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Political Feasibility of Korean-Japanese Cooperation in Global Electric Vehicle Supply Chains

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ABSTRACT

Shifting patterns in economic internationalisation are transforming the value proposition of global supply chains. The Republic of Korea and Japan, in theory, are particularly well positioned to gain from shifting patterns in international trade, with strong economic policy and fundamentals, globally competitive and internationally-oriented firms, and warm relationships with the current hegemons, the United States and China. Conventional international relations theory, whether realist or liberal, suggest that the two nations make for ideal partners for fruitful economic integration. However, against all expectations, Korean-Japanese diplomacy has seen a perplexingly enduring unravelling in recent years, as unresolved historical grudges permeate every aspect of their relationship. This report aims to demonstrate that while Korea and Japan' are theoretically well placed to benefit from shifting geopolitical and economic trends, they would further benefit from reversing years of antagonistic foreign policy and bilateral protectionist attitudes. The paradigm shift that is the electrification push of the automotive industry, which has to this point been largely propelled by East Asian lithium-ion battery technology and manufacturing, could be the opportunity that brings about a reversal in Korea and Japan's antagonistic bilateral trade policy.

INTRODUCTION

Korea and Japan in the New Global Economy

Shifting patterns in economic internationalisation are transforming the value proposition of global supply chains. As the world's two largest economies, the United States (US) and China, continue to signal their intentions to decrease reliance on one another, with the United States steering American firms to choose suppliers from and invest in more politically aligned nations and China increasingly focusing on its domestic market, the future for other highly integrated economic players is increasingly uncertain. Nations with less economic influence must now navigate a more unpredictable and unstable world order, leaving many in the precarious position of being wedged between two feuding giants.

Two such nations, the Republic of Korea (hereinafter Korea) and Japan, are particularly well positioned to gain from shifting patterns in international trade, with strong economic policy and fundamentals, globally competitive and internationally-oriented firms, and warm relationships with the current hegemons, the United States and China. Conventional international relations theory, whether realist or liberal, suggest that the two nations are ideal partners for economic integration and trade. With similar political systems, corporate cultures, education systems, industrial structures and technological capabilities, it would seem that Korea and Japan would be well suited to combine their efforts in an era of economic and political uncertainty.

However, against all expectations, Korean-Japanese diplomacy has seen a perplexing unravelling in recent years, as unresolved historical grudges that permeate every aspect of their relationship flared up unprecedentedly. General animosity over these grudges have evolved from diplomatic sticking point into an all-out trade war starting in 2019, which persists in some

capacity at the time of writing. Little has been done to resolve this escalation of tensions, calling into question the health of East Asian supply chains beyond China.

Purpose & Approach

The literature on Korean-Japanese economic relations is extensive, but tends to focus on the implications of their post-colonial relationship for security and trade, with the gradual erosion in diplomatic relations since Korea's transition to democracy being at the forefront of these discussions. Very little has been written about the possibilities that may exist should the two countries reverse decades of animosity and form a bastion of stability in an increasingly uncertain global economy. The literature also scarcely reflects on the likely influences that could compel Korea and Japan to engage in more productive economic relations. The approach of this paper is to evaluate dominant theoretical frameworks against historical and current factors of Korean and Japanese relations, synthesizing relevant theoretical elements into a new framework. This framework will allow for an exploration of possibilities and influences for future cooperation, demonstrating its potential while outlining the factors that shape the possible avenues for such cooperation to occur. The automotive lithium-ion battery sector will serve as a case study, as it encapsulates the evolving economic relationship between Korea and Japan while providing a uniquely attractive avenue for future cooperation that conforms to the trajectory of relations.

The first section will contextualise the current state of Korean-Japanese relations through a literature review and analysis to demonstrate why conventional theoretical frameworks have failed to wholistically encapsulate Korean-Japanese relations. This consists of an overview of the dominant realist and liberal theoretical frameworks of international relations, demonstrating the

consensus that Korea and Japan have all of the prerequisite to make for natural economic allies. This overview of the literature is then compared with the current literature specific to Korean-Japanese economic and diplomatic relations, showcasing the shortcomings of the prominent theoretical framework in this specific case.

The second and third sections will contextualise current Korean-Japanese relations from a historical and observational perspective from which a theoretical framework can be developed. Historical and current practice will be explored in order to capture the elements of theories that can be validated so that more effective future predictions and policy recommendations can be developed.

The second section is a historical analysis of the relationship. The first part of this section will explore the ongoing Korean-Japanese diplomatic dispute by outlining the sources of the various historical grievances between the two nations, beginning with Japan's annexation of Korea that began 1905 that resulted in land disputes and issues around reparation payments. The evolution of post-colonial Korean-Japanese diplomatic relations will also be covered, highlighting the differences in engagements from Korea's pre-and-post democracy administrations. The culmination of the relationship's transformation will then be addressed with an analysis of the ongoing Korean-Japan trade war. The second part of this section will cover the history of Korean-Japanese post-war automotive sector cooperation in order to contextualise their evolving economic relationship. This will be framed from the perspective of the Korean automotive industry, which disproportionately benefitted from cooperation by largely depending on vertical integration into Japanese supply chains in its inception. The evolution of the Korean automotive industry also illustrates the changing dynamic of the relationship, with Korea transforming its economic structure from a complementary, low-cost supply chain link for Japan

to a direct competitor at the end-product level, reducing avenues and political will for cooperation.

The third section will outline potential trade frameworks for Korean-Japanese economic cooperation. This will cover external factors, such as the great power bipolarisation and its potential consequences for Korean and Japanese firms, and internal factors, such as Korea and Japan's respective free trade agreement (FTA) strategies to date. These factors will inform an analysis on different frameworks of potential cooperation, including each country's demonstrated outlook on possible participation in a bilateral FTA, the Regional Comprehensive Economic Partnership (RCEP) and the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP).

The fourth section will explore the current international economic opportunities facing the Korean and Japanese automotive lithium-ion battery and semiconductor sectors, where East Asian players have a substantial early mover advantage, through the lens of the new theoretical framework developed in the previous sections. The current transition of the global automotive industry towards electric vehicles (EV) sector provides new incentives for Korean-Japanese cooperation, both politically and economically. The economic compatibility of Korea and Japan in the sector will be analysed, from complementary strengths and common challenges that could be addressed more effectively in tandem.

The final section will conclude with the future outlook of the Korean-Japanese economic relationship. While economic cooperation seems to be a generally favourable direction for myriad reasons, whether it will actually occur in the near term is less clear. There is much work to be done diplomatically between the two nations in order to facilitate more stable, reliable and meaningful trade exchanges. This section will consider the weight of historical grievance and

ideological differences, and whether they will stand in the way of a potentially powerful economic partnership. As it stands, while historical precedent makes the prognosis bleak on the political front, the automotive lithium-ion battery sector could very well be a transformative force, as the benefits of cooperation for firms in both countries largely outweigh its political costs. The private sector in both nations, which has been relatively quiet in the face of a deteriorating bilateral business environment, has demonstrated that it is willing to cooperate and its capacity to circumvent any barriers that their respective governments may put in its way.

SECTION 1: INTERNATIONAL RELATIONS AND TRADE THEORIES: LITERATURE REVIEW

The prolonged diplomatic animosity between Korea and Japan has been a persistently confounding puzzle for international relations scholars and Western allies of the two nations, defying the expectations of several dominant theoretical frameworks. All signs point to warm, fruitful relations between the two, yet this has not been the case, particularly in recent times. Even periods of relative cooperation defy convention, or only conform to theoretical frameworks either partially or in the very short term before deviating substantially. This section outlines a variety of dominant theoretical frameworks of international relations and trade, split broadly between realist and liberal frameworks, while demonstrating their strengths and shortcomings in explaining persistent antagonism in Korean-Japanese diplomatic relations.

Realism & Neorealism

Realist theory (and its evolutionary form neorealism), one of the oldest and most enduring school of thought in international relations, provides a relatively straightforward if simplistic framework from which diplomatic relations can be observed. It does provide some useful conceptions of general international relations, particularly as it relates to conflict, but it has fallen short when applied to the modern, post-democracy Korean-Japanese diplomatic relationship.

i) Theory Overview

The overarching principle of realist thought is the role of the nation state "as the key actor in world affairs [that] can maximize its national interests while in a condition of anarchy or a state of nature through rational calculations, including the use of force," (Tarzi 2004, p. 115).

This theoretical framework places far more emphasis on state actors, at the expense of non-state actors (ibid). Another key determinant of realist theory is the emphasis on power structures (Morgenthau 1948), which are determined by a broadly defined distribution of power that in turn defines interactions between nation states (Waltz 1979; McClelland 1966).

Moreover, the balance of power is often considered to be largely uneven between states, with a few large, powerful states (or hegemons) dictating the norms and rules of international conduct (Keohane 1980). Under this order, the primary objective of any state according to realist and neorealist theory is to "preserve national interests and maximize power," while making concessions and adapting to the norms as dictated by major powers on an issue-by-issue basis (Tarzi 2004, p. 11). Smaller states within the order will usually balance self-interest with the appeasement of larger states, agreeing to norms that will minimize the possibility of use of force being used against them (ibid).

As structures based on power tend to dictate the flow of international affairs in realist theory, with hegemonic states as the influential forces of international conduct and small-to-middle powers as the influenced actors, network analysis theory can also be applied. This theory posits that smaller states who enjoy strong bilateral diplomatic and trade ties to a larger hegemonic state should easily enjoy strong relations with other similar small states in the hegemon's sphere of influence (Maoz 2012; Kinne 2013).

ii) Application

Realist theory offers some compelling explanations for the state of Korean-Japanese diplomatic relations at various stages of their post-colonial history, but most of these explanations are incomplete and ephemeral, unable to capture the relationship's long run intricacies.

The most convincing realist tenet of international relations in the Korean-Japan case is that both actors are motivated by calculated national interest. Korea's Park Chung Hee regime's 1965 post-colonial normalisation agreement with Japan was done out of utilitarian need, recognizing the value of economic cooperation with Japan for Korea's own development despite persistent popular opposition (Lee 2013-a). Several concessions were made by the Park regime to meet Japan's demands in the negotiations of the agreement, as Park recognized Japan's considerably stronger bargaining position and their own self-interest in keeping official talks of reparations out of the agreement (ibid).

However, other elements of the realist theoretical framework are less convincing in this case. For instance, the material security threat posed by North Korea would also be considered a major driver for (South) Korean-Japanese collaboration in the face of a common security concern, motivated by the desire to mitigate the use of force through deterrence. Yet in recent years the Moon administration has rejected the discursive narrative of North Korea as an existential threat in an effort for reproachment, leveling this label at Japan instead (Deacon 2021, p. 21).

Political self-interest is also commonly referred to as a primary cause of the current trade war, as theorists often cite democratic Korean governments engaging in increasingly hawkish diplomatic behaviour towards Japan to boost approval ratings in times of unpopular public opinion and economic downturns (You & Kim 2020; Moon and Suh 2005; Rozman and Lee 2006; Kagotani et al. 2013). However, this is not always in the interest of the state, but rather actors within the state, such as politicians and the electorate, as these bouts of hawkishness often come with material economic consequences for Korea (Deacon 2021; Goodman et al. 2019; You & Kim 2020).

The network analysis theory also fails under scrutiny. While both Korea and Japan are middle powers allied with the hegemonic United States in terms of trade and security, this has failed to develop into lasting amicable direct diplomatic ties between the two (Jackson 2018), and failed to prevent the escalation of the ongoing trade dispute (Deacon 2021). As the two nations became increasingly similar in terms of governmental structure and economic prowess, which supposedly further reinforces networks, the nations actually became more competitive against and antagonistic towards one another (You & Kim 2020; Rhyu & Lee 2006), while the influence of their hegemonic ally decreased.

Liberalism and Neoliberalism

Liberal theory, and its evolution neoliberalism, often serves as a direct counterpoint to realism. It provides an arguably more complex theoretical framework than realism, with a more expansive set of actors, and thus is often the preferred lens through which contemporary Korean-Japanese diplomatic relations are observed. However, it is not without its own shortcomings in this very unique case.

i) Theory Overview

Liberalism, as a theory of international relations, "tends to emphasize the impact of domestic and international society, interdependence and international institutions" (Tarzi 2004, p. 119) when conceptualising the international system. Liberal international relations theory is founded on the principle that like-minded actors can best serve their interest through cooperation, or "compliance with norms and regimes," (ibid, p. 125). Thus, states with similar systems of governance, mainly those adhering to the liberal tenets of democracy, market orientation and the rule of law, are expected to have a strong basis for cooperative diplomatic relations (Doyle 1986;

Owen 1994; Russett 1993). In the liberal tradition, states hold the view that institutions in the international system are powerful stabilising forces in an otherwise anarchic international order (Tarzi 2004, p. 120).

