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Article

International Aid to North Korea (1995-2022): Key Historical Turning Points and Donor Dynamics

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Abstract

This paper analyzes the dynamics of international aid to North Korea from 1995 to 2022, focusing on the shifting roles of key donors and evolving aid patterns in response to political developments and development needs. While previous studies have largely centered on OECD DAC donors and South Korea, this study constructs a harmonized dataset from diverse sources—including OECD CRS, UN OCHA-FTS, AidDATA, and South Korean government data—to enable a more comprehensive analysis. It identifies four distinct phases of aid, marked by shifts in donor composition in response to nuclear crises and sanctions. The findings reveal China's sustained centrality, particularly in energy aid, and highlight Russia's emergence as a significant donor since 2014. These trends challenge prevailing donor-centric narratives and underscore the necessity of incorporating non-DAC donors into analytical frameworks for a more accurate understanding of North Korea's aid landscape and its geopolitical implications.

Keywords

North Korea, Foreign aid, OECD DAC, Humanitarian assistance, Development strategy

Introduction

> "If we rely solely on assistance or loans from other countries for the development of our economy, we will be unable to build an independent national economy and will inevitably become economically subservient to other nations," Kim Il-sung of North Korea (the Democratic People's Republic of Korea) cautioned (Kim, 1979, p. 134).

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Despite this longstanding emphasis on self-reliance, North Korea officially requested international aid in the mid-1990s during "Arduous March," initiating its complex and often contradictory engagement with the international aid community. Since then, aid flows have fluctuated in response to rising tensions over nuclear and missile tests. The intensification of the UN and U.S. sanctions in 2016, compounded by North Korea's border closures due to COVID-19 in early 2020, effectively froze development assistance. More recently, North Korea's provision of arms and personnel to support to Russia's war in Ukraine has heightened international scrutiny, further reinforcing the deep entanglement between aid dynamics and international diplomacy.

Nonetheless, the regime under Kim Jong-un has signalled a shift in its approach to external assistance. In 2021, North Korea submitted a Voluntary National Review (VNR) to the UN, officially, committing to align its National Development Goals (NDGs) with the global 2030 Agenda for Sustainable Development (SDGs). This move is widely interpreted as a strategic effort to more actively leverage foreign aid (Choi, 2020; Hong & Kang, 2023; Kang & Hwang, 2021; Lee, 2022).

Amidst this challenging geopolitical landscape, the anticipated shifts in U.S. foreign policy under a renewed Trump administration and speculation about North Korea becoming a significant recipient of American aid in the future further underscore the need to reassess North Korea's aid landscape (Murphy, 2024). Of particular note are recent remarks by President Trump and Secretary of Defence Hegseth, who referred to North Korea as a "nuclear power" suggesting revived international interest in the possibility of renewed development assistance to North Korea. At this juncture, understanding the historical patterns and evolution of aid to North Korea since early 1990s is not only of academic relevance but also essential for shaping realistic and effective future engagement strategies through development cooperation.

However, gaining a comprehensive picture of international aid remains difficult. The regime's opacity and lack of transparency significantly limit access to reliable data, while publicly available statistics from donor governments and international organization are fragmented and inconsistent. Furthermore, the existing academic literature has disproportionately focused on aid from South Korea and OECD DAC donors, with limited empirical attention to non-DAC donors, such as China and Russia, despite their historically significant roles (Jang & Suh, 2017; Jung et al., 2015, 2021; Moon et al., 2018; Park, 2021; Smith & Lee, 2023). This bias is reinforced by the dominance of OECD and South Korea's datasets, compounded by the lack of standardized adjustment (e.g., exchange rates, inflation) in the limited data available for China and Russia. (Christofferson & Haggard, 2021; Haggard & Noland, 2007; Jung et al., 2021; Park, 2021).

Existing studies largely focus on aggregated aid volumes, offering limited multidimensional analyses across time periods, sectors, and donor groups. Many confine their scope to DAC donors, or specific aid modalities and periods, thereby missing broader shifts in aid architecture and political dynamics (Jang & Suh, 2017; Jung et al., 2015, 2021; Moon et al., 2018; Park, 2021). To address these gaps, this study constructs a comprehensive and reconciled dataset encompassing key donors-including the US, European countries, South Korea, China, and Russia-and identifies patterns in both volume and sectoral distribution from 1995 to 2022. This dataset is refined to eliminate duplication, fill gaps using unpublished sources, and reconcile inconsistencies across statistical systems. In light of these procedures, it is essential to delineate the temporal scope of the dataset and justify the analytical boundary adopted in this study. Since 2022, international aid to North Korea has entered a phase that existing datasets cannot adequately capture. The prolonged border closure beginning in 2020 virtually suspended most bilateral and multilateral aid flows. Moreover, following the outbreak of the Ukraine War in 2022, reports indicate that North Korea has received substantial support from Russia in exchange for arms transfers and the deployment of military personnel; however, such flows remain unrecorded

in official statistics. For this reason, the present study confines its empirical scope to the period up to 2022, when official data still provide a reliable basis for assessing aid to North Korea. Such clarification allows the analysis to proceed on a consistent empirical basis, thereby strengthening the study's contribution to the literature.

The academic contribution of this approach lies in correcting the long-standing under- and overestimation of total aid volume and donor significance, thus addressing the numerical and policy biases prevalent in the literature. Drawing on multiple sources-including AidDATA, OECD CRS, and OCHA's Financial Tracking Service (FTS)-the study provides a more robust empirically grounded assessment of actual role of non-DAC donors. Notably, the study adopts a novel methodology to estimate missing Russian aid data by using external sources such as Zakharova and Burghart (2023), thereby overcoming challenges of data non-disclosure and opacity.

Based on this comprehensive empirical foundation, the study examines the evolution of international aid to North Korea across four distinct phases: (1) "Initiation of 'Western' engagement" (1995–2002), (2) "The revival of inter-Korean cooperation" (2003–2007), (3) "Strengthening China's pivotal role" (2008–2013), and (4) "Russia's emergence as a key donor?" (2014–2022). Despite significant fluctuations, donors such as Switzerland, Sweden, Norway, and multilateral organizations have maintained relatively steady contributions across all phases, largely independent of geopolitical volatility, in contrast to the more active patterns observed among major political actors. Although international sanctions–particularly those introduced in 2016–are often perceived as decisive constraints, this study finds no directly causal link between those sanctions and a sharp decline in aid volumes. Instead, by reconstructing and harmonizing fragmented data, this study fills empirical gaps and offers insights into donor motivations and the potential for sustainable development cooperation with North Korea.

The originality of this study lies in its empirical rigor and analytical breadth. It distinguishes itself by foregrounding the often-overlooked roles of non-DAC donors and challenging the prevailing OECD-centric narrative in North Korea aid research. The remainder of the paper is organized as follows. Chapter 2 reviews relevant literature. Chapter 3 outlines research methodology and data sources. Chapter 4 analyses donor trends across the four phases. The final chapter discusses key findings and their broader policy implications.

Literature Review

The existing literature on aid to North Korea can be broadly categorized into five thematic areas. First, a strand of research examines the early stages of aid, particularly North Korea's initial engagement with the international community during the 1995 "Arduous March" (Bae, 2004; Haggard & Noland, 2007; Noland, 2022; Smith, 2005; Yeger & Podoler, 2022). These studies contextualize the humanitarian crisis of the mid-1990s and highlight the critical role of foreign assistance in North Korea's survival during that period.

Second, several studies address donor motivations classifying them as geopolitical strategy, economic interest, political alignment (e.g., UN voting), humanitarian concerns (Hiraiwa, 2020; Jung et al., 2021; Kim et al., 2020). Some scholars also interpret aid to North Korea through lens of US-China rivalry (Kim, 2012). While most research has focused on DAC donors-the US, Switzerland and Sweden-as well as South Korea (Andersson & Bae, 2015; Hiraiwa, 2020; Jang & Suh, 2017; Lee, 2024; Moon & Lee, 2023; Moon et al., 2018), more recent scholarship has begun to emphasize China's central role and Russia's long-overlooked contributions (Kim, 2012; Reilly, 2014; Zakharova & Burghart, 2023).

Third, several studies assess the outcomes and effectiveness of aid particularly from South Korea, evaluating humanitarian, political, socio-cultural impacts. (Lim, 2010; Moon & Lee, 2023; Moon et al., 2018). Others examine the constraints imposed by international sanctions, the structural limitations of aid effectiveness, or the adverse consequences of linking aid with security issues (Haggard & Noland, 2007; Jang & Suh, 2017; T. Kim, 2019).

