everything from construction workers in Russia and restaurant staff in Asia. Each of these workers represents a crucial source of income that the Kim regime is hesitant to allow their return.

## **Remittance Mechanisms and Regime Benefits**

The existence of North Korea's overseas labor program is due to its profitability. Workers' earnings are sent back to the regime, providing a crucial source of foreign currency for the economy. A UN member state informed the Panel of Experts that North Korean overseas workers (excluding those in IT) generate around \$500 million per year for the country (United Nations Security Council, 2024, p.50). In addition, IT workers abroad are believed to earn another \$250 to \$600 million each year for North Korea (United Nations Security Council, 2024, p.51). These funds are crucial for maintaining the country's foreign currency reserves. North Korean workers dedicate the majority of their salaries to state-controlled companies. Dispatching agents, under the control of the ruling Workers' Party or military, supervise the laborers overseas, confiscating their pay and remitting it through illegal financial networks. Workers are allowed to keep only a small fraction of their wages. The rest is taken by the agency and "in many cases used to purchase items for the DPRK (United Nations Security Council, 2024, p.50)," including goods that are shipped back or sold for profit. One former overseas IT worker testified that meeting revenue quotas was mandatory. Each IT contractor was expected to earn at least \$100,000 per year for the state, often by holding "multiple longer-term full-time positions (United Nations Security Council, 2024, p.50)." Such testimonies underscore that these laborers are, in effect, economic assets for the regime, who are under intense pressure to maximize revenue.

To transfer funds to North Korea, officials use a variety of illegal financial routes. Typical methods have included cash smuggling through businesses in China or Russia, but newer tactics manipulate online networks. The UN Panel of Experts found that North Korean IT workers, who often get paid in cryptocurrency, “funneled their income back to the DPRK through online payment services and third-country bank accounts (United Nations Security Council, 2024, p.50).” By using bank accounts in countries with a lack of oversight, or cryptocurrency that can be converted to cash, the workers avoid bank transfers that could be busted under sanctions. In 2023, one member state obtained 17 domain names used by North Korean IT workers, which were part of its plan to deceive businesses and fund North Korea’s weapons program (United Nations Security Council, 2024, p.50). This example demonstrates how the labor revenue is linked with sanctions evasion; even civilian jobs like software development have been exploited to fund weapons of mass destruction.

In spite of state surveillance, overseas laborers also possess numerous privileges compared to domestic workers. Lankov observes that from the 1970s, diplomats, contract workers in the USSR, and others sent abroad enjoyed special access to dollars and yen, which they could spend at shops or resell on the black market at home. For example, a North Korean logger who stayed in Soviet Siberia for three years might earn the equivalent of 100 times the annual salary of a worker inside North Korea (Lankov, 2007, p.94). Today’s overseas labor is a continuation of that practice. The regime in North Korea treats its citizens as goods for export, while these citizens are also incentivized to place themselves in harsh labor conditions, attracted by revenue. Ultimately, North Korea’s labor export continues because the benefits to the regime are high. The dispatch of overseas laborers remains a tool of North Korea’s sanctions evasion, increasing the state’s foreign currency reserves even as the international community works to shut the measure down.

## **V. DISCUSSION**

The key theme that emerged from these results is that international sanctions can be avoided through internal and external support. North Korea’s case study illustrates how sanctions evasion undermines the effectiveness of sanctions. The findings suggest four specific conditions that helped the nation’s adaptation to sanctions:

- (1) Access to third-party states that maintain trade
- (2) Development of illicit economies (smuggling networks, black markets, cybercrime, and overseas labor) to replace lost revenue
- (3) Economic adjustments and self-reliance policies to deal with shortages
- (4) The use of propaganda and oppression to prevent domestic uprising towards economic dissatisfaction

In the case of North Korea, the study found that support from China and Russia provides crucial lifelines. In addition, domestic measures, such as black markets and smuggling, provided income and enabled the distribution of resources to the population. Politically, by depicting sanctions as aggression by foreign enemies, the regime’s propaganda also transformed economic suffering into a “rally-around-the-flag” effect. These results suggest that sanctions alone often do not bring about a change in regime or its policies.

With the literature, the findings had considerable alignment with previous sanction research. Earlier work by Hufbauer and others has found that sanctions are ineffective at securing compromises, and the findings reflect this literature. North Korea is experiencing economic hardship, but instead of conceding to its nuclear ambitions, it has continued to find ways to fund them. The results also align with the stance of

scholars such as Robert Pape, who noted that sanctions can be counterproductive, hurting civilians more than elites while strengthening authoritarian government. In North Korea, the hardships imposed by sanctions have been manipulated to justify control and nurture patriotism, consistent with the “rally-around-the-flag” effect observed in other target states such as Saddam Hussein’s Iraq or Milosević’s Yugoslavia (Pala, 2021).

