

China–South Korea Economic and Trade Cooperation: Structural Drivers, Challenges, and Future Prospects

Kai-Hsin Chen

*School of Economics, Xiamen University, Xiamen, China
17859522764@163.com*

Abstract. The paper provides a comprehensive overview of South Korea's economic conditions and its developing economic and trade ties with China. The text initially examines South Korea's historical evolution, emphasizing the nation's shift from a labor-intensive, export-oriented economic paradigm to a high-technology-driven industrial framework. The article subsequently assesses Korea's current economic performance, encompassing GDP growth, demographic trends, industrial restructuring, and trade patterns. Special emphasis is placed on Korea's trade reliance, foreign investment, and its role in global and regional value chains. The second section analyzes three decades of economic interaction between China and South Korea, highlighting the swift growth of merchandise and services trade, the emergence of intra-industry trade, and the structural development of bilateral investment. It delineates significant challenges, such as geopolitical tensions, declining industrial complementarity, and escalating competition, alongside strategic opportunities presented by RCEP, the enhancement of the China–Korea Free Trade Agreement, and burgeoning collaboration in new energy vehicles and display technologies. The report continues by proposing future cooperation, asserting that greater institutional alignment, increased collaboration in the digital and green economies, and fortified supply-chain resilience are vital for improving bilateral economic integration.

Keywords: The South Korea's economy, China–South Korea trade, Industrial structure, Regional economic cooperation, RCEP

1. Introduction

Since the normalization of diplomatic relations in 1992, China and South Korea have developed one of the most dynamic bilateral economic relationships in Asia, supported by a series of institutional arrangements including the bilateral Trade Agreement, the China–Korea Free Trade Agreement, and the Regional Comprehensive Economic Partnership. Over the past three decades, merchandise trade has expanded more than seventyfold, accompanied by steady improvements in the scale and composition of two-way investment. These developments have deepened integration across regional value chains and strengthened the economic interdependence of both economies. At the same time, structural factors—such as the reconfiguration of global value chains, accelerating technological upgrading, and increasing industrial similarity—have introduced new forms of competition and heightened the need for coordinated policy responses. A comprehensive assessment of bilateral trade

and investment patterns is therefore essential for understanding the evolving strategic alignment between the two countries, identifying sources of friction, and evaluating opportunities for higher-level cooperation. Such analysis also carries broader regional significance, as China and South Korea are major economic actors in Northeast Asia whose interactions shape the prospects for regional integration, supply-chain resilience, and sustainable growth.

2. Literature review

Existing studies provide complementary perspectives on South Korea's economic transformation and its evolving relationship with China. Cui characterizes the post-crisis stagnation and rising inequality, while Zhou and Ji argue that chaebol dominance and structural imbalances have weakened Korea's growth resilience [1-3]. Li characterizes Korea's developmental state as combining import substitution with export orientation, while Xie and Zhu emphasize the country's successful reconfiguration of its growth model through industrial relocation and technological upgrading despite limited domestic resources [4,5]. Human capital has also been highlighted as a structural driver, with Lu documenting how education reforms supplied essential technical talent during Korea's industrial ascent [6]. Research on external linkages shows a strong complementarity between trade and investment, with Cui finding that exports significantly stimulate outward FDI, while Liu and Chen and Li document rapid China–Korea trade expansion accompanied by shifting sectoral competitiveness and deepening intra-industry trade [7-9]. Within broader regional frameworks, Jiang , Zhang, and Hu and Wang stress that initiatives such as the Belt and Road, the China–Korea FTA, and RCEP create both opportunities and frictions, underscoring the need for strategic alignment, digital and green-economy cooperation, and deeper integration across regional value chains [10-12].

3. South Korea's economic overview

3.1. Export-oriented growth model

South Korea's rise has been driven by export-led industrialization, with exports growing 29% annually during the 1960s and trade remaining above 50% of GDP since the mid-1990s. The economy is deeply embedded in global value chains, and in 2023 machinery and electronics accounted for 38.7% of exports, followed by transport equipment at 18.3%. This structure reflects Korea's specialization in high-technology and capital-intensive industries.

