



South Korea's Trade Diplomacy Strategy towards the Netherlands in Dealing with Japan's Semiconductor Raw Material Protection Policy during 2019-2022

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Abstract

The objective of this study was to elucidate South Korea's trade diplomacy endeavors in augmenting trade and investment in the Netherlands during the timeframe of 2019-2022. The author employs the notions of economic diplomacy and trade diplomacy from the Okano-Heijmans conceptual framework to elucidate the essence of the research. During the 2019-2022 timeframe, South Korea has implemented trade diplomacy efforts aimed at enhancing its potential to export products, particularly semiconductors. The implementation of a safeguard policy for Japanese semiconductor raw materials is a response to constraints in the availability of raw materials, as well as the trade conflict between the United States and China, which has repercussions for South Korea's trade ties with Japan. To enhance exports, the South Korean government is implementing several trade diplomacy initiatives, including engaging in commerce through Foreign Trade Agreements and promoting investment through bilateral relations focused on both government and private sector involvement, particularly with the Netherlands. In addition, South Korean representatives visited ASML, a Dutch company that manufactures semiconductor production machinery. Nevertheless, South Korea must confront some obstacles in order to succeed in the semiconductor trade battle, particularly the imperative for quality advancement. In this paper, the author will also explore the investment prospects of South Korea for the Netherlands.

Keywords: Economic Diplomacy, Trade Diplomacy, Free Trade Agreement

Introduction

A semiconductor is a crystalline substance that exhibits electrical conductivity between that of conductors and insulators. Semiconductors are present in various electronic devices such as computers, televisions, diode lasers, microwave frequency integrated circuits, and medical diagnostic equipment (Britannica Encyclopedia, n.d.). Semiconductors are crucial components due to their ability to conduct electricity in both insulators and conductors, while remaining unaffected by light, temperature, and magnetic fields. Currently, semiconductors are in high demand due to the aspirations of various countries, particularly developed ones, to pursue digital transformation and advancements in Artificial Intelligence. Semiconductors play a crucial role in facilitating these breakthroughs.

Semiconductors have emerged as a prominent topic in global commerce during the year 2019. The cause of this was the implementation of US policies aimed at restricting China's semiconductor trade through the establishment of alliances with different nations. One of the countries that has formed a partnership with the United States is South Korea. South Korea is currently encountering issues pertaining to semiconductors. South Korea faces challenges due to Japan's implementation of a protection policy that permits limitations on



the export of chemicals used in semiconductor production. Particularly due to South Korea's prominent role as the home of two major semiconductor manufacturing companies in the global supply chain, namely Samsung and SK Hynix. The presence of this protective stance has caused diplomatic strain between South Korea and Japan (Harrison, 2019).

Tensions in relations with Japan significantly affect the South Korean market, particularly in the semiconductor industry. In order to maintain its status as a leading provider of semiconductors in the global electronics market, the South Korean Government has taken diplomatic measures. It has achieved a market share of 18.4 percent in 2019, which increased to 19.9 percent in 2021. The purpose of this study was to examine the approach employed by the South Korean Government under the leadership of Moon Jae In in bilateral negotiations with the Netherlands, specifically in the context of a trade agreement. The Netherlands has considered South Korea a significant trading ally for a considerable period of time. This was further emphasized by the bilateral dialogue between President Moon Jae In and Prime Minister Mark Rutte on the matter of enhancing collaboration on a global scale, a topic that has ceased to be pertinent since 2016. The Netherlands possesses unique expertise in this domain, distinguishing it from other nations. The subject of discussion is the technology of semi-conductor chips, namely the ASML firm (Aiyong, 2021). This study will address the aforementioned issue by employing the Okano Heijmans analysis tool framework, which will specifically examine the range of trade diplomacy. Trade diplomacy, as described by Drysdale and Pekkanen, and Solís and Katada, refers to the strategic use of political means to promote economic growth. The effectiveness of trade diplomacy relies on the strategic utilization of political measures to conduct cost-benefit analyses.