Fourth, a growing body of literature investigates North Korea's own perception and governance of aid, examining shifts in its development strategies, aid-related institutions, and overall stance toward foreign assistance (Hong & Moon, 2021; J. Kim, 2019; Sohn, 2019).

Fifth, and most relevant to this study, are empirical analyses of the volume, patterns and the implementation of aid based on quantitative data (Christofferson & Haggard, 2021; Haggard & Noland, 2007; Haggard & Zhang, 2020; Jang & Suh, 2017; Jung et al., 2021; Reilly, 2014). These studies utilize various datasets-including the OECD's aggregate statistics and CRS database, UN OCHA's FTS, and statistics from South Korea's Ministry of Unification-to map trends in international assistance to North Korea (Choi & Choi, 2023; Christofferson & Haggard, 2021; Jung et al., 2021; Park, 2021). Further discussion on data sources and methodologies is provided in Chapter 3. Studies based on OECD statistics have typically reported significant year-on-year fluctuations between 1995 and 2000, followed by a notable increase in the early 2000s and a decline in the mid-2000s. Data from OCHA's FTS similarly show a downward trend after modest growth from 2000 to 2005 (Haggard & Zhang, 2020; Hiraiwa, 2020). Jang and Suh (2017), for instance, focus on food aid from the US, EU, and South Korea from 1995 to 2012, identifying trends that are broadly consistent with CRS data.

Haggard and his co-authors' works stand out for its analytical breadth, examining North Korea's external relations-including aid-based on a variety of data sources (Christofferson & Haggard, 2021; Haggard & Noland, 2007; Haggard & Zhang, 2020). Their studies underscore China's role as North Korea's primary donor since mid-1980s, while also emphasizing South Korea's economic influence through inter-Korean exchanges. Despite acknowledging data limitations, Haggard emphasizes the need to account for China's role, which is often underestimated due to lack of transparent reporting.

Nevertheless, much of existing literature tends to focus on donors' objectives, channels, and sectoral allocations, but offers limited analysis of the total aid volumes received by North Korea and the relative importance of key actors. Many studies exclude China and Russia, relying instead on DAC-reported data, which omits these two pivotal donors. For example, Park (2021) used CRS, OCHA FTS, and South Korean Ministry of Unification data to estimate aid volumes and notes Chinese support, yet did not provide specific figures for Chinese assistance. Similarly, reliance on CRS data often results in the omission of Russian contributions. The diversity in data source-each differing in purpose, reporting standards, and time coverage-makes it difficult to obtain a comprehensive understanding of North Korea's aid landscape through any single dataset. This study addresses such limitations by integrating multiple publicly available sources to more accurately track aid flow to North Korea over time.

This research makes three distinct contributions to the literature. First, it harmonizes major datasets-including OECD statistics, CRS, South Korean official aid data, Aid DATA, and OCHA FTS-into a unified empirical framework.[1] Particularly noteworthy is the restructuring of South Korea's contributions, which is disbursed via Inter-Korean Cooperation Fund (IKCF), and classified differently from CRS reporting standards. This study is the first to reclassify IKCF funded projects according to CRS sector codes, allowing for direct comparison with other donors' sectoral allocations. Second, it systematically maps and compares aid from non-DAC donors, particularly China and Russia, whose contributions have often been overlooked despite their strategic significance. By applying consistent coding criteria, this study tracks their aid flows

and patterns since the collapse of socialist solidarity and place them in the broader context of geopolitical development-such as North Korea's nuclear ambitions and its realignment with Russia and China amid Covid-19 pandemic and the war in Ukraine. Third, it draws a distinction between development assistance and humanitarian aid, providing a foundation for understanding donor intent, sectoral focus, and policy linkage shape North Korea's aid strategy. This distinction also contributes to discussion on the implications of foreign aid for future inter-Korean cooperation.

Data Resource and Research Methods

North Korea's 2021 VNR signalled a policy shift by interlinking the SDGs and NDGs, while partially disclosing economic and social statistics relevant to SDG indicators (Hong & Kang, 2023; Kang & Hwang, 2021; Lee, 2022). Nevertheless, the North Korean government continues to withhold data pertaining to foreign aid. As Christofferson and Haggard (2021) argue, no single data source sufficiently captures the full scale of aid to North Korea, making the complementary use of diverse datasets essential.

To overcome these limitations, this study integrates multiple data sources to construct a more comprehensive picture of international aid to North Korea. The analysis is anchored in OECD statistics-which provide aggregated aid data from multiple donors. However, given that key contributors such as South Korea, China, and Russia do not report consistently to OECD DAC, additional data are incorporated from national and third-party sources. Aid from multilateral donors is further captured using the UN OCHA's FTS which complements the OECD's bilateral aid records.

Selecting an appropriate dataset is crucial methodological decision when analysing North Korea's aid flows. given several methodological challenges. The choice largely involves selecting between OECD aggregate statistics and the CRS database. While OECD statistics offer aggregate-level insights across time, the CRS database disaggregate aid by purpose, sector, and delivery channels at the program level. This study favors OECD statistics for two reasons: first, CRS data begins in 2002, omitting earlier flows from 1995 and 2001; second, despite overlapping coverage, totals reported by the two sources are often inconsistent. As illustrated in Figure 1 discrepancies appear between the OECD statistics (blue line) and CRS data (red line) during the periods 2002-2005 (early years of CRS aggregation) and 2011-2014.

To better understand the discrepancies between the OECD statistics and the CRS totals, this study disaggregates OECD-reported donor flows by donor group. A visual breakdown—using blue for DAC donors, green for multilateral organizations, and yellow for non-DAC donors—reveals that CRS data omit multilateral organizations and non-DAC donors between 2002 and 2005, and non-DAC donors again between 2011and 2014. As a result, while this study relies on OECD aggregate statistics to analyse the total amount of aid to North Korea, CRS data are used to conduct a more detailed examination of aid allocation.

A second methodological issue concerns the limited representativeness of OECD statistics, which do not capture the full scope of international aid. Reporting to OECD DAC—whether through OECD aggregate statistics or CRS—is voluntary. Consequently, major non-DAC donors such as China and Russia are only partially represented and South Korea's aid is not fully reflected because it is primarily disbursed through the IKCF, a mechanism distinct from traditional ODA reporting standards. Additionally, while bilateral assistance is relatively well documented, multilateral aid flows remain inconsistently reported. As illustrated in Figure 2 discrepancies between the total aid (line graph) and cumulative donor-specific contributions (bar

graph) have persisted since 2011. To generate more accurate estimate, aid flows, it is necessary to separately examine countries with special bilateral ties to North Korea—particularly those that do not report to the DAC on a program-by-program basis——using alternative data sources.

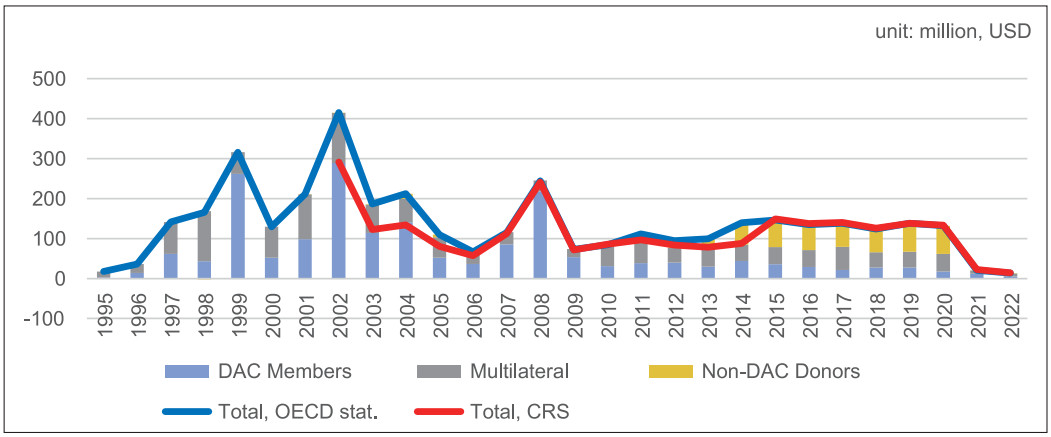

Figure 1. Gap between OECD Stat. and OECD CRS (1995-2022)
Source: Modified from OECD Stat. and OECD CRS.

