

Inter-Korean Economic Relation: Rivalled Past, Unbalanced Present, and Integrated Future

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South Korea and North Korea have competed vigorously against each other in almost every field since the establishments of both governments in 1948. This paper reviews the past economic rivalry between the two governments, a rivalry which the North dominated in the 1950s and 60s until the South gradually took the lead which it still holds. Throughout the 1980s, South Korea has experienced miraculous economic success while North Korea has suffered from the inefficiencies of a centrally planned economy along with the problems caused by an unbalanced development strategy. Currently, it is clear that the successful South Korean economy not merely has surpassed the troubled North Korean economy, but also is in a dominant position in almost every other aspect. Based on the assumption that the current nuclear issue is resolved peacefully, this paper discusses some prospects for the future inter-Korean economic cooperation.

I. Introduction

The Unification of Germany has left few countries in the world divided. Two of those divided countries are Korea and China. However, unlike the case of China where the inter-Chinese economic relation has grown so rapidly since the beginning of the economic reform programs of Deng Xiaping in 1978, the Korean peninsula is still far from unifying in ideological, political, cultural, and economic aspects. While the South Korean and North Korean governments have competed against each other in the areas of military power, political legitimacy, ideological propa-

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ganda, and economic prosperity, this paper will focus on the inter-Korean economic relations since the establishments of the two governments in 1948. The following section will review the past performance of both South and North Korean economies, paying more attention to the North. Analyzing the sluggish and troublesome economic performance of North Korea since the early 1980s, section three will present the current situation of the North Korean economy compared to that of South Korea. Even though the inter-Korean economic cooperation, which began officially in 1988, has come to an absolute halt due to the nuclear issues raised by the North Korean nuclear program in 1990s, section four will discuss some future prospects for inter-Korean economic cooperation/integration based on the assumption that the current nuclear issue will be resolved peacefully in the near future.

I. Past Economic Rivalry Between South and North Korea

Since the establishment of both the North and South Korean governments in 1948, each regime has competed vigorously against the other to achieve rapid industrialization through contrasting development paths: the inward-oriented North Korean socialist economy based on import substitution policies with priority placed on heavy and chemical industries, versus the outward-oriented South Korean market economy based on export promotion policies with priority placed on light industry. In this race for prosperity, North Korea was a leader in the initial stage during the 1950s. However, North Korea's economic development lead over South Korea narrowed with the rapid growth of the South Korean economy from the mid-1960s, and by the early 1970s, South Korea had taken the lead. However, it was not until the end of the 1980s that North Korea finally admitted that it was no longer a competitor of South Korea's in terms of economic development. In this section, the author reviews and compares the past economic performance of the North and the South in five different periods: (1) From Independence to the Korean War (1945~1950), (2) Post-War Recovery (1953~1961), (3) South Korea's Catch-Up of North Korea (1962~mid-1970s), (4) Widening Gap between the South and the North (mid-1970s~late 1980s), and (5) the Dominance of the South Korean Economy (1990s).

The division of the Korean peninsula after gaining independence from Japan in

1945 left the North and the South with extremely asymmetric production structures. The Table 1 shows the natural endowments of both Koreas and their production structures.

From the Table 1, we can observe that in most areas, South Korea was poorly endowed compared to North Korea. Considering the fact that South Korea was about twice as populous as North Korea, the disparity is particularly vivid in mining.¹⁾ Even though it was generally perceived that South Korea had an advantage in rice production, this advantage virtually disappears if one considers the fact that the South had twice the population density. Furthermore, there existed a substantial dichotomy in the production structure of manufacturing goods between the North and the South. According to Table 13 of Kim and Romer [19], in 1939 South Korea's manufacturing production was concentrated in light industries, while that of the North was concentrated in heavy and chemical industries.²⁾

(Table 1) North and South Korea's Production at the time of division

	South	North	South/North
Land (km ² , 1945)	108,366	118,366	0.92
Population (1,000, 1944)	17,041	8,859	1.92
Arable Land(km ² , 1939)	22,300	24,175	0.92
Rice Paddies	13,293	5,684	2.34
Dry Fields	9,007	18,491	0.49
Production(Million Yen, 1940)	1,602	1,317	1.22
Agriculture	965	562	1.72
Mining	62	194	0.32
Manufacture	324	372	0.87
Per Capita Net Commodities Production(Yen, 1940)	103	166	0.62

Source: Table 11, 12 of Kim and Romer [19].