The research’s focus on the target state’s perspective has also contributed to filling a gap in sanctions research. Rather than measuring sanctions by the external pressure applied, as seen in the majority of sanctions research (Dizaji et al., 2020, p.6), the research has also clarified the target’s capacity to withstand that pressure. By doing so, the study provides a clearer landscape of why the economic damage often does not lead to political change.

However, despite such contributions, it is crucial to recognize the limitations of the research. First, North Korea’s situation is in many ways unique. Its isolation, authoritarian government, and nuclear capacity mean that findings from this case may not generalize to every sanctioned state. Not all of them have a neighbor like China willing to engage in trade, nor do they have a dictator ruling them. This also suggests that sanctions might be more effective on targets lacking these advantages. Second, because the research relied on multiple secondary sources outlining North Korea’s illicit behavior, there is uncertainty regarding the details. Most of North Korea’s smuggling and cyber activities occur in secret, making the analysis limited by what investigators and defectors have been able to disclose. There may also be biases in the sources (for example, some defector testimony or intelligence reports may exaggerate aspects of a regime’s behavior). Related to this limitation, the study considered mechanisms of evasion, but did not quantitatively assess the extent to which these mechanisms reduced the economic impact. Thus, while the paper documented \$370 million in coal exports or billions in cyberattacks (East Asia Forum, 2023; Bae, 2025), the overall health of North Korea’s economy under sanctions remains unclear. In other words, adaptation does not equal improvement for the general population. Sanctions may have negatively affected North Korea’s overall economy (e.g., trade volume is significantly down) (OHCHR, 2021), but the research cannot quantify the extent of these damages, particularly for ordinary citizens.

The findings from the research, overall, carry several implications. From a political perspective, the case study warns that sender states must be far more comprehensive to compel their target to change their behavior. Poorly coordinated economic sanctions create ways for targets to refine their trade or develop new illicit skills, as North Korea did with remarkable success. Moreover, the findings suggest that sanctions impose unintended consequences, such as pushing a country further into criminal activity and promoting closer economic ties with other third-party states, ultimately undermining the goal of sanctions. North Korea’s large-scale cybercrime and arms deals do not just fund the regime but also provide new security threats to the global community. Importantly, only by exposing the evasion mechanisms of the targeted states can a more comprehensive understanding of why sanctions might fail be developed. Subsequent research could build on this by examining other sanctioned regimes (e.g., Iran, Venezuela, Russia) to determine whether similar evasion strategies exist or whether the North Korean regime is an outlier. As such, this research explains both the boundaries of North Korea’s resilience and the need for the international community to reconsider sanctions as a policy tool.

## **VI. CONCLUSION**

North Korea’s ability to withstand economic sanctions is a result of its sophisticated network of sanctions evasion strategies. To answer the question, *how and under what conditions do states adapt to*

February 2026

Vol 4. No 1.

*international sanctions?* North Korea made this possible by maintaining trade with neighbouring countries (mainly China and Russia), nurturing a domestic black market, exploiting loopholes to gain revenue, and strengthening control to prevent dissatisfaction. These measures have mitigated the country's economic damage and allowed the government to continue pursuing its goals (especially its nuclear weapons program) without being interfered with by the majority of the world economy. The findings from the North Korean case suggest that current sanctions are unlikely to enforce compliance when a regime is well funded and protected from financial losses.

Amid the results, the implications of this research extend beyond North Korea. The issue now becomes whether sanctions are an effective policy tool themselves. Policymakers should recognize that, if they cannot prevent support from third-party states and illegal activities, sanctions cannot alter the target government's behavior. Improving this measure can mean stronger cooperation in applying sanctions, but it can also mean combining sanctions with other policies, such as diplomacy or information campaigns, aimed at weakening support for the target states' governance. From a theoretical perspective, this research also emphasizes the importance of analyzing sanction outcomes from the target states' point of view. By improving understanding of the mechanisms behind adapting to sanctions, future research can better predict which sanctions will succeed or fail. Understanding this is crucial for developing more effective sanctions or alternative policies in the international community. This effort is becoming urgent as the world continues to confront the limitations of economic coercion.

## REFERENCES

Andreas, P. (2010). *Unintended criminalizing consequences of sanctions: Lessons from the Balkans*. Taylor & Francis Group.

<https://www.taylorfrancis.com/chapters/edit/10.4324/9780203851159-12/unintended-criminalizing-consequences-sanctions-lessons-balkans-peter-andreas>

Bae, S. (2025, July 25). *Hidden Enablers: Third Countries in North Korea's Cyber Playbook*. CSIS.

<https://www.csis.org/analysis/hidden-enablers-third-countries-north-koreas-cyber-playbook#:~:text=North%20Korea%20has%20strategically%20leveraged,an%20a%20base%20of%20operations>

Beal, T. (2005). *North Korea: The Struggle Against American Power*. Pluto Press.

