

U.S. Trade Strategies and Korea-U.S. Cooperation Plans

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I. Introduction

The U.S. has taken the lead in discussions addressing recent significant economic and trade issues and exploring global cooperation across various domains. In response to global shocks such as the hegemony competition between the U.S. and China and the impact of the COVID-19 pandemic, major economies, including the U.S., are working to stabilize supply chains for crucial materials vital to their national security. Additionally, there is a growing emphasis on reorganizing existing supply chains that previously prioritized efficiency based on low costs.

In addition, with the escalating spread of the coronavirus, remote working and online shopping have become increasingly prevalent. These trends have underscored the importance of the digital economy. Consequently, many

countries have heightened their focus on considering the establishment of standards for digital commerce. Simultaneously, the Biden Administration has unveiled its ambitious goal of achieving net-zero carbon emissions by 2050 and has implemented a number of policies aimed at addressing the climate change crisis. In addition, the administration has played a central role in discussions involving numerous countries on a global scale concerning climate change.

As noted above, the U.S. has taken a leading role in global discussions, not only in addressing major economic and trade issues but also in formulating cooperative measures on the international stage. Consequently, understanding the U.S. position and response strategies for each critical issue arising from external

shocks is essential. This understanding holds significant importance in shaping Korea's mid- to long-term foreign economic strategy. By comprehending the U.S. position and response strategies, particularly regarding major issues, this study aims to derive Korea's future trade strategies with the U.S. and develop cooperation plans with the U.S.

II. Supply Chain Reorganization

1. Semiconductor

Recently, the U.S. semiconductor policy has evolved to address five key challenges: △ Assessing China's semiconductor development policies and China's potential emergence as a semiconductor powerhouse △ Addressing the global semiconductor supply shortage exacerbated by the COVID-19 pandemic △ Addressing the decline in the U.S. share of the global semiconductor market △ Reducing access to cutting-edge semiconductors and equipment from China and Russia △ Mitigating potential risk factors associated with cutting-edge semiconductor-producing countries, including South Korea and Taiwan (such as natural disasters and geopolitical considerations surrounding China and North Korea). The Biden Administration has relied heavily on export controls, subsidies, and collaboration with allies to address these challenges as the following.

After the change in administration in January 2021, with the inauguration of the Biden Administration in the U.S., there have been few

significant changes in semiconductor-related export control policies compared to the Trump administration. Instead, it appears that the Biden Administration has largely maintained or reinforced the basic principles set forth by the Trump Administration. Since the inauguration, there has been an expansion in the scope of export control items and entities. The additional export controls announced in October 2022 demonstrate the Biden Administration's desire to impose sanctions on China.

The U.S. Department of Commerce has announced new measures to control the export of advanced semiconductors and equipment to China, effective October 7, 2022. These measures specifically target the export of high-performance semiconductors, advanced equipment, and components used in supercomputers to China. The announcement emphasizes that obtaining additional licenses is now required for the export of these items to China compared to previous regulations. The Department of Commerce explains that these measures aim to restrict China's purchasing and manufacturing capabilities, particularly with respect to advanced semiconductors that may have military applications.

The 'CHIPS and Science Act,' introduced and enacted under the Biden Administration, focuses on providing a total of \$280 billion in federal funding. Of this amount, \$200 billion is allocated to support research and development (R&D) in advanced STEM fields such as energy and artificial intelligence. It also includes a provision to provide approximately

\$52 billion in subsidies over the next 5 years to directly revitalize the U.S. semiconductor industry. Additionally, it includes a 25% investment tax credit (estimated at around \$24 billion) for semiconductor investments.

Furthermore, companies receiving subsidies and tax breaks are required to specify a prohibition on expanding or upgrading advanced semiconductor production facilities within China for a period of 10 years. The Act also allocates \$500 million in funding to the State Department for the purpose of forming a 'Semiconductor Alliance' with allied countries.

Given that not all processes of the semiconductor supply chain can be located within the U.S. and self-sufficiency is practically impossible, the U.S. also seeks to work with allies and partner countries to build a stable and resilient supply chain. In particular, it is focusing on working with countries like South Korea, Japan, Europe, and Taiwan, which hold critical positions in the global semiconductor supply chain. South Korea and Taiwan excel in semiconductor manufacturing, the U.S. focuses on design, and Japan and Europe contribute to the supply of raw materials and equipment, among other things.

