IMPACT OF CHINA ON SOUTH KOREA'S ECONOMY

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I. Introduction

In 2005, the Korean ambassador to China was excited about the completion within five years of the target trade volume of over $100 billion with China, which was set by the Korean government at the time of the inauguration of President Roh Moo-hyun in 2003. China also became the number one recipient of Korea's outflow of investment as well as the destination of one of the largest groups of Korean students studying overseas. On the one hand, many businesspeople talk about the further importance of China, and they even send their children to China.[1] On the other hand, many of the high-society households in Korea, especially in the Kangnam district that is considered to be the Korean Beverly Hills, hire ethnic Koreans who have returned from China to serve as their housemaids.

On the increased importance of China for the Korean economy, there are two different schools of thought in Korean academia: one school argues that China is a mere clone or extension of other Asian countries that were once glorified as newly industrializing economies or high-performing Asian economies . In this context, China could be a really tough competitor for Korean companies, especially for Korea's exporting industries, and could undermine the export basis of Korean growth. The other school of thought tries to prove that China's growth is intrinsic in the sense that it has resulted from a combination of improved resource allocation and a new model for a sizable economy that has been carried out by China's own design (endogenous growth). As a result, Koreans hope that China will become an additional country for quick economic interaction, similar to the role of the United States vis-à-vis Korea during the past 60 years.

In the real economic interactions with China since 1992, both winners and losers in Korea seem to coexist. Some winners are export-related businesspeople who have extended their exporting life cycle by shifting their production facilities to China; they utilize China as their export platform. Also, some heavy-industry sectors such as chemicals, driven by government initiative, sold their products to the new China market and were able to survive the crises in the late 1980s and early 1990s.[2] Some people, however, worry about the hollowing out of the Korean economic base. Also prevalent is the fear of China's gigantic economy soaking both the Korean industrial base and raising prices on resources such as petroleum, steel, cement, and other construction

1. Children in the families of the leading officers in the Korean conglomerates have been sent to China in recent years.

2. In the late 1970s, the Korean government launched a heavy-industry-oriented economic development policy under the leadership of President Park Chung-hee. The policy drive turned out to be failure, however, because demand was lacking.

infrastructure–related materials. It is also observed that some Korean investments are shifting to Southeast Asian countries from China. Recently, we have seen a footwear factory decide to move its operation from near Shanghai to Vietnam. It is now time to reevaluate the importance of China to the Korean economy. Key questions are:

- How has China impacted Korea's economy on such a massive scale within a short two decades?

- To what extent will economic interaction with China be helpful for upgrading Korea's economy, or will such interactions threaten Korea's economy instead?

- Will China resume its role as the core external influence on the Korean economy, similar to the role of the United States over the past 60 years?

In this context, this paper focuses on the reevaluation and interpretation of economic relationships between China and Korea. In both international economics and international relationship textbooks, there seems to be no analytical model or framework for measuring the influence of one country on the other. As such, this paper will design a rule of thumb measurement by adopting a trial country impact index (CII). In addition, this paper will include qualitative arguments based on data reading, interviews, and on-site observations. Section II will describe current economic interaction between Korea and China, will interpret the past economic relationship between two countries, and will forecast the bilateral relationship by means of a comparison between Korea and the United States in the past. Section III explains a trial measure of the CII; this is followed by controversial issues related with China in section IV. Finally, in section V, we derive a tentative conclusion.

II. Evaluations of Sino-Korean Economic Interactions

Economic Interaction at the Aggregate Level

The economic interaction between Korea and China is extremely dynamic and is inextricably linked to China's rapid economic development. Since Korean diplomatic normalization with China, China has quickly become a key economic partner to the Korean economy. In 2005, for example, two-way trade reached over $100 billion, resulting in a $23.4 billion trade surplus for Korea. China, which in 2005 received $2.6 billion of investment from Korea, was Korea's largest investment destination; the stock of Korean investment in China reached $13.5 billion by 2005.[3]

3. There exists some discrepancy in the data, depending on whether China or Korea is reporting the statistics. For FDI from Korea, China reports an accumulation of over $31.1 billion. Korean statistics, however, report only 43.3 percent of that figure.

This economic cooperation developed through three different stages. In the early 1990s, many Korean politicians were eager to construct a dialogue with key political leaders of China, which had been forbidden before the end of the Cold War. Business leaders and chief executive officers of leading companies rivaled the politicians of the day in opening channels for dialogue with China. Finally, in August 1992, a diplomatic relationship was established between China and Korea.[4] The first stage started with diplomatic normalization and the concurrent beginning of the first China boom; both trade and investment increased sharply from almost nothing. This trend continued until latter part of 1997, when Korea's financial crisis occurred.