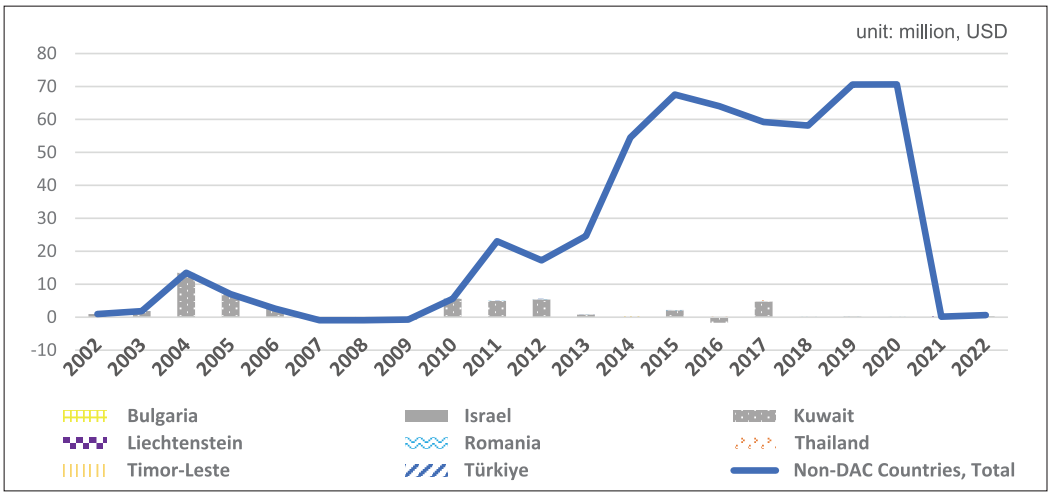

Figure 2. Total aid amount to North Korea from Non-DAC donors (2002-2022)
Source: Modified from OECD Stat. and OECD CRS.

Other significant donors that do not report aid to the OECD but are highly relevant to North Korea include South Korea, China, and Russia. In particular, Russian aid, helps explain the discrepancies between the total volume of aid from non-DAC donors reported by the OECD and the country-specific figures presented in Figure 2. To address these inconsistencies, this study reconstructs and reconciles the aid data from these three countries using alternative data sources, thereby consolidating otherwise scattered information on aid to North Korea. A detailed

examination of Russian aid is provided in Chapter 4.

A third methodological challenge lies in the divergent aggregation criteria used across datasets, which must be unified to enable consistent analysis. Due to the unique constitutional and political context of inter-Korean relations, South Korea does not report assistance to North Korea as ODA but instead channels it through the IKCF. Thus, this study relies on IKCF statistics compiled by the Export-Import Bank of Korea rather than OECD-reported data. While the IKCF database provides the most comprehensive record of South Korean government assistance to North Korea, it includes programs outside the scope of international humanitarian assistance—such as family reunification programs—making direct comparison with OECD and OCHA FTS difficult.

The IKCF is structured into four broad categories: (1) unification policy, (2) social and cultural exchange, (3) humanitarian assistance, and (4) inter-Korean economic cooperation. Prior research has further subdivided these categories into ten functional areas: Food Loan, General Relief, Emergency Relief, Social Welfare, Healthcare, Agriculture, Forestry, Livelihood Improvement, Energy, and Environment (Ministry of Unification, Republic of Korea, 2023). This classification differs from the CRS in program categorization, making consistent comparison of sectoral allocations with other actors impossible (Ministry of Unification, Republic of Korea statistics). These classifications differ significantly from the CRS taxonomy, impeding cross-sectoral comparisons. Although the exact classification criteria are not officially published, they appear to be derived from substantive content of each aid program. It is important to note that the IKCF uses the term "humanitarian assistance" as an overarching category fofr all South Korean aid to North Korea, which differs conceptually from the OECD DAC humanitarian purpose code (700). To ensure comparability across donors, this study reclassified all IKCF-funded programs according to the DAC CRS purpose codes based on the substantive nature of each project. This recategorization prevents the inflation of South Korea's humanitarian aid share and allows its aid profile to be anlayzed on the same methodological basis as that of other donors.

To maintain analytical consistency, this study focuses only two subcategories of the humanitarian assistance category: (1) relief assistance and civil society cooperation projects (grants) and (2) food aid (loans), which align most closely with international development and humanitarian assistance standards (Ministry of Unification, 2023). The fourth challenge concerns the limited availability of reliable datasets for countries that do not publicly disclose aid statistics, most notably China and Russia. For China, this study utilizes AidDATA's *Global Chinese Development Finance Dataset, Version 2*, which aggregates Chinese ODA from 2000 to 2017. The dataset provides purpose-specific, sectoral, and financial information on Chinese aid to North Korea. However, updated data beyond 2018 are not available. Given that China does not disclose project-level or sector-specific aid data to North Korea, this study follows established scholarly practice by using AidData, which remains the most reliable and systematically compiled alternative despite unavoidable limitations. In the case of Russia, bilateral aid resumed following the *2000 Treaty of Friendship, Good-Neighborly Relations, and Cooperation*, although aid remained minimal from 2000 to 2010. The OECD does not provide detailed records of Russian aid for the 2011-2020 period. To address this gap, this study draws on the work of Zakharova and Burghart (2023), who mapped Russia's aid flows using a combination of Russian government data and multilateral source. Because detailed Russian aid reporting to the OECD CRS is unavailable after 2011, this study adopts the estimates provided by Zakharova and Burghart (2023), whose peer-reviewed reconstruction based on official and multilateral sources offers the most credible substitute for missing Russian data.

Questions also arise regarding the appropriateness of using OCHA's FTS for North Korea, as FTS primarily designed to monitor humanitarian aid in response to specific crises situations. It compiles contributions from both DAC and non-DAC donors as well as non-ODA flows. While

the FTS offers a broad picture of humanitarian assistance, definitional inconsistencies–particularly in the context of North Korea—blur the line between development and humanitarian aid. Media reports and official documents frequently misclassify development assistance as humanitarian aid. To address this ambiguity, this study adopts the CRS definition of humanitarian aid, which falls under purpose code 700, encompassing emergency relief, reconstruction, and disaster prevention.

Figure 3 compares humanitarian aid statistics across three datasets. The blue line indicates total aid reported in OECD statistics, the red line represents humanitarian aid report to FTS, and the bars graph indicates CRS purpose code 700 data. While FTS and CRS trends generally follow similar trajectories, FTS aggregates tend to be higher-likely due to the inclusion of development related projects within humanitarian classifications. In several years, FTS totals even surpass OECD reported ODA levels as FTS includes contributions from non-reporting countries such as Russia, South Korea, and Japan.

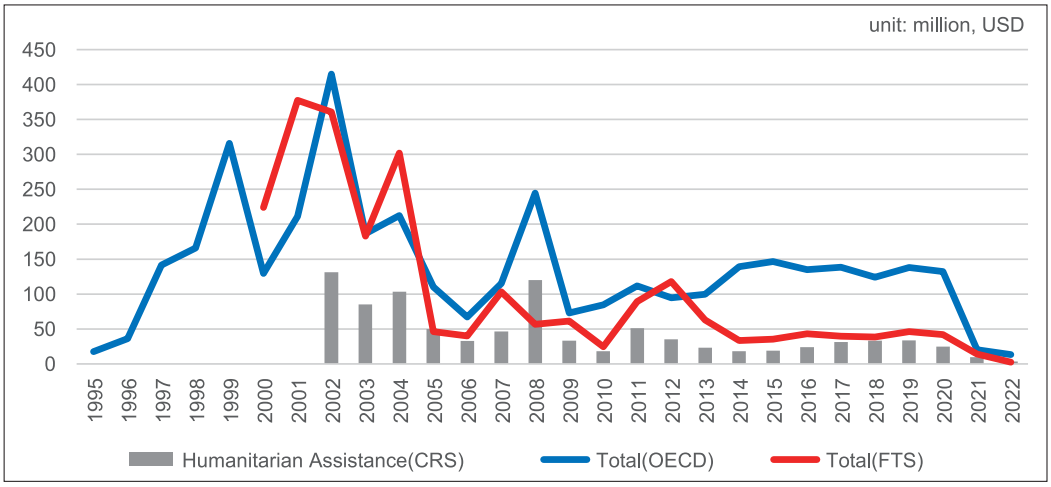

Figure 3. Total aid amount to North Korea: OECD vs FTS
Source: Modified from OECD Stat., OECD CRS and FTS.

Results of the Analysis: 1995-2022

Overall Trends in Aid to North Korea (1995-2022)

Since North Korea formally requested international assistance in 1995, the total volume of aid it has received is estimated to be at least USD 16.41 billion (expressed in constant 2021 prices). This figure, primarily based on OECD statistics, incorporates bilateral aid from South Korea, China and Russia—three major donors that are not fully represented in official OECD reporting. To avoid duplication, Russian aid categorized under "unspecified donors" in OECD data was excluded from non-DAC aid total. A more detailed discussion on the reconstruction of Russian aid is provided in Section 4.2.