As it relates to economic relations, "liberal theorists emphasize the ways in which global trade and financial relations and other types of economic incentives alter or constrain the behaviour of states," (ibid, p. 119). One of the most dominant strands of classical liberal theory, commercial liberalism, posits that mutually beneficial trade between nations creates a pacifying effect, ensuring the improvement and stability of relations between countries (Keohane 1990). This is particularly true of nations that share a great deal of similarity, according to Steffan Linder (1961), who believes that nations with similar levels of technological capabilities and economic development will make for more meaningful trade partners, particularly in manufactured goods. Other, more classical mainstream liberal trade theories rest on David Riccardo's idea of comparative advantage, further developed through the Heckscher-Ohlin model, which itself continues to be modernised in myriad ways. This school of thought essentially suggests that trade is most likely to occur between countries with advantages in distinct areas of production, determined by a set of factors such as natural endowment, land, labour and capital costs (Leamer 1995).

The notion of commercial liberalism as a pacifier is largely maintained in neoliberal trade theory, with the caveat that the effect is not absolute; Rosecrance, in his work *The Rise of the Trading State* (1986) iterates that while conlfict still occurs between trading nations, trade would result in greater overall stability, as conflict became "too costly – too dangerous and too uncertain as a general strategy of advancement," (Rosencrance 1986, p. 20). With the onset of

the ever-more destructive military technology, it became more beneficial to trade than to conquer.

As trade increased globally, exponentially globalized supply chains meant that trading countries would quickly become prone to interdependence, which neoliberal theorists believe to be a great stabilising force in international relations (Jackson 2018, p. 130). As part of interdependence theory, the private sector of trading nations plays a crucial role in determining diplomatic relations, both indirectly through creating more meaningful and productive points of contact between nations that lead to organic connections (Doyle 1986) and through direct action and political pressure by way of lobbying and the formation of interest groups, which seek to ensure stable diplomatic relations to protect their commercial interests (Mansfield and Pollins 2001).

ii) Application

Liberal theory seems to fulfill most of the prerequisites for good Korea-Japan diplomatic and economic relations. Both nations are democracies (with Korea being a unitary presidential republic and Japan a unitary parliamentary constitutional monarchy), are generally market oriented (with some caveats), are active in global trade and are members of several international institutions. Korea and Japan have historic economic ties and integrated supply chains that persists to this day, at least in part, resulting in some degree of interdependence. However, many of the expected outcomes of liberal theory are contradicted by Korea and Japan's diplomatic divergence.

First, while liberal theorists hypothesize that democratic, market-oriented societies are bound to enjoy strong diplomatic relations amongst themselves, Korea and Japan's relationship became increasingly strained only after Korea transitioned to democratic government and market

liberalisation (Bae 2021; Chen 2020). Korean-Japanese relations were in fact at their strongest when Korea was ruled by de facto dictatorships, from 1961 to 1987 (Kim 2013; Kim & Baik 2013; Bae 2021). Diplomatic relations began to sour once Korean governments were no longer insulated from Korean public opinion, which had always opposed to normalisation of relations with Japan, and populist politicians (Bae 2021; Deacon 2021; You & Kim 2020; Lee 2013-a).

Second, while Korean and Japanese supply chains have historically seen some level of interdependence, particularly in heavy and chemical industries such as steel and the automotive sector, it is this very interdependence that has been at the heart of recent disputes. Since late 2018, the Korean and Japanese governments have weaponised their supply chain links against each other in a series of blows ostensibly stemming from unresolved historical disputes, escalating into an ongoing trade war (Deacon 2021; Panneerselvam 2020; Song 2020; You & Kim 2020).

Third, liberal trade theory, while having some legs to stand on, falls short on predicting Korean-Japanese cooperation. Linder's theory that countries with a high degree of similarity does not hold when analysing Korea and Japan. Both countries have similar levels of economic development and technological capabilities, deep cultural ties and largely similar political systems, yet the degree of similarities is actually detrimental to their trading relationship. While the two economies were once considered to be highly complementary, the emergence of Korea as a manufacturing powerhouse has resulted in an economic structure that is competitive to Japan's, with opposed interests (Rhyu & Lee 2006; Kim 2018). More mainstream theories hold some sway, particularly in terms of comparative advantage, which has informed much of Korea and Japan's initial post-colonial relationship (Rhyu & Lee 2006; Jeong 2004; Lee 2013-b; Moon 2013) and its current (if largely diminished) supply chain integration based on remaining

complementarities (Rhyu & Lee 2006; Goodman et al. 2019). Yet these trade linkages have not resulted in stabilising relations, and have largely been weaponised, with competitiveness driving diplomatic relations, rather than cooperation (Kim 2018; Rhyu & Lee 2006; Goodman et al. 2019).

Fourth, rather than cooling tensions through diplomatic pressure, private sector interest groups have been relatively quiet on the trade war. Some firms in Korea actually publicly demonstrated enthusiasm for Korea's decoupling rhetoric and the ensuing support for the development of domestic supply chains (Baek & Do 2020). Rather than rely on interdependence and benefitting from comparative advantage, domestic Korean production of key inputs once imported from Japan has increased drastically since Japan imposed allegedly punitive export restrictions on Korea, including by Japanese firms operating in Korea (Armstrong 2021, p. 294). Thus, rather than act as a stabilising force in diplomatic relations as Mansfield and Pollins suggest, Korean and Japanese firms have demonstrated ambivalence, both taking advantage of the situation however they can.

Fifth, while liberal theory posits that states hold international law and institutions in high esteem and rely on them to maintain order and improve relations, Japan and Korea (particularly regarding their current trade war) are often seen as attempting to weaponize international law for their own benefit (Panneerselvam 2020; You & Kim 2020; Deacon 2021). They have taken their disputes to the World Trade Organisation (WT/DS590/1 2019; WT/DS590/4 2020)., but both nations have been engaging in bad faith throughout the proceedings, resulting in gridlock. All actions have thus far been made unilaterally, with little regard for institutional processes.

Takeaways

Each theoretical framework, whether realist or liberal, has some convincing arguments to be made in the case of Korean-Japanese diplomatic tensions. Yet, no one theory or framework has been able to wholistically capture the intricacy of the dynamic, falling short of providing a satisfactory, lasting explanation. This is not to say that these theories and frameworks should be rejected outright, but a careful analysis and combination of several viewpoints would better serve this unique case in order to avoid oversimplification. Korea and Japan share very unique cultural and historical ties which complicate their relations, leading to strong deviations from the expected norms set out in theory. An examination of the historical causes of contemporary tensions follows in the next two sections, where several of the arguments in this section will be contextualised and evaluated in greater depth.

SECTION 2: HISTORY OF KOREAN-JAPANESE RELATIONS

Since July of 2019, Korea and Japan have been embroiled in a trade dispute, often dubbed a trade war, the onset of which has been rather perplexing to the two countries' mutual allies. The prolonged animosity between the two nations has been confounding to international relations scholars, defying the expectations of rationalist theory (Cha 1999; Jackson 2018; Ku 2016; Park 2008). "Specifically, it is deemed confounding that, in the realist case, two regional allies of the United States (U.S.) who supposedly share common security threats and, in the liberal case, two liberal democracies with strong trade and cultural relations have such a poor bilateral relationship," (Deacon 2021, p. 2).

A steady tit-for-tat escalation of tensions has had implications in nearly all sectors, from manufacturing to retail to tourism. This conflict, symptomatic of long-standing diplomatic tensions stemming from unresolved grievances, marks a low point in Korean-Japanese relations. The dispute quickly escalated, with exponentially greater diplomatic blows being exchanged that risk spilling over into the realm of security and defense, putting an intelligence-sharing agreement into jeopardy (Kim 2020). The airing of grievances from Korea is not a new phenomenon, but for the first time, it passed from hostile rhetoric to material consequences, particularly on the nations' integrated supply chains.

The current dispute is emblematic of modern Korean-Japanese relations. Rather than stemming from a straightforward trade policy dispute, the conflict has deep historical roots with important symbolic attributes for both countries. This section is divided in two major subsections, each further subdivided in turn, that will shed light on the causes of this conflict, and the gradual souring of relations that led up to it. The first subsection provides the historical context for the grievance, which is often raised when justifying current diplomatic hostilities. It

will identify the key issue that substantiates the historical grievances (and that serves as justification for the ongoing trade war) that persist to this day. It will also provide an analysis of the effect of Korea's diplomatic weaponization of grievances on the two nations' trade relationship. Key takeaways will then be identified.

The second subsection will serve to outline and analyse the historical relationship between Korean and Japanese automotive firms through historical analysis, demonstrating the past willingness for the two countries' firms to collaborate despite political tensions and evolving priorities. It will also demonstrate the areas in which Korean and Japanese firms are competitive, and those in which they have complementary strengths. Finally, it will provide insight into the evolution of this relationship from largely complementary to increasingly competitive that has further stoked tensions.

History of Modern Korean-Japanese Diplomatic Relations

Much of the history of Korean-Japanese relations has been rather tumultuous, characterised by centuries of antagonism. The current tensions, however, revolve around events starting at the onset of the 20th century. Five historical periods are of particular importance for Korean-Japanese relations: The Annexation of Korea by Japan, The Korean War and its immediate aftermath, the Park Chung Hee era, the success of the democratic movement, and the democratic and liberal transition that leads to the present day.

iii) 1894-1945 – Japanese Influence & Annexation

From 1894 to 1945, Korea's development was largely determined by foreign powers, primarily Japan. This was formalised following Japan's annexation of Korea, occurring in 1905 *de facto* and 1910 *de jure*. For the next 35 years, Korea would remain under Japanese rule, which

was heavy-handed when compared to European colonial administrations (Seth 2019, p. 91). Any bureaucratic or managerial role, save for the lowest ranks, were reserved for Japanese citizens brought in from the island, while the more grueling and menial tasks were reserved for Koreans (ibid, p. 96-97). In 1945, the Empire of Japan was defeated by the allies in the second world war and subsequently relinquished its claim on Korea. Administering the transition was managed by two allied powers; the Soviet Union to the North and the United States to the south. As relations between the great powers soured at the onset of the Cold War, these administrative divisions would develop into distinct political units.

iv) 1950-1960 – Korean War and Stagnation

The Korean War, from 1950-1953, was a devastating civil conflict and proxy war. It also served to cement the administrative divisions of the peninsula into distinct nations, both claiming to be the sole legitimate sovereign state. After the war, the Republic of Korea was born in the south, with American-backed (and ostensibly democratically elected) Rhee Syngman as its first president. Rhee's post-war economic strategy was one of complacency, relying almost entirely on American humanitarian and financial aid, with ample corruption in the process (ibid, p. 176). His administration also adamantly refused to normalise diplomatic ties with post-imperial Japan, despite the economic opportunities it could provide (ibid, p. 177). By 1960, South Korea had not developed much economically, remaining one of the world's poorest countries and suffering from sustained social unrest as a result. The American occupying force was growing impatient, eventually pressuring Rhee to resign (ibid, p. 178).

v) 1961-1978 – The Park Chung Hee Regime and Industrialisation

After President Rhee's resignation, Korea made a legitimate albeit short-lived attempt at democracy. In 1961, Japanese-trained General Park Chung Hee took power in a military coup,

which was tolerated by the American forces stationed in the country due to Park's anti-communist position and his enthusiasm for normalising relations with Japan (Kim 2013, p. 15; Kim & Baik 2013, p. 58-59). Relations with Japan were officially normalised in 1965 despite popular opposition (Lee 2013-a, p. 441). Park adopted an autocratic, nationalist and technocratic approach to economic policy, heavily inspired by the Meiji Restoration period in Japan (Moon & Jun 2013, p. 118; Chun 2018), and largely modelled after that of pre-war Japan (ibid, p. 120). From his rise to power in 1961 to his assassination in 1978, Park's development state brought a number of policies forward that steered the development of a powerful private sector, including capital controls and reallocations, infant industry protections, and the *Heavy and Chemical Industry* drive that would take Korea from a poor agrarian society to a manufacturing powerhouse. In doing so, the role of the Chaebol, giant family-owned conglomerates modelled after the Japanese Keiretsu, was cemented in the Korean economy, with Park's policies encouraging an oligopolistic organisation of the economy (Jeong 2004, p. 51).