The second stage came with the Korean financial crisis of 1997–98. There was a slowdown of the China-Korea bilateral economic relationship, including the pulling out or canceling of many investment projects in China because of difficulties with cash flow in company headquarters in Korea. It did not last long, however, because China's accession to membership in the World Trade Organization in late 2001 resulted in a global rush of investing in China. This global rush was the third stage of the China-Korea bilateral development. From 2001 on, China once again has been the top economic partner of Korea, including the development of a new destination of informal migration. Those who work in China are called the "new Korean Chinese" (*xinxianzu*). As a consequence, beginning in 2004, China became the exporting and investing country of first importance to Korea; this fact basically explains the importance of China to Korea. In total Korean trade, China surpassed Japan in 2003 and the United States in 2004. As a recipient of Korea's export goods only, however, China surpassed Japan in 2002 and the United States in 2003. Two-way trade between China and Korea grew to more than $100.6 billion in 2005; in 1992, this trade was only $6 billion. A newsletter published by the embassy of Korea in China in 2006 estimated that more than 500,000 new Korean Chinese reside in China, including 54,000 students.

Economic Interactions in Sectors

The economic interactions with China over such a short period of time could be described as a landslide for Korea. The first question was: how was it possible to reach such a substantial economic interaction in such a short time period? For this purpose, we need a deeper understanding of Sino-Korean economic interactions. The composition of trade and investment showed traits of Sino-Korean interactions: investment-driven exports and imports using China as major platform for Korean exports to its traditional partners, the United States, the EU, and Japan. Korean

4. Around the end of 1980, Korea was facing political and economic crises. Politically, the Korean government was launching what it called *nordpolitik,* which aimed at early diplomatic normalization with China and the Soviet Union. Economically, Korea was troubled by overinvestment of heavy industries in late 1970s, as previously mentioned.

companies export mostly to their investment companies in China first, and those investment companies process the intermediary goods and reexport to those traditional trading partners; this process includes the export of the processed products back to Korea.

Trade. Economic interaction with China was basically led by trade. Even earlier than the direct trade with China that began in 1992, Korea started to trade with China indirectly through Hong Kong beginning in the early 1980s. In this trade, we can observe two distinct traits: in the beginning stage, complementary commodity composition between two countries led to a speedy increase in trade volume. Korean exports also received a push by means of the late 1970s policy of President Park Chung-hee to build up heavy industry as self-defense vis-à-vis North Korea and as an effort at an early entry into the club of developed countries, which turned out to be a failure. The Korean government and the companies participating in the drive for heavy industry met large problems of excess supply in heavy industries. It was fortunate for Korea that China became a new market around that time. As China had just started her open door and economic reform policies, it needed to import huge amounts of those excess products of Korean heavy industries. This situation has continued because China is still dramatically building up its heavy industry as well as its light industry.

The second trait is the relation between Korean investment and trade, and it is easy to see from the current commodity composition of trade between two countries. Sino-Korean trade has been interpreted as investment-driven trade by many authors (Cheong 1999). Korean investment into China shows a couple of important traits. First, Korean companies enter China basically in order to extend the exporting life cycle in third countries like the United States, Japan, and the EU. Second, Korean companies are aiming for potential domestic markets in China in the end. A recent survey (Korea Eximbank 2006b) found that China's domestic market absorbed slightly more than 20 percent of Korea's worldwide exports, which implies that China as a domestic market is still not very significant.

Table 1 provides data about the commodities involved in Korean trade to China. Among exports, major items are electric and electronics products, chemicals, semiconductors, general machines, and iron and steel products. Among imports, key products include industrial electronics, iron and steel products, parts for electronics, textiles, and agricultural and marine products. These are large components of Korea's trade with both China and the United States, a fact important for the next analysis.

Because much of the Sino-Korean trade is made up of intrafirm trade by investment firms, it is possible to differentiate the real and the net trade balance between two countries. If we could break down Sino-Korean trade, we could also attempt to derive the net trade balance with China. This could be done in two ways: collect actual

transaction data of all Korean firms investing in China, or work with rough estimates from Beijing's official trade statistics of Korea's trade with China. Attempts have been made to gain actual transaction data, but they failed because most Korean firms are unwilling to reveal performance data. In the Chinese statistical databases of trade, however, trade is classified by both the type of enterprise and the customs regime: ordinary trade, international aid, compensation trade, processing and assembling, process with imported materials, goods on consignment, border trade, contracting projects, goods on lease, outward processing, barter trade, warehousing trade, entrepôt trade by bonded area, and other. Unfortunately, we were not able to obtain these data on a country-specific level. As a result, we estimate China's net trade balance based on its macro trade with the world rather than to Korea.