Unlikely previous studies that excluded China and Russia—thereby reinforcing the assumption that aid to North Korea was predominantly sourced from DAC member countries and multilateral organizations—this study incorporates data from China and specifies Russian contributions not captured in OECD datasets. The inclusion of these two major non-DAC donors shifts the

analytical focus away from DAC-centric view and emphasizing the critical role of non-DAC actors in shaping North Korea's aid landscape. In contrast, other non-DAC donors such as Bulgaria, Israel, Romania, Thailand, Timor-Leste, Turkey and Liechtenstein have contributed only marginal amount.

Nevertheless, significant date limitations persist. Chinese aid data are unavailable for the periods 1995-1999 and 2018-2022, while Russian data are absent for 1995-2010 and 2021-2022. Consequently, the actual aid volume likely surpasses the USD 16.41 billion presented in this study. The discrepancies are particularly pronounced for 1995–1999 and the post-2018 period, given the absence of key donor China. However, because aid deliveries from most donors were severely restricted due to border closures following the COVID-19 outbreak in early 2020, it is expected that deviations from actual level of aid after 2020 are relatively minimal. Figure 4 below illustrates annual trends in total aid to North Korea, disaggregated by major donors.

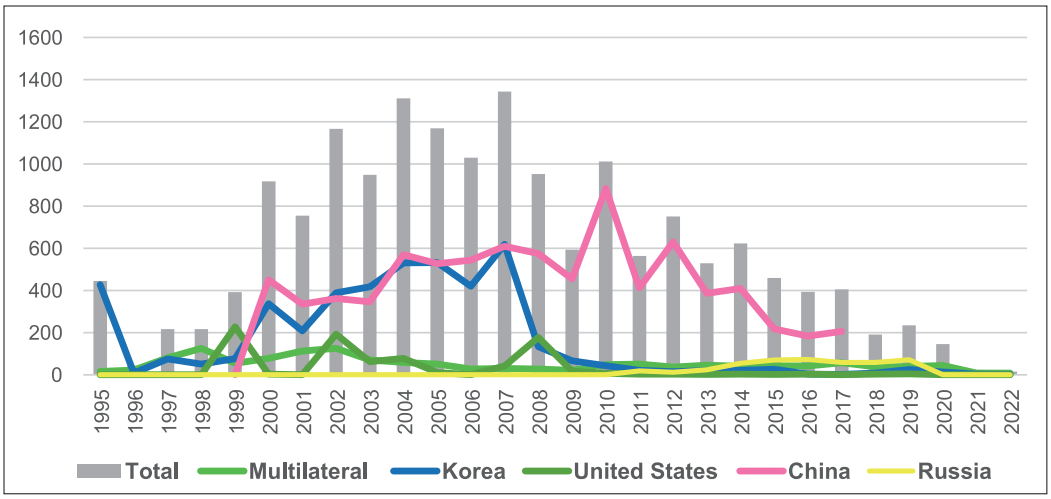

Figure 4. Aid to North Korea: Total amount and major donors
Source: Modified from OECD Stat.; OECD CRS; Ministry of Reunification Korea; and Zakharova and Burghart (2023).

The total aid to North Korea increased steadily from the beginning of the observation period in 1995 until 2008, despite a series of escalating nuclear crises. These included the Second North Korean Nuclear Crisis (2002), withdrawal from the Nuclear Non-Proliferation Treaty (2003), nuclear possession declaration (2005), and the first nuclear test (2006). Contrary to expectations, substantial food and energy aid continued during this period, largely driven by diplomatic efforts to incentivize North Korea's participation in the Six-Party Talks (2003-2006). Aid peak during the first phase, with large-scale contribution from both the US and South Korea. The key milestone was the September19 Joint Statement of 2005, in which North Korea pledged to abandon its nuclear program and accept International Atomic Energy Agency IAEA inspections in exchange for sanctions relief and substantial assistance in the form of energy and food aid.

Aid volumes spiked again in 2007, following the February 13 Agreement, which led to the shutdown of the Yongbyon nuclear reactor and partial disablement of nuclear facilities. However, the failure to finalize a nuclear verification protocol in 2008 and the subsequent breakdown of the Six-Party Talks, marked turning point, initiating a sustained decline in aid thereafter.

Against this backdrop, aid flows to North Korea ha have been characterized by marked volatility. Between 2000 and 2010, aid exceeded $ 1 billion in sit years. However, this figure fell sharply thereafter – falling to just $145 million by 2020, following the onset of Covid-19 and the closure of North Korea's borders. Aid patterns have also varied substantially across donor countries and time periods, necessitating a closer examination of the aid patterns of key individual donor behaviours and their strategic roles during each distinct phase.

The entire period can be divided into four distinct periods based on observable fluctuations in aid volume and donor engagement. The primary contributors–namely the US, South Korea, and China—were all active participants in the Six-Party Talks and played dominant roles, underscoring the strong linkage between aid and the nuclear diplomacy. Russia emerged as a significant contributor during the 2010s, while Japan suspended its aid early in the same period in response to the unresolved abductions issue.

Among other notable donors, those providing over $100 million include Switzerland ($ 200M), Germany ($ 198M), Sweden, Norway, and Australia. However, many Wester DAC donors, including Germany and Australia, began to scale back or terminate their assistance in the early 2000s. In contrast, Switzerland, Sweden, and Norway have maintained relatively consistent support. Switzerland, in particular, continued its aid even after North Korea's border closure. Subsequent sections will further examine the distinct aid profiles and sectoral allocation of these countries compared to broader bilateral patterns. Multilateral aid, by contrast, has remained relatively consistent throughout the period. As bilateral aid declined in recent years, the relative share of multilateral assistance has grown. While multilateral organizations play an important role in addressing North Korea's persistent humanitarian needs their annual contributions have remained stable over time. As this study focuses on identifying shifts in donor behavior and the political dynamics underlying bilateral assistance, multilateral flows-which exhibit limited volatility and fewer distinct turning points-are treated as a contextual background rather than a primary unit of analysis. This distinction ensures analytic coherence and allows the study to more accurately trace the strategic changes among major bilateral donors.

The most conspicuous turning point in the aid landscape occurred in 2008, marking a transition from growth to contraction. A secondary inflection response point can be traced to 2003, coinciding with the onset of the second nuclear crisis. On this basis, the following four phases are identified: Phase I (1995-2002): Pre-nuclear crisis period, marked by steady increases in aid from traditional DAC donors, South Korea, and China. Phase II (2003-2007): defined by the Six-Party Talks; characterized by surges in aid from South Korea and China and high year-on-year volatility. Phase III (2008-2013): Marked by China's growing dominance in aid provision flowing the collapse of diplomatic negotiations. Phase IV (2014-2022): Characterized by Russia's emergence as a significant contributor, albeit with data constraints. The subsequent sections explore the aid dynamics of each phase, with a focus on evolving donor roles, sectoral distributions and the broader implications for international cooperation with North Korea.

First Phase (1995-2002): Initiation of 'Western' Aid to North Korea

During the period from 1995 to 2002, a wide range of donors began providing aid to North Korea, resulting in a total aid volume of $4.15 billion (constant 2021 prices). Initial responses came primarily from traditional DAC donors such as Switzerland, Sweden, Norway, the UK, Germany, Australia, Canada. This early prominence DAC and multilateral donors has shaped the focus of much the existing literature (Christofferson & Haggard, 2021; Jang & Suh, 2017; Jung et al., 2015; Kim et al., 2020). However, excluding South Korea, DAC donors contributions during this period amounted to only $397.3 million, representing just 9.6% of the total aid. Multilateral

contributions accounted for approximately 14%.

Although earlier studies that omitted South Korea and China highlighted the substantial role of the US—reporting that the US aid accounted for over 60% of the total aid flows during peak years (Jung et al., 2015)—a fuller dataset that includes South Korea and China paints a different picture. According to this expanded dataset, South Korea contributed approximately 38%, China 28%, and the US only 10% of the total aid during this phase.

Contrary to conventional narratives, the sharp increase in aid during this period was driven more by South Korea and Chinese contributions than by Western engagement. Notably, China's aid was first officially recorded in 2000, when it reportedly provided $450 million in a single year. Considering the longstanding relation between Pyongyang and Beijing, it is highly plausible that substantial Chinese aid was being delivered prior to 2000, though unrecorded in available dataset. Therefore, the steep upward trajectory in aid volumes from 2000, as illustrated in Figure 5 likely reflects a change in data coverage rather than a genuine surge in aid. To account for this potential underreporting, Figure 5 includes a dashed line representing a hypothetical aid volume for the years prior to 2000, allowing for a more realistic interpretation of early aid dynamics.