In this regard, the Biden Administration is placing a significant emphasis on what is known as the 'FAB 4.' The 'FAB 4' is a semiconductor consortium involving the U.S., South Korea, Japan, and Taiwan. They held a preliminary meeting in September 2022, and further developments need to be closely monitored. However, it is expected that the U.S.

aims to strengthen export controls on semiconductors, building upon the foundation of the 'FAB 4' with a focus on countering China. Additionally, the U.S. has established the US-EU Trade and Technology Council (TTC) and is engaged in discussions centered around strengthening the semiconductor supply chain between the two regions and solidifying their roles as suppliers.

2. Electric Vehicles (EV) Battery

The U.S. considers large-capacity batteries not only crucial for electric vehicles, but also as a matter of national security and a driving force for job creation and economic growth in the future. Particularly with the global increase in demand for clean energy, the significance of investments in electric vehicles and high-capacity batteries cannot be underestimated. While China and the EU have pursued government-led industrial policies to revitalize their domestic battery industries, the U.S. has historically lacked a substantial government-driven policy in this regard (The White House, 2021). The "100-Day Report" recognizes a series of related issues and calls for action to address them.

The "100-Day Report" identifies geopolitical risks as the most significant threat among various risk factors. The fact that China, which is currently experiencing significant political, economic, and diplomatic conflicts, is a dominant player in the battery supply chain, exacerbates these geopolitical risks. In particular, China's control over the mining and processing of raw materials worldwide, combined

with its ability to impose export bans on essential materials such as cathodes, anodes, and other key components, could have a significant impact on the U.S. and the global battery supply chain. In addition, the imposition of environmental taxes, such as carbon tariffs, are imposed, this could lead to significant price shocks. Since China still has a high dependence on fossil fuels, it may become subject to tariffs on environmentally unfriendly products, including battery materials. This could disrupt the stability of the battery supply chain.

In summary, the report highlights the vulnerability of the battery supply chain to geopolitical risks, particularly due to China's influence and the potential for export restrictions and environmental tariffs that could affect the industry's stability.

As most large-capacity batteries are used in electric vehicles (EVs), a boost in EV demand is directly linked to an increase in battery demand. EVs have gained popularity in recent years due to the environmental movement, and their demand has been on the rise even without direct government intervention. However, the U.S. government is actively supporting this trend through various EV revitalization policies.

One prominent example is the expansion of tax credits for electric vehicle purchases, which is part of the "The Inflation Reduction Act" enacted in August 2022. The most notable provision related to this is the opportunity to receive a tax credit of up to \$7,500 when

purchasing new electric vehicles assembled in North America. This policy goes beyond merely stimulating electric vehicle demand; it is also aimed at promoting domestically produced vehicles or those with a substantial portion of domestic components. It reflects a significant degree of nationalistic or domestic-first measures.

An adequate network of charging stations nationwide is essential to achieve the widespread adoption of electric vehicles (EVs). However, the U.S. still faces challenges related to a lack of EV charging infrastructure. "The Infrastructure Investment and Jobs Act" includes provisions to address these issues by allocating \$7.5 billion in funding for this purpose. Out of this funding, \$5 billion is dedicated to the installation of fast-charging stations along highways, and the remaining \$2.5 billion will be allocated as competitive grant funding for regional charging station installations. Within the competitive grant funding, 50% will be prioritized for low-income and rural areas. Additionally, "The Inflation Reduction Act" expands and extends the existing "Alternative Fuel Infrastructure Tax Credit," providing tax benefits of up to \$100,000 for alternative fuel charging equipment.

In addition, the Biden administration has set a goal to electrify all federal government vehicles by 2035. To achieve this objective, "The Inflation Reduction Act" allocates \$3 billion in funding. These measures demonstrate the U.S. government's commitment to promoting electric vehicles and addressing the challenges

associated with charging infrastructure to facilitate the widespread adoption of EVs.

III. Digital Trade

The U.S. IT and digital policies can be understood in terms of its overarching strategy to maintain its global technological leadership. The U.S. recognizes the need to collaborate with numerous countries worldwide, including the EU, in the field of IT and digital technology. In particular, it highlights concerns about China's mercantilist approach to technological innovation in this sector. As a result, the U.S. is adopting a strategy to rein in China by rebuilding its relationship with the EU.

On the other hand, the U.S. is at the forefront of the platform economy and possesses several large global digital platforms that drive industry growth. From the U.S. perspective, this means that while it must collaborate with allied and partners to counter China's growing influence of China in the IT and digital fields, it also has an incentive to protect its own digital platforms from excessive regulation or discrimination as they expand into foreign markets. This dual approach reflects the U.S. efforts to both expand its influence in the IT and digital sectors globally and safeguard the interests of its own digital platforms.