Table 1. **Composition of Korea's Trade with China and the United States, 2005, millions of U.S. dollars**

Products	**Korea's exports to:**	
	China	**United States**
Electric and electronics	22,297.0	14,061.0
Chemicals	11,688.6	2,032.8
Semiconductors	7,106.7	3,628.3
General machines	4,732.2	750.9
Iron and steel products	4,245.1	1,855.1
Textiles	2,942.6	2,328.9
Plastic products	833.9	596.7
Footwear	243.4	40.9
Marine products	108.6	88.3
Toys and dolls	37.0	28.4
Motor vehicles		8,733.8
	Korea's imports from:	
	China	**United States**
Industrial electronics	6,119.5	3,287.2
Iron and steel products	4,790.0	909.7
Parts for electronics	4,092.5	6,059.5
Textiles	3,862.8	236.8
Agricultural marine products	3,236.3	0.0
Semiconductors	1,910.1	5,680.1
Coal	1,529.5	0.0
Precision chemistry	1,452.6	1,922.6
General machines	618.6	967.8
Aircraft	1.9	868.6
Precision machines	0.0	2,510.5

Source: KITA 2006.

For a deeper analysis of commodity composition, we have to assume a couple of points. First, Sino-Korean trade follows the general trend of Sino-world trade except for intrafirm trading. Second, Korea is a dynamic investor in China, and Korean products flow mostly into the traditional Korean trading countries. Exports to China produced by Korean companies can be broken down into two basic parts: general exports to Chinese companies and to multinational corporations; the remaining portion could be exported to Korean investment companies. These exports are of two kinds: intermediary goods for processing export goods to third parties like the United States, Japan, and the EU; and goods reimported back to Korea for further processing for exports or domestic uses. We also assume that imports from joint ventures will be used mostly as intermediaries for exports. In 2004, for example, Chinese joint ventures imported $245.3 billion and exported $266.4 billion, creating a net value added of 8.6 percent from imports.[5]

On the basis of these assumptions, we can break down Sino-Korean trade. According to China's trade statistics (NBSC 2006), in 2004, Korea's exports to China could be broken into general (non-intrafirm) exports of $28,022 million and intrafirm exports of $21,741 million, out of total exports of $49,763 million. Korea's imports could be broken into $16,305 million of general (non-intrafirm) imports and $13,280 million of intrafirm imports (the total was $29,585 million). As such, Korea's total trade surplus with China shrank from $20,178 million ($49,763 minus $29,585) to $11,717 million when only non-intrafirm trade is considered ($28,022 minus $16,305). In addition, because Korea's intrafirm exports of $21,741 million to China could have created $25,958 million in value of Chinese exports when we apply a factor of 1.1946, Korean firms are calculated to have created China's $12,678 million trade surplus ($25,958 minus $13,180). Then, if we compare the value of $11,717 million and $12,678 million, it almost cancels out. It could be interpreted that the Korean trade surplus with China is almost the same amount as Korean companies' contribution to the generation of the trade surplus of China.

Investment. In the 1960s, Korean companies were actually thought to be not good at foreign investment.[6] Since the late 1980s and the early 1990s, however, Korea had no other choice except for going abroad to seek cheaper production platforms. Korea followed in the mid-1980s footsteps of Japan into overseas investment; in Korea's case, the lag took a decade. Korea's rush to investment in China has been ongoing in

5. If we adjust the trade statistics to reflect that exports are collected at the price of f.o.b. while imports are inclusive of c.i.f., we neutralize import amount by dividing the factor of 1.1. Then the value-added ratio could be increased as 19.6 percent because import of joint ventures will be changed into $223.0 billion.

6. Korea is well known for her bias to foreign borrowing to attracting investment.

recent years, too. In reality, leading Korean companies— including Samsung Electronics, POSCO, LG Electronics, and Hyundai Automobiles—are involved in longer-term investment into the China market. In numbers of companies, however, the small- and medium-size enterprises (SMEs) are more dynamic and aggressive. Some even worry they are losing their China opportunity. These phenomena could be called the "China dream," just as they were called the "American dream" in the 1970s.

How did investment in China develop so fast? It can be ascribed to many factors, including the breakdown of the Cold War regime, the conceptual mistake of easier access to China by many Koreans, cultural assimilation, the existence of massive numbers of Korean Chinese as business catalysts,[7] roundabout routes for Korean citizens to meet relatives in North Korea, the route for many of those laid off in the post–International Monetary Fund restructuring, geographical approximation, and natural adaptation to the formation of an Asian community. The Korean investment rush can also be interpreted from a technology perspective. Korean technology may be more acceptable in the Chinese market than technology from other countries. Also, the United States and Japan had already shifted their technology facilities appropriate for China to other countries, presumably including Korea and other NIEs. Thus, state-of-the-art facilities from the United States and Japan might be too advanced to be acceptable in China.

Table 2. **Korea's Accumulated Investments in China, by industry, as of September 2006**

Industry	Accumulated amount (Millions of dollars)	Percentage
Communications and electronics	3,615	26.0
Automobiles	1,719	12.4
Textiles	1,495	10.8
Chemicals	1,424	10.3
Steel and iron	1,189	8.6
Machinery	1,129	8.1
Foods	630	4.6
Footwear	451	3.3
Other	2,220	16.0
Total	13,872	100.0

Source: Korea Eximbank 2006a.