1) According to Chapter 2 of Kim and Roemer [19], in 1936 practically all iron ore and coal were produced in the North as well as more than 70% of gold, silver and tungsten.

2) In 1939, 85% of textile production, 72% of machinery productions, 65% of wood products, 89% of printing and publishing, 65% of processed foods, and 78% of miscellaneous products were produced in the South. The North produced 90% of metal products, 72% of ceramics, 81% of chemicals, and 63% of gas and electric products.

This dichotomy was largely the result of Japanese colonial policy. After the start of the Sino-Japanese war in 1937, Japan made the northern part of Korea its military supply base for its invasion into China, and the southern part of Korea its supplier of rice. In particular, large investments into the heavy and chemical industries after the Sino-Japanese war were made by the Japanese *Jaibatsus* in North Korea. For example, Mitsubishi Mining Company built an iron refinery in Chongjin, Nippon VHF Heavy Industries built a plant in Songjin, and Chosen Nitrogenous Fertilizer Company built a fertilizer plant in Hungnam.³⁾ This dichotomy between the North and the South deepened when Japan initiated the Pacific War in 1941 and the Korean economy converted to a wartime economy. A relatively abundant endowment of natural resources, significant mining production, and heavy and chemical industries developed under Japanese colonialism, particularly in the first half of the 1940s, naturally led North Korea to follow the development path of import substitution focused in heavy and chemical industries from the very beginning. In addition, the Stalinist-style economic planning in the 1950s, which emphasized the development of heavy industry, further solidified this development strategy later on.

After gaining independence from Japan, one of the first initiatives both Korean governments started was land reform. North Korea implemented land reform in 1946 when North Korean authorities confiscated about 1 million hectares of farmland, formerly owned by Japanese colonialists, from 422,646 households and distributed them to 724,522 households. In South Korea, a similar land reform took place during 1948 and 1949, but the scope of South Korea's land reform was far more limited than that of the North. The withdrawal of Japanese managers and engineers placed both North Korea and South Korea in short supply of capable manpower. Both tried to establish new economic systems, which could replace the old colonial system. By the late 1940s, North Korea had established a new socialist economic system with the primary means of production being nationalized.⁴⁾ South Korea had also recovered from the initial chaos of economic stagnation and hyperinflation by 1948, when it began to show strong signs of recovery and stability. However, the Korean War (June 1950 ~ July 1953) devastated much of these efforts, with neither North Korea nor the South able to achieve pre-war industrial

3) For further details, see Choi, Hochin [10], *The Economic History of Korea*, Seoul: Segyeong publishing Co. Ltd: pp. 285~289.

4) Following the land reform of 1946, further nationalization of major industries, banks, transportation, and public broadcasting was carried out in the North.

production levels until 1953, and 1954, respectively.⁵⁾ One significant implication of the war was the population change of the North and the South. During the war, there was a massive population shift to the South, increasing the population of South Korea from 17 million in 1944 to 20.3 million in 1953. On the other hand, the population of the North decreased from 8.9 million in 1944 to 8.5 million in 1953. This sudden population increase in South Korea left the country in more urgent need of basic necessities. This was one of the reasons that the South pursued import substitution policies in the consumer products sector while the North followed a policy of import substitution in heavy industries.