This U.S. dual perspective on digital trade is well reflected in a report published by the Congressional Research Service (CRS) in 2021. This report provides an overview of the current state of digital trade in the U.S., as well

as U.S. government trade policy. It addresses trade barriers that impede the expansion of digital trade and outlines international cooperation trends to address these issues.

According to the report, as of 2019, the digital economy in the U.S. accounted for 9.6% of the total GDP and had an economic impact equivalent to 5.0% of the country's total employment. The U.S. prioritizes the free movement of data and the freedom of expression online in its digital policies. Government digital regulations are implemented on a sector-by-sector basis. Additionally, the U.S. digital strategy follows a decentralized and market-driven approach rather than relying on national programs or agendas.

Furthermore, the report points out that the factors hindering the expansion of digital trade can be broadly categorized into tariff barriers and non-tariff barriers. Particularly, non-tariff barriers that impede the growth of digital trade are often difficult to quantify or identify. These barriers include low quotas, localization requirements, restrictions on cross-border data flows, intellectual property infringements, among others.

For instance, the U.S. has recently included provisions in its FTAs that prohibit localization requirements to ensure the free operation of multinational digital platform companies within its borders. Localization requirements can act as a barrier for digital platform companies seeking to enter new overseas markets through cloud computing services to efficient-

ly manage customer data. It's worth noting that many of the major players in cloud computing services, such as Amazon, Microsoft, Google, and IBM, are U.S.-based companies. The presence of these non-tariff trade barriers in the digital trade landscape, particularly in the realm of cloud computing services, underscores the importance of the U.S. digital trade policies and their implications, given that many key players in this sector are American companies.

Indeed, regulations and trade policies that restrict cross-border data flows can act as non-tariff trade barriers, particularly affecting companies operating cloud services, as well as national interests. Finding a global consensus on how to balance open data flows with cybersecurity and personal data protection policies is challenging, given the different levels of digitalization, digital trade development, and related legal frameworks among countries. However, as noted above, the U.S., with its large multinational digital platform companies, is actively seeking ways to mitigate potential losses and maximize profits resulting from cross-border data flow restrictions. It does so through multilateral dialogue channels and trade negotiations to find a balance between countries and promote the free flow of data. These efforts highlight the importance of addressing cross-border data flow issues at the international level to foster a global digital economy while respecting cybersecurity and privacy concerns.

Meanwhile, the U.S. is actively working to

lead the digital economy in the Indo-Pacific region through support for partner countries and cooperation with nations in the region. One prominent U.S. initiative in the region is the "Inclusive Growth in ASEAN Through Innovation, Trade, and E-Commerce" project, known as IGNITE. This initiative is a collaboration between the Association of Southeast Asian Nations (ASEAN) and the U.S. Agency for International Development (USAID).

The digital economy in the ASEAN region has experienced significant growth, with its market size tripling from 2017 to 2019. The digital economy represents approximately 7% of ASEAN's total GDP. Although ASEAN currently holds less than 1% of the global e-commerce market share by value, it contributes around 3-4% of the world's GDP, indicating significant growth potential. There is a strong interest among small and medium-sized enterprises (SMEs) in entering this market. In response, the U.S. is adopting an approach that supports ASEAN's efforts to improve internet connectivity and accessibility while also enhancing cybersecurity, digital finance, and trade and e-commerce facilitation. The goal is to promote inclusive growth in ASEAN through these initiatives. Additionally, the U.S. aims to establish international standards and practices to expand digital trade and, in particular, to facilitate secure digital support services for SMEs. Through these efforts, the U.S. seeks to expand the digital economy in the Indo-Pacific region and promote the collective prosperity of ASEAN member countries.

IV. Climate Change Response

President Biden, who was inaugurated on January 20, 2021, immediately announced his intention for rejoining the Paris Agreement on his first day in office. He reaffirmed his commitment to reversing the environmental deregulation and energy infrastructure development policies of the previous Trump administration and instead championing sweeping environmental policies. Within a week of taking office, President Biden signed an executive order (E.O. 14008) that included key provisions such as establishing the Climate Policy Office within the Executive Office of the President and launching the National Climate Task Force. Subsequently, he took steps to halt the Keystone XL pipeline construction project, suspend leasing for fossil fuel development in Arctic wildlife refuge areas, halt fossil fuel subsidies, remove fossil fuel subsidy funding from the 2022 budget proposal, expand support for electric vehicles, promote clean energy in the power sector, and revise energy efficiency standards and building energy-saving programs.