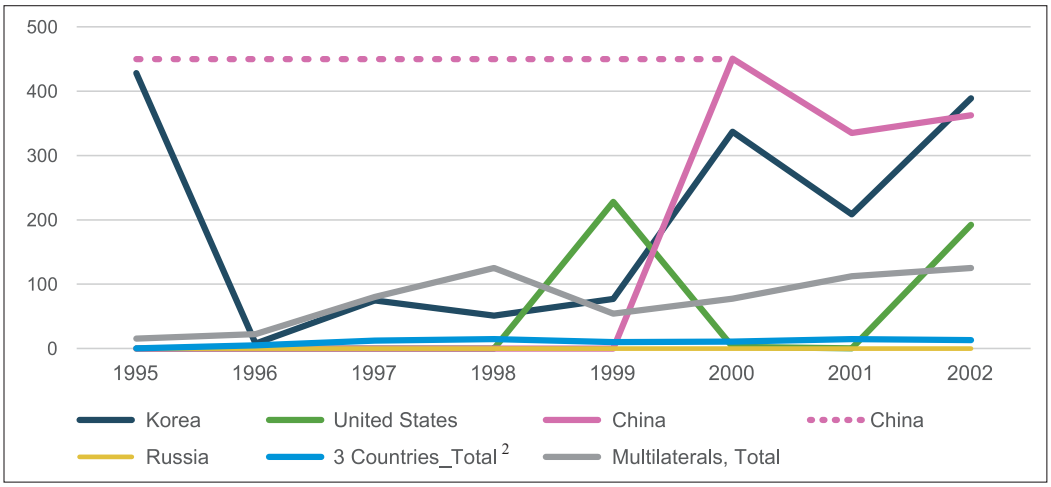

Figure 5. Major Donors' Aid to North Korea: 1st Phase (1995-2002)
Source: Modified from OECD Stat.; OECD CRS; Ministry of Reunification Korea; and Zakharova and Burghart (2023).

Analysing sectoral allocation provides valuable insights into the nature and purpose of assistance. Due to the lack of CRS program-level data prior to 2002, sectoral trends for 1995–2001 remain unclear. However, referring to sectoral allocation data from 2002—the first year with disaggregated CRS statistics—an indicative picture emerges. Among the consistent DAC donors during this period, Switzerland, Sweden, and Norway collectively allocated approximately 59% of their aid to humanitarian assistance with an additional 15.8% allocated to Development Food Assistance (purpose code 520). South Korea primarily focused on food aid, while the US provided both food and energy assistance. Jang and Suh (2017) classify South Korea's aid as a mix of economic and socio-cultural cooperation, US as geopolitically driven, and EU's as predominantly humanitarian.

For South Korea, this typology is more accurate after 2000, particularly during the Phase II, whereas early-stage aid was primarily emergency relief and food aid. US aid, initially adhered to humanitarian objectives but shifted strategically following the onset of the second nuclear crisis in 2002. The spike in aid following Assistant Secretary of State, James Kelly's visit to Pyongyang is widely viewed as politically motivated, aimed at de-escalating diplomatic tensions and fostering denuclearization negotiations. Conversely, during the same period, China emerged as a stable provider of energy support, contributing over $200 million annually in this sector. In China's total aid portfolio, energy (purpose code 230) accounted for 55-66%, with additional contributions directed to education (purpose code 110) and Development Food Assistance (purpose code 520).

In summary, Phase I marked the initial engagement of diverse group of actors—including DAC donors, South Korea, the US, China, and multilateral agencies—gradually expanding in both scale and scope of aid. While humanitarian relief for North Korea's acute crisis was the primary objective for most actors, US's aid began to reflect increasing political motivations in response to the nuclear development. Although data on China's aid from 1995 to 1999 remain limited, available evidence suggests that Beijing played a significant role in maintaining energy and food security for North Korea from the early stages, if not earlier (Reilly, 2014).

Second Phase (2003-2007): The Revival of Inter-Korean Cooperation

Spanning from North Korea's withdrawal from the Nuclear Non-Proliferation Treaty (NPT) in 2003 to the final round of the Six-Party Talks in 2007, Phase II is often characterized in the literature—particularly from a Western donor perspective—as a period of diminishing aid. One exception commonly noted is the US contribution spike in 2008 (Jang & Suh, 2017; Jung et al., 2015, 2021; Park, 2021). However, a closer look at the data reveals that the U.S. aid during this period amounted to only $192.8 million, constituting a mere 3.3% of total aid—substantially less than the contributions from South Korea and China.

Even studies that include South Korean data often conclude that overall aid declined during this period, with standing out as a temporary exception (Park, 2021). Nevertheless, as illustrated in Figure 4, aid levels show a continued upward trajectory through 2007, despite year-to-year fluctuations. This continued growth is largely attributable to South Korea and China, each of which contributed more than 40% of total contribution during this phase. As figure 6, demonstrate, their aid volumes far exceeded those of other donors. Neglecting the roles of China and South Korea risks misrepresenting the broader aid landscape and overstating the relative significance of U.S. assistance during this period. The revival of inter-Korean cooperation and China's continued support underpin the upward trend in aid and reveal a more nuanced political economy of engagement with North Korea during the mid-2000s.

This phase was defined by vigorous inter-Korean cooperation following the historic 2000 summit between President Kim Dae-jung and Chairman Kim Jong-il, which culminated in the June 15th Joint Declaration. In the aftermath of summit, South Korea significantly expanded its assistance, emerging as largest donor in 2003 with disbursements totalling $416.9 million. However, the regional security environment deteriorated sharply when North Korea admitted to possessing a nuclear weapons program in 2002 and formally withdrew from the NPT in 2003. These developments triggered divergent responses from key donors: while the US promptly halted its energy aid, South Korea maintained its engagement approach. The Six-Party Talks provided a partial diplomatic breakthrough, culminating in the September 19 Joint Statement (2005) in which North Korea agreed to dismantle its nuclear arsenal and rejoin the NPT in exchange for energy and economic assistance. Yet, this progress was undermined by the U.S.

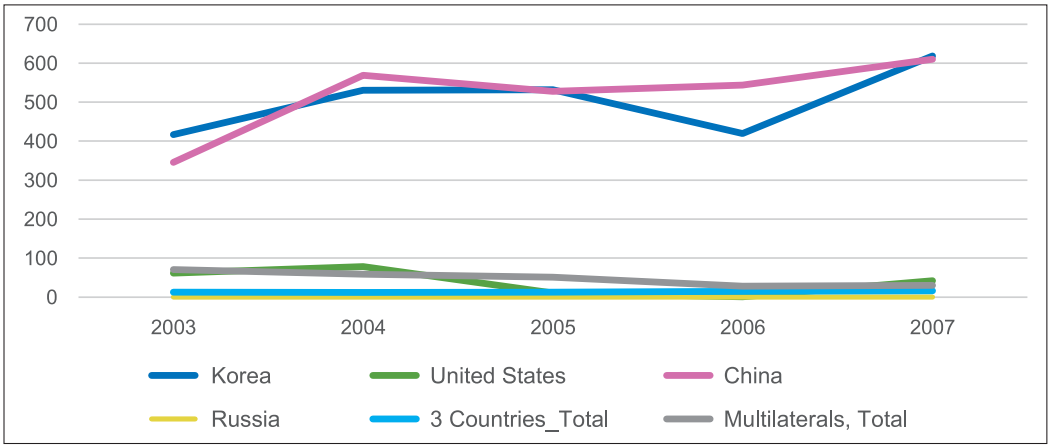

Figure 6. Major Donors' Aid to North Korea: 2nd Phase (2003-2007)
Source: Modified from OECD Stat.; OECD CRS; Ministry of Reunification Korea; and Zakharova and Burghart (2023).

enactment of the North Korean Human Rights Act the same year, which exacerbated tensions. Following North Korea's nuclear test in 2006, the UN Security Council adopted Resolution 1718, imposing sanctions that led to the complete suspension of US food aid.

In contrast, South Korea's aid increased annually, peaking at $618.4 million in 2007. Notably, 61% of the total aid directed to the Agriculture, Foresty and Fishing sector—largely through NGOs—reflecting a long-term development approach. Government-led humanitarian aid during this phase totalled $278.7 million, averaging 23% of the overall assistance despite year-to-year variation. From 2005 onwards, South Korea's sectoral allocation diversified to include Nutrition, Industry, Mining, Construction, and beginning in 2006, also encompassed Energy projects aimed at economic revitalization and livelihood improvements.