vi) 1980-1987 – The Democratic Movement

President Park's regime achieved significant economic gains for Korea, but did so at the cost of social liberties. Park Chung Hee was a dictator, and he ruled Korea with an iron fist. His lack of public accountability permitted him to normalise relations with Japan, which was overwhelmingly unpopular at the time amoung the Korean populace. His 1978 assassination created a power vacuum, making way for another military takeover. Chun Doo-Hwan rose to power in 1980. Korean-Japanese relations continued to improve steadily in this period, particularly in the later part of his regime, with Chun being insulated from popular opinion (Bae 2021, p. 1157). Chun took Park's mantle, continuing to rule Korea autocratically. However, His presidency was thoroughly unpopular, where Park's was largely polarising, giving rise to large

and unrelenting democratic movements with accompanying protests. These movements would succeed, with Chun declaring elections in 1987, and losing power shortly thereafter.

vii) 1988-Today – Democracy and Liberalisation

The transition to democracy in Korea was a difficult one. Earned through many years of sustained civil disobedience and having to contend with policies designed with an authoritarian state in mind, Korea had much political and social restructuring to do. Initial democratisation efforts featured a high degree of economic liberalisation and deregulation, often at the behest of international organisations such as the OECD, to which Korea was attempting to be admitted (ibid, p. 55-56). Democracy also marked a turning point in Korean-Japanese relations for the worse, as politicians were no longer shielded from public opinion, which still harboured animosity towards Japan (Bae 2021; Chen 2020). The deterioration of relations accelerated in the early 1990s, as end of the Cold War stabilised the security situation in East Asia, further emboldening Korea to air its grievances against Japan (Bae 2021).

Outstanding Historical Grievances

The historical context is particularly important in understanding the Korea-Japan trade dispute, along with ongoing general tensions between the two. Since the decision to normalise relations was taken by an authoritarian government without popular support, Korea's subsequent democratic movements would engage Japan from a far more hawkish position. Years of economic development emboldened Korea, as it relied far less on vertical integration into Japanese supply firms compared to other former Japanese colonial subjects (Rhyu & Lee 2006).

In their analysis of the international relations literature on post-democracy Korea-Japan relations, You and Kim (2020) have found a consensus among researchers in the field, regardless

of tradition, that colonial era grievances are one of the guiding forces of Korea's diplomatic stance on Japan (p. 54). Various theories have arisen as to the actual significance of the grievances when it comes to diplomatic policy, with some arguing that the rhetoric Korea employs regarding the grievances is genuine, while others argue that populist Korean politicians use them to their advantage in times of political scandal or economic anxiety (ibid). Others claim that the security situation in the region impacts the significance of historical disputes in Korean-Japanese diplomatic relations, with times of heightened tension stemming from North Korea or China (or the Soviet Union during the Cold War) usually leading to warmer Korean-Japanese diplomatic ties (ibid; Bae 2021). Yet, it is unanimously held that these tensions are caused principally by historical grievances, whether the motive in raising them in diplomatic relations are genuine or ulterior.

There are several areas of historical contention driving the animosity between Korea and Japan, all involving colonial era grievances. Most are attributed to either an alleged unwillingness to officially recognize its perpetration of crimes against humanity, particularly pertaining to unpaid forced labour and the forced prostitution of Korean women during the second world war, or irridentist claims regarding islands in the Sea of Japan (a name disputed by Korea, which refers to the body of water as the East Sea). However, the issue with the single-most impact on trade between the two nations is that of reparation payments, which has significant material and symbolic importance to both nations. Reparation payments remain one of the more contentious elements in the ongoing post-colonial dispute, and perhaps one of the most difficult to rectify.

The issue stems from a complication around the 1965 normalisation of relations between the two countries, where substantial payments were in fact made from Japan to Korea that were

instrumental in laying the foundation of Korea's industrialisation (Lee 2013-a). However, recognizing Japan's superior bargaining position and Japanese electoral pressure in the formulation of the 1965 treaty, the Park regime agreed that the payments made to Korea were made in the form of development grants and long-term preferential loans, not reparations, effectively permitting Japan to avoid an official admission of wrongdoing (ibid, p. 444). The decision was vehemently opposed by opposition parties[1] and activists in Korea, but the utilitarian authoritarian rule of the Park regime gave his government free reign to make decisions unilaterally while avoiding the risk of deadlock on symbolic but politically sensitive issues (ibid, p. 451). In the end, the agreement allowed a concession that recognized the nature of the payment differently for each of the two nations (ibid, p. 445), creating ambiguities that would come to haunt the two nations.

Once Korea transitioned to democracy, the contention would spill over from dissident movements into official diplomatic relations, inaugurating an era of persistently worsening relations between the two countries. According to the Japanese government, the 1965 normalization agreement and the corresponding payments were meant to be exhaustive, relieving Japan of any further reparation obligations (Park 2020). The Korean government rejects this notion, as the payments were made as grants, development assistance and low-interest loans, with stipulations that they not be explicitly considered reparations (ibid).

Impacts for Trade – Politicisation of History

Post-colonial disputes have often been politicised in Korea since its transition to democracy, demonstrated through increasingly hawking rhetoric in diplomatic dialogue with

[1] At the onset of its rule, the Park administration maintained a façade of democracy and had promised elections.

Japan (You & Kim 2020). The severity of the behaviour ebbs and flows with the approval ratings of Korean leaders, with lower ratings usually resulting in more antagonistic dialogue towards Japan (ibid). However, the events of the current trade dispute have set a new precedent, with each diplomatic blow having direct material consequences for both parties. Three diplomatic blows were dealt that had significant repercussions throughout the trade war: the Korean Supreme Court rulings against Nippon Steel and Mitsubishi Heavy Industries (MHI), Japan's export restrictions and official removal of Korea from its "Whitelist" of preferential trading partners, and the decoupling efforts of Korea, which includes the "NO, Boycott Japan" grassroots boycott movement.

i) Korean Supreme Court Rulings Against Nippon Steel and Mitsubishi Heavy Industries

On October 30 2018, the South Korean Supreme Court (KSC) upheld a 2013 ruling against Nippon Steel, a Japanese steel manufacturer, awarding compensation for unpaid wages to a handful of surviving victims of war-time forced labour at the hands of the company. On November 29 of the same year, a nearly identical ruling was made against MHI. It was stipulated that if the companies were to reject the rulings, their assets based in Korea would be seized. These decisions put substantial strain on Korean-Japanese relations, with the Japanese government claiming they were in violation of the 1965 normalisation agreement and international law more broadly (Panneerselvam 2020).

Japan's position has been consistent in its belief that the treaty was meant to be exhaustive, claiming that the substantial funds transferred as part of the treaty could have been used to compensate the victims of forced labour practices rather being coopted for the Park Regime's industrialisation projects (ibid). The Korean government rejects this notion, as the

payments were made as grants, development assistance and low-interest loans, with stipulations that they not be explicitly considered reparations, and therefore should not be accepted as such (Park 2020).

Japan also believes the ruling to be yet another example of persistent recalcitrance in negotiating historical disputes on the part of Korea. For instance, a recent KSC ruling on the 'comfort women' case, which held the Japanese government responsible for reparation payments to the last remaining survivors of wartime sexual enslavement of Korean women (The Economist 2017). Japan tried to make amends with the creation of a fund for the victims and a renewed apology in 2015, which was accepted by Park Geun-Hye's conservative administration only to be rejected retroactively by Moon Jae-In's comparatively left-leaning government (ibid).

ii) Export Controls and the Removal of Korea From Japan's "Whitelist"

In July of 2019, the Japanese government announced that it would restrict exports of certain chemicals, including fluorated polymide, resist polymers and hydrogen fluoride, to Korea. The restrictions on these chemicals, which are essential to key industries in South Korea including the manufacturing of semiconductor and displays, were imposed on national security grounds. Japan would rapidly double down on its position in early August of 2019 and remove Korea from its "whitelist," a list of countries with preferential status in the trade of dual-use products and materials that could be potentially retrofitted for military use (Sugihara 2019). Contrary to the claims of national security concerns, Korea believes that these actions are retaliatory in nature, meant as a response to the KSC rulings (Deacon 2021, p. 11).

A WTO dispute filing by South Korea considers this a clear case of a discriminatory non-tariff barrier to trade that violates several articles of several multilateral agreements by arbitrarily and abruptly requiring export licenses, complex and costly bureaucratic processes and

verifications, and questionably raising national security concerns (WT/DS590/1 2019). Japan amended the restrictions in reaction to the filing, but did so in arbitrary ways that did not actually facilitate the flow of exports, once again raising suspicions on the Japanese government's motivations for the restrictions and their willingness to solve the dispute. This motivated another request by Korea to the WTO to form an arbitration panel (WT/DS590/4 2020). Japan, according to a Ministry of Trade, Industry and Energy (MOTIE) document, claims it has found evidence that some Korean companies, especially SMEs, have on occasion exported the sensitive dual-use materials purchased from Japan to countries that are not on its whitelist, including North Korea (Koshino 2019), hence the national security justification and the amendments to the restrictions that supposedly favour larger, more ostensibly trustworthy Korean companies in the long run (WT/DS590/4 2020). At the time of this writing, the case remains unresolved at the WTO.

iii) Decoupling Efforts and the "NO, Boycott Japan" Movement

With the souring of relations and the increasingly escalatory trade blows from both sides, the Moon administration used the boost in nationalist attitudes in an attempt increase self-sufficiency and bolster domestic supply chains (Deacon 2021, p. 12) rather than taking any meaningful steps towards reconciliation. Several firms affected by the export restrictions have demonstrated enthusiasm for this measure and the newfound government support that came with it, publicly committing to decouple their supply chains from Japanese firms and favouring domestic suppliers (Baek & Do 2020).

By carefully constructing the discourse around the trade dispute as a continuation of Japanese aggression and overreach, casting Korea as its perpetual victim, the Moon administration had successfully garnered popular support for its diplomatic blows against Japan, even if they resulted in material consequences for Korean firms (Deacon 2021, p. 19-20). Korea

has much less leverage in this dispute, and has much more to lose in this dispute than the much more economically diversified and internationally connected Japan (Koshino 2019), exacerbating the perception of the aggressor-victim relationship. Using its greater leverage, Japan has consistently maintained a desire for "future-facing" relationships with its former colonial subjects, advancing a foreign policy that steadfastly "denies the relevance of Japan's wartime and colonial action to contemporary politics," (Deacon 2021, p. 19-20).

By framing the discourse of the dispute around past transgressions, the Korean government and media not only encouraged firms to turn to domestic suppliers, but galvanized the general public as well. A grassroots boycott movement aimed at Japanese consumer goods in Korea took hold among the populace, with "NO, Boycott Japan" signs and stickers featuring prominently in shop windows and in the streets of popular shopping districts across the country in July of 2019. Experiencing a severe drop in sales in a previously lucrative market, several popular Japanese retailers closed up shop (Kang 2020), while others pleaded with the Korean public that they did not share Japan's political positions (Baek 2019).

Previous diplomatic disputes have led to boycotts of Japanese good in Korea, but these were short lived and disorganized compared to the highly organised, persistent 2019 boycott campaign (Song 2020, p. 1-2). Consumer patriotism, coupled with active participation from small businesses and social media activity, has contributed to its protractedness and effectiveness, resulting in a steep drop in consumer goods exports from Japan (ibid, p. 2). A notable increase in sales for small businesses that communicated active boycott participation was also observed (ibid, p. 9), demonstrating the popularity of the movement.

The boycott movement was not officially endorsed by the Korean government, but it did receive public praise from the Moon administration in several speeches and official

communications (Deacon 2021, p. 13). Korean government discourse around the export restrictions was framed as an oppressor-victim relationship with Japan, and the boycott as a resistance movement (ibid). Calls for further "counterfire" against Japan were made by progressive media outlets, creating a discourse of open hostilities and an image of Japan as an outright aggressor (ibid).

Likelihood for Reparations

Several determining factors of Korea and Japan's current and future economic relationship have thus far been outlined in this section. The source of their animosity is quite clear, yet potential solutions are not. However, this factor has an outsized influence on the future of Korea and Japan's diplomatic cooperation.