7. NBSC (2006) reports that Korean Chinese ranked 13th in the list of the largest minorities in China. Because of interaction with Korea, many Korean Chinese have left their original hometowns in China and have migrated to other areas. Also, according to an interview with a Korean Chinese worker in Korea, more than 250,000 Korean Chinese are working in Korea.

The composition of investments also shows the division of labor between Korea and China. Table 2 shows that Korean investment is concentrated in manufacturing sectors such as communications and electronics, chemicals, automobiles, steel and iron, and textiles, which also overlap with the commodities that Korea exports to China. This also testifies to Korea's investment-driven trade with China.

Quasi migration. Migrating workers nowadays are traveling frequently between China and Korea; many Korean Chinese are working in Korea, and many Korean workers, mostly at the management level, are also working in China. More than 500,000 Korean citizens are estimated to reside in China as of the middle of 2006. If we add some temporary Korean workers to the number in China, the number of workers could amount to over 500,000, judging from the statistics released from the Ministry of Justice. China is different from the United States because China does not have a system of permanent residents who are not citizens. However, there are some ways to guarantee that Koreans can stay in China legally as long as one year. China's Closer Economic Partnership Agreement (CEPA) clause with Hong Kong could also be applied to Koreans who enter China through Hong Kong. Once Koreans get their visas in Hong Kong, they can stay in China for one year without interruption.

Korean students have also rushed to China. Since the mid-1980s, the possibility of studying overseas has been opened to the general Korean public.[8] As a result, many students rushed to advanced countries to get a better and higher education. It was no surprise that many went to the United States and Japan. As of the end of 2005, an estimated 54,000 Korean students are also attending Chinese schools; most are majoring in the Chinese language.[9] China's Ministry of Education estimates the number of foreign students in China as 146,000; Korean students are thought to make up the highest percentage of those foreign students—36.9 percent.

Korean students study in China for two main reasons. First, these students are following a broad and preferred trend for overseas Chinese studies. Judging from a Korean survey (KCEF 2002), about 35 percent of middle school and high school students are willing to learn Chinese as their second foreign language in addition to English as the first foreign language. However, Korean schools are supplying only 5 percent of the demand for Chinese because they still have on staff the teachers of French and German, languages that used to be offered as the second foreign languages. Moreover, inflexible and rigid university entrance exams pushed many high school students to reasonable and easier venues, and China became an alternative. In Korea, 17 different

8. Korea's education deficit in the balance of payments is estimated recently to be around $3 billion annually.

9. China recently has been host to approximately 15 percent of Korean overseas students.

subjects are tested for university entrance, which is unusual according to global standards.[10] However, in China fewer than half of these subjects are tested; in addition, foreign students get preferential treatment in entrance requirements, which many Korean students and their parents appreciate.

Second, efforts to equip Korean students with skill in the Chinese language as a survival kit are increasing in Korea as a whole because of pressures of higher unemployment rates. China may have more economic future (and potential), and in this regard learning Chinese is equipping children for the future. As a result, even elementary school students are rushing to learn Chinese in private training institutes.

Others. While settlements of Koreans are emerging in the large cities of China,[11] there also comes a reevaluation of the overseas Chinese community in Korea. At the peak, the total number in the overseas Chinese community reached 100,000, before they left for the United States or other countries in the 1970s. As a result, the overseas Chinese community in Korea shrank to one-fifth of its original size. Recently, however, overseas Chinese who left Korea are returning to Korea and, as a consequence, settlements of Chinese people are a hot topic of discussion in many cities. Moreover, Korea-China tourism has amounted to more than 4 million annually in recent years.

III. Measuring the Impact of China on the Korean Economy

Designing a Measure

In Korea, we celebrate two very important festivals: the new year festival and the full moon festival in the autumn according to the lunar calendar. According to tradition, we are supposed to provide diverse foods made from the new harvest to serve for our ancestors. We used to be proud that all our agricultural products for the filial rituals were harvested from land inherited from our ancestors. This supported our deep-rooted concept that body and earth (or soil) could not be totally separated. In recent years, however, we celebrate our festivals with imported Chinese agricultural products.

In the Yongsan electronics market, similar to Akihabara of Japan, many of the products sold in the market are basically composed of imported goods from China. A printer made in China is easily obtainable on the Korean office-products market. The composition of Korean employment has also changed. In the past decade, total industry employment shows the employment of 3.16 million new workers; this is a decrease of

10. Korean high schools teach 17 different subjects while other countries are cutting down on the number of subjects their schools teach.

11. Wangjing in Beijing and Gubei in Shanghai are those examples.

600,000 in the agricultural sector and also a decrease of 740,000 in the manufacturing sector. Korean employment has been affected presumably by the economic integration with China.