In August 2022, President Biden signed into law the Inflation Reduction Act, which is considered the most aggressive climate change response legislation in U.S. history. This legislation is seen as a significant step in ensuring sustained and stable investment in climate change mitigation and the transition to clean and green energy. Over the course of the next 10 years (from 2022 to 2031), the bill provides

\$369 billion in support of climate change mitigation and environmentally friendly energy transition efforts. This funding represents 50% of the projected revenues (approximately \$739 billion) resulting from the Inflation Reduction Act. It reflects the Biden Administration's strong commitment to addressing climate change and promoting the transition to clean and green energy.

The Biden Administration is actively promoting policies to support relevant technologies for carbon reduction obligations. President Biden, within a month of taking office, selected the top 10 climate innovation technologies and signed an executive order that included providing \$1 billion in support to the Department of Energy's ARPA-E (Advanced Research Projects Agency-Energy). The top 10 climate innovation technologies cover a wide range of areas, including carbon-neutral buildings, energy storage systems with reduced costs, advanced energy management systems, low-cost zero-emission vehicles and transit systems, improvements in aircraft and ship efficiency and low-carbon fuels, greenhouse gas-neutral refrigerants, air conditioning, and heat pumps, emissions capture in steel, concrete, and chemical processes, low-cost zero-emission hydrogen, soil carbon storage technology, and direct air capture (DAC) technology.

Moreover, recognizing the role of extending the lifespan and restarting aging nuclear power plants as a viable alternative to reducing fossil fuel use and stabilizing electricity prices, the

Biden Administration announced the \$60 billion Civil Nuclear Power Credit Program on April 19, 2022. This program will provide \$12 billion in support over the next four years, with the remaining \$48 billion planned to be used by 2035.

To emphasize the U.S. active commitment to addressing the climate crisis on the international stage, President Biden signed an executive order on December 8, 2021. The order outlines the goals of transitioning to 100% clean energy by 2030 and achieving carbon neutrality (Net-Zero) for federal government operations by 2050. As a result, various aspects of federal government operations, including 300,000 buildings, 600,000 vehicles, and \$650 billion in procurement, have been influenced by this executive order.

Meanwhile, in November 2022, at the 27th Conference of the Parties to the United Nations Framework Convention on Climate Change (COP27), the U.S., along with other developed countries, reached an agreement to establish a fund to address "loss and damage." The demand for compensation related to "loss and damage" has been a long-standing issue raised by climate-vulnerable countries for the past 30 years since the adoption of the UN-FCCC. However, it had not been formally discussed due to opposition from developed countries until COP27, where it was officially included on the agenda for the first time. Notably, the U.S., which had previously shown a passive stance, adopted a more forward-looking position and was able to reach a final

agreement on establishing a fund for "loss and damage" compensation. Additionally, at COP27, John Kerry, the U.S. Special Presidential Envoy for Climate, and Thomas Vilsack, the U.S. Secretary of Agriculture, actively promoted relevant technologies, including artificial intelligence (AI) applications, while showcasing examples of the U.S. efforts to combat climate change.

V. Policy Implications

Based on the above content, we can think of the following ways for cooperation between the U.S. and South Korea. First, in the context of supply chain restructuring, South Korea should consider expanding local investment and production in the semiconductor and battery sectors within the U.S. close collaboration between the government and companies is essential to maximize national interests. It is crucial for our companies to take advantage of the tax incentives and other regulatory incentives offered by the U.S. government when entering the U.S. market, and our government should provide diplomatic support for these efforts.

Regarding digital trade, South Korea should actively participate in international discussions led by the U.S. to set standards for essential infrastructure in the global digital transformation, such as advanced communication networks like 5G and 6G. Furthermore, South Korea should actively lead discussions within the IPEF on the Trade Facilitation and Digital Commerce Working Group to overcome limitations within the US-Korea FTA's

digital trade provisions and collaborate with participating countries to develop a roadmap for digital trade norms.

In the area of climate change mitigation, South Korea and the U.S. should strengthen their cooperation by promoting joint research in environmentally friendly, low-carbon technologies such as hydrogen production and utilization, fuel cells, carbon capture, utilization,

and storage (CCUS), and energy storage devices. Additionally, both countries should collaborate on producing related products. Furthermore, South Korea should proactively engage with the U.S. in discussions related to climate change policies that the U.S. and the EU are considering. This proactive engagement can help increase the effectiveness of collaborative by anticipating the possibility that these policies may become international norms in the future. **KIEP**

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