The disagreement about the payment of reparations to Korea for Japan's colonial and wartime atrocities is the major driving force behind the countries' current trade war and sets the pace for much of their relationship in all areas. The opposing directionality of each country's diplomatic efforts, with Korea inflexibly looking to the past and Japan resolutely looking to the future, cast the two nations at odds and taints every aspect of their relationship. In this case, since Japan is looking to move past historical grievances, Korea is the instigating player, and the first move in the game is theirs to make. The catalysing event to the trade war is arguably the Korean Supreme Court decision against Japanese firms after all, and their actions and rhetoric largely guides Japan's diplomatic attitude towards Korea. Figure 7 outlines the possible outcomes given each player strategy.

History of Modern Korean-Japanese Economic Cooperation In The Automotive Industry

The history of the Korean-Japanese automotive cooperation, as framed through the rise of the Korean automotive industry, can be summarized as follows:

i) The Birth of the Korean Automotive Industry

The inception of the Korean automotive industry came in 1962, when the Park Chung Hee administration enacted the *Law for the Protection of the Automobile Industry,* modelled after the Japanese *Automobile Industry Act* of 1936 (Noble 2013; Lee 2013-b; Togo 2011). This law created entry licensing requirements, along with a total ban on finished automobile imports and favourable tariff rates for components and machinery (ibid, pg. 93). This was aimed at jumpstarting Korea's automotive industry through assembly of foreign knock-down kits, as domestic firms lacked the resources and know-how for manufacturing original models.

Japanese firms quickly began to license their models for assembly by Korean firms. The first of these partnerships was in 1962, between Japan's Nissan and Korea's Saenara Auto Company. After a corruption scandal led to Saenara's collapse, its successor Shinjin Motor Vehicle Industrial Company soon followed in 1966, assembling models from Toyota. From Japan, Korea imported not only much needed capital and components, but technology and knowledge. Despite some criticism by the administration at the time that Korean firms were too reliant of Japanese capital and technology (Lee 2013-b, p. 304), it was this very capital and technology that allowed Korean firms to develop the expertise it needed to develop a more independent industry.

ii) The Indigenous and the Rise of Hyundai Motor Company

In 1973, the automotive industry was identified as a strategic priority for Korea's Heavy and Chemical Industry (HCI) drive, as declared in the *Long-Term Plan for the Promotion of the Automobile Industry,*" (ibid, p. 95). The initiative favoured the creation of an indigenous model,

as foreign automakers imposed export controls on their models assembled in Korea (ibid). Content localization requirements were increased to bolster the domestic parts suppliers, certain key parts were standardized to increase scale economies, and greater quality control measures were established (ibid). Yet, despite these decoupling efforts aimed at industrial independence, Japan would continue to play a crucial role in the development of Korea's automotive industry. This is best exemplified by the rise of Hyundai Motor Company (HMC), the only automotive firm to have enduring global success producing proprietary models. Several other firms attempted to develop a proprietary model with the help of a foreign partner, usually American, but these alliances were often fractious and resulted mostly in failure (ibid).

HMC, founded in 1967 as part of the Hyundai Group, one of Korea's top Chaebols, was the most enthusiastic about implementing the government's indigenous model plan (ibid, p. 109). Starting its life as a knock-down kit assembler for Ford models until their relationship soured in 1973, HMC quickly began work on the development of an original model (ibid, p. 114-115). However, HMC lacked the technical know-how to design a model independently, and thus opted to partner with Japan's Mitsubishi Motor Company (MMC). MMC provided HMC with a platform design around which it could design its first proprietary model (ibid, p. 117).

With MMC's platform and an Italian body design, HMC's first proprietary model was born: dubbed the Pony and aimed at the domestic market, production started in 1975 (ibid, p. 116-117). The vehicle became a market leader in Korea, and was a modest success in the Middle East and Latin America (ibid). For its second proprietary model, HMC would once again join forces with MMC, with the latter bringing front-wheel drive technology to the venture (ibid, p. 118). This time, however, MMC would become more actively involved, forming a strategic alliance with HMC and taking a 10% stake in the Korean company (later increased to 15%)

while taking no managerial control. HMC had designed their own platform, having acquired the experience required from their first collaboration with MMC (ibid, p. 118-119). This collaboration, which resulted in the Pony Excel, would become Korea's first international success, penetrating the lucrative American market in a meaningful way for the first time.

With its careful choice of strategic allies and its focus on research and development, HMC would be the only major Korean automaker to survive the 1997 Asian Financial Crisis largely unscathed. Daewoo would collapse and its automotive division sold off, while Kia would be absorbed by HMC. Other minor players would be acquired by foreign entities, or dissolved altogether. Hyundai had been largely shielded from the crisis thanks to its focus on developing proprietary technology and improving quality, using foreign designs only when it would otherwise jeopardise quality. By the mid 1990s, Hyundai had developed its own platform and engine, replacing Mitsubishi components almost entirely (ibid, p. 127).

iii) From Complementary to Competitive

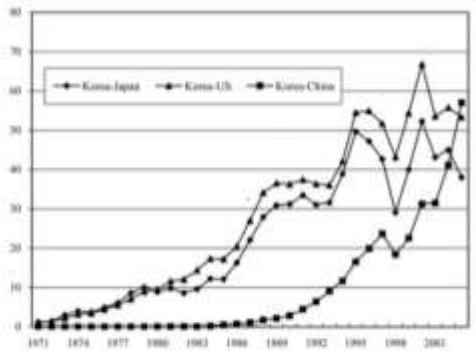

Figure 1 Changing Patterns of Korea's Trade ($billion) (Source: Rhyu & Lee 2006)

The trajectory of gradual decoupling after a period of mutually beneficial cooperation mirrors the overall direction of the economy at the time, as demonstrated by Rhyu Sangyoung and Lee Seungjoo in their 2006 work Changing Dynamics in Korea-Japan Economic Relations. Rhyu & Lee demonstrate Korea's shifting of its trade partnerships (Figure 1) as its products become increasingly competitive in terms of quality rather than simply price, engaging in direct competition with Japanese export sectors aimed at the U.S. and a rising China (p. 206). The success of Korea's strategy, integrating vertically into Japan's supply chains at the onset of its industrialisation and acquiring experience to develop its own, has

led to a sustained end-product rivalry. For instance, seeing its role diminish progressively in HMC's success and facing financial difficulties of its own in an increasingly competitive passenger vehicle market, MMC sold its stake in HMC in 2002 (The Japan Times 2002).

Contrary to the end-product market, there remains a high degree of complementarity at the component level (Rhyu & Lee 2006). In the scope of the recently ratified Regional Comprehensive Economic Partnership (RCEP), the first free trade agreement to directly cover both Korea and Japan, both have opted to maintain tariffs on automobiles while slightly reducing those on automotive components (Deloitte 2021), substantiating Rhyu & Lee's observation on the complementarity of Korean-Japanese component sectors and competitiveness in end products.

In the new frontier of vehicle electrification, this complementarity only becomes more pronounced. Electric vehicles require significantly more semiconductors than their internal combustion engine (ICE) counterparts, and both countries have comparative advantages at different parts of the semiconductor manufacturing process. Korean firms are far more effective at manufacturing the actual semiconductors, and have a much greater market share, while Japanese firms are far more adept at producing semiconductor machinery and materials (Goodman et al. 2019, p. 1).

Korea, contrary to the other nations of East Asia, chose to compete directly with Japan at the end-product level, rather than remain vertically integrated (Rhyu & Lee 2006). This does in some ways limit the opportunities for economic cooperation by eliminating R&D cooperation and foreign direct investment (FDI) potential between the two nations. Yet it also allows both nations to develop complimentary comparative advantages at the higher end of the supply chain, as seen with semiconductors. This permits both countries to benefit from the production of

higher value-added components and goods, while both take advantage of low production costs in ASEAN markets for less complex components, a trend which is already demonstrably occurring (ibid).

Takeaways

It is clear that much animosity remains between Korea and Japan over past transgressions. Japan's desire to move on and look to the future rather than the past is interpreted by Korea as a failure to accept responsibility and admit wrongdoing. This is a longstanding impasse, especially in the public consciousness. The authoritarian governments that ruled Korea from a technocratic and utilitarian policy framework for much of the young nation's early history allowed Japan to deflect responsibility in exchange for capital and technology transfers. While this was essential to the rapid recovery and industrialisation of Korea, the general public's attitude towards Japan never softened.

Prior to democratisation, both realist and theoretical frameworks had strong claims to validity. Korea's foreign policy was dictated by pragmatic, rational and utilitarian governments in both countries. While the dictatorship in Korea may not make for an obvious partner to Japan's democratic government under liberal frameworks, the Japanese influence on Korea's Park Chung Hee regime made cooperation relatively straightforward with strong cultural similarities in their bureaucracies and corporate cultures.

Once Korea transitioned to democracy, conventional theory quickly began to falter. One of the key tools for addressing electoral contests and popularity slumps was the stoking of anti-Japanese sentiment. The Moon administration has clearly demonstrated that this remains relevant, with its persistently antagonistic approach to diplomacy with Japan having been met

with an enthusiastic reception domestically. This weaponization of historical grievances spilling over into the economic sphere has given rise to accusations that Korean politicians are using anti-Japanese populism for their own selfish interests (You & Kim 2020).

Against conventional realist theory that positions states as rational and self-motivated actors, the electoral interests of individual politicians in Korea has been one of the primary forces behind the unravelling of diplomatic relations since the country's transition to democracy, to the detriment of the nation's economic stability. Contrary to liberal theory expectations, the transition to democracy and market liberalisation did not lead to reproachment between the two nations. Populist politics on both sides have been a valuable political tools for their respective administrations, with Japanese revisionism and Korean recalcitrance putting the two democratic nations at odds, and must be incorporated to any future prediction for Korea-Japan relations.

It has also become abundantly clear that despite its rise to economic prowess and competitiveness, Korea has far less bargaining power than Japan. Historically, the Korean economy has been the larger benefactor of the diplomatic and economic relationship with Japan, with the flow of direct investment and capital flowing largely unidirectionally for much of the post-normalisation period. Many of the supply chains of large Chaebols are downstream from Japanese firms. This exposure was easily weaponised by Japan with highly disruptive export restrictions. For all of Korea's grandstanding and rhetoric of self-sufficiency, the dispute has revealed its distinct limitations in bargaining power, which significantly influences Japan's relatively indifference towards the improvement of bilateral relations.

However, while Japan has landed the harshest blows against Korea in this trade dispute and has suffered far fewer consequences, it has made clear that it is willing to pursue constructive diplomatic relations with Korea, which has remained far more recalcitrant. Japan's

trade blows have been framed by Korea to be retaliatory, further stoking domestic anti-Japanese populist sentiment rather than addressing the situation diplomatically. Despite Korea's legitimate grievances against Japan's unwillingness to admit wartime and colonial wrongdoings in any meaningful way[2], exacerbated by the Abe administration's revisionist bent, the weaponization of trade was in fact a measure initiated by Korea. Korea's inconsistency in its approach towards Japan between administrations, characterised most recently by the acceptance and retroactive rejection of the comfort women fund, has further frustrated efforts by eroding trust that reproachment efforts will have a lasting impact.

Korea's ability to reverse course will be tested in the coming months as of this writing with a new conservative administration taking office, which has typically resulted in a more accommodating stance towards Japan (Reynolds & Lee 2022). Friendly overtures have already been made, and Japan has been cautiously receptive. The new Yoon government has vowed to separate trade from its pursuit of Japanese colonial and wartime accountability, employing a distinctly two tract approach (ibid).

A historical analysis of the Korean automotive industry also makes it abundantly clear that cooperation on the economic front has been beneficial for both nations. Japanese influence permeated the industrial sector in Korea, and that Korea in turn has been the larger benefactor of the mutually beneficial relationship.

For much of its post-war, post-colonial history, the Korean automotive industry was vertically integrated into Japan's, which was made possible by the dictatorial Park Chung Hee regime's decision to normalise relations with Japan in 1965 despite overwhelming popular

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[2] A series of official apologies were issued in the 1990s by Japan to the victims of Japanese crimes against humanity, particularly comfort women, but no further reparations.

opposition (Lee 2013-a, p. 441). Park, an army General trained in Japan during their occupation of the Korean peninsula, undertook a series of political and economic reforms inspired by Japan's Meiji Restoration throughout his reign in which "his government mobilized national resources for rapid industrialization in authoritarian ways," (Jeong 2004, p. 44) effectively launching a development state.