Despite the unstable international environment shaped by North Korea's nuclear ambitions and the inconsistent progress of the Six-Party Talks, South Korea adhered to a long-term development-oriented aid strategy and actively promoted inter-Korean economic cooperation, notably through the Kaesong Industrial Complex, rooted in Kim Dae-Jung's Sunshine Policy. This approach was further institutionalized under President Roh Moo-hyun administration (2003-2008), which viewed inter-Korean dialogue as a pathway to moderate North Korea's behaviour. During this period, Seoul's aid policy increasingly diverged from Washington's hardline stance, reflecting deliberate efforts to pursue independent engagement despite escalating nuclear tensions.

Simultaneously, China's support remained consistently over $500 million annually throughout this phase, surpassing South Korea's aid volume in 2006. A significant share of Chinese aid was devoted to the energy sector, ranging from $332.7 million (55%) in 2004 to $503. million (83%) in 2007. This underscores Beijing's pivotal role in supplying heavy fuel oil, a form of assistance that was largely reduced or absent from US and South Korean programs after 2003. The US halted its energy assistance from 2003 while South Korea resumed limited or one-off energy support in 2007–2008 as shown in figure 7. North Korea's chronic energy shortages rendered it increasingly dependent on China, cementing Beijing's dominance in this vital sector became increasingly prominent.

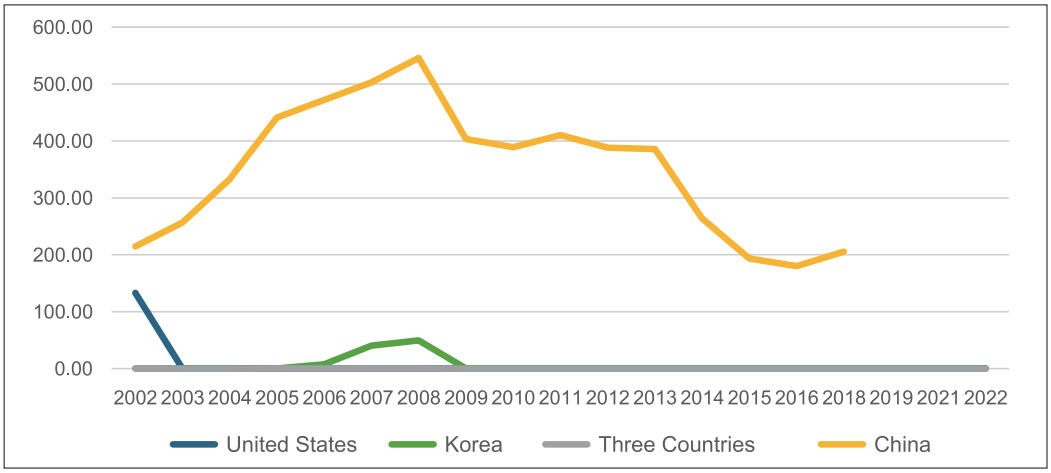

Figure 7. China's Role in Energy Sector
Source: Modified from OECD Stat.; OECD CRS; Ministry of Reunification Korea; and Zakharova and Burghart (2023).

Secondly, China provided food assistance under the category of development food assistance (purpose code 520) category and extended emergency relief in response to natural disasters such as floods and typhoons. However, the scale of China's emergency relief appears to be underreported in AidDATA, suggesting that the actual support may have exceeded the available figures.

Despite ongoing tension surrounding nuclear threat, the overall increase in aid during this period is attributed to South Korea's proactive inter-Korean cooperation and China's consistent and sizable support. Meanwhile, US aid remined limited, confined to modest yet continuous programs under the 'Government and Civil Society Programs (purpose code 150)', primarily targeting human rights promotion in North Korea. All other forms of US aid projects were suspended during this phase.

Switzerland, Sweden, and Norway demonstrated a distinct pattern compared to South Korea, the US, and China. These countries distributed aid across approximately 15 sectors, emphasizing long-term development perspective such as rural development, child nutrition, maternal health, and water sanitation, aligning with MDGs. By 2003, the share of humanitarian aid had decreased to approximately 33%, indicating a shift from humanitarian aid in 1990s toward development-oriented aid. Paradoxically, after North Korea formally rejected humanitarian aid and requested a shift to development in 2005, the share of humanitarian aid increased to over 65-70%, likely due to donor response to worsening humanitarian conditions.

Previous research has segmented aid trends into three phases—Phase 1 (1995-2002), Phase 2 (2003-2005), and Phase 3 (2006-2012) —arguing that North Korea's 2005 declaration of nuclear possession and the corresponding demand shift marked a turning point from emergency relief to development assistance (Jung et al., 2015). However, this interpretation is limited when broader aid flows are considered. While US aid ceased after2006, substantial reductions had already occurred by 2003.Overall aid volumes from South Korea and China, by contrast, continued to increase during this period. Thus, designating 2005 as a definitive watershed appears to reflects an analytical bias toward OECD-reported data alone. Sectoral analysis similarly reveals no definitive transition from humanitarian aid to development aid after 2005, suggesting that changes in North Korea's aid strategy were matched by a corresponding shift in external assistance.

Third Phase (2008-2013): Strengthening China's Pivotal Role

The third phase, spanning from 2008 to 2013, was marked by the collapse of the Six-Party Talks and a concurrent decline in aid from most donors. Although annual fluctuations occurred, the overall trends were downward. Some studies based only on OECD statistics assert that the international organizations and the EU became the largest donor during this period. However, such conclusions overlook the significant and sustained support provided by China (Jung et al., 2015, 2021; Park, 2021). Despite reductions in Western aid, total aid levels did not decline as sharply as suggested in previous studies excluding Chinese contributions, as illustrated in Figures 4 and 8.

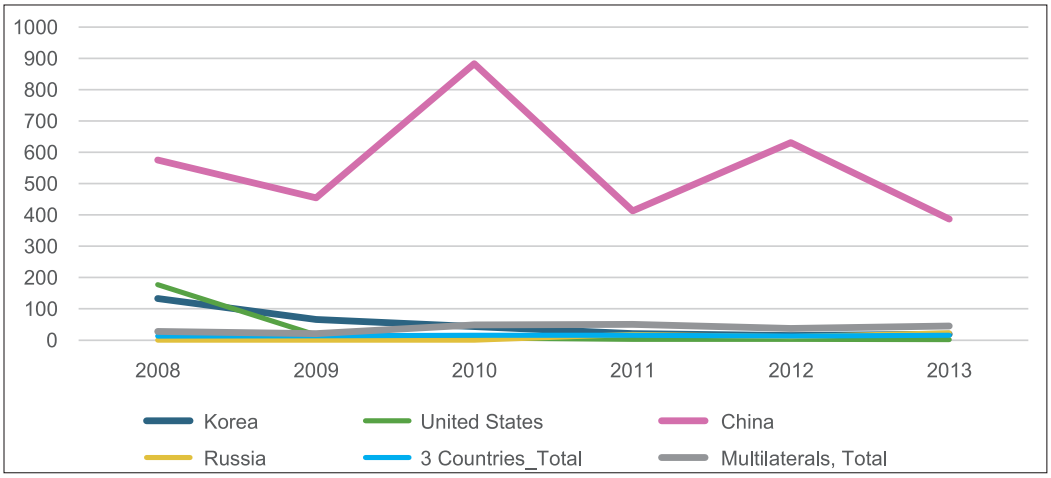

Figure 8. Major donors' aid to North Korea: 3rd phase (2008-2013)
Source: Modified from OECD Stat.; OECD CRS; Ministry of Reunification Korea; and Zakharova and Burghart (2023).

In 2008, following the agreement reached during the fifth round of the Six Party Talk to disable the Yongbyon Nuclear Reactor, the US once again resumed large-scale assistance, including $177.6 million in food aid. Concurrently, South Korea contributed $132 million in energy assistance. However, the subsequent restoration of the Yongbyon Nuclear Cooling Tower and the breakdown of the final round of the Six-Party Talks in 2009 triggered a sharp decline in aid level. From 2010 onwards, South Korea's aid dropped below $20 million annually, while the US provided less than $10 million, virtually halting aid thereafter.

Under the conservative administration President Lee Myung-bak (2008–2013), South Korea adopted a more hardline approach aligning its North Korea policy closely with that of the US, thereby departing from the earlier engagement-oriented strategy. In contrast, aid from European donors such as Sweden, Switzerland, and Norway remained stable—or even slightly increased—showing resilience amid the broader retreat of major bilateral donors. Humanitarian aid surged as a proportion of total aid, accounting for between 65% to 85%, despite North Korea's 2005 declaration rejecting externally defined humanitarian assistance in favor of development-oriented aid.