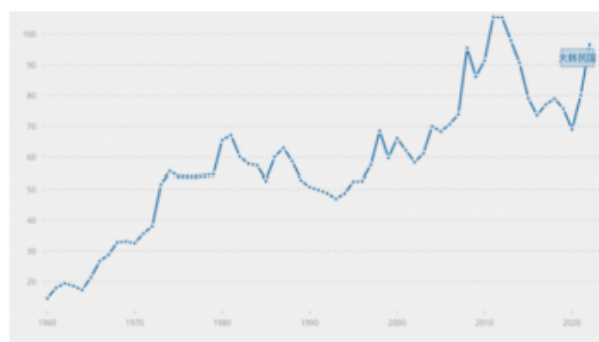


Figure 1. South Korea trade-to-GDP ratio, 1960–2022

3.2. Human capital and innovation capacity

Human capital formation has supported Korea's continuous upgrading from labor-intensive to technology-intensive production. With R&D expenditure exceeding 4.9% of GDP, one of the highest worldwide, Korea has achieved global leadership in semiconductors, which constitute about 20% of exports and 62.7% of global memory-chip output. This innovation base anchors Korea's competitiveness across advanced manufacturing.

3.3. Chaebol-centered industrial organization

Large conglomerates (chaebols) remain the backbone of Korea's industrial system, accounting for over 60% of exports and dominating national R&D. Their strength underpins Korea's position in semiconductors, automobiles, and shipbuilding—illustrated by 7.99 million vehicles sold globally in 2023. However, their dominance also reinforces structural concentration and limits the growth of small and medium-sized enterprises.

4. China–South Korea trade and investment relations

4.1. Three decades of rapid integration

Since diplomatic normalization in 1992, China–South Korea economic ties have expanded rapidly, supported by successive institutional frameworks including China's WTO accession (2001), the China–Korea FTA (2015), and RCEP (2022). Bilateral merchandise trade rose from USD 5.03 billion in 1992 to USD 362.35 billion in 2021—an average annual growth rate of 15.9%, outpacing China–US and China–Japan trade. Korea's trade share with China grew from 4% to 23.9%, making China its largest partner, while two-way trade now accounts for 6–8% of China's total. Despite China's global surplus position, it has maintained a sizable deficit with Korea, peaking at USD 95.9 billion in 2018, partly due to Korea's dominance in intermediate goods during China's industrial upgrading.

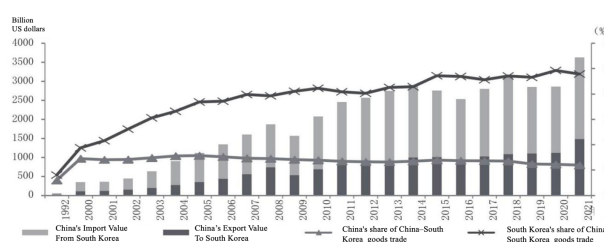


Figure 2. China–Korea merchandise trade values and shares of each country's total goods trade, 1992–2021

4.2. Merchandise trade: high concentration and strong intra-industry features

Bilateral trade is concentrated in machinery, transport equipment, chemicals, and manufactured goods, which together accounted for over 90% of two-way trade in 2021. Machinery and electronics have become the dominant category (38.7% of China's exports; major share of imports), reflecting deep participation in regional value chains. Detailed SITC data show that electrical machinery, instruments, and telecom equipment form the largest two-way categories, illustrating strong horizontal intra-industry trade. Trade composition has shifted from labor-intensive to capital- and

technology-intensive goods as China's industrial capabilities improved and localization of intermediate inputs reduced Korea's export growth to China.