As a result, there comes a debate about to what extent Korea is now depending on China and whether China will really be a good partner for Korea as the United States was in the past. To answer this question, it would be helpful to design a measure. It is very difficult to objectively measure China's economic impact on Korea in systematic ways. In orthodox textbooks about international economics or international relationships, it is hard to find certainty about what to measure to gauge the influence of one country upon a specific other country. It is obvious, however, that it is very important for a country to have a strong economic relationship with that other specific country.

Which country is a key country can change over time. Today there seems doubt about the dominant leadership of the United States in the future on the world economy. This can be seen easily by looking at the nominal GDP of the United States compared with the GDP of the world. The U.S. share was 40.9 percent in 1949 (Meier and Baldwin 1957, 10), 36.0 percent in 1970, and only 28.1 percent in 2005. China's share, however, has increased from 2.9 percent in 1970 to 5.0 percent in 2005 (World Bank 2006).

For an objective study, we attempted to set up an index to measure the economic impact of one country. We made a couple of assumptions. First, our measurements were based on orthodox economic ideas such as development economics or international economics, which state that factor accumulation (physical capital, human capital) and productivity enhancement—highly linked with technological knowledge—are two of the most important factors in economic growth (Weil 2005). Openness to the outside world also is crucial to enhancing the level of technology and factor accumulation where smooth technology transfer is crucial to productivity gain.[12] In addition, books about international economics suggest that a detailed analysis of the balance of payments could provide a good measure of the economic influence of one specific country on another country. Current account transactions, including payments by foreign students and exports, could also be good sources of income for a country to fund further development. Items in capital accounts have an additional importance because they are involved indirectly with technology transfer and introducing new institutions to a host country. Thus, these variables could be used as proxies for calculation of the CII. Finally, military alliances are another way to make the influence of various countries more equal although in this paper we do not address the military in any detail.

12. Japan offers a key example; over the centuries it has opened itself up to outside ideas and, as a result, has become an Asian leader.

Thus, on the basis of the above discussion, our measures will comprise four variables: market access, funding source, resources, and technology transfer:

$$CII = f(M, F, R, T),$$

where *CII* is the Country Impact Index (CII), *M* is market access, *F* is the funding source, *R* is another crucial resource such as energy, and *T* is technology.

The higher the share of *M, F, R,* and *T* that the country provides, the higher the CII of the country will be. Under current world market conditions, for example, market access would be a crucial component of one country's influence on the other. Second, if one country is a key source of funds for development, it would likely increase its influence. Moreover, if a country extends loans to other countries, directly or indirectly, that fact would be influential. Last, if one country's role is as a key source of new technology, either through foreign direct investment (FDI) or its possession of state-of-the-art and cutting-edge technologies, its influence cannot be small.

Measuring the Country Impact Index (CII) of China on Korea

Relying on this simple framework, we can calculate China's actual economic impact on the Korean economy through the use of proxies. For a market access index, we took China's share of total Korean exports, China's share of Korean FDI compared with the total of Korea's FDI, and China's share of Korea's emigrants compared with the total of Korea's emigrants. For funding variables, we examined the net trade surplus, loan extensions, and tourism with China. We also calculated resources using imports, energy, and guest workers from China. Finally, we took FDI inflow, the number of degrees obtained from Chinese institutions, and the number of Korean students studying in China as a technology source.[13] In the appendix, we provide raw data for calculating our measures. For purposes of comparison, we also provide relevant statistics for the United States. Table 3 is a summary.

Table 3 shows us China's CII compared with the United States. The CII measures to what extent China has been important in Korea's economic development up until now, and it shows the direction of the future. This simple calculation shows that even though China is surpassing the United States in such sectors as trade, tourists, and guest workers, as a whole China's CII is still half of the U.S. CII vis-à-vis Korea. China's total was 2.8, while the U.S. total was 4.8, which explains the continued dominance of the United States in the Korean economy. This CII shows that the United States still dominates Korean economic development.

13. The United States also worked as role model of development for Koreans. However, most of Koreans are taking China as still under developed and inferior to Korea in many respects.

The CII is a primitive index because we did not assign a weight to each item. Simply, the importance of trade is not exactly the same as the importance of FDI. In this period following Korea's financial crisis, the Korean government is very aggressive in inviting FDI regardless of the industry; it has even permitted banking FDI. To avoid the problem of how to assign weight, we gave each of the four categories the same weight.

Despite this conclusion, it is still not clear whether we Koreans are following a rational strategy or a national strategy. Moreover, will China's low CII compared with the United States continue into the future? The current dynamic socioeconomic interaction between Korea and China leads to a prediction that China's CII will increase rapidly because Korea could remain an important reference for Chinese development. In recent years, the Korean development model has been admired by China, and China looks to Korea for ideas for important projects.