Various historical accounts make rather clear that Park's adoption of Japanese-style state capitalism, along with the overwhelmingly unpopular decision to normalise relations with Japan and collaborate with Japanese firms, allowed the Korean automotive industry to flourish and gradually develop into one of the most globally competitive automotive industries of the modern era, giving credence to realist ideas of rational self-interest and liberal ideas of private sector inflience. It is also notable that this very rise to industrial prowess and perceived competitiveness eventually resulted in a reduction in economic cooperation and heightened bilateral protectionism which further narrows the potential avenues for future cooperation. This counters the liberal claim that nations with similar levels of technological capability are more likely to trade with one another in the manufacturing sector.

It does, however, highlight the value of comparative advantage theory; as complementarity increasingly turned to competitiveness at the end-product level, finished goods trade became predictably less desirable. Yet both nations are home to firms that maintains a high degree of complementarity with one another at the component level. In an industry with large, complex supply chains for its nearly 30,000 components, the automotive sector remains an area where much cooperation can theoretically still occur meaningfully.

SECTION 3: POTENTIAL TRADE FRAMEWORKS FOR KOREAN-JAPANESE ECONOMIC COOPERATION IN THE AUTOMOTIVE SECTOR

Despite strained bilateral ties, Korea and Japan face a series of common geopolitical challenges that could sway their economic relations in either direction as multilateral globalised economic structures come under increasing political pressure. This section will explore the influencing forces that are reshaping the global economy, and explore how Korea and Japan have adapted. This will further inform the theoretical framework being developed.

The first subsection will explore the impact on the U.S.-China bipolarisation occurring in the global economy, over which Korea and Japan have negligible influence and thus must adapt accordingly. The next subsection will demonstrate Korea and Japan's shift to regionalisation, outlying their complex FTA frameworks and whether these frameworks are complimentary to greater economic cooperation between the two. The last subsection will explore Korea and Japan's relationship within (or without) the recently ratified Regional Comprehensive Economic Partnership (RCEP) and Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP).

New Great Power Bipolarisation

Outside of their own strained bilateral ties and precarious economic bindings, Korea and Japan find themselves in an increasingly complex international geopolitical order. After an extended period of post-Cold War stability and predictability, in which the United States stood as the sole global superpower and China focused on establishing itself as an integral part of the globalised economy, tensions began to manifest. An increasingly self-sufficient and

geopolitically influential China challenged the U.S. hegemonic influence over the global economy, creating a powerful new sphere of influence.

As middle powers with substantial regional economic importance, Korea and Japan have long benefitted from maintaining measured, nuanced ties with both the U.S. and China. Both economic giants are the primary trade partners of Korea and Japan, with both serving as important export markets. The U.S.' post-Cold War dominance over the global economy and the sheer economic gravity of a globally integrated China have both been powerful forces that have shaped much of the two middle powers' export-oriented industrial structures. The relative stability of diplomatic relations between the U.S. and China since normalisation had been a boon for Korea and Japan, which have been able to engage both without worry of reprisal.

Within the newly developing bipolar global order, however, tensions have arisen regarding Korea and Japan's ambivalence and willingness to play both side; Korea and Japan are under increasing pressure to conform to the norms of one side or the other (Cha 2020; Lee et al. 2022; Snyder 2018; Wyne 2020). Since the Trump administration's trade war with China and the ensuing discourse on decoupling, Korea (to a lesser extent) and Japan's warm economic ties with both the US and China have been difficult to maintain undamaged (Hu et al. 2021).

One of the clearest indicators of the East Asian middle powers' reluctance to readily endorse the U.S.' discourse on decoupling from China is their respective positions on the Huawei Ban. In 2019, the U.S. banned Huawei from providing telecommunications equipment from their 5G networks, and strongly signaled that its allied should follow suit (Lee et al. 2022). Most Western allies did so, subsequently barring Huawei from their own infrastructure. The responses from Korea and Japan, however, have been far more nuanced (figure 2). Korea, which relies on China to a greater extent than Japan as an export destination (Figure 3), has outright refused to

exclude Huawei from its networks, citing a lack of security breach evidence and a wish to avoid a needless slight against China that could damage their relations, with Blue House official stating that "there won't be any impact on South Korea- US military and security interests," (Cha 2020, p. 548). Japan, which is far more entrenched in the liberal international order than Korea (Lipscy & Tamaki 2021) and maintains roughly equal export levels to both the U.S. and China (figure 3), took a more measured and discreet response, banning it from government procurement to appease its allies[3] but allowing private sector firms to decide for themselves in order to hedge their position (Lee et al. 2022).

Response/ Country	Australia	Japan	South Korea
Response to U.S. request	Decisive High-profile	Decisive Low-profile	Muted Low-profile
Degree of Huawei ban	Ban on government procurement Effective ban on companies	Ban on government procurement At companies' discretion but with guidance against use	No ban on government procurement At companies' discretion
Perceptions concerning Huawei	Risks of spying and sabotage Pushing back China's influence	Risks of spying and sabotage China as a long-term strategic threat	Risks of spying and sabotage Poised to lose if forced to choose between China and U.S.
Coping strategy	Counter China's influence	Hedge China's influence	Avoid taking sides

Figure 2 Summary of Three U.S. Allies' Responses (Source: Lee et al. 2022)

Korea and Japan have also faced pressures in the security sphere, which has had noticeable implications for economic ties. As both nations house American military bases, military cooperation has been a sticking point for their respective relationships with China. Korea has faced direct consequences for its close military ties with the U.S. Most recently, China has levied severe economic retaliations against Korea for endorsing the installation of an American missile defense system along its border with North Korea. Fearing further reprisal from China, Korea quickly engaged to reconcile relations with China, which came in the form of

[3] The decision to ban was announced as being made after an independent review, rather than as a response to ally pressure.

the Moon government's "balanced diplomacy" where it would engage by stalling further American defense systems installation and publicly refusing to follow along with further decoupling efforts of its allies (ibid). Japan, for its part, has faced less direct reprisal from China over security issues, with occasional export bans having been issued over longstanding historical territorial disputes (Glaser 2012).

	Korea			Japan		
	Exports ($B)	Trade partner ranking	Partner share	Exports ($B)	Trade partner ranking	Partner share
China	136.203	1	25.12%	134.681	2	19.09%
U.S.	73.599	2	13.57%	140.43	1	19.90%

Figure 3 Shares of Korean and Japanese Exports by Partner - 2019 (Data source: WITS 2022-a and b)

Regionalisation: FTA Frameworks

i) Korean FTA Strategy

Since democratisation and its ascension to the OECD, Korea has developed one of the most extensive trade networks in the world (Krieckhaus 2018, p. 5). These agreements, however, tend to be shaped intricately and partners are chosen selectively, seeing economic considerations largely intertwined with geopolitics. Korea's enthusiastic signing of FTAs combined with the cautious formulations of these agreements indicates clear patterns of trade partnership preferences that compliment the nation's mercantilist approach and populist, protectionist influence on policymaking (Yu 2006).

Post 1997 financial crisis, which caused Korea to grow rather distrustful of multilateral institutions (Jeong 2004; Siroën 2007), Korea began to increasingly engage in international trade by way of bilateral and regional FTAs, which were experiencing a global surge in the early 2000s (Siroën 2007, p. 28). At this time, Korea was becoming increasingly reliant on exports given its small and initially poor (but rapidly growing) domestic market, and accusations of

protectionism against Korea were frequent despite official proclamations of embracing free trade (Yu 2006, p. 644).

Having experienced the success of unwavering support for local producers and mercantilist policies through the Park Chung Hee era, the popular opinion in Korea largely favoured protectionism despite the intentions of the new democratically elected governments, which were striving to integrate into the liberal international order (ibid, p. 645-646). This was a departure from the relative autonomy the Korean state enjoyed in policymaking prior to the democratic movement (Krieckhaus 2018, p. 54), and would prove to be a challenge in negotiating Korea's first free trade agreements.

The first of these negotiations would be conducted with Chile, a country which had very little in terms of competitiveness against Korea. With a vastly different set of major industries, the Korea-Chile FTA was meant to signal Korea's willingness to engage in bilateral agreements without alienating the staunchly protectionist public (ibid; Park & Koo 2007). The Korean government faced stiff resistance from a newly emboldened agricultural lobby, leading to several non-agricultural concessions having to be made to Chile in order to exclude Chilean agricultural products from the scope of the agreement, largely deflating it (Yu 2006, p. 660). A Chilean negotiator was quoted as saying: "The Korea-Chile FTA was 70% political and only 30% commercial," (ibid, p. 657).

Korea's FTA strategy evolved with its growing status as a leader in innovation and its corresponding decline in manufacturing cost competitiveness. The Korean government would continue to choose bilateral agreement partners with little competitiveness and a high degree of complementarity potential that could provide a source of cheap labour and inputs. Attention increasingly turned to ASEAN nations, being a key strategic destination for Korean FDI (Rhyu

& Lee 2006; Liu & Feng 2021). One key example is Vietnam, which partners with Korea in three separate FTAs, being the Korea-Vietnam FTA, Korea-ASEAN FTA and most recently RCEP. The high degree of importance of a relatively small economy that is Vietnam is a sign of Korea's trade ambitions being directed at developing economies with a large growth potential (Kim 2018, p. 102).

ii) Japanese FTA strategy

Compared to Korea, Japan has a relatively simple FTA strategy. Being a key player in the globalised liberal economic order for some time (Lipscy & Tamaki 2021) and benefitting from a more established and competitive economy, Japan opted to deploy more comprehensive, meaningful FTAs with a wider variety of countries (Urata 2009). The Japanese government also faced far less populist opposition to its FTA regime, with the exception of the agricultural industry (ibid, p. 56). Japan, having a massive economic weight, was able to negotiate largely favourable bilateral FTA terms with most of its prospective partners, something from which Korea did not benefit at the turn of the millennium (and still to this day, relatively speaking).

iii) Potential Korea-Japan FTA

Talks of a Korea-Japan FTA, proposed as part of an intricate set of no less than five hypothetical agreements between the two nations (Kim 2018, p. 91) were stalled as soon as they began in 1998, largely due to Korean government apathy, as it recognized its general competitive disadvantage against Japan at the time and the fiercely opposed domestic public opinion (ibid, p. 102). Jemma Kim (2018) writes: "Japan and South Korea's industrial structures are in a competitive relationship and, due to this competition and the symmetry of tariff structures, Japan and Korea have strictly opposed interests," (p. 101). Rhyu & Lee compliment this view, adding that "at the component level, Korean and Japanese firms still maintain a lot of

complementarities, which keeps the bilateral intra-industry trade steady. However, in stark contrast to other East Asian countries that chose to enter Japan-led production networks by specializing in component production, the Korean Government opted to compete with Japanese firms in end products to break away from vertically integrated economic relations with Japan," (p. 206).

RCEP Vs TPCPP

The ASEAN-led RCEP was signed in November of 2020 by fifteen countries, creating a historic trade bloc accounting for 30% of the world's population and a roughly equal share of its nominal GDP (Petri & Plummer 2020). This agreement sees, for the very first time, a *de facto* FTA being formed between Korea and Japan. This development was surprising, given Korea's notable avoidance of a bilateral trade deal with Japan and the heightened diplomatic tensions of the time, which comprises the ongoing trade war.

Korea's participation in RCEP also stands in contrast to its reluctance towards the CPTPP, which would have resulted in a *de facto* FTA with Japan of even greater magnitude (Kim 2018, p. 106). However, the unique composition of each agreement, along with their diverging geopolitical implications, indicate why Korea chose to participate in an FTA with Japan though the RCEP and not the TPCPP.

The RCEP is notably different from the CPTPP in several ways. Most critically, it incorporates China into the agreement, while CPTPP does not. In fact, the CPTPP's predecessor, the TPP, was largely perceived as having been formulated by the US and Japan as a partial countermeasure against growing Chinese economic assertiveness (ibid. 106). This perception remains with the Japanese leadership of the agreement after the U.S. exit from the agreement.

This made the TPP (and the CPTPP subsequently) unappealing for Korea, with China being their top trade partner by a significant margin (ibid).