The second period of economic development is the post Korean War recovery (1953 to 1961). During this period, North Korea implemented its two most successful economic development plans, the Three Year Plan (1954~1956) and the first Five Year Plan (1957~1961). Both halves of the peninsula carried out inward-looking import substitution policies with great dependence on foreign aid.⁶⁾ However, the import substitution policy of North Korea concentrated on heavy industries, while that of South Korea concentrated on light industries.⁷⁾ The socialization of virtually all means of production by 1958, successful Stalinist-style planning, and effective manpower mobilization programs such as the "Chollima Movement" in 1958 enabled North Korea to enjoy economic superiority over the South. During the same period, South Korea was struggling to recover from the Korean War, still fighting hyperinflation at the end of the 1950s. However, by the early 1960s, South Korea had stabilized the inflation rate, and import substitution in consumer goods was almost complete, providing the conditions for the South Korean government to pursue primary export substitution as Fei, Ohkawa, and Ranis [16] have pointed out.

From the beginning of South Korea's First Five Year Plan (FYP) in 1962 under the new regime of President Park, rapid growth propelled by significant export gro-

5) For detailed production indices for each industry, refer to Table 2.2 of Hwang [9] for North Korea, and Table 16 of Kim and Roemer [19] for South Korea.

6) From 1950 to 1960, the total value of foreign aid both North Korea and South Korea received was \$ 1,653,360,000 and \$ 2,402,845,000 respectively (Table 5-4 of Hwang [9], Table 18 of Krueger [20], Table 19 of Kim and Roemer [19]).

7) According to Table 2-2 and 2-4 of Hwang [9], more than 80% of investment in manufacturing was made in heavy and chemical industries from 1954 to 1960, causing the production of capital goods to increase approximately 8 times between 1953 and 1958, while the production of consumer goods increased merely 4 times during the same period.

with enabled South Korea to catch up to the North. Various export promotion measures in the South, which followed the exchange rate reform of 1964, led to average annual export growth rates in the South of 38.6% during the First FYP (1962~1966), and 33.8% during the Second FYP(1967~1971), which in turn made the average annual growth rates of real GNP in the First and Second FYP 7.8% and 9.7%, respectively. Meanwhile, North Korea, encouraged by the initial success of industrialization in the 1950s, continued its inward-oriented industrialization with greater emphasis on heavy industry during its First Seven Year Plan of 1961 to 1967. The Sino-Soviet border dispute in the early 1960s helped Pyongyang realize the importance of self-reliance in terms of the economy and self-defense in terms of military security. This led to the invocation of the Juche ideology for national defense purposes in 1962 and further emphasis on heavy industry, which was vital to the military sector. However, biased resource allocation toward heavy industry with relative neglect of the consumer goods industry produced the problem of unbalanced growth. Furthermore, decreased assistance from the Soviet Union and China, a poor harvest in agriculture, and the emergence of bottlenecks in key sectors due to inefficient planning aggravated the situation to the point that, by 1966, it had become clear that the planned targets were not going to be reached. Despite the official declaration of the completion of the plan by the North Korean au

(Table 2) Per Capita GNP of North and South Korea(\$, current value)

	South	North(NUB) ⁽¹⁾	North(CIA) ⁽²⁾	North(Hwang) ⁽³⁾
1970	243	276	695	304
1971	285	275	N/A	374
1972	316	301	N/A	422
1973	396	398	N/A	489
1974	535	452	N/A	559
1975	591	567	971	751
1976	800	578	929	775
1977	1028	623	910	725
1978	1406	766	960	956

Sources: Table 5-1 of Song (1990), Table 3-2, 3-12 of Hwang [9],
Table 4-20 of Eberstadt [12].

Notes: (1) National Unification Board (Seoul) estimate, (2) U. S. CIA estimate, (3) estimated by Hwang [9].

thorities, the First Seven Year Plan was extended to 1970, implicitly reflecting that the originally planned targets had not been met. It was during this development plan that North Korea stopped reporting detailed economic statistics to the outside world.