However, a crucial issue remains between Korea and China that cannot be separable from the United States in many respects. In the past (in the 1970s and 1980s), it was said that when the United States sneezes, the Korean economy immediately catches a severe cold. In the following section, we will focus on four areas: free trade areas, technology leakage, the hollowing-out argument, and establishing a Korean community in China to support our argument.

Table 3. **Country Impact Index (CII) for China and the United States vis-à-vis Korea, 2005, in shares**

Variables in CII	Components of variables	United States	China
Funding	Net trade surplus	0.46	1.00
	Loans	1.00	0.00
	Travelers-inbound	0.09	0.12
	Travelers-outbound	0.07	0.24
Markets	FDI outflow (stock)	0.26	0.24
	Exports	0.15	0.22
	Migration	0.30	0.07
Resources	Imports	0.12	0.15
	Energy resources	0.75	0.03
	Source of guest workers	0.01	0.57
Technology	FDI inflow	0.30	0.01
	Where students graduate	0.80	0.01
	Where students go to study	0.53	0.15
Total		4.84	2.81

Source: Calculated by the author based on data in appendix tables.

IV. Other Critical Issues

FTA with China First?

During the late 1980s, the importance to Korea of joining a regional economic bloc was widely discussed. During the administration of President Roh Moo-hyun, free-trade areas (FTAs) have been portrayed as one of the ways to revitalize the Korean economy. Since agreeing to an FTA with Chile, Korea has been discussing FTAs with Singapore, the United States, Japan, and China. Some also argue that Korea should seek an FTA with China before it finalizes one with the United States. Korea's small size and stage of development might make FTAs useful. In addition, Korea traditionally has had a strong relationship with China; historically, Korea has had close relations with China except for the colonial period of 1890–1945 and the Cold War period of 1953–1992.

Agreeing to an FTA with China first leads to a couple of problems, however. First, the previous CII calculation showed that the United States is still Korea's stronger economic partner. Recently, Kim Chung-yum (2006), who served as chief secretary to President Park Chung-hee for more than nine years, argued that the United States has been very crucial for the Korean economy. At the early stage of Korean economic development at the end of World War II, the United States provided a huge market for Korean exporters without any conditions, free financial aid, untied public loans, and extended private sector loans to Korean firms. The United States has helped Korea transform itself from one of the poorest countries, with a GDP per capita GDP of $89 in 1961, to a country with a per capita GDP of $1,510 in 1979, the year President Park died. During the same period, North Korea's GDP per capita decreased from number 50 in the world to number 120.

A second problem is that greater economic relations with China will not result in quickly increasing economic profits to Korea, in contrast with the general public's expectation of the moment. The Chinese economic capacity has increased enormously because of the increasing number of domestic small and medium-size enterprises (SMEs) and the massive presence of multinational corporations (MNCs) in the region. After reaching a GDP of $1 trillion in 2000, China has seen the establishment of many competent SMEs. In addition, many MNCs implemented their deferred investment after China's accession to WTO membership in 2001. As of the end of 2005, China was hosting a total $620.7 billion (MOCIE 2006), which shows the large scale of investment activity of the MNCs. Products supplied by those MNCs are key competition for Korean companies in China. If Korea agrees to an FTA with China, manufactured goods from China's SMEs and MNCs would flow into Korea. If this happens, the sector threatened will be manufacturing rather than only agriculture. Currently, for example, BMW automobiles assembled in a factory in Shenyang are

imported into Korea from China. With an FTA with China, there will be many potential imports from China, including Toyota automobiles assembled in Guangzhou.

Once again, many authors argue that FTAs are based not only on mere economic interests but also on political interests. Then the question becomes: Is it really possible to agree to an FTA with China before an agreement with the United States? An FTA is not only an economic issue; it is also political. The United States still regulates the world order.

Technology Leakage Argument

Another critical issue for Korea relates to the possible leakage of Korean technology to China. At the moment, there are two conspicuous and pending cases of technology leakage from Korea; they involve China's takeover through M&A, Jingdongfang's LCD buyout from Hynix, and the buyout by Shanghai Automobiles of Ssangyong Automobiles. The Korea Science and Engineering Foundation (KSEF), a government-sponsored foundation, is in charge of evaluating the time lag of technology transfer between Korea and China in specific industries from the 1990s onward. The foundation has shocked the Korean public by showing the lag time for technology transfer has been shortened almost every year.

At the firm level also, there has been accelerated technology transfer to China. One example is the migrating engineers from LG Semiconductor. In Korea, those researchers were considered first rate in many respects. However, during the so-called Korean big deal among the leading Korean conglomerates (*chaebol*), those talented engineers lost jobs by selling semiconductor parts from LG to the Hyundai group. The engineers were less comfortable working in the strange business culture of Hyundai Electronics. As a result, many of those engineers moved to Chinese companies with nicer conditions; they even received stock options. In semiconductor production, the time lag between Korea and China has been shortened because of those migrating engineers and others like them.