RCEP also incorporates nations known to have relatively higher levels of trade protections than the members of the CPTPP, Korea and China included (Ferrantino et al. 2019, p. 9). The agreement appeals to the more protectionist tendencies of some members, entailing "less ambitious commitments on trade barriers reduction compared to both the CPTPP and the [TPP]," (ibid) and allowing for a more deliberate, realist economic agreement conspicuously lacking in measures to address labour conditions and the role of state-owned enterprises (Petri & Plummer 2020).

Under these conditions, it becomes clear why Korea and Japan would choose to initiate their FTA relationship through the RCEP. The greater flexibility accorded by the less comprehensive agreement allows for greater gains for Korea with minimized downsides. In the scope of the agreement, Korea opted to maintain tariffs on automobiles while reducing those on automotive components (Deloitte 2021), substantiating Rhyu & Lee's observation on the complementarity of Korean-Japanese component sectors and competitiveness in end products. It also allows Korea to maintain overall higher tariffs against Japan relative to its would-be obligations under the CPTPP.

Korea has already signed FTAs with the majority of the other CPTPP members, making Japan the primary point of contention, and one that would result in a reduction of Korean competitiveness in the manufacturing sector under the CPTPP (Kim 2018, p. 106). The RCEP does not invalidate the other FTAs signed between Korea and the other members of the agreement either (Deloitte 2021), but the measured approach of the agreement gives Korea more

tools to manage its trade partners and maintain its thinly veiled mercantilist policies towards Japan.

The RCEP may in fact heat up Korea and Japan's competition more indirectly through the ASEAN nations rather than bilaterally, as observed through a pattern of competition in ASEAN-bound FDI from the two North East Asian nations (Liu & Feng 2021). As noted above, Rhyu & Lee note that most East Asian nations chose to integrate vertically into Japan's global value chains. Not only did Korea pursue a different path to development, but as this increasing investment competitiveness would suggest, it is also taking aim at those very production chains.

Takeaways

Korea and Japan's reactions to great power bipolarisation have been divergent, if subtly so. Korea has shown that it is not willing to decouple from China, while Japan has signalled some willingness to so cautiously and with caveats. Korea's economy is far more reliant on China, and it has made potential security and diplomatic compromises accordingly. Japan finds itself far more integrated into the Western-led international liberal order, and tends to make Western-aligned geopolitical decisions regarding China.

Despite boasting two of the region's most important economies, Korea and Japan have done little cooperatively to address shifting spheres of influence, and have made surprisingly different choices. This calls into question the validity of network theory, as both nations find themselves in relatively similar positions, yet each has chosen a rather different approach to shifting hegemonistic influence. Despite both countries having relatively warm relations with both China and the US for much of the 21st century, they have diverged in their approach to bipolarisation and have seemingly aligned in opposite directions. Both countries seem content to

play both sides, yet Korea tends to bend towards Beijing's gravity, while Japan has demonstrated a stronger allegiance to the West. Realist ideas ring true here, as both nations make concessions to larger powers according to their self-interest and are willing to conform to norms that they see as being the most beneficial.

In terms of trade, Korea and Japan have both shifted away from large international organisation to a complex network of regional and bilateral trade networks. However, a bilateral Korea-Japan FTA seems unlikely, with persistently stalled efforts demonstrating a lack of willingness or interest. Both nations may be too directly competitive and protectionist for a bilateral agreement to hold much weight, with neither willing to make compromises and lower industry protections substantially due to perceptions of diametrically opposed interests. The bilateral agreement is also expected to be politically unpopular in Korea, especially given the current trade war and the revival of historical grievances. The newly elected Yoon administration in Korea has signaled its desire to mend relations with Japan, but the latter may not be so receptive following Korea's pattern of inconsistency. This stands squarely against Linder's country similarity theory.

Regionally, Korea and Japan have also had a tepid approach towards the other, but may have found a breakthrough with the RCEP. The agreement's less comprehensive approach allows both nations to maintain a high degree of protectionist measures, yet creates some opportunities for cooperation at the component level. Under the RCEP, automotive tariffs on end products are largely intact, while tariffs on components have been lowered. The component level is where Korea and Japan have the most complementarity, and as liberal theory suggests, this could pave the road for future cooperation and specialisation. The agreement, however, risks

intensifying the competitive nature of the two countries in the region, with each aiming to gain a greater foothold in the ASEAN signatories to the RCEP.

SECTION 4: ECONOMIC OPPORTUNITIES FOR KOREAN-JAPANESE ECONOMIC COOPERATION IN THE EV BATTERY SECTOR

Thus far, historical and contemporary policy analysis has indicated several key factors that affect Korean-Japanese relations and economic cooperation. First, while much of the conventional international relations theory can explain parts of their relationships at specific moments in time, it has failed to encapsulate the full scope and timeline. Second, while. Some elements of conventional theoretical frameworks are not applicable to Korean-Japanese relations, other elements can be invaluable in observing the current trends in economic cooperation between the two nations.

Two theoretical factors pertaining to economic relations are particularly useful in applying a new framework. The first is comparative advantage theory, where nations see fruitful trade relationships where they maintain high degrees of complementarity. The second is the agency of non-state actors, primarily the role of the private sector in influencing diplomatic relations. Neither can be applied wholesale to the Korean-Japanese situation, yet they still hold much value. Most notably, these theories remind us that firms (mostly multinational corporations) operate independently from the state, rather than as a part of the monolithic state.

While the governments of Korea and Japan may not soon resolve their outstanding grievances and repair the damage done to the stability of their trade ecosystem, the private sectors of each countries have remained amicable. Several opportunities for private sector cooperation remain enticing, especially in areas where they maintain a high degree of complementarity. One such area, automotive components, is currently experiencing a tectonic shift as electrification transforms the business landscape to the benefit of East Asian early adopter firms.

This section outlines the current landscape of automotive sector electrification through the lens of comparative advantage and non-state actor agency theories, demonstrating the state's limited influence on Korea and Japan's lithium-ion battery cell and component firms. The changes to supply chain structures brought about by automotive electrification will be explored, demonstrating the diversification that is currently occurring. The relative positions of Korea and Japan in the global battery manufacturing ecosystem will then be analysed to indicate potential areas of cooperation. The section will conclude with a short case study revealing areas of cooperation in battery manufacturing already being undertaken by Korean and Japanese firms.

A New Frontier: Electric Vehicle Batteries

The global automotive industry is rapidly evolving, with a renewed focus on the environment catalysing a push for the electrification of the sector. Governments around the world have set transition targets by prohibiting the sale of new internal combustion engine (ICE) vehicles in the coming decades. Private sector automotive firms have responded in kind by setting electrification mandates, often in exchange for substantial government financial assistance. New players have been pouring into the market in droves, putting the old players on their toes and pressing them into massive research and development expenditures. The market is rapidly evolving, and so are its key players.

The electrification wave of the automotive industry has brought with it a growing role for several formerly peripheral sectors that formerly played important but less pronounced roles in the supply chain. Chief among these sectors is the lithium-ion battery sector, with manufacturing capacity[4] ballooning across the globe to meet the growing demand for zero emission vehicles

[4] Current and planned capacity.

(ZEV) and plug-in hybrid electric vehicles (PHEV). Governments and automotive firms are pouring money into support for battery manufacturing projects, hoping to develop domestic supply chains and secure their procurement needs in time for the shift in EV adoption.

Lithium-ion battery production is a high opportunity sector with massive growth prospects as part of the automotive industry supply chain. Global lithium-ion battery cell production capacity is expected to increase by 516%[5] by 2031, the majority of which is driven by EV production (Benchmark Mineral Intelligence 2022). The industry is largely driven by a handful of countries, with some generating most of the scientific research and innovation while others apply these innovations with their manufacturing expertise (Moreno-Brieva & Merino-Moreno 2021). Changes in supply chain organisation have also occurred, with traditional automakers procuring batteries from horizontally integrated specialised firms rather than vertically integrated ICE manufacturing.

Battery manufacturing is crucial to the electrification of the sector. Governments and automotive firms across the world have enacted ambitious electrification mandates, resulting in battery manufacturing capacity projections skyrocketing. As most automotive firms to not have in-house battery design and manufacturing capacity, the industry is witnessing a major shift in supply chain integration, from vertical ICE manufacturing to horizontal battery sourcing. These mandates and shifts in supply strategies have led to fears of battery shortages (Wayland 2022), making battery manufacturing a major factor in determining the success of the electrification of the industry.

In battery manufacturing, production is heavily concentrated in East Asian firms due a significant early mover advantage. While the U.S. and Germany are major contributors to the

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[5] From a base year of 2021.

development of lithium-ion battery innovations (ibid), figure 4 demonstrates that China, Korea and Japan account for the overwhelming majority of current battery cell production capacity

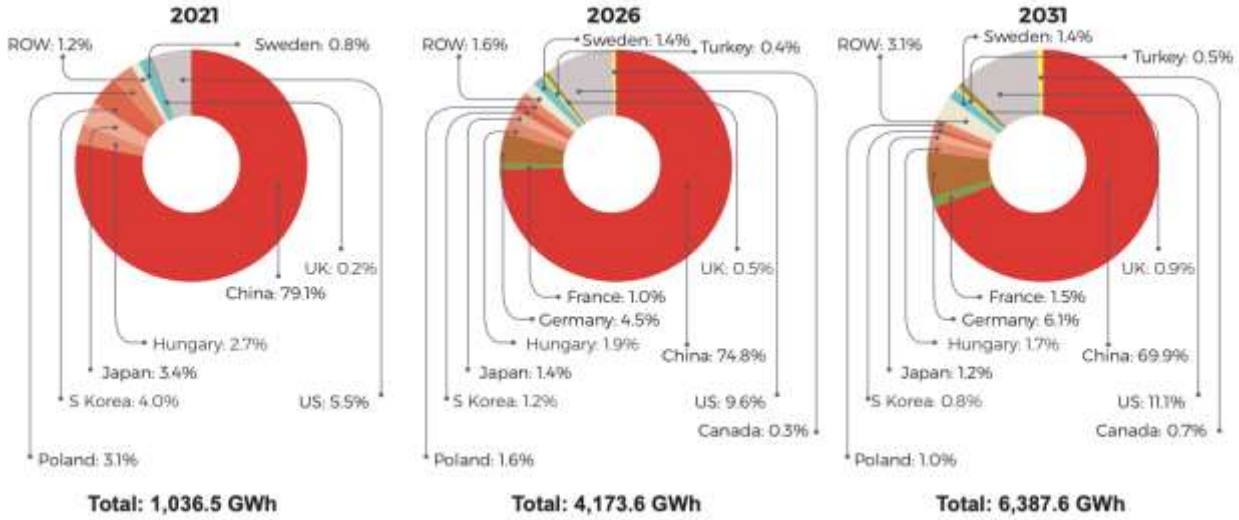

Figure 4 Lithium Ion Battery Cell Capacity by Country (Source: Benchmark Mineral Intelligence)

globally, with 79.1%, 4% and 3.4% respectively, and are expected to largely maintain this dominance (ibid, p. 7). In automotive specifically, the top ten battery makers from the three countries supply a combined 92% of the global market (SNE 2022). The growth in manufacturing capacity projected globally is largely driven by East Asian firms, as they account for much of the production in other regions due to an aggressive foreign direct investment (FDI) push, which includes joint ventures with several dominant automotive firms (ibid).

The East Asian Early Mover Advantage

i) China

China's dominance in lithium-ion battery manufacturing has attributed new importance to the nation as part of the global automotive industry. As China's automotive industry has historically largely been driven by foreign firms investing in the country through joint ventures to access its cheap labour markets and bourgeoning consumer class (Shioji 2012; Wang et al. 2013), most of the production is geared to the domestic Chinese market, with modest vehicle

exports (OEC 2022-a). China's place in global supply chains has largely been at the vehicle part level, where it has found much success supplying foreign firms (OEC 2022-b).