The most significant change in the third phase was the sharp contraction of South Korea's role and the concurrent ascendance of China as North Korea's predominant donor. This trend runs

counter to previous studies that identified the US as the primary contributor from 2002 to 2018 (Jung et al., 2021). China's aid peaked at $880 million in 2010, constituting 85% of total aid that year. Although China's contributions gradually declined afterward, it remained the single largest source of support throughout the period. While Haggard and colleagues have acknowledged China's growing role as a "missing player" in the aid narrative, their analysis lacks detailed figures necessary to fully capture China's role (Christofferson & Haggard, 2021, p. 106; Haggard & Zhang, 2020, p. 17). Furthermore, given the likely underreporting of emergency relief for natural disasters and the missing data in AidDATA, actual Chinese aid may have been even more substantial than currently documented.

Another noteworthy feature development during this phase was the emergence of Russia as a new aid actor. From 2011 onward, Russian assistance contributed to the rise in total aid flows from non-DAC donors, beyond China. A detailed analysis of Russia's aid contributions is provided in the following section. Figure 9 compares the donor composition in 2007(phase II), 2010 (Phase III), and 2015 (Phase IV). The figure vividly illustrating the increasing share of aid from non-DAC donors—especially China and Russia—in the latter two phases, highlighting a shift in the donor landscape.

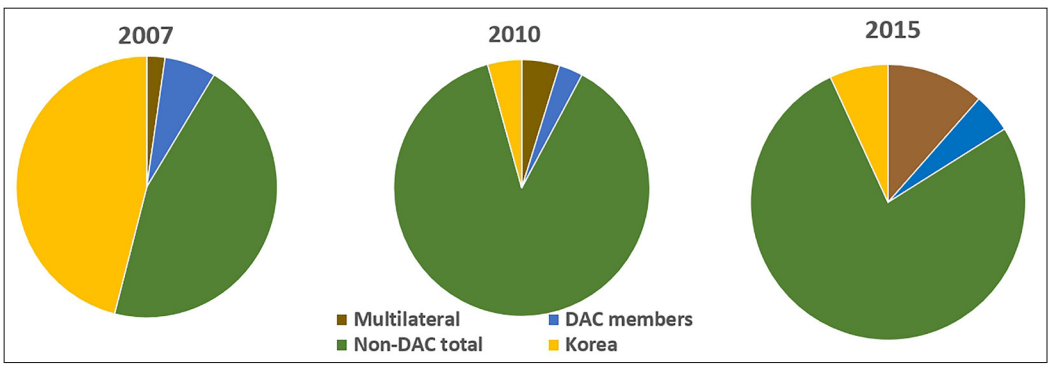

Figure 9. Changes in share by donor group: 2007, 2010 and 20154.5. Phase IV (2014-2022): Russia's Emergence as a Key Donor?
Source: Modified from OECD Stat.; OECD CRS; Ministry of reunification Korea; and Zakharova and Burghart (2023).

Fourth Phase (2003-2007): Russia's Emergence as a Key Donor?

Between 2014 and 2022, the total volume of aid to North Korea continued its overall downward trajectory, as shown at Figure 10. China remained the largest dominant donor, with its contribution surpassing those of all other donors combined from 2014 and 2017. The gradual reduction in China's aid largely explains the continued decline in total aid flows. A notable development in this phase is the rise of non-DAC donors—excluding China— whose collective aid surpassed that of South Korea, the US, and multilateral organizations. This shift can be primarily attributed to the growing role of Russia as a significant aid provider. Russia's estimated total assistance during this period amounts to approximately $440 million.

It is important to note when Russia began providing aid and reporting its scale to the OECD. Russia first began reporting its aid to North Korea to the OECD in 2011, with the initial amount of $18.24 million. This figure steadily increased, reaching $72.73 million by 2016. This upward

trend in Russian assistance coincides with a sharp decline in aid from South Korea, the US, and other traditional donors following the breakdown of the Six-Party Talks and heightened sanctions. Given the tapering of China's aid post-2011, Russia's growing role carries important policy implications. Although it has not replaced China as North Korea's principal aid partner, Russia's growing presence has partially compensated for the shortfall left by DAC donors. This contributed has played a stabilizing role in North Korea's international aid inflows during a period marked by increasing diplomatic isolation and sanctions pressure.

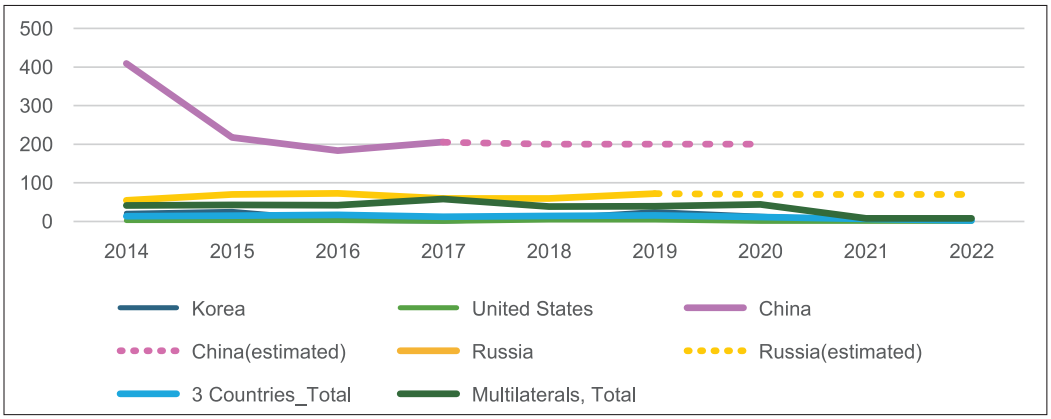

Figure 10. Major donors' aid to North Korea: 4th phase (2014-2022)
Source: Modified from OECD Stat.; OECD CRS; Ministry of Reunification Korea; and Zakharova and Burghart (2023).

During this period, Russia's aid exceeded the combined total of DAC donor group (excluding South Korea) as well as multilateral aid, indicating a reconfiguration of North Korea's aid donor landscape. This development underscores Russia's growing significance as a geopolitical actor in the aid arena, particularly in the context of diminished engagement by traditional DAC donors. Despite the complete closure of material aid routes following North Korea's border blockade in 2020, Russia's debt forgiveness arrangements are expected to persist, although such transactions are not currently reported in OECD reporting mechanism. Multilateral aid peaked during Phase I in 2002, has gradually declined over time. Its share remained relatively marginal during Phases II and III but increased substantially in Phase IV due to the sharp decline in bilateral aid from most donors. However, this apparent increase must be interpreted cautiously, as the period between 2020 and 2022 represents an exceptional case. The pandemic-induced border lockdown severely restricted in-kind and logistical aid flows, leading to an artificial elevation in the relative proportion of multilateral commitments.

The Russian aid figures discussed here are "estimated," and a brief methodological clarification is necessary. OECD statistics reveal a persistent discrepancy between the total of aid reported for non-DAC donors and the cumulative sum of contributions from individual non-DAC donors. As shown in the left panel of Figure 11, a gap has existed since 2011 between the line representing aggregated aid from non DAC donors and the bars representing individual country data. This discrepancy suggests that Russia's aid was likely included in the OECD's aggregated totals for non-DAC donors but not disaggregated or disclosed at the country level.

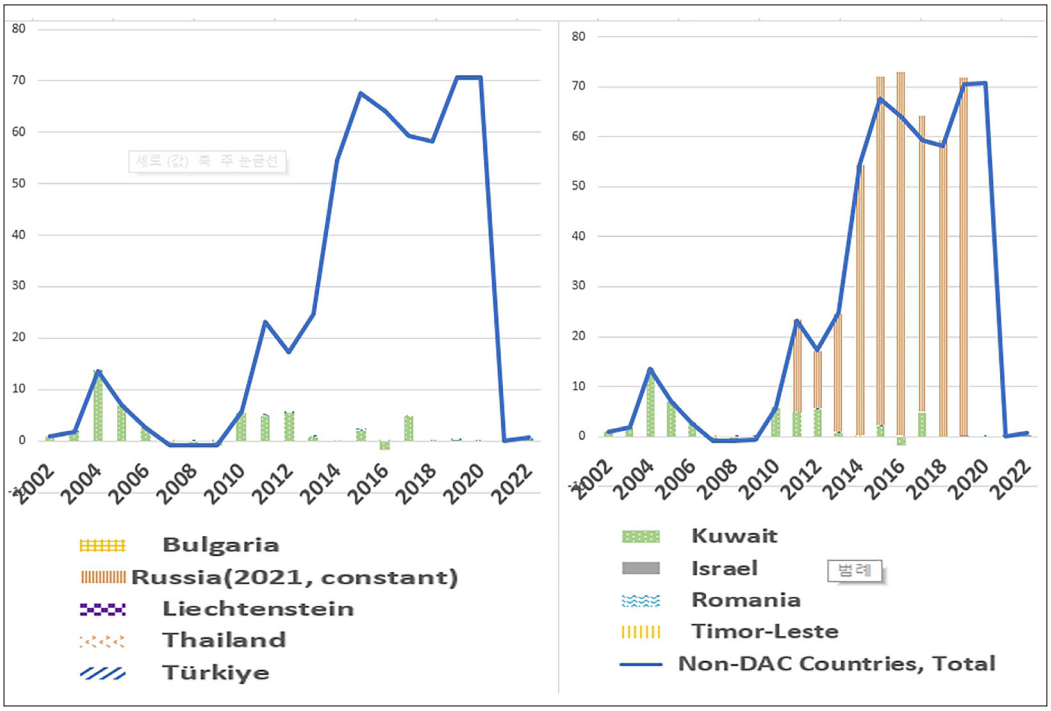

Figure 11. Non-DAC donors' aid to North Korea with and without Russia
Source: Modified from OECD Stat.; OECD CRS; and Zakharova and Burghart (2023).

