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Navigating Korea's Changing Trade Shifts with the United States and China

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South Korea's trade relations have undergone changes since the COVID-19 pandemic. In 2022, South Korea surpassed Japan and became China's second-largest trading partner. However, its exports to China saw a decline of 20 percent in 2023, plummeting to \$124.8 billion from \$155.7 billion in 2022. Consequently, South Korea ran a trade deficit of \$18 billion with China, marking the first time this has happened since the establishment of diplomatic relations between the two countries in 1992. In contrast, South Korea experienced a 5 percent increase in its annual exports to the United States in 2023. Notably, the value of Korea's December monthly exports to the United States exceeded those to China. This development marked another milestone as it had been over two decades since South Korea last exported more to the United States than to China in June 2003.

While it would be premature to draw definitive conclusions of an enduring shift in trading patterns based on just one month's data, recent development highlights the impact of a combination of external factors on a trade-dependent economy like South Korea. These factors primarily include a decelerating Chinese economy, shifting global supply chains, and competitive industrial policies such as the U.S. Inflation Reduction Act (IRA) and the European Union's Critical Raw Materials Act (CRMA).

Despite South Korean President Yoon Suk Yeol's efforts to strengthen economic ties with the United States and Korea, Korea's economic dependence on China remains significant. Data from the Korea International Trade Association and the Korea Customs Service show that the supply chains of Korea's key industries, including semiconductors, electric vehicle (EV) batteries, automobiles, petrochemicals and steel, have become more dependent on China for critical raw materials. For example, Korea's EV battery makers rely heavily on China for sourcing essential ingredients like chemical precursors to produce cathodes (the positive end of a lithium-ion battery). Precursors account for 65-70 percent of the cost of cathodes. Korea's semiconductor sector depends on China for three key rare gases used in chipmaking processes, including krypton, neon and xenon.

The Yoon government aims to reduce Korea's critical minerals dependence on China from its current 80 percent to around 50 percent by 2030. To this end, the government seeks to diversify suppliers of critical minerals by deepening cooperation with thirty resource-rich nations. It also looks to leverage the United States-led Minerals Security Partnership (MSP) framework to help domestic firms access overseas strategic minerals development projects.

Korean firms have chosen a different path to strengthen their supply chains by partnering with their Chinese suppliers to establish joint ventures in South Korea and in third countries, especially those that have free trade agreements with the United States and the EU. Such partnership brings mutual benefits for Korean firms and their Chinese mineral and material suppliers. Joint ventures in Korea allow Korean firms the advantage of enhancing their mineral refining and processing capabilities at home. This, in turn, enables them to expand their precursor production capacity and establish a more stable supply of raw materials amidst the changing dynamics of the global critical minerals supply chain. Korean companies can also mitigate the risk of supply chain disruptions associated with unilateral export restrictions imposed by the Chinese government. Joint ventures in third countries that have free trade agreements with both the United States and the European Union, such as Morocco, allow companies more flexibility in responding to the IRA and CRMA.

Table 1. Examples of JVs between Korean firms and Chinese firms (2023)

Date	Korean Company	Chinese Company	Amount of investment and time frame	Type of investment and location
March 2023	<u>SK On</u>	GEM	Invest about 1.21 trillion won (\$932.56 million) between 2023 and 2026	Build a nickel-based EV battery precursor plant
April 2023	<u>LG Chem</u>	Huayou Cobalt	Invest a total of 1.2 trillion won (about \$915 million) by 2028	Build a precursor plant in Saemangeum National Industrial Complex, located 230 kilometers southwest of Seoul

May 2023	<u>POSO</u> <u>CO</u> <u>Future M</u>	Huayou Cobalt	Invest 1.7 trillion won (\$1.27 billion) and intend to go into commercial operations in 2027	Build production facilities for battery precursors and anode components in Pohang, about 260 kilometers southeast of Seoul.
July 2023	<u>POSCO</u> <u>and</u> <u>POSO</u> <u>CO</u> <u>Future M</u>	CNGR Advanced Material Co	Invest 1.5 trillion won (about \$1.2 billion) with an aim to start commercial production in 2026	Establish two joint ventures in Pohang to produce precursors and nickel for batteries
April 2023	<u>LG Energy</u> <u>Solution</u>	Yahua Group	Unknown amount	Establish a joint venture to produce lithium hydroxide in Morocco
September 2023	<u>LG Chem</u>	Huayou Cobalt's subsidiary Youshan	Unknown amount, set to start production in 2026	Build a joint EV battery material plant to produce lithium-phosphate-iron (LFP) cathode materials in Morocco
Source: Author compiled data from open sources, including company press releases and news reports.				

Moreover, the approach of joint ventures also presents Chinese companies with a means to navigate the barriers to qualifying for tax relief qualification specified in the IRA, which is designed to wean the United States off the Chinese supply chain for EVs. South Korea's geographic proximity to mainland China and its favorable transportation location ensure upstream Chinese companies can export overseas at relatively low logistic costs and maintain a relatively high supply chain efficiency.

While joint ventures between Korean and Chinese companies currently offer promising opportunities, there exist inherent risks that demand careful consideration. Chief among these are unilateral outbound investment restrictions by the Chinese government and the U.S. Treasury Department's guidelines on "foreign entity of concern" in the IRA and decisions over how the rules would be applied. Additionally, as a vibrant democracy, South Korea's domestic politics and its prevailing disposition towards China vis-à-vis the United States and Japan impact Korean leaders' popularity and shape the country's foreign policy. As South Korea recalibrates its trade relations in a changing global environment, a judicious understanding of the risk factors is crucial. While joint ventures can provide interim solutions to supply chain challenges, this approach should not be comfortably viewed as a permanent remedy, as regulations are constantly evolving. A long-term supply chain solution needs to prioritize the development of cost-efficient mineral recycling capacities.

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