Bowen, A. S., Manyin, M. E., Nikitin, M. B. D. (2025, June 13). *Russia-North Korea relations*. Congress.Gov.

<https://www.congress.gov/crs-product/IF12760>

Collins, R. (2012). *Marked for Life: Songbun North Korea's Social Classification System*. HRNK.

[https://www.hrnk.org/wp-content/uploads/pdfs/publications/eng/HRNK\\_Songbun\\_Web.pdf](https://www.hrnk.org/wp-content/uploads/pdfs/publications/eng/HRNK_Songbun_Web.pdf)

Dizaji, S. F., Lis, P., Murshed, S. M., & Zweiri, M. (2020, September). *What the political economy literature tells us about blockades and sanctions*. International Institute of Social Studies.

<https://repub.eur.nl/pub/130655/wp663.pdf#:~:text=As%20we%20show%20in%20this,multilateral%2C%20are%20conducted%20from%20the>

Early, B. R. (2015, February 11). *Busted Sanctions Explaining Why Economic Sanctions Fail*. Stanford University Press. <https://www.sup.org/books/politics/busted-sanctions/excerpt/introduction>

East Asia Forum. (2023, June 16). *MISSING THE TARGET: The complicated truth about sanctions on North Korea*. <https://www.nkeconwatch.com/2023/06/>

Ernst, M., & Jurowetzki, R. (2016, October). *Satellite data, women defectors and black markets in North Korea: A quantitative study of the North Korean informal sector using night-time lights satellite imagery*. ResearchGate.

[https://www.researchgate.net/publication/317936050\\_Satellite\\_data\\_women\\_defectors\\_and\\_black\\_markets\\_in\\_North\\_Korea\\_A\\_quantitative\\_study\\_of\\_the\\_North\\_Korean\\_informal\\_sector\\_using\\_night-time\\_lights\\_satellite\\_imagery](https://www.researchgate.net/publication/317936050_Satellite_data_women_defectors_and_black_markets_in_North_Korea_A_quantitative_study_of_the_North_Korean_informal_sector_using_night-time_lights_satellite_imagery)

Greitens, S. (2014). *Illicit: North Korea's Evolving Operations to Earn Hard Currency*. Committee for Human Rights in North Korea. <https://www.hrnk.org/wp-content/uploads/2024/07/SCG-FINAL-FINAL1.pdf>

Haggard, S., & Noland, M. (2023, January). *Economic Sanctions During Humanitarian Emergencies: The Case of North Korea*. East-West Center.

<https://www.eastwestcenter.org/sites/default/files/2023-01/Economic%20Sanctions%20During%20Humanitarian%20Emergencies.Haggard.Noland.pdf>

Hufbauer, Gary C., Schott, Jeffrey J., Elliott Kimberly A. & Oegg, Barbara. 2007.

Economic Sanctions Reconsidered. 3rd edn. Washington, DC: Peterson Institute for International Economics

Investopedia. (2025, June 15). *Principal-Agent Problem Causes, Solutions, and Examples Explained*.

<https://www.investopedia.com/terms/p/principal-agent-problem.asp>

Jiawen, C. (2017). *Why Economic Sanctions on North Korea Fail to Work?* World Scientific Connect.

<https://www.worldscientific.com/doi/abs/10.1142/S2377740017500300>

Kenton, W. (2025, March 11). *What Is the Black Market? Examples of Products and Services*. Investopedia.

<https://www.investopedia.com/terms/b/blackmarket.asp>

Kirkham, K. (Ed.). (2024). *The Routledge Handbook of the Political Economy of Sanctions*. Routledge.

Lankov, A. (2007). *North of the DMZ : essays on daily life in North Korea*. McFarland, Incorporated, Publishers.

Lankov, A. (2013). *The Real North Korea: Life and Politics in the Failed Stalinist Utopia*. Oxford University Press.

Mallory, K. (2021). *North Korean Sanctions Evasion Techniques*. RAND Corporation.

[https://www.rand.org/content/dam/rand/pubs/research\\_reports/RRA1500/RRA1537-1/RAND\\_RRA1537-1.pdf](https://www.rand.org/content/dam/rand/pubs/research_reports/RRA1500/RRA1537-1/RAND_RRA1537-1.pdf)

Mallory, K., Geneson, J., Moon, A., Robles, N. M., Syme, J., & Xie, W. A. (2025, May 1). *North Korea's Black Knights and Dark Networks*. RAND.

[https://www.rand.org/pubs/research\\_reports/RRA3413-1.html#:~:text=Korean%20diplomats%2C%20and%20intelligence%20operatives](https://www.rand.org/pubs/research_reports/RRA3413-1.html#:~:text=Korean%20diplomats%2C%20and%20intelligence%20operatives)

McGrath, M. (2012, June 7). *Marked for Life: Songbun, North Korea's Social Classification System*. NK News.