This study will examine South Korea's use of various trade diplomacy tactics with the Netherlands by means of establishing foreign trade agreements. The researcher will also analyze the impact of foreign trade agreements on South Korea's export revenue, particularly with regards to semiconductor products. This research is academically significant as it aims to elucidate the trade diplomacy between South Korea and the Netherlands, focusing on international trade agreements, the ongoing process, and the resulting ramifications for the South Korean economy. Moreover, conducting this research is crucial as it can offer a comprehensive analysis of the Korean Government's strategic plan for the period of 2019 to 2022, aimed at boosting sales and purchase statistics for semiconductor products. Furthermore, this research can serve as a valuable resource for providing advice and policy proposals to the Government of South Korea in addressing the decrease in semiconductor export revenues, particularly in light of the intensifying dynamics of the international market.

Conceptual Framework

Economic Diplomacy

Economic diplomacy refers to the strategic efforts made by state players to attain economic security within a chaotic global system. The presence of this comprehension demonstrates the participation of governmental bodies in attaining economic stability for the populace of that nation. The indicators that are gathered to assess economic security include economic well-being and political stability within a nation. In this framework, economic diplomacy is conducted by the government through the implementation of instruments that primarily have political or economic objectives. Practically, actors employ

instruments such as actions and agreements within the realm of political activity (Muthriana et al., 2015). Economic diplomacy refers to the use of political techniques to enhance a nation's economic well-being through discussions on an international level.

Furthermore, economic diplomacy can be defined as the utilization of economic tactics to attain enhanced political stability within a specific nation. Okano Heijmans categorizes economic diplomacy into five distinct streams: commercial diplomacy, trade diplomacy, financial diplomacy, inducements, and sanctions. A diagram is utilized to illustrate the techniques and aims employed by policy makers in explaining the five streams. Furthermore, there is an elucidation pertaining to the deliberations of policy makers and the categories of policies that will be formulated taking these deliberations into account (Santoso & Moenardy, 2023). The graphic illustrates how economic means, motivated by political objectives, can lead to the establishment of political stability characterized by power dynamics. The figure illustrates that economic diplomacy typically encompasses political initiatives and negotiations. The sequence that embodies this principle consists of sanctions, followed by compensation. This is derived from the computation of expenditure-benefit, which serves as the foundation for policymakers while executing diplomatic endeavors. The disbursement of benefits is determined by political considerations, with the primary aim being to maintain a stable economic state (Arum & Suryadipira, 2021)

Trade Diplomacy

According to Okano-Heijmans conceptual framework, trade diplomacy is a component of economic diplomacy. Trade diplomacy refers to the strategic use of political means to promote economic success. Additionally, trade diplomacy can be seen as diplomatic efforts focused on the regulation of trade systems and market dynamics influenced by these systems (Woolcock & Bayne, 2013). A nation's policymakers must be able to appropriately balance national interests with foreign policy in order to engage in trade diplomacy. The primary objective of cooperative procurement is to facilitate the sale of goods and services in a country by establishing trade agreements between two or more countries, provided that appropriate changes are made. Market actors play a role in trade diplomacy by influencing diplomatic decision-making, either implicitly or explicitly.

According to Okano-Heijmans' conceptual framework, the methods used in trade diplomacy aim to benefit the community of producers and distributors of commodities and services. The available options include tools that facilitate international commerce, such as policies that promote the export and import of goods and services, as well as measures that enhance the domestic production of goods and services, such as the implementation of tariff policies and obstacles to investment and trade (Arum & Suryadipira, 2021). The notion of economic diplomacy involves striking a balance between political measures that serve the greater benefit of society and the interests associated with particular policies. This leads to conflict between the government authorities and the market. Market actors can influence diplomacy, but political considerations can extend beyond trade interests (Woolcock & Bayne, 2013).

Free Trade Agreement



According to Okano-Heijmans' conceptual framework, a Free Trade Agreement is considered a diplomatic instrument that facilitates the exchange of goods and services between countries. A free trade agreement can be defined as a formal agreement between two or more countries in which they agree on specific obligations that impact the exchange of goods and services, the safeguarding of investors, and the protection of intellectual property rights among the participating countries (Bayne, 2014).