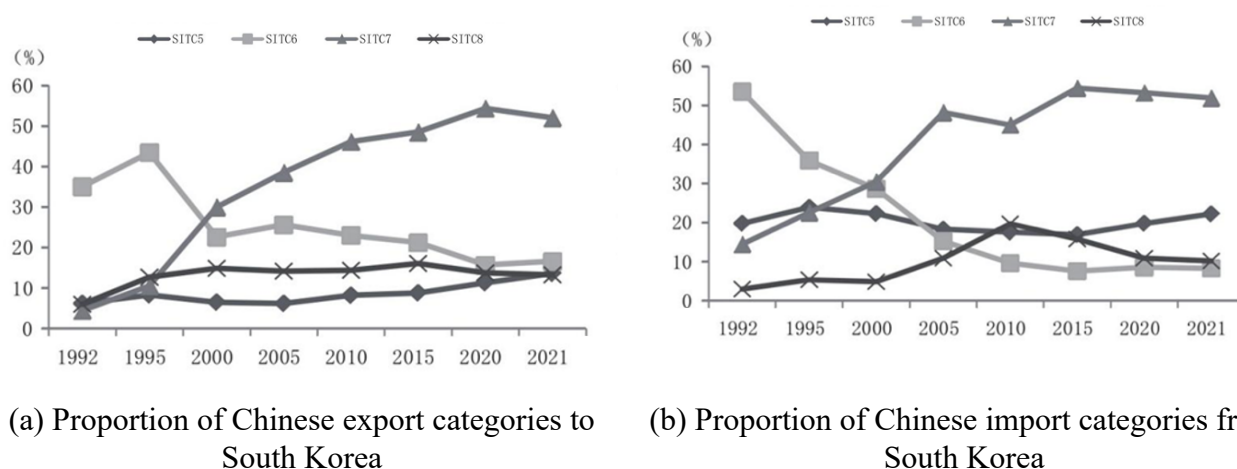


Figure 3. Shares of major merchandise categories in China–Korea bilateral trade, 1992–2021

4.3. Services trade: steady growth but persistent imbalances

Bilateral services trade expanded from USD 6.75 billion in 2005 to USD 32.18 billion in 2019. China consistently records a large deficit—above USD 10 billion at its peak—because Korean exports of tourism, culture, finance, and technology-related services outpace China's service presence in Korea. Korea's share of services imported from China rose from 6.1% to 14.2%, yet services still represent only around 4% of China–Korea total trade, indicating structural constraints and slow diversification.

4.4. Two-way investment: manufacturing-led and gradually diversifying

South Korean investment in China surged after 1992 and again after China's WTO entry. Manufacturing has consistently comprised over 90% of Korea's FDI stock in China, especially electronics, machinery, autos, and chemicals. Investment peaked at USD 6.68 billion in 2021, with recent growth in cultural, digital, and environmental industries. Chinese investment in Korea remains limited—only USD 14 million in 2020 and 0.1% of China's ODI—concentrated in chemicals, transport equipment, electronics, and real estate. Structural barriers in Korea's domestic market and regulatory environment continue to constrain China's investment presence.

5. Challenges and opportunities in bilateral cooperation

5.1. Key challenges

5.1.1. Geopolitical frictions and external pressure

Anti-globalization trends and intensifying U.S.–China strategic rivalry have increased uncertainty in China–Korea cooperation. Korea's dual position—security alignment with the U.S. and deep economic integration with China—creates structural tension, exemplified by the 2016 THAAD incident, which triggered abrupt disruptions in trade, tourism, and investment. Korea's participation

in U.S.-led frameworks such as IPEF further complicates supply-chain cooperation in high-tech sectors, risking a widening gap between economic interests and geopolitical alignments.

5.1.2. Diminishing industrial complementarity

The traditional pattern—Korea exporting high-value intermediates and China exporting labor-intensive goods—has weakened as China’s industrial upgrading accelerates. China’s rising competitiveness in automobiles, shipbuilding, displays, and communication equipment now rivals Korea’s market presence, while localization of intermediate goods reduces Korea’s export advantages. Increasing overlap in machinery and electronics trade indicates a shift from complementarity to competition along the regional value chain.

5.2. Strategic opportunities

5.2.1. RCEP-driven institutional upgrading

RCEP’s entry into force in 2022 creates new space for cooperation. Although tariff concessions are modest relative to the bilateral FTA, RCEP expands liberalization in previously uncovered categories—chemicals, machinery, and automotive parts—supporting intermediate-goods trade. The progressive adoption of negative lists for services and investment by 2028 can enhance regulatory transparency and strengthen regional supply-chain stability.

5.2.2. Upgrading the China–Korea FTA

Since 2015, the FTA has lowered barriers for goods trade, but gaps remain in services and investment. The ongoing upgrade negotiations offer an opportunity to deepen collaboration in digital trade, green technologies, cultural industries, and professional services. Realizing these gains requires more than tariff cuts—stronger intellectual-property protection, regulatory harmonization, and effective dispute-settlement mechanisms are essential to support a more diversified and innovation-oriented partnership.