<https://www.nknews.org/2012/06/marketed-for-life-songbun-north-koreas-social-classification-system/>

OHCHR. (2021, March). *THE IMPACT OF SANCTIONS ON NORTH KOREA*.

<https://www.ohchr.org/sites/default/files/documents/issues/ucm/cfis/secondary-sanctions/2022-09-14/secondary-sanctions-and-sanctions-in-cyber-world-HRC-51-nodutdol.pdf>

Pala, T. (2021, June). *The Effectiveness of Economic Sanctions: A Literature Review*. ResearchGate.

[https://www.researchgate.net/publication/351575962\\_The\\_Effectiveness\\_of\\_Economic\\_Sanctions\\_A\\_Literature\\_Review](https://www.researchgate.net/publication/351575962_The_Effectiveness_of_Economic_Sanctions_A_Literature_Review)

Park, A., Bielefeld, D., Lee, H. Y., Stevens, S., Choi, Y., Shin, E. H.-S., Kang, J., Park, A. S.-A., Song, S., Yoon, D., & Kunnuwong, S. (2021, December). *MAPPING KILLINGS UNDER KIM JONG-UN: North Korea's Response to International Pressure*. Transitional Justice Working Group.

[https://en.tjwg.org/wp-content/uploads/2021/12/Report2021\\_MappingKillingsUnderKimJong-un.pdf?](https://en.tjwg.org/wp-content/uploads/2021/12/Report2021_MappingKillingsUnderKimJong-un.pdf?)

Preble, K., & Willis, C. (2024, May 10). *Trading with Pariahs: North Korean Sanctions and the Challenge of Weaponized Interdependence*. Oxford Academic.

<https://academic.oup.com/isagsq/article/4/2/ksae031/7668102>

Rademeyer, J. (2017, September). *Diplomats and Deceit: North Korea's Criminal Activities in Africa*. Global Initiative Against Transnational Organized Crime.

<https://globalinitiative.net/wp-content/uploads/2017/09/TGIATOC-Diplomats-and-Deceipt-DPRK-Report-1868-web.pdf>

Rajic, T., & Brock, J. (2025, March 18). *The ByBit Heist and the Future of U.S. Crypto Regulation*. CSIS.

<https://www.csis.org/analysis/bybit-heist-and-future-us-crypto-regulation>

RIETI. (2023, September 29). *North Korea as a Complex Humanitarian Emergency (Summary)*.

<https://www.rieti.go.jp/en/events/23092901/summary.html#:~:text=In%202021%2C%20there%20were%20signs,an%20restrictions%20on%20household%20purchases.>

Sabatini, C., & Isard, L. (2025, July 14). *Understanding and improving sanctions today*. CHATHAM HOUSE.

<https://chathamhouse.soutron.net/Portal/Public/en-GB/DownloadImageFile.ashx?objectId=12602&ownerType=0&ownerId=207364>

ScienceDirect. (n.d.). *Principal-Agent-Theory*.

<https://www.sciencedirect.com/topics/social-sciences/principal-agent-theory#:~:text=Principal%2DAgent%20Theory%20is%20defined,making%20between%20the%20two%20parties.>

38 North. (2010). *State Security Department*. <https://www.nkleadershipwatch.org/state-security-department/>

United Nations Security Council. (2024, March 7). *Final report of the Panel of Experts submitted pursuant to resolution 2680*. <https://docs.un.org/en/S/2024/215>

Wang, S., Wen, J., Zhao, X., & Zhou, X. (2025, March). *Impacts of international sanctions on sender countries' innovation*. ScienceDirect.

<https://www.sciencedirect.com/science/article/pii/S0313592625000268#:~:text=According%20to%20The%20Global%20Sanctions,on%20the%20implications%20of%20sanctions.>

Wang, C., Zhu, J., & Zhang, D. (2023). The paradox of information control under authoritarianism: Explaining trust in competing messages in China. *Political Studies*. Advance online publication.

<https://doi.org/10.2139/ssrn.4571587>

#### **APPENDIX 1: WRITTEN INTERVIEW WITH MS. TAKEUCHI, A FORMER UNSC PANEL OF EXPERTS MEMBER**

Q1. From your observations during your time on the Panel of Experts, what are the most resilient or adaptive strategies North Korea has employed to maintain regime stability under increasing sanctions pressure?

Q2. UN reports have highlighted how North Korea utilizes its diplomatic missions and personnel overseas to facilitate the evasion of sanctions. Given the protections of diplomatic privilege, how can member states responsibly balance the tension between respecting diplomatic norms and effectively restricting the movement of sanctioned goods and illicit financial flows tied to such actors?