To elucidate the source of this undisclosed aid, this study draws on Zakharova and Burghart (2023), who present estimates of Russian aid to North Korea based on 2021 OECD data, which is not currently publicly available. Russian aid figures reported in their research help explain the increase in the overall aid volume from non-DAC donors (excluding China) as depicted in the right panel of Figure 11. The orange bars represent the estimated Russian aid cited in the Zakharova and Burghart's study.

Comparable data gaps are also observed in CRS sectoral allocations records. Between 2011 and 2014, a mismatch appears between the reported total aid volume and cumulative sectoral allocation across sectors. This discrepancy, however, disappears from 2015 onwards. This temporary misalignment is likely due to the absence of sectoral-specific data on Russian contributions. As shown in the left panel of Figure 9, this discrepancy—marked as "gap to total"—is primarily attributed to aid reported under the categories of "debt forgiveness" and "unspecified" sectors. This study finds that the gap corresponds to Russian aid volumes and posits that a significant portion of Russia's aid was delivered in the form of debt forgiveness (Choi & Choi, 2023). This interpretation is supported by Russia's official 2012 announcement that it would forgive 90% of North Korea's debt. The decision was driven by both strategic and geopolitical motives: to strengthen energy cooperation on the Korean Peninsula and to leverage North Korea's geographical location for future gas export routes (Belonog, 2021). According to agreement, the remaining 10% of the debt was to be repaid over 20 years in equal annual instalments.

Christofferson and Haggard (2021) similarly argue that Russian aid partially filled vacuum left by DAC donors and multilateral organizations. While intensified sanctions imposed since 2016 were expected to constrain aid flows (Moon et al., 2024; Smith, 2020), empirical data do not

support the assumption of sharp decline during this period. If sanction had exerted a significant effect, a marked drop in aid volume would be observable between 2016 and 2017. However, Chinese aid had already begun to decline between 2014 and 2015—prior to the imposition of heightened sanctions—and only a marginal increase is noted between 2016 and 2017. The more pronounced decline in 2018 is attributed to the unavailability of Chinese data beyond that year. Given the relative stability in North Korea-China relations since 2017, along with continued of Chinese energy assistance, it is reasonable to infer that overall aid levels remained relatively stable after 2018 despite the lack of publicly available figures.

In conclusion, despite stringent sanctions on North Korea, three key factors explain the relative stability of aid to North Korea. First, since South Korea and US had already suspended most forms of bilateral assistance, the marginal impact of additional sanctions was limited. Second, both China and Russia maintained their aid contributions, with Russia emerging as a major donor since 2014, despite focusing on debt relief rather than material aid. Third, humanitarian aid from Sweden, Switzerland, and Norway increased during this period, as these countries pivoted from long-term development aid to humanitarian crisis response—qualifying for exemptions from sanctions regime. Finally, the increase in multilateral aid from 2017 onwards suggests that traditional donors, such as DAC donors, may have shifted their engagement from bilateral to multilateral channels to navigate the constraints of the international sanction environment.

Conclusion

This study provides a comprehensive and nuanced analysis of international aid to North Korea from 1995 to 2022, delineating four distinct phases shaped by evolving donor dynamics and geopolitical developments. By systematically incorporating both traditional DAC donors and often- underexamined non-DAC contributors—particularly China and Russia—this research offers a more holistic understanding of aid flows and sectoral allocations, correcting the quantitative and policy biases prevalent in earlier literature.

During Phase I (1995–2002), humanitarian assistance from DAC donors, South Korea, the US, and China addressed the immediate crises of the "Arduous March." As nuclear tensions arose, traditional Western aid gradually reduced their engagement while China emerged a stable pivotal role in providing stable energy support. Phase II (2003–2007) was characterized by the dominance of South Korea and China, which together accounting for over 80% of total aid. South Korea's proactive and independent engagement, sustained through 2007, reflected its commitment to engagement and conflict resolution and development cooperation, contrasting with the U.S.'s intermittent and conditional aid approach.

Phase III (2008–2013) marked a steep decline in overall aid, driven primarily by South Korea's withdrawal following the collapse of the Six-Party Talks. In this vacuum, China further solidified its position as North Korea's primary donor, and Russia began to emerge as a meaningful contributor, notably through debt relief. In Phase IV (2014-2022), despite increased geopolitical tensions and sanctions, stable contributions of Switzerland, Sweden, Norway, and multilateral organizations underscored the enduring importance of humanitarian aid. Russia's expanded presence also signalled a reconfiguration of the donor landscape, particularly as its reported support began to offset the decline in DAC aid flows.

Key findings highlight the strategic roles of China and South Korea in shaping North Korea's aid landscape, thereby challenging prevailing Western--centric narratives. Even after decline of DAC contributions post-2008, China and Russia maintained critical aid flows, mitigating humanitarian crises and reflecting broader shifts in regional realignments. Notably, sanctions

imposed since 2016 did not significantly reduce total aid volumes, as Chinese assistance persisted and humanitarian aid from Nordic+ countries leveraged sanctions exemptions. Sectoral allocation trends reveal divergent strategic motivations among donors: China prioritized energy, South Korea emphasized food and long-term development cooperation, and the U.S. primarily concentrated on humanitarian aid. These patterns reflect the intricate interplay between development objective and geopolitical consideration in the provision of foreign aid to North Korea.

Beyond conventional geopolitical explanations, the motivations of China and Russia can also be interpreted through a critical political-economy lens. Their assistance not only reflects strategic interests but also sustains asymmetric economic and energy dependencies while promoting alterative development norms diverging from DAC-centered frameworks. Understanding these structural dynamics offers a deeper basis for analyzing how non-DAC donors reshape North Korea's broader aid architecture and enhances the analytical understanding of North Korea's evolving external environment

At the same time, the evolving aid dynamics challenge the prevailing narrative of the 'development-security nexus' that has traditionally framed assistance to North Korea. This framework has positioned aid as a dual-purpose instrument-addressing humanitarian needs while fostering regional stability and incentivizing denuclearization. However, with increasing strategic alignment among North Korea, Russia, and China, raises doubt about the continued effectiveness of this model in shaping Pyungyang's behaviour. The growing reliance on non-DAC donors, combined with North Korea's demonstrated capacity to navigate and endure international sanctions, suggests that future aid strategies must be recalibrated in light of shifting geopolitical realities. A more nuanced and multidimensional framework that incorporates the interests, roles and constraints of non-DAC donors is essential to address both immediate humanitarian needs and the broader regional and global security consideration.

By bridging critical gaps in existing literature and integrating underutilized data sources, this study underscores the necessity of adopting more inclusive analytical approach to understand North Korea's aid dependencies. Because the available data do not allow for the construction of a fully operational policy framework, this study focuses on establishing an empirical foundation from which more concrete analytical models and policy recommendations may be developed in future research. Such an approach illuminates the strategic motivations of key donors and also provides valuable insights into the intersects between foreign aid and evolving broader geopolitical shifts. This deeper understanding is essential for designing future aid policies that reconcile humanitarian priorities with the geopolitical imperatives of DAC donors. As international landscape continues to evolve, the findings of this study offer an essential foundation for recalibrating development cooperation strategies in one of the world's most geopolitically complex and strategically sensitive environment.

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Notes

1. This study compares data drawn from both the OECD Creditor Reporting System (CRS) and the former OECD Statistics (OECD.Stat) platform. While both databases have been consolidated under the OECD Data Explorer since 2024, their pre-merger structures and categorizations differ, and such discrepancies are analytically relevant to this study.
2. 3 countries are Switzerland, Sweden and Norway.

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