Okano-Heijmans states that a free trade agreement is considered an instrument within the flow of trade diplomacy, as depicted in the diagram of the conceptual framework of economic diplomacy. Free trade agreements entail the participation of two or more countries, requiring policy makers to effectively reconcile national interests with the adopted foreign policy agenda. This assumes that any disparity in execution will adversely affect other factors, hence compromising the effectiveness of policy implementation. When utilizing the Okano-Heijmans conceptual framework, the execution of economic diplomacy, such as awarding membership in international financial organizations or securing trade cooperation, should rely on meticulous and well-informed assessments. The state must possess the capacity to establish priorities that can foster reciprocity and harmonize governmental objectives with prevailing policy agendas. To ensure optimal implementation, it is necessary to regularly examine the implementation based on periodic investigations (Ando et al., 2022).

Method

This study employs a qualitative research methodology that utilizes exploratory evaluation methods. The data collection technique involved conducting book reviews and conducting internet searches. The theoretical underpinning of this work relies on primary and secondary data sources. The primary data is derived from the oral remarks made by the individuals accountable for the relevant matters (Sugiyono, 2013). Furthermore, supplementary data in the form of scholarly publications, books, and research reports will also be utilized to substantiate the research findings. In addition to the current data, data gathered from reputable agencies and trusted news sites pertaining to the subject of study will also be utilized as a point of reference. The references for this study will include the International Trade Administration, the World Bank, the World Trade Organization, the Ministry of Trade, Industry and Energy of South Korea, and the Ministry of Foreign Relations of South Korea. Moreover, the author systematically examines and evaluates all the facts, data, and information acquired in order to derive a comprehensive understanding of the Republic of Korea's commercial diplomacy approach vis-à-vis the Netherlands. The researcher will investigate the impact of the trade agreement between South Korea and the Netherlands on the semiconductor issue encountered by South Korea. Moreover, concerning the consequences resulting from the presence of a bilateral free trade agreement between South Korea and the Netherlands.

Finding and Discussion

The South Korean K-Semiconductor Belt Framework as an effort to maintain the Semiconductor Ecosystem

The K-Semiconductor Belt Framework in South Korea aims to protect and ensure the stability of the Semiconductor Ecosystem. The K-Semiconductor Belt Strategy is a strategy

framework devised in South Korea under the Moon Jae In administration (European Commission, 2021). The objective of this strategy is to position South Korea as the leading worldwide supplier of semiconductors by 2030, through a collaborative effort between the state and business sector. Its execution entails the involvement of multiple entities, one of which is the Ministry of Trade, Industry and Energy. The K-Semiconductor Belt strategy was initially proposed by President Moon Jae In at a speech on May 13, 2021. During this event, Moon Jae In stressed South Korea's commitment to solidifying its position as the leading global producer of semiconductors and becoming a trailblazer in this field. Future semiconductor system in the year 2030. The presence of the K semiconductor belt is anticipated to mitigate any surge in the pricing of semiconductors and electronic products that rely on semiconductors as components. The government aims to consolidate its diverse resources in taxation, finance, infrastructure, and human resources to create the world's largest and most advanced supply chain. Particularly in terms of research expenditures and the advancement of the semiconductor chip sector (Ando et al., 2022).

The K-Semiconductor belt strategy will involve the implementation of a system where the South Korean Government offers various schemes, including the provision of low-interest loans, in order to encourage investment in the development and manufacture of semiconductors. The South Korean government provides a tax deduction ranging from 40% to 50% for research and development activities. In addition, the government is providing a discount ranging from 6% to 16% for investments made in semiconductor manufacturing facilities. Subsequently, these techniques were incorporated into the 'Korean Chips Act' (Aiying, 2021)

The South Korean government is partnering with many industries, including ASML, Samsung, and SK Hynix, to achieve the K-Semiconductor belt strategy. During the official signing event organized by the Ministry of Commerce, Energy, and Investment, ASML Korea committed to providing an investment amount of 210 million USD, which is equivalent to 240 billion KRW. The investment was made with the objective of constructing facilities for repairing used semiconductors and establishing a training center in Hwaseong City, Gyeonggi Province. This investment is expected to serve as a catalyst for South Korea to establish itself as a leading semiconductor producer with advanced technology and superior quality (Aiying, 2021). In addition to SK Hynix, other firms such as Samsung and ASML also play a significant role in the development of the K-semiconductor Belt.