Q3. To what extent do North Korea's cyber capabilities serve as a reliable mitigation mechanism for sanctions pressure? How do you think this capability compares to traditional evasion routes such as illicit maritime transfers?

#### **(Answers to Q1~3)**

One of the most resilient and adaptive strategies North Korea has employed to maintain regime stability under increasing sanctions pressure is its ability to secure foreign currency through alternative and illicit means.

February 2026

Vol 4. No 1.

**As international sanctions have restricted its access to traditional revenue sources—such as coal and textiles, North Korea has responded by engaging in smuggling operations. At the same time, the regime has shifted focus toward increasing the production and export of goods that are not explicitly prohibited under sanctions such as watch movements and recently, wigs. It has also engaged in crypto mining and cryptocurrency thefts as a new source of income.**

**Diplomatic channels are also used for smuggling. While the UN Security Council sanction requires vigilance in checking the travelers to/from North Korea including hand luggage, this is one of the difficult provisions to implement.**

**Cyber capability and maritime transport have separate scopes as sanction impact mitigation measures. I cannot directly compare these two in this context.**

**Q4. How effective are current maritime enforcement mechanisms in curbing ship-to-ship transfers? Are there technical or legal limitations that persist despite repeated Security Council resolutions?**

**Monitoring sanction violations is technically difficult due to the various methods used for these activities such as turning off or manipulation of AIS, obfuscation of the location and ship information. Furthermore, it is also legally difficult as North Korea and its network use high seas and maritime areas with weak enforcement by authorities for illicit activities. Additionally, in cases involving de-flagged vessels or vessels registered under flags of convenience, it is often difficult to obtain the flag state's consent for inspection or investigation.**

**Q5. Which member states or regions tend to be more vulnerable to exploitation by North Korean entities, and what practical barriers exist in strengthening monitoring in these areas?**

**Asian countries are particularly vulnerable due to its historical, economic, and diplomatic ties with North Korea. Similarly, vulnerability arises in countries in other areas that maintain close diplomatic relations with Pyongyang. Furthermore, in general, countries in the areas with limited attention to North Korean issues, such as the Middle East, Latin America, and Africa, tend to spare limited resources and capacity for sanction implementation, and become vulnerable. Due to growing bilateral cooperation, Russia has become a high-risk jurisdiction for North Korean sanctions violations.**

**Q6. How do jurisdictional limitations and coordination gaps between UN member states impact the effectiveness of sanctions implementation, particularly in the financial and logistics sectors?**

**Financial institutions and shipping companies often operate across borders, but sanctions enforcement relies heavily on national legal frameworks and domestic policies. International judicial cooperation is essential for investigations. However, often such international cooperation is difficult.**

**Q7. If the goal is not just punishment but long-term deterrence and adaptation-prevention, what kind of non-sanction complementary measures (e.g., diplomacy, incentives, international engagement) should be considered alongside sanctions?**

**UN North Korean sanction is not a tool for punishment. It is a diplomatic instrument. Its purpose is to urge the regime to pursue a diplomatic resolution to the nuclear issue by increasing the cost of North Korea's weapons development.**

**APPENDIX 2: ORAL INTERVIEW QUESTIONS AND TRANSCRIPT WITH AN EXPERT ON INTERNATIONAL POLITICAL ECONOMY (IDENTITY IS KEPT ANONYMOUS DUE TO THE INTERVIEWEE'S REQUEST)**

**Questions Asked:**

1. From your perspective, what are the most common strategies that sanctioned governments use to mitigate the economic and political impact of sanctions?
2. Based on the cases you've studied, such as Russia or the Central African Republic, what structural features make a state more capable of adapting to sanctions? For example, regime type, pre-existing institutions, or economic ties?
3. In your paper, you noted how market forces can incentivize sanction mitigation. To what extent do domestic elites or informal networks (e.g., black market) play a role in helping sanctioned states build alternative economic pathways?
4. In your view, how do autocratic or centralized regimes differ from democracies in their ability to adapt to sanctions? Are they more effective or weaker?
5. In many high-profile cases, such as Russia after 2014, sanctions have appeared to inflict economic harm without achieving the stated political goals. How do you think Russia has successfully mitigated the impact of sanctions?

February 2026

Vol 4. No 1.

**6.** You note that sanctions can unintentionally strengthen autocratic regimes by shifting burdens to the population (e.g., Russia's alternative measure to SWIFT). Based on your research, is this an inherent flaw in the design of most sanctions programs?

**7.** Will these mitigation measures continue to work, or are they only a temporary measure to sanctions?

**8.** You mentioned in your paper that sanctions can backfire by triggering domestic loyalty ("the rally around the flag effect"). How effective do you think this is as a mitigation strategy? Do regimes manipulate nationalism in a calculated way, or is it more reactive?

**9.** Lastly, do you have any ideas of mitigation strategies that are not addressed much in existing literature, but are prevalent among sanctioned states (e.g., in Russia)?