However, with China's domination of the EV battery market, domestic EV and battery firms have gained momentum, supplying foreign vehicle manufacturers on their own terms and competing with established players. Several of China's top battery manufacturers have become entrenched in the global automotive supply chains, securing supply agreements for EV produced outside of its borders. China is home to six of the top 10 EV battery manufacturers, accounting for a combined market share of 55.3%[6] (SNE 2022). Two Chinese battery makers, Contemporary Amperex Technology Co. Limited (CATL) and Build Your Dreams (BYD), hold nearly half of the global market share for EV lithium-ion batteries, with of 33.7% and 12.1% respectively (ibid). Notably, BYD has developed their own vehicle models, making it one of the most vertically integrated EV automakers. Chinese battery component firms also supply foreign battery cell manufacturers, having mostly cornered the markets for cathode and anode materials and critical mineral sourcing and refining (Graham et al. 2021; Schadlow & Herman 2021) and positioned themselves as essential for lithium-ion battery manufacturing (Meckling & Hughes 2018).

ii) Korea

As described in the previous section, Korea's automotive sector has evolved at an astounding pace in the last few decades, emerging from the shadow of foreign (primarily Japanese) automakers to offer globally competitive products. Hyundai and Kia (which is owned by Hyundai Motor Group - HMG) were the 5th and 8th largest automakers by global market share

[6] The percentage numbers fluctuate from quarter to quarter, but the relative position of the top firms has been mostly stable.

in 2021, making HMG the second largest automotive group behind Toyota (Carlier 2022-a). In terms of EV sales, HMG is the 6th largest, with a global market share of 5.12% (Carlier 2022-b). Much of this is from exports, given Korea's relatively small domestic market.

In addition to its strong performance in EV manufacturing, Korean lithium-ion batteries are in high demand. Korean battery firms have supply agreements with many of the top automotive firms, with battery factories in several countries accounting for much of their production. Three major Korean firms hold a combined 25.9%[7] share of the EV battery market: LG (14.9%), SK Innovation (7%) and Samsung (4%) (SNE 2022). Korean battery firms are notably strong in all facets of the industry, including scientific innovation and technology application, something which firms from other countries have not been able to replicate with the same degree of success (Moreno-Brieva & Merino-Moreno 2021). Contrary to China, which can attribute its market share largely to its exceptional domestic EV adoption, much of Korea's battery sales are made for EVs sold and/or manufactured outside its borders.

iii) Japan

The Japanese automotive sector has historically been one of the world's strongest, and this continues to this day. Toyota and Nissan hold the first (10.5%) and sixth (4.6%) largest global market shares respectively (Carlier 2022-a). However, in terms of EV sales, both firms do not fare as well, with Nissan[8] and Toyota taking the eighth (4.26%) and twelth (1.9%) places respectively (Carlier 2022-b).

Their relatively lackluster EV performance mirrors their market share of the battery sector, despite having had a substantial lead in the past. Only one firm, Panasonic, still holds a

[7] The percentage numbers fluctuate from quarter to quarter, but the relative position of the top firms has been mostly stable.
[8] As part of the Nissan-Renault-Mitsubishi Alliance.

significant market share (10.8% - SNE 2022), most of which can be attributed to its joint venture with Tesla. Nissan once held a substantial market share as well through a joint venture with NEC Corporation, but exited the battery sector when both partners sold their shares to Chinese energy company firm Envision Group in 2018. Japan has found more success in R&D and innovation for battery technology, following a similar pattern to the U.S. and Germany, but has not yet been able to match China and Korea in technology application or production (Moreno-Brieva & Merino-Moreno 2021).

Korean-Japanese Economic Complementarity

Current political tensions and direct economic competition in end products have soured relations between Korea and Japan to a historic low point. Yet, as previously established, Korea and Japan maintain a high degree of economic complementarity and make for theoretically compelling regional allies. There are several clearly identifiable areas in which the two nations and their respective automotive and battery firms could collaborate to improve both of their international standings and global market shares. Both have complimentary strengths in the sector, outlined in the following subsections.

i) Korean Comparative Advantage

The Korean manufacturing industry is underpinned by a highly educated, capable workforce that continuously makes strides in productivity. Korea's productivity per worker has risen sharply since the nation's early years, owing to its historical focus on human and physical capital investment growth (Lee 2016). Korean productivity per worker climbed from 8% in 1960 to 61%[9] in 2010, a nearly eightfold increase, while Japan only rose by 2.7 times in the same

[9] With the U.S. as the base value of 100%

period, from 29% to 78%, and China 2.4 times (ibid, p. 9). The gaps in human and physical capital per worker has also decreased substantially in the past decade relative to the U.S. and Japan, a trend which is expected to continue and further increase Korean labour productivity (ibid, p. 9).

While this rapid increase in productivity per worker has resulted in a notable decrease[10] in manufacturing cost-competitiveness when compared to China and South-East Asian emerging economies (Deloitte 2016), Korea has shifted its strategy at the turn of the millennium from being a low-cost component supplier and assembler for Japanese end products to competing directly with Japanese goods on the basis of quality (Rhyu & Lee 2006, p. 206).

Since Korean end products have become increasingly competitive in terms of quality, Korean policy makers have begun to focus on innovation as an avenue for greater value-added growth. Research and development expenditure in the country has increased significantly, jumping from 2.2% of GDP in 1996 to 4.5% in 2018 (World Bank 2022). Korea also aims to become an attractive destination for global tech talent, a feat it has so far struggled to accomplish (Yoon 2022). Support for start-ups, which have historically been neglected in favour of chaebols, has been a priority for Korea, demonstrated by the establishment of the Ministry of SMEs and Startups (MSS) in 2017 (ibid).

Korea also dominates in semiconductor manufacturing, with its firms holding a sizable lead over Japan in terms of market share (Goodman et al. 2019, p. 13). As semiconductors become exponentially more important in automotive manufacturing, with increasingly connected and feature-laden EVs in particular requiring significantly more chips than traditional ICE vehicles driving a large increase in chip demand (Research and Markets 2022). Korea's

[10] It remains more cost-competitive than Japan, however.

advantages are not only industrial, but also geographical, as Japan's proneness to earthquakes and tsunami have had a disruptive impact on its own semiconductor industry which has resulted in frequent shortages (Goodman et al. 2019, p. 2).

ii) Japanese Competitive Advantage

Despite having a comparative disadvantage in battery manufacturing against Korea, Japanese firms have a long-established presence and expertise in the Market. Panasonic has been the supplier for its joint venture partner Tesla, the best-selling EV firm, since 2009. Nissan, prior to the sale of the venture to Envision, constructed Europe's first EV lithium-ion battery plant in 2012 in the U.K. to supply its massively popular Nissan Leaf EV. Both of these firms, however, have faced setbacks in their market performance, with the former being challenged by CATL as a supplier for Tesla in China and the latter having sold off its battery operations.

Japan's relative strength stands with its vehicle manufacturing. Japan is home to several of the top-selling automakers, which dominate the market for PHEV (Dooley & Ueno 2021). Despite slow adoption of EVs for Japanese automakers, they are actively developing the technology with massive R&D expenditure while waiting for adoption to become more common before committing to a full scale transition (ibid). This strategy seems sensible, given that Japanese automakers continue to hold the largest global market share, most of which continues to be earned through the sale of traditional ICE vehicles or PHEV.

Japan's domestic market provides another key advantage, being significantly larger than Korea's. This has permitted relatively smaller suppliers of purpose-built automotive semiconductors and batteries, which tend to be favoured by domestic firms, to survive in an increasingly competitive global market (Goodman et al. 2019). Japanese automobile ownership rates eclipses that of Korea despite recent gains (Seoul Metropolitan Government 2014), and

Japanese GDP per capita remains stronger (Our World in Data 2021), which when coupled with Japan's significantly larger population, point to a far more resilient domestic market than Korea's, shielded from external shock to some degree.

Japan also has a notable advantage in complex machinery manufacturing and chemical refining, all of which are essential for Korea's sustained advantage in actual semiconductor manufacturing (ibid). Japanese exports of these goods are crucial for the global EV market, as they are the most advanced manufacturer of these inputs. Few alternatives exist, leading to several countries (Korea included) having become reliant on Japan's production (ibid).

Critical mineral sourcing is a relative strength of Japan, albeit not by a large margin. While Japan and Korea are known to be resource-poor, which leaves both vulnerable to high levels of raw material supply chain risks, Japan's supply is more diversified, sourcing from a wider variety of more politically stable countries (Greenwood et al. 2021). Japan's greater GDP and more established supply chains afford it more options in raw material sourcing outside politically unstable or unpredictable markets, making sustained supply shortages less likely and less costly (ibid).

Current Battery Manufacturing Positions

One key differentiating factor between Chinese battery firms and their East-Asian Rivals is the proliferation of FDI. The majority of the sales for Korean and Japanese battery firms are destined for foreign automakers, and producing batteries in these markets makes good business sense, reducing transportation costs and trade barriers. Korean and Japanese firms do not face the same level of scrutiny that Chinese firms do, making them attractive suppliers for automobile manufacturers in a time of geopolitical uncertainty and potential East-West decoupling.

i) Battery Cell Manufacturing

When considering the four major conglomerates from Korea and Japan involved in battery cell manufacturing, being Panasonic, LG, SK, and Samsung, it becomes evident that both Korean and Japanese battery cell manufacturers rely heavily on FDI to manufacture their batteries. Figure 5 breaks down the proportions of each firm's cell manufacturing capacity based on location.

	Panasonic	LG	SK	Samsung
Domestic Capacity	13.23%	2.28%	2.34%	3.97%
FDI Capacity (inc. China)	82.46%	97.72%	97.66%	96.03%
FDI Capacity (exc. China)	71.38%	74.52%	73.24%	82.16%
Capacity in China	11.08%	23.19%	24.41%	13.88%
Capacity in Europe	0.00%	38.02%	62.74%	39.65%
Capacity in North America	71.38%	28.90%	10.50%	39.65%
Joint Venture Capacity	71.38%	19.01%	31.74%	39.65%
Total Capacity (MWh)	81,250	263,000	204,800	100,874

Figure 5: Battery Cell Manufacturing Proportions (current and announced) by Market (Source: Bloomberg NEF 2022-a)

There are several key observations to be made from these companies' cell manufacturing capacities. First, Korean cell manufacturers operate on a far larger scale than their Japanese counterpart. Samsung, the smallest of the three main Korean chaebols involved in cell manufacturing, has more capacity than Panasonic by a margin of over 20%. Panasonic also relies

on domestic manufacturing by a significantly greater margin than Korean manufacturers, which manufacture nearly all of their battery cells abroad.

The distribution of FDI between the firms is also telling. Panasonic is also conspicuously absent from the European market, which is the largest FDI market for all three of the Korean Chaebols, indicating a wider global presence. Panasonic's production is concentrated in the US, where it manufactures battery cells exclusively through a joint venture with Tesla. Korean firms tend to be far more invested in the Chinese market, roughly in equal proportion to the North American market, in line with the previously established framework; Korean firms prefer not to choose a side, while Japan tends to sway towards American influence.

Joint ventures also make up a large proportion of each firm's production capacity. Japanese firms are far more reliant on partnerships, with more than 70% of Panasonic's capacity being tied to Tesla. Nissan also relied on a partner for its battery manufacturing operations before selling off its stake. Korean firms also benefit from joint ventures, with smaller players relying more on partner capital, while more established players enjoy a greater degree of independence. However, Panasonic's joint venture with Tesla has proven fruitful, as it supplies the best-selling electric vehicle brand for several years running.

ii) Battery Component Manufacturing

The dominance of Korean manufacturers is evident at the battery component level as well, as figure 6 illustrates. Korean firms holding a significantly higher market share than their Japanese counterparts, with the notable exception in anode material and battery separator manufacturing. Cathode materials are dominated by Korean firms, while the next most valuable components (anode materials and separators) have superior Japanese capacity. Neither Korean or

Japanese firms hold large shares of the global market share, however, which is dominated by Chinese firms.

	Cathode	Anode	Electrolyte/ Salts	Precursor	Separators
Korea total	551,300	90,240	158,400	30,000	2,950
Japan total	260,702	146,100	124,700	0	5,739
Korea-Japan JV total	-	-	-	-	800
Korea global market share	6.62%	2.70%	7.52%	0.72%	7.60%
Japan global market share	3.13%	4.37%	5.92%	0.00%	14.78%
Korea-Japan JV market share	-	-	-	-	2.06%

Figure 6 Battery material manufacturing capacity (current and planned) by country (Source: Bloomberg NEF 2022-b)

Relatively speaking, Japanese firms produce a far greater share of components than they do battery cells, indicating that they are integrated into foreign supply chains. As figure 7 demonstrates, the largest Japanese battery component manufacturers are relatively far more active in terms of FDI, with a significantly greater share of their production capacity being located abroad compared to their Korean counterparts. Japanese firms currently have significant production capacity in all major markets, while Korean firms are concentrated domestically[11].

[11] This is subject to change, however; capacity growth estimates do not account for location.