Samsung Corporation is a manufacturer of electronic goods, such as digital media equipment, semiconductors, memory cards, and integrated systems (Britannica, n.d.). Samsung has stated its intention to boost investment in semiconductor systems to a total of 171 trillion KRW through the K-Semiconductor Belt ceremony. The current nominal value included in the plan has surpassed the nominal investment that Samsung had first pledged in April 2019, which amounted to 133 trillion KRW (Bae, 2021)

Aside from investing, Samsung is actively engaging in many initiatives aimed at benefiting all components of the semiconductor ecosystem. These include the exchange of digital device processors, facilitating product trials for enterprises, and offering technical training services to its suppliers. Furthermore, Samsung is actively seeking to involve other stakeholders, including academics, in order to provide training for workers and suppliers involved in the production and advancement of semiconductors.

In addition, ASML is another company that is participating in the implementation of the K-Semiconductor Belt. ASML is a Dutch multinational corporation. ASML is a company that specializes in the production of lithography equipment equipped with EUV (extreme ultraviolet) and DUV (deep ultraviolet) systems. These machines are essential in the manufacturing process of semiconductors (ASML, 2019). ASML has emerged as a highly valuable player in the manufacturing of digital technology materials, particularly semiconductors. President Moon Jae In expressed interest in engaging ASML in participating in the execution of the K-Semiconductor Strategy due to ASML's prominent position.

ASML's involvement in establishing a partnership through investment to build a semiconductor reprocessing industry and a center for training workers in the semiconductor production process in Hwaseong City is a tangible measure aimed at enhancing the performance capacity of the South Korean semiconductor industry. This was also conducted within the framework of bilateral collaboration between South Korea and the Netherlands, with the goal of expediting employment and fostering growth in the semiconductor industry.

South Korea's Efforts to Improve Semiconductor Production and Sales Performance through Bilateral Relations with the Netherlands

In 2021, President Moon Jae In and the Netherlands Prime Minister, Mark Rutte, held a bilateral meeting online. The meeting was an opportunity for the leaders of the two countries to discuss bilateral relations between the two countries which have existed for 60 years. The cooperation discussed at the meeting concerned the political, economic and cultural fields. During the meeting, Moon Jae In expressed his plan to make South Korea a semiconductor industry capable of meeting the demand in the global market. In the conversation, Moon Jae In explained a plan that would enable adequate semiconductor production, namely by investing through the ASML industry.

Feldstein (2000) and Razin and Sadka, the gains to host countries from FDI can be in the forms of (Loungani & Razin, 2001):

1. The transfer of technology –in the form of new varieties of capital inputs—that cannot be achieved through financial investments or trade in goods and services
2. FDI also promotes competition in the domestic input market. Competition in the domestic market will allow
3. Recipients of foreign direct investment (FDI) in the host nation frequently acquire staff training while operating the newly established enterprises. This, in turn, enhances the development of human capital in the country that received the investment.

Profits generated by FDI given to corporate tax revenues in the host country which make it a lucrative field (depend on the corporate performance in market) (Loungani & Razin, 2001).

In the next stage, bilateral relations between South Korea and the Netherlands were strengthened through the visit of the South Korean diplomatic representative for the Netherlands, Jeon Yeongdoo, to ASML's main industry in Veldhoven. At the meeting, ASML was represented by Peter Wennink as CEO of ASML. Both of them confirmed the status of bilateral cooperation that has been carried out by the two for 60 years. In that conversation, Yeongdoo also slipped a message on the urgency of private industry contributions such as



ASML in the availability of semiconductor supplies. As the sole industry producing semiconductor manufacturing machines, ASML is expected to provide assistance and contribute to global semiconductor supply chain security through K-Belt Semiconductor.