**Transcript (Interviewer initial - I, Interviewee initial - C):**

(I) Okay, again, thank you very much for your time, taking your time to speaking with me today,

(C) I'm....

(I) My name is Kento Yanase.

(C) You can say... also.

(I) Oh, .... Thank you very much.

(I) I'm a second year high school student at Mita International School of Science. I've been introduced to you by ..., and it's a pleasure to meet you today, and I'm looking forward to today's interview session. I also read your paper on foreign aid suspensions, characteristics, and I truly and that your argument has offered a fresh insight on me.

(I) So I'm hoping that I can refer to that paper as well when asking the questions to you today.

Okay. Yeah, if you're happy to proceed, I'd like to begin with a few questions, a total of about eight questions.

(I) I would like to ask you about your research and sanctions. So I like to start from my first questions. So my first question is, yeah. My topic will be about the mitigation mechanisms of North Korea. The sanction mitigation mechanisms that North Korea adopts. That'll be my focus of my research.

Yep, thank you very much. Yes, I'm from Japan.

(C) Okay, cool. Okay, thank you. Okay, thank you.

(I) My first question is, from your perspective, what are the most common strategies that sanctioned governments use to mitigate the economic and political impact of sanctions?

(C) I mean, that's, that's a big question. I would say two things that it would be helpful to distinguish to answer that. I mean, first of all, it's a good question.

I think it's basically two questions, right? Because you asked for the economic impact and you asked for the political impact, right? Yes. And I think, yeah, it makes sense to treat it as two questions. So the political impact, I think, actually, you know what, let's start with the economic impact.

So I think to understand how the targets of sanctions can mitigate the economic impact of sanctions that they are facing, it's really important to look at the sanction type, right? As there's other things as well, but I think the sanction type is most important because, just to give you a concrete example, North Korea might be sanctioned by no longer being able to buy stuff from other countries, right? It might want to buy oil, it might want to buy financial services, it might want to buy, it might want to buy, let's say, medical products, it might want to buy whiskey from Western countries, from all countries around the world, right? And so it can no longer buy

these things. In other words, it can no longer import. There's restrictions on what countries export to North Korea, basically limiting North Korea's ability to import them.

And that's one type of sanctions, right? We can call it export restrictions against North Korea. And then there's a second type of sanction, which I think might be a little bit less relevant in the case of North Korea, but that's import restrictions, meaning that countries no longer buy stuff from the sanctioned countries. So North Korea might be producing, I don't really know what North Korea is producing, to be honest.

It's probably not that much, right? I think they're fishing, they're obviously producing stuff for domestic consumption, but other countries might say, we no longer buy stuff from you. And these two, how should I say, the responses to these two types of sanctions are a little bit different in terms of how you mitigate the economic impact. If the exports are restricted, so countries no longer sell stuff to North Korea, North Korea can, for instance, go through third parties.

I mean, yeah, in both cases, it can go through third parties, basically. So for instance, there's a lot of trade by sea, but I think also through the border with China, where North Korea does end up trading, basically circumventing the sanctions. But the way this works depends very much on what type of trade. Very interesting.

And then, does that make sense, or do you have any follow-up questions on that?

(I) Oh no, I'm clear with that. Okay.

(C) And then I think the political impact is quite different from the economic impact, because I'm not sure if you've heard about the rally around the flag effect, but very often when countries are sanctioned, the idea of sanctions is often we hurt the targeted state economically, and because of that, somehow the politics in that country will change and it will undermine the regime and it will weaken the regime, right? That's what the center typically says and wants to achieve. What we see in practice is that more often than not, that doesn't work at all. And what actually happens is that either the population, but also the elites that are within the targeted country, they actually become more supportive of the targeted regime and less supportive, right? And to achieve that, one strategy that Vladimir Putin, the Russian leader, is using is really using rhetoric and propaganda, all these kinds of things, to say we're under attack from these bad outside actors and we must stand firm. And because of this rallying cry, then the population actually tends to be more supportive of the leader. North Korea is obviously a bit extreme because it's so closed off, so I'm not quite sure what narratives are going on there, if there's something like a rally effect or if it's... But yeah, generally the political impact really depends on how the people that support the regime respond to the same. Very interesting.

(I) So the role, economically, the role for party states and political impact, the rallying around the flag effect could be the key evasion mechanism.

(C) Yeah, exactly. And I think maybe in the case of North Korea, the rallying effect might actually be less relevant, but it's more about... You know, in some ways, also the elites, right, the people under Kim Jong-un, they actually become more dependent on Kim Jong-un, not less dependent if the whole country is sanctioned in many instances.

(I) All right, sir. Yes. Thank you very much.