Other engineers, employed as key technical masters of Chinese companies, also left Korea, and they will be valuable to Chinese firms eager to absorb technology from Korean companies. In the dye industry too, many engineers moved to Chinese companies because of the high salaries. This situation resembles the fate of many celadon producers captured by Japanese military forces during the Hideyoshi Invasion (1592–98). These phenomena might be inevitable under dynamic global technology transfer through FDI exchanges coupled with possible intrinsic capacity building in China as it takes a capitalistic direction domestically and engineers and scientists who left China under socialism return home. Overseas Chinese are also helping to upgrade China's technology level. Some Koreans, however, are worrying about the early loss

of engineers and others trained in high-technology fields. The engineers lost to China might be only the first to leave.

Hollowing Out of Korean Industry Bases?

In recent interviews with leading Korean companies involved in manufacturing in China, many managers express their caution about investing in the Chinese market, and they even express negativity about new manufacturing investment in China because labor in China is not as cheap as it used to be, there are stronger challenges from local companies, China has had a faster-than-expected learning curve, and competition from MNCs located in China is formidable.

Many Korean economists have warned both the Korean government and individual companies about Chinese companies catching up with Korean companies earlier than imagined because of many complex reasons. The dilemma is, however, that Korean business has few plausible options other than going abroad for business.

There is no doubt that during the past 20 years China has become the factory for the world's manufactured goods, although local brands are not as strong as products of original equipment manufacturers or MNCs. For example, three different kinds of home appliances are competing in Korea: one kind is from Korean companies; the appliances are partly assembled in China and reimported to Korea for the finishing touches. Another is from purely Chinese companies like Haier. The third kind are products by Hitachi or Japanese companies that share the same characteristics of Korean companies. If a Korea-China FTA were agreed to, the Korean market would be flooded with manufactured products from China, all having different brands—Korean, Chinese, and others. For the Korean producers, it will be a challenge to survive in that situation. It could be true that the Korean economy would be impacted more seriously by an FTA with China rather than by only Chinese agricultural products as the situation is now.

Establishing a New Korean Community

Another issue is establishing a new Korean community in China similar to the communities of Shillabang during the Three Kingdoms Era in the seventh through the tenth centuries. At the end of 2005 there were already more than 500,000 Koreans who are considered permanent residents in China. The size is significant in the sense that all of these migrants moved to China over the past 14 years. The Korean community is expanding rapidly in Qingdao, Beijing, Shanghai, and Shenzhen, which are four core economic locations in China.

Before Korea's financial crisis of 1997–98, many elderly people went to China; in recent days, however, many younger people are rushing to China. For example, the China Europe International Business School, which is supported by the municipal government of Shanghai and the European Union and charges tuition of more than $27,000, accepted 12 Korean students in 2006 although in 2005 only 5 Korean students were accepted at the school. This trend indicates that younger Koreans expect that China will provide a higher business potential in the future.

China has become one of the most dynamic economies in recent years. Since the beginning of the new millennium, China has been the most popular topic in both the political and economic arenas of the world. In 2005, for example, China surprised the world by ranking as the fourth-largest economy in addition to being the third-largest trading country. In 2005, China had a GDP of $2,226 billion and a trade volume of $1,422.5 billion (World Bank 2006). Compared with China's economic size of $302 billion in 1980, China has increased its economic size 7.37 times in 25 years. In China's interaction with outside world, China first surpassed Korea in 1992 in world trade, and then, within 13 years, China became one of the top three countries in world trade and a key host of FDI. These changes will not, however, guarantee Korean migrants a realization of their Chinese dream. The gigantic economic size of China does not necessarily provide new opportunities to the new Korean Chinese because of misunderstandings about China's business environment.

V. Concluding Remarks: Is Korea Rational or National?

Traditionally, the Korean economy has faced three bottlenecks: the small size of its domestic market, deficient technology, and a lack of resources, which has led to Korea's chronic dependency on external economies. China has been among Korea's key external partners. It is difficult to change from being a developing country to being a developed country, but Korea has been able to move from being the 33rd-largest economy to the 13th-largest since World War II (World Bank 2006). Currently, Koreans are struggling with how to lift up the Korean economy to become one of the fully developed countries with a per capita GDP of more than $20,000.[14] Most of our concern focuses on creating a new comparative advantage sector as we face China, learning to increase net export value through China, learning to adjust the speed of shifting facilities to protect against a quick hollowing out phenomena toward China, and planning to join a regional free-trade arrangement. All these issues are highly linked with China.