The Role of the EU-South Korea Free Trade Agreement for Reducing Trade Barriers

The South Korea-European Union connection offers distinct benefits, including the presence of a free trade agreement (FTA). The relationship between South Korea and the Netherlands primarily revolves around economic interests. An illustrative instance is the implementation of a bilateral free trade agreement between the two nations in 2010. The agreement subsequently served as the foundation for the joint endeavors of the two parties to diminish tariff barriers in the trade of goods and services (Gunawan et al., 2022).

South Korea's rapid economic recovery in 2021 positions it as a promising country in terms of market potential. Furthermore, according per the Asian Development Bank, South Korea's GDP is projected to increase by 4% in 2021. The presence of this GDP growth can be attributed to various factors, including the rise in consumption in both the public and private sectors, widespread immunization efforts, the relaxing of movement restrictions, and the recovery of the labor market (European Commission, 2021). Furthermore, the South Korean market has witnessed a significant emphasis on technology products such as chips and cybersecurity systems due to the widespread digitalization. Corroborating the aforementioned claim, the South Korean Ministry of Trade, Industry and Energy disclosed in 2021 that the semiconductor sector generated a total of \$129 million in income from solid semiconductor exports (Jung, 2023). In the future, the semiconductor industry will emerge as a crucial sector, as all advanced technologies will rely on semiconductor chips. The market share of this industry is inexhaustible, and demand will persistently escalate. This is due to the fact that not all countries possess the necessary capabilities and technological infrastructure to manufacture semiconductor chips.

This acquisition serves as another evidence of South Korea's promise in the technology sector, particularly in the field of semiconductors. The possibility also motivated the Dutch Government to make an investment in South Korea. According to data cited from the European Union, the presence of a free trade agreement also influences the amount of investment offered by the Netherlands. The Netherlands held the distinction of being the foremost investor among member countries of the European Union in 2019. The Netherlands allocates 33% of its resources into investment. The investment was undertaken with the aim of enhancing the existing sectors' capabilities in South Korea. Furthermore, investment serves as a catalyst for job expansion and the creation of fresh employment prospects (European Commission, 2021)). This is undeniably a promising opportunity, particularly given the labor-intensive nature of the semiconductor business.

Conclusion

The Korean semiconductor sector views The Netherlands as a potential trade and investment partner for the period of 2019-2022. The implementation of the K-Semiconductor Belt strategy has positioned South Korea as an ambitious nation to spearhead the competition in the semiconductor market, excelling in both manufacturing capacity and product quality. The presence of this strategy forms the foundation of South Korea's trade diplomacy endeavors towards the Netherlands from 2019 to 2022. In 2010, a



Free Trade Agreement (FTA) was established to facilitate the export of various South Korean goods to the Netherlands. Furthermore, the South Korea-European Union relationship has served as a catalyst for the Netherlands' investment in South Korea. Several initiatives are effective in diminishing both tariff and non-tariff obstacles for South Korea in its trade with The Netherlands. South Korea is currently in the early stages of implementing its trade diplomacy strategies towards the Netherlands over the 2019-2022 term. The Netherlands has decided to invest in South Korea due to the promising prospects of the semiconductor industry, bolstered by several policies outlined in the K-Semiconductor Belt strategy. Furthermore, the Netherlands has an additional incentive to engage in commercial collaboration with South Korea due to the anticipated economic revival of the latter in 2021. However, South Korea still faces hurdles in boosting semiconductor sales volume, particularly in improving the quality of semiconductors to enhance their value in the competitive global semiconductor industry.

The South Korean government can enhance the performance of the semiconductor trade by engaging in collaborations with Dutch industries or institutions, such as ARCNL (The Advanced Research Center for Nanolithography), that specialize in semiconductor research. This collaboration would be focused on semiconductor development. The presence of this collaboration undoubtedly has the potential to facilitate the advancement of South Korea's industrial semiconductor products. Furthermore, the South Korean government can capitalize on the momentum of international forums to effectively engage in commercial diplomacy pertaining to semiconductor products.

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