(I) Okay. So my second question would be based on the cases you've studied, such as Russia or the Central African Republic that you've stated in your research, what structural features make a state more capable of adapting to sanctions? Like, for example, the regime type or pre-existing institutions or economic ties?

(C) I think one thing that might... Again, it is a good question, though. I think in terms of regime type, there are several people who say that autocratic targets tend to be able to better withstand economic pressure than democracies, just because they are less susceptible to public opinion.

But then, you know, at the same time, if there is this rally effect, which I mentioned earlier, then, you know, in some ways that also wouldn't be quite true. So I think it really depends on the place, to be honest. Yeah.

So it's more a case-by-case evaluation for that. Yeah, for sure. I mean, there's just a lot of factors playing a role, you know. I mean, some sanctions are quite crippling for the targeted states' economy, whereas others are pretty easily evaded. I mean, for instance, taking the North Korea example, right? North Korea has a much easier time, I think, adapting and dealing with the restrictions on luxury goods against North Korea than it has, for instance, with restrictions on technology or maybe also fossil fuels. So I think, again, it kind of depends. Yeah. So it depends on the case-by-case. Yeah, it's a difficult topic.

(I) I get it. Okay. Thank you very much for your answer.

(C) So my third question is that in your paper, you noted how market forces can incentivize sanction mitigation. My question is, to what extent do domestic elites or informal networks like black markets play a role in helping sanctioned states help build alternative economic pathways?

(I) Yeah, I think they play a huge role. You can call it black market. Sometimes it's even like semi-legal workarounds, right, where trade just flows through third states. I mean, so yeah, there's a huge role. I mean, we see that with the sanctions against Russia now.

So I think almost three quarters of the trade reduction in Europe and Russia that we've seen with the sanctions starting in 2022 has been replaced with trade with third-party states, right? So Russia and the EU no longer trade directly, but the trade basically goes to countries like Turkey, Kazakhstan, Uzbekistan, Turkistan. We see a massive increase in trade with these states, and this is not because these states are suddenly more interested in trading with Europe. It's because the trade basically just takes a little bit of a detour, right? All right.

So in evasion mechanisms, these third-party states certainly play a key role in helping these sanctioned states get through it. Yeah. Okay.

(I) Very interesting. Thank you very much. So my fourth question is, in your view, how do autocratic or centralized regimes differ from democracies in their ability to adapt to sanctions? Are they more effective or weaker? Yeah, your opinion.

(C) Yeah, I think, I mean, you know, again, it kind of depends. In some ways, autocracy, they can suppress public opinion by just becoming really repressive. And this is what we see with Russia, for instance. I mean, Russian regime has, in Putin, has just as strong a grip on power as he did years ago, but this is because he turned much more repressive towards his own population, right? So autocrats can basically resist uprisings from the population better than the Democrats, right? Democrats are just out of office with action if the population is unhappy. So I think that is a key mechanism to keep in mind. But, you know, at the same time, I think, especially liberal democracies, you know, we tend to have much better economies, much more innovation.

And that ultimately, I mean, this higher economic strength, which democracies definitely tend to have, does also mean that they are much better at playing these geoeconomic fights, basically, right? So, I mean, democracies tend to have better economies, and therefore, they are also more powerful economic, both in terms of inflicting economic pain on others, but also in terms of withstanding it. So, yeah, again, there's kind of different things going on here. Yeah, so both autocratic and democratic countries have different capabilities of evasion mechanisms.

(I) Yeah, I guess. Okay. I think, yeah, it's more of a case. It's also a case-by-case evaluation. Yeah. Thank you.

(I) Okay. So my next question is, yes, in many high profile cases, such as Russia after 2014, sanctions have appeared to inflict economic harm without achieving the political goals. How do you think Russia has successfully mitigated the impact of sanctions?

(C) Yeah, again, I mean, great question about this, right? So I think there's, maybe there's like three things or

something like that, right? So one is, I mean, just becoming oppressive, more oppressive, even more oppressive towards the population, right? Second, a lot of propaganda and misinformation, which ultimately leads to this rally around the flag effect, whereby the Russian population feels like it's attacked, it's unjustifiedly attacked from the Western outside.

And this actually tends to become more, not less supportive of the regime. But then, of course, there are also all these evasion strategies, right? So where Russia does still get its hands on all kinds of semiconductors, right? And does also still sell as much oil as it did before.

(I) Okay. Being more oppressive to citizens, rally on the flag effect, and the role of third party states is the key to evasion techniques in Russia.

(C) Exactly. Yeah. There's also a lot of much more, I mean, this is related to the evasion, but there's a lot more trade between China and Russia. Yeah, North Korea and China is also the key traders. So this is something I will delve into more.

(I) Okay. Thank you very much for your insight. Okay. My fifth question is that, do you note that sanctions can unintentionally strengthen the autocratic regimes by shifting burdens to the population, for example, the Russia's alternative measure to SWIFT? Based on your research, is this an inherent flaw in the design of most sanctions programs? Oh, sorry. Sorry, I'll repeat the question. Sorry.