	Korean Firms				Japanese Firms			
	POSCO	**LG**	**EcoPro BM**	**L&F Co.**	**Sumitomo**	**Mitsubishi**	**Hitachi**	**Central Glass**
Domestic Capacity	80.65%	99.34%	100%	100%	90.18%	17.55%	100%	22.68%
FDI Capacity	19.35%	0.66%	0%	0%	9.82%	82.45%	0%	77.32%
Capacity in China	19.35%	0%	0%	0%	0%	41.22%	0%	25.77%
Capacity in Europe	0%	0.66%	0%	0%	0%	10.31%	0%	51.55%
Capacity in North America	0%	0%	0%	0%	0%	30.92%	0%	0%
Capacity in Asia (Non-Domestic)	0%	0%	0%	0%	9.82%	0%	0%	0%
Joint Venture Capacity	19.35%	0.66%	0%	0%	0%	0%	0%	0%
Total Capacity (Tons)	310,000	120,800	102,300	88,000	176,650	97,031	46,000	38,800

Figure 7 Battery material manufacturing capacity - FDI proportions of major firms (Source: Bloomberg NEF 2022-b)

Current Cooperation: Case Studies

Being a relatively young industry that is expecting a ramp up at an unprecedented scale, the EV lithium-ion battery sector has much room for new players and alliances. Figures 5 through 7 demonstrate that firms with minimal prior presence in the automotive sectors are becoming crucial suppliers for transitioning automakers, most of which do not have their own battery manufacturing capability. The figures also indicate that large proportions of battery manufacturing capacity is initiated through FDI joint ventures.

While few concrete examples of Korean-Japanese cooperation exist at the time of writing, encouraging trends have been occurring.

i) Separators: Sumitomo and LG Toray

Figures 6 and 7 also reveal encouraging signs for cooperation between Korea and Japan, namely separators. For instance, most of Sumitomo's modest separator manufacturing capacity is located in Korea through FDI, including newly announced capacity upgrades despite the ongoing trade dispute. This is the only battery material FDI directly between Korea and Japan, and given

the prior theoretical framework drawn, it is unlikely to set a trend as the business environment between the two nations remains unstable. The precedent set by the Korean Supreme Court that allows the government to seize the assets of the two Japanese firms may be a powerful signal that could slow down bilateral FDI. Nonetheless, this example is encouraging.

A more promising development that could indicate a greater trend is joint FDI in a third country. In June of 2022, two other major manufacturers, Toray of Japan and LG of Korea have officially announced a relatively large-scale joint venture to produce separators in Hungary. As the large majority of cell manufacturing capacity from Korean and Japanese firms are held abroad, collaborating on materials manufacturing abroad is likely to increase. Investing jointly in these projects is ideal, securing the benefits of complementarity and avoiding the political tensions of Korea and Japan.

ii) LG Energy Solutions Honda Battery Cell Manufacturing Joint Venture

Joint FDI is transcending battery material joint ventures and applies to cell manufacturing as well. Since early 2022, Korean battery firm LG Energy Solutions and Japanese automaker Honda have signaled their interest in setting up a joint venture to supply Honda's electrification efforts in the United States. Once again, complementarity is key, as automakers are increasingly reliant on external battery manufacturers rather than vertically integrated ICE departments. Honda has demonstrated its willingness to work with a Korean battery maker, securing its North American supply by contributing capital to the venture.

Takeaways

Korea's innovation policies, relative cost competitiveness and increasingly complex manufacturing prowess have given their firms a substantial competitive advantage in the battery

and semiconductor sectors over Japan. Japan, for its part, has notable advantages upstream (mineral and raw material sourcing, chemical refining, machinery manufacturing) and downstream (passenger vehicles) from the battery and semiconductor sectors. Both have notable global footprints in their areas of expertise with Japanese automakers and Korean battery firms having constructed (or at least announced) plants across the globe.

These complementary strengths make clear the fact that both nation's automotive industries make for intrinsically compelling partners, and existing cooperation prior to the trade war demonstrates it. This becomes more apparent within the diplomatic animosity context, as it is these very complementarities that are being weaponised; the strength of these complementarities actually exacerbate the impact of the current trade dispute. Jeopardising existing cooperation leads to a stale mate in the medium-to-long run, as evidenced in the trade war's effect on semiconductor manufacturing: "Japanese firms with clear competitiveness in the manufacturing of [these] chemicals risk losing customers in a market where there are currently no obvious alternative buyers. Korean firms with clear competitiveness in semiconductor manufacturing may be forced to invest in or source from alternative sources that are inferior to their current sources," (Goodman et al. 2019, p. 25).

However, the battery cell and materials manufacturing sectors has been largely isolated from Korea and Japan's diplomatic dispute. Rather than exercising direct political pressure to stabilise relations, Korean and Japanese firms have circumvented the influence of their states, operating largely abroad. In a young capital-intensive industry, partnerships are invaluable, and early signs at cooperation between Korean and Japanese firms are encouraging. The allure of the lucrative EV transition, along with the haste that is pulling automakers to source externally, is a

boon for Korean and Japanese firms, both of which are heavily invested in the automotive sector and maintain attractive complementarities.

In battery manufacturing, liberal theories produce the most reasonably accurate predictions as to the state of Korean-Japanese relations. The liberal inclusion of non-state actors, namely the private sector, as influential forces is key to understanding the progression of economic cooperation. The pressure of the private sector in this case has been rather indirect, contrary to the interest group framework set out by Mansfield and Pollins, yet the joint ventures and FDI outflows between Korean and Japanese firms send a strong signal. Governments may take note and reconsider their hawkish diplomatic stances in order to make bilateral joint venture FDI a feasible option for firms in either country for their firms.

Liberal trade theories are also effective at predicting the current trend in EV battery cell and component cooperation. In this case, Steffan Linder's theory holds up at the firm level, if not the country level; firms from Japan and Korea are willing to integrate their supply chains, as their similar levels of technical capability and economic development make them ideal industrial partners. General competitive advantage theory holds as well, although not perfectly. While there are some overlaps, there are early signs of specialisation in battery component supply chains, as Korean firms dominate in cathode materials and electrolyte production while Japanese firms are stronger in anode materials and separator production. Honda's choice of a Korean battery supplier over Japanese alternatives also demonstrate this, as firms make rational, self-interested choices even when their home states do not.

This last factor demonstrates the shortcoming in realist theory when addressing the state of trade and cooperation in battery manufacturing. States have not been acting in a rational, self-interested manner. Rather, as politicians seek short-term symbolic victories, they have pushed

private sector investment away from their domestic markets. Battery component manufacturing has largely been concentrated domestically, but the LG Toray announcement in Hungary indicates that joint production will likely not remain within Korea or Japan, at least until the political situation is stabilised in the long term.

CONCLUSION & FUTURE OUTLOOK

Korea and Japan have been confounding scholars of international relations for years, with their theoretical compatibilities as strong allies and economic partners being betrayed by perplexingly persistent animosity and recalcitrance. Since democratisation, Korea has been fixated on its colonial past with Japan, and continues to escalate the ensuing disputes and renege on past agreements to resolve them once and for all. Japan has seemingly lost interest in dealing with Korea, believing their hawkish stance to be self-serving and disingenuous. Doubt is manifesting as to whether Korea truly wants to resolve its historical grievances with Japan, or if it would rather keep them as tools for populist agitation.

There are clearly demonstrable benefits to Korean-Japanese economic cooperation in the automotive sector, especially at the component and material sourcing levels, that could strengthen and fortify their market share of the global automotive industry. Each country has clearly defined comparative strengths, be it in batteries and semiconductors from Korea or Machinery and chemical refining from Japan, that could form more integrated, efficient and effective supply chains. However, since Japan has demonstrated that it is willing to hold the current supply chains they share hostage to rebuff Korean hawkishness with destabilising effect, the value proposition of supply chain integration has been weakened.

Korea, from its relatively humble origin, has benefitted greatly from Japanese economic cooperation in the automotive sector, making Korea's hawkish stance towards Japan all the more perplexing and seemingly facetious. Without cooperation from Japan, the Korean automotive industry may not exist in its current form, and the Korean automotive giant that is now Hyundai - Kia may have been relegated to the status of low-quality domestic automaker without its technology boost from Mitsubishi. Yet little mention is made of this period of historic industrial

cooperation when Korea speaks of their past with Japan. Japanese automakers continue to lead in the market and maintain an enduring legacy of credibility and reliability that Korean automakers have yet to reach. Thus, there can be much advantage to glean from further ties to Japanese firms.

Japan, which is far better integrated into the global economy and tends to be upstream from many important supply chains that Korea begrudgingly relies upon, has much less to lose from this dispute. The blows it dealt to Korea in the trade war have not been reciprocated, as there is little Korea can do in material terms. Yet, Japan has consistently demonstrated a willingness to move forward, to stop looking to the past and start working towards a better future. Effectively, it is Korea's choice to make if they want to improve relations in the long term. Much work will need to be done in order to make Korean overtures seem genuine and permanent, as past precedents have done much to harm Korea's diplomatic credibility in the eyes of Japan.

The historical grievances remain legitimate, despite their weaponization by the Moon administration. The Abe administration's revisionist stance on history is regrettable, and the former colonial subjects of the Japanese Empire have the right to voice their discontent. Reparations are not the only issue for Korea, either, with land disputes stemming from Japan's occupation being a heated point of contention. However, addressing historical grievances must be done independently of other areas of diplomatic relations.

The newly elected Yoon administration has said as much, with the aim to separate economic and security cooperation from addressing historical grievances, pursing two tracts of diplomacy while isolating them from one another. This is a step in the right direction, as it signals stability in economic relations with Japan. However, it stands to reason that Japan is

weary of this overture, as any following Korean administration could once again reverse course. Much should be done to assure Japan that this is not the case, as fruitful cooperation could come from the two East Asian middle powers forming tighter bonds in an era of geopolitical uncertainty and economic opportunity.

Despite all of the unresolved grievances and material consequences of the bilateral trade war, the agency of private sector firms within each country should not be understated. If cross-border trade between the two nations is rendered unattractive by political recalcitrance, firms from both countries have managed to cooperate outside of their governments' spheres of influence, demonstrating the intrinsic value in doing so. The announcement of the LG-Honda battery cell manufacturing joint venture in the US, and the LG-Toray battery separator production joint venture in Hungary are evidence that firms from both nations see the benefit for cooperation, and their export-oriented economies have led to cooperation by way of joint FDI.

Conventional liberal international relations theory posits that the private sector will pressure their government to stabilise diplomatic rhetoric with a nation in which it has vested interest. While the political situation for this particular diplomatic spat may make opposition to the government stance on Japan unattractive to Korean firms, as a large proportion of the electorate views the Korean government's hawkish stance on Japan favourably, they can outright circumvent these rough waters.

Thus, while the reversing course and shifting to long-term amicable diplomatic policy between the nations themselves is uncertain, the firms of Korea and Japan will find ways to cooperate with one another. The opportunities presented by the green revolution in the automotive sector is simply too strong a force to resist. As the burgeoning electric vehicle battery sector develops, more attention must be paid to the private sector's role in influencing

government action. The lucrative but capital-intensive market may prove to be a catalyst for reproachment between the governments of Korea and Japan.

As their firms seek to cooperate to maintain their substantial lead in the sector, their respective governments may want to incentivise joint investments in their own domestic markets, rather than pushing all of the capital to third markets. For the time being, the world will watch closely, as a new Korean administration promises to shift its tone and reverse the previous administration's hawkish stance. Korean governments have backpedalled in the past, as Japan's government has noted on several occasion. One can only hope that this détente will last.

The case of Korea and Japan is of particular importance as it defies the conventions of international relations theory in a substantial way. These nations are highly influential in the regional and even global economic and security environment, firmly planted between the US and Chinese spheres of influence. Understanding their situation is crucial to understanding their respective places in the increasingly fragile global order. Marrying historical context to economic and political analyses is of paramount importance for making more meaningful predictions on diplomatic and trade relations, particularly in a post-colonial context.

Further research into Korean and Japanese relations, particularly as it pertains to supply chain integration, would also be valuable for governments and business organisations looking to make funding decisions for large-scale automotive projects. The complexity of East Asian dynamics should inform business decisions as an increasing number of automakers and battery manufacturers seek to invest all over the world. Current trends indicate that there is a future for Korean-Japanese collaboration in the private sector, regardless of their respective governments' political desires.

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