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## Selecting Promising FTA Partners & Analyzing the Economic Effects of FTAs on the Manufacturing Sector

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This study analyzes potential and promising free trade agreement (FTA) partners for South Korea on the basis of similarity and compatibility of industrial structures. This study not only identifies and ranks the most promising FTA partners for Korea, but also provides a negotiating strategy. In addition, this study can serve Korean policymakers as they develop a blueprint for the two-stage FTA negotiation strategy by providing a quantitative analysis of the expected economic effects of FTAs with the chosen partner countries.

There are mainly three important trends of change occurring in the global trade environment today. First is the rise of regionalism in the form of regional trade agreements. Second is the reorganization of world trade order through mega-FTAs, such as the Korea-China-Japan FTA, the Trans-Pacific Partnership (TPP), the Regional Comprehensive Economic Partnership (RCEP), and the Free Trade Agreement of Asia-Pacific (FTAAP). Third is the rapid

economic integration of the Asia-Pacific region and the consequent escalation of the rivalry between the United States and China.

This study estimates the ex-post effects of increasing Korea's exports under FTAs by applying the gravity model to the performance of the FTAs Korea has already entered. By taking into account other macroeconomic and geographic variables possibly at play, we sought to single out and determine the effect of FTAs alone on Korea's exports. Our analysis reveals that these agreements have had a positive impact on increasing Korea's exports over time. Even when diverse methods were used, positive effects emerged from FTAs on Korea's exports in any given year, with these effects growing stronger over the years.

The promising partners for FTAs with Korea are embracing new trade policies based upon thorough preparation and mid- and long-term plans in the face of rapid changes in the global trade environment. These countries are undertaking policy reforms with a view to revitalizing their economies in the long run. Seamlessly connected to diverse other economic and industrial policies, the trade policies of these countries carry significant implications for Korea.

In Chapter 3, we compare Korea's industrial structure to those of a variety of countries, and analyze similarity and compatibility between Korea's industrial structure and those of promising FTA partner countries. Export similarity can be measured by comparing the export structures of two or more countries. Export compatibility represents the lack of similarity in two or more national export structures, and signifies the areas in which each given country may increase its exports.

We standardize the similarity and compatibility of the export structures of 26 top exporting countries or regions, and rank them in terms of their potential to be new FTA partners with Korea. Highly ranked are countries and regions like Nigeria, the Secretaria de Integracion Economica Centroamericana (SIECA), Israel, Russia, and the Southern African Customs Union (SACU), towards which the Korean government has already launched negotiations or preparations for possible trade deals. In other words, our analysis of the similarity and compatibility of export structures overlaps with actual progress in FTA negotiations to a significant extent. This affirms the validity and appropriateness of the method used by this study and the reliability of the obtained results.

We also divide the 20 countries and regions into four groups according to the negotiation strategies Korea would be advisable to adopt, i.e., industrial development strategy, market and job creation strategy, technology partnership strategy, and industrial and resource cooperation strategy. We also provide diverse tables and figures to summarize the compatibility and similarity of each country's export structure with Korea's.

In Chapter 4, we identify and rank promising FTA partner countries for Korea by considering the following factors, in addition to the results of our analysis on the similarity and compatibility of export structures, as measures of how advanced the countries' service sectors are: trade volumes, population size, purchasing power, service balance, R&D spending as a percentage of GDP, most-favored-nation (MFN) effective tariff rates, growth potential index scores, the proportion of raw materials, market appeal, innovation index scores, number of regional trade agreements (RTAs) they

have entered into, and the financial industry index scores. The top five promising partner countries and regions are Mercado Comun del Sur (Mercosur), Russia, Japan, Ukraine, and Egypt, in that order. Korea may not have yet launched negotiations for FTAs with some of these countries and regions, but should do so, in consideration of the analysis this study provides FTAs with other promising countries or regions. Many of these promising countries or regions identified in this study are already targets for new FTA deals with Korea.