6. Outlook and policy implications

6.1. Cooperation prospects under the Belt and Road framework

The Belt and Road Initiative (BRI) and Korea’s New Northern Policy share overlapping objectives in connectivity, logistics cooperation, and Eurasian market expansion. These complementarities create space for deeper coordination in infrastructure, port development, and digital logistics, supported by existing platforms such as the Northeast Asia Logistics Information Service Platform. However, Korea’s strategic alignment with the United States constrains its participation in BRI-related projects, limiting the scope of high-visibility or security-sensitive cooperation. As a result, policy alignment remains possible but contingent on flexible institutional arrangements, pragmatic project selection, and safeguards that address geopolitical sensitivities.

6.2. Opportunities under the RCEP framework

RCEP offers a region-wide rules-based environment that strengthens China–Korea trade integration. Tariff elimination on 86% of bilateral goods expands opportunities in machinery, chemicals, and

intermediate products, while regional cumulation of rules of origin enhances supply-chain efficiency. The gradual adoption of negative lists for services and investment provides a foundation for regulatory transparency. Nevertheless, RCEP's long-term impact depends on firms' ability to adjust to value-chain reconfiguration. Structural competition in semiconductors, batteries, and high-tech manufacturing may temper expected gains, and external shocks underscore the need for coordinated crisis-response mechanisms to secure production networks.

6.3. Future pathways under the China–Korea free trade agreement

Since 2015, the China–Korea FTA has significantly reduced barriers for goods trade but left substantial gaps in services, investment, and digital trade. Ongoing Phase II negotiations—alongside joint interest in the Digital Economy Partnership Agreement (DEPA)—create momentum for deeper cooperation in tourism, transportation, R&D services, IP protection, and environmental technologies. A joint digital trade framework could leverage China's large digital ecosystem and Korea's hardware strength, but progress requires alignment on data governance, cybersecurity, and platform interoperability. Effective FTA upgrading therefore depends on addressing regulatory divergence and establishing credible, mutually recognized enforcement mechanisms.

7. Conclusion

China–Korea economic relations have entered a period of both opportunity and constraint. Institutional platforms such as BRI, RCEP, and the China–Korea FTA provide a foundation for deeper integration in goods trade, services, and digital industries. Yet geopolitical tension, declining industrial complementarity, and emerging high-tech competition introduce structural risks that require careful management. In the coming decade, the most promising path lies in targeted cooperation—logistics connectivity, intermediate-goods trade, environmental technologies, and digital governance—supported by transparent rules and stable political communication. Sustaining mutually beneficial economic ties will require balancing ambition with prudence, ensuring that regional integration advances despite external uncertainty.

References

- [1] Cui, Z. (2010). The Current Status and Outlook of South Korea's Economy Ten Years after the Financial Crisis. *Korea Studies*, 10, 95–110.
- [2] Zhou, J. (2011). Economic Growth as an Unstable Force. *Comparative Economic and Social Systems*, 2, 174–182.
- [3] Ji, X. (2023). South Korea's Economy: From the Asian Miracle to a Downturn. *China Economic Herald*.
- [4] Li, Z. (2020). A Study on Import Substitution and Export-Oriented Strategies. *Northeast Asia Economic Review*, 4(1), 58–68.
- [5] Xie, G., & Zhu, H. (2016). Korea's Post-War Takeoff. *Journal of Harbin University*, 37(2), 35–39.
- [6] Lu, X. (2022). A Review of Education Reform in South Korea's Economic Development. *Journal of Southeast University*, 24(S1), 178–180.
- [7] Cui, M. (2018). Korea's Outbound Investment and Trade Relations. *Jilin University*.
- [8] Liu, X., & Chen, X. (2022). 30 Years of China–Korea Economic Cooperation. *International Trade*, 12, 12–22.
- [9] Li, N. (2023). Restarting RCEP + CJK FTA Negotiations. *International Business Daily*.
- [10] Jiang, C. (2023). China–Korea Economic and Trade Cooperation under BRI. *Business Exhibition Economy*, 18, 66–69.
- [11] Zhang, S. (2022). 30 Years of China–Korea Economic Relations. *Northeast Asia Economic Review*, 6(5), 46–58.
- [12] Hu, Y., & Wang, S. (2019). Problems and Trends in China–Korea Cooperation. *Economics and Society*, 5, 102–108.