You note that sanctions can unintentionally strengthen autocratic regimes by shifting burdens to the population, for example, Russia's alternative measure to SWIFT? Based on your research, is this an inherent flaw in the design of most sanctions programs?

(C) I mean, there's some literature, some research that shows that targeted regimes like the Russian one, they basically managed to shift the economic costs of the sanctions from their allies to their adversaries, right? I think maybe this is what you're referring to.

(I) Sorry, I have to clarify this. What I'm trying to mean that by adopting domestic financial systems, like Russia is trying to create a domestic market that is able to have a domination over prices, which would benefit the domestic elites, but would burden the citizens because of the high prices.

So I was wondering if such a mechanism could be one of the flaws of these sanctions, in a sense, like sanction states can develop domestic markets to mitigate the impact.

(C) okay. I see what you mean. Yes, exactly. So I think you're right. Yes. Okay. Thank you very much.

(I) Okay. Okay. Yes. Just one more question. Will these such mitigation mechanisms that I just mentioned continue to work? Or do you think that they're only a temporary measure to sanctions?

(C) That's a good question. I mean, I think it really depends a little bit again on the type of sanctions and what exactly is being restricted, right? So I think where we see this mechanism working in Russia is, for instance, with

the Russian... Actually, that's not a good example. So Russia stopped buying food from Europe, right? And this is Russian sanctions against Europe. But we see it working there. But I guess that's not quite what you're asking.

I think the other example, which I maybe also mentioned in my paper, is that by being cut out from SWIFT, right? There's these Russian alternatives from which Russian elites might be benefiting, right? Yes. So, yeah, I think... Again, yeah, I think it depends because there's some instances where Russia has already enough capabilities to face the industry that is cut off. So let's say Russia is cut off from something fairly simple, that creates then less competition from abroad for domestic products in Russia, right? In that case, it works. But now if Russia is cut off from something really complicated, really complex, like semiconductors, there's basically no way that Russia can be competitive in this industry. So then it wouldn't work.

(I) So it certainly depends on the industries that the country is strong in. So if Russia is inherently strong in oil industries, so it may withstand the sanctions from other nations. But in terms of semiconductors, these could have a significant impact on Russia's economy, in a sense.

(C) Exactly. Yeah, that's a good summary.

(I) Thank you very much. My second, my sixth question. Yeah, I think, yeah, repetition of the rally around the flag effect. I think you mentioned, you mentioned in your paper, as well as previous response that sanctions can backfire by triggering domestic loyalty, the rally around the flag effect.

How effective do you think this is as a mitigation strategy? Do regimes manipulate nationalism in a calculated way? Or is it more reactive in a sense? Whether it's calculated or planned, or is it reactive to the measure, the sanctions?

(C) Yeah, that's a good question. I think it's probably more reactive to the sanctions. Although that said, I think the bigger crisis, right, like the invasion of Ukraine, that might be more planned.

And that's also part of it, right? So the Russian population increased support for Vladimir Putin, for two reasons, right? One, for the invasion of Ukraine, a lot of Russians were just very supportive of that. But that's, I guess, that's the more active thing. And I do think one motivation for Putin to do it was also this effect. But then there's the more reactive thing going on with the sanctions themselves, where Russia was sanctioned, and then Putin reacted by also public opinion. So the immediate response to sanctions can be reactive. Some of Russia's measures like invasion to Ukraine can be pre-planned, but most of the responses are generally reactive.

(I) Okay, thank you very much. Okay, I think this will be my last question. Lastly, do you have any ideas of mitigation strategies that are not addressed in existing literature, but are prevalent among sanctioned states, like in Russia, for example?

(C) Are you thinking more about economics?

(I) Probably more on economic size.

(C) Yeah. You know, this might be especially interesting also with North Korea. I'm not sure there's much on blockchains and cryptocurrency and these kinds of things. I'm not sure to what extent North Korea is using cryptocurrency.

(I) I think they're stealing a cryptocurrency to generate revenue. For instance, to pay some kind of Chinese people who helped them circumvent the sanctions or something. But that could be something to look into. There was certainly an incident by North Korea, like stealing currencies from Bangladesh, I think.

(C) So I think, yeah, that's an insight I can look into. Yeah, I appreciate your insight. Okay.

(I) Awesome. Okay, thank you. That is all my questions for today. Thank you very much for your time. Yeah, this interview has been incredibly helpful. I'm really honored to hear your insights.

And your research on your paper that you've written has already shaped my perspectives on mitigation mechanisms. It's been a great help. And I'm confident that your insights today will help guide my project forward to this.

(C) Okay. Okay. Well, thanks for saying that. Good luck with the project.

(I) Thank you.