Of the top five most promising FTA partners, Russia is the single country with the largest economy. As of 2015, Korea exported USD 4.7 billion to Russia and imported USD 11.4 billion from it, maintaining a trade deficit of USD 6.7 billion. Korea's exports to and imports from Mexico in the same year amounted to USD 10.9 billion and USD 3.5 billion, respectively, resulting in a trade surplus of USD 7.4 billion. In the meantime, Korea's exports to and imports from Mercosur amounted to USD 7.3 billion and USD 4.9 billion, respectively, with a trade surplus of USD 2.4 billion. Korea's exports to and imports from the Gulf Cooperation Council (GCC) amounted to USD 18.3 billion and USD 57.2 billion, respectively, with a trade deficit of USD 38.9 billion.

We estimated the effects that the abolition of tariffs would have on Korea's trade with each promising FTA partner. To simplify our analysis, we assumed that all tariffs concerning manufacturing would be abolished upon effectuation of FTAs, and that price elasticity of import demand would be unit-elastic. Aside from elasticity estimates, Korea's tariff rates are considerably lower than those of promising partner countries. High-level concessions on manufac-

tured goods would therefore help Korea improve its trade balance significantly.

The weighted average tariff rates that Korea imposes on manufactured goods from the top five countries or regions range from 0.4 to 2.9 percent, while Israel stands at 3.4 percent. Textiles are subject to the highest tariff rates, while the rates applying to non-metal minerals, general machinery, and automobiles are also relatively high. Because Korea maintains relatively low tariff rates, its imports from these countries and regions would not increase abruptly even if future FTAs with them abolished or significantly lowered the tariffs.

Mexico imposes the lowest tariff rates (an average of 2.1 percent) on Korean-manufactured goods. Paraguay imposes the highest average tariff rate at 26.2 percent. High tariff rates are also found in Argentina (16.2 percent), Egypt (20.3 percent), Uruguay (17.6 percent), and Ecuador (14.3 percent). Most of the countries analyzed in this study impose tariff rates higher than those of Korea. FTAs can therefore help to lower these barriers significantly and thereby allow Korea to increase its exports.

An FTA with Mercosur and the immediate abolition of all tariff rates would significantly improve Korea's trade balance with the region. At present, Korea imposes tariff rates of less than one percent on goods from Mercosur, while Mercosur member states impose tariff rates of well over 10 percent on average on the goods they import from Korea. An FTA with the region is expected to improve Korea's trade balance over electronics in particular. Brazil, already engaged in active trade with its own FTA, will likely become the biggest trading partner of all Mercosur member states once Korea

reaches an FTA with Mercosur.

An FTA with the GCC, on the contrary, will likely worsen Korea's trade balance, as it already carries sizable trade deficits with the region due to the crude oil it imports, and the tariff rate applying to crude oil imports is relatively high, at three percent.

Abolishing or lowering tariff rates through FTAs with Russia and other countries is also expected to help Korea improve its trade balance. Russia currently imposes tariff rates of 9.5 percent on average on automobiles from Korea. An FTA can help significantly lower these rates. Egypt, which also imposes high tariff rates, especially on automobiles, is another promising partner with which Korea should enter into an FTA.

Mexico already possesses competitive industries of its own, such as electronics. An FTA with that nation would therefore affect different industries in different ways. Yet Korea's trade balance would improve overall. Israel boasts a strong manufacturing sector. The abolition of tariffs under an FTA with the country will thus prove unlikely to change Korea's trade balance much.

In Chapter 5, we provide overviews of negotiating strategies for the four different types of countries or regions with which Korea should enter into FTAs. The countries and regions towards which Korea should adopt an industrial development strategy include Mercosur, Ecuador, Nigeria, Ukraine, Algeria, Bangladesh, and Sri Lanka. Korea should adopt a market and job creation strategy with Mexico, the SIECA, Russia, the SACU, Jordan, and Tunisia. A technology partnership strategy is recommended for such countries as Japan and Israel. Finally, Korea should adopt an industrial and resource cooperation FTA with the GCC, Mongolia, Egypt, Kazakh-

stan, and Azerbaijan.

Korea's trade policy in the future should be brought into closer alignment with the country's other economic and industrial policies. The promising FTA partner countries and regions this study identifies and the different negotiating strategies this study proposes, on the basis of comparative analyses of Korea's export structure with those of the potential partner countries, provide significant implications for Korean policymakers.

In the future, econometric approaches should be used to refine the analysis of price elasticity that is at the heart of our analysis herein. We need also to review the statistical reliability of the results of our analysis and conduct qualitative analyses to overcome data and methodology shortcomings.