14. The Korean government is, however, setting a target of a per capita GDP of $30,000.

China is not subject to Korean control. China will continue its speedy economic growth for the coming 20 years. China has an enormous domestic market, the ability on the part of the government and Chinese Communist Party to mobilize an elite group from diverse classes, a peaceful international environment, great power resulting from the massive economic demand it exerts on other economies in the world, and a global network of overseas Chinese. These advantages do not deny China has internal problems of nonperforming loans, inefficient state sectors, regional income disparities, and environmental issues such as a shortage of clean water and air pollution.

As a relatively small and open economy, Korea will inevitable have a close economic link with many countries, including China. This does not mean that other traditional economic partners like the United States will be excluded. It is misleading to judge that the United States is less important by simply looking at the superficial and numerical economic shifts from the United States to China, as was supported by our measurement of CII for both China and the United States.

We Koreans should put more emphasis on minimizing costs of international orders. We also have to have a better understanding of China. During summit talks between Korea and China in the post-financial-crisis period, Korea expressed gratitude to the Chinese government for not taking a "beggar thy neighbor" policy, meaning that China did not let the renminbi fall against the United States dollar as the *won* did as Korea was suffering through its financial crisis. Korea's current trade surplus with China is overestimated because most Korean goods exported to China are technically intrafirm exports related to Korean investment in China. As a result, because most of those companies are using China merely for processing goods and then re-exporting them to third countries, Korean companies are contributing greatly to China's trade surplus, which could be canceling out Korea's trade surplus with China.

The role of China is totally different from the role of the United States in Korean economic development. For Korea, the United States has been an export market, and it has supplied capital and technology. China, however, has been extending the product life cycle of export goods. Chinese demand to Korean firms is basically a derived demand from world economic growth. Now, when demand comes from the United States, Japan, or the EU, we Koreans export through a Chinese manufacturing platform. Korea is still somewhat detached from China and maintains the attachment to the United States that prevailed in the twentieth century. Korea may reattach to China and gradually detach from the United States in the future. But Koreans are rational rather than national.

Maybe a separation of politics from the economy could be one possible option. In reality, Korea's trade with the United States moves through production processes in factories in China. In short, Korea-China economic cooperation should be contributing

not only to national, regional, and also world development, assuming a bigger regional market than only a production platform. This spirit will persuade partner countries and attract participation of other countries to the Northeast Asian areas, including China, Korea, and even Japan. All these activities and changes could be merged into contributing to the prosperity of China and its neighboring countries as well as the world, thereby creating a new culture in the new century.

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Appendix Tables

Table A.1. **Statistics on Korea's Trade with Japan, the United States, and China, 1985–2005, millions of dollars**

	1985	1990	1995	2000	2001	2002	2003	2004	2005
Data assembled in Korea									
Exports to:									
Japan	4,543	12,638	17,049	20,466		15,143	17,276	21,701	24,027
U.S.	10,754	19,360	24,131	37,611		32,780	34,219	42,849	41,343
China		1,553	9,140	18,610	18,190	23,753	35,110	49,763	61,915
Imports from:									
Japan	7,560	18,574	32,606	31,828		29,856	36,313	46,144	48,403
U.S.	6,489	16,942	30,404	29,242		23,009	24,814	28,783	30,586
China		2,268	7,400	12,800	13,300	17,399	21,909	29,585	38,648
FDI data assembled in China									
			1,043	1,490	2,152	2,721	4,489	6,248	5,168

Sources: KITA 2006, NBSC 2006.

Table A.2. **Data Used for Calculating Country Impact Index (CII), 2005**

Variables in CII	Components of variables	United States	China	Total
Funding	Net trade surplus	10,757	23,267	23,181
	Loans	187,316		187,316
	Travelers-inbound	531,000	710,000	5,818,000
	Travelers-outbound	692,298	2,382,312	10,078,000
Markets	FDI outflow (stock)	14,603	13500	56,629
	Exports	41,343	61,915	284,419
	Migration	210	50	700
Resources	Import	30,586	38,648	261,238
	Energy source	42,606	15,29	56,695
	Source of guest workers	2,000	200,000	350,000
Technology	FDI inflow (stock)	30,723	1,150	101,008
	Where students graduate	200,000	3,000	250,000
	Where students go to study	53,358	14,599	100,000

Source: KITA 2006.

Key:

Funding
—Loans up to 2005 (outstanding; stock); millions of U.S. dollars
—Trade surplus in 2005 (flow); millions of U.S. dollars
—Tourism income in 2005 (flow), person/time

Markets
—Exports in 2005(flow); millions of U.S. dollars
—Investments up to 2005 (stock); millions of U.S. dollars
—Actual migration up to 2005 (stock); 10,000 persons

Resources
—Energy imports in 2005 (flow); millions of U.S. dollars
—Guest workers up to 2005 (stock); number of persons
—Imports (flow); millions of U.S. dollars

Technology
—FDI inflow up to 2005 (stock); millions of U.S. dollars
—Where students graduate up to 2005; number of persons
—Where students go to study in 2005 (flow); number of students