It is not clear precisely when the South Korean economy finally surpassed the North's. In terms of overall GNP, it is generally believed that South Korea surpassed North Korea in the early 1970s. However, in terms of per capita GNP, it was not until the mid 1970s that South Korea caught up with the North. The Table 2 compares the per capita GNP of the North to that of the South.

Based on Table 2, we can see that by the mid 1970 South Korea's per capita GNP had surpassed North Korea's based on every estimation. Even though South Korea eventually caught up to North Korea in terms of per capita GNP, the existence of a formidable North Korean military force supported by relatively more developed heavy industries, combined with unequal income distribution in the South prevented South Korea from claiming to be dominant in its race towards superiority over with the North for a longer period.

In the time since the South Korean economy caught up with North Korea's, the gap between the two Koreas has become wider and wider. Following two successful FYPs, the South Korean government initiated its third FYP in 1972 with greater emphasis on heavy and chemical industries(HCI). Even though there were economic reasons behind the pursuit of HCI promotion, such as rising wages in the South and the declining comparative advantage in light industry, political considerations played a more significant role in the decision to initiate HCI promotion. The growing necessity of self-defense in the early 1970s pushed the South Korean government to furiously carry out the promotion of HCI.⁸⁾ Even though the excessive focus on HCI created further income distribution problems, market concentration problems, and increased foreign loan problems in South Korea, HCI promotion enabled South Korea to upgrade its production structure and achieve greater self-sufficiency in terms of defense. Overcoming the chaotic instabilities of the early 1980s following the assassination of President Park in 1979, the South Korean economy had successfully achieved price stabilization and economic structure transformation toward higher value added industries by the mid 1980s. Such efforts of

8) The withdrawal of about 20,000 U. S. troops from South Korea in 1971, followed by the Nixon doctrine, made the South Korean government realize the importance of self-defense.

the South Korean economy, combined with so-called "Three Lows",⁹⁾ enabled South Korea to achieve a 12.8% average growth rate from 1986 to 1988 with an average inflation rate of 4.3%.¹⁰⁾

On the other hand, the picture was quite different in the North. The problems of unbalanced growth and the lack of advanced technology due to an inward-oriented development strategy made North Korea adopt a Six Year Plan to resolve these problems in 1971. To overcome the problem of unbalanced growth, the "Three Technological Revolutions" policy was initiated to curtail the lag between heavy industry and light industry, reduce the income differential between industrial workers and agricultural workers, and relieve women from household work. The problem of obsolete technology induced North Korea to import massive amounts of advanced technology and capital from Japan and several western countries in the early 1970s, which later created the balance of payments problem.¹¹⁾ However, despite the alleged achievement of key industrial and agricultural targets, a chronic trade deficit and the first oil shock of the early 1970s created a foreign exchange shortage by the mid 1970s, with North Korea beginning to experience debt-repayment difficulties in 1975. Bottlenecks in key sectors continued due to the increased complexity and inefficiency of central planning.¹²⁾ To overcome these problems, mass campaigns such as "The Three Revolution Team Movement" in 1973 and "The Seventy Day Speed Battle" in 1974 were used to mobilize labor. Declaring 1977 as a year of adjustment, North Korea started its Second Seven Year Plan in 1978. The major economic goals of this plan included a frugality campaign, an increase in foreign trade, and the modernization of the transportation sector, reflecting the chronic problems of a trade deficit, accumulation of foreign debt, lack of capital, and obsolete technology. In 1984, North Korea declared the completion of the Second Seven Year Plan without reporting detailed figures and announced that it would

9) The Three Lows after 1986 are: the price of oil, interest rates, and the yen-dollar exchange rate.

10) For more detailed description of the South Korean economy in the 1980s and an analysis of the Three Lows, refer to Lee [21].

11) According to Yeon [31], North Korea's average annual imports from western industrialized countries including Japan from 1970 to 1974 increased by 89.6%, while OECD countries in 1974 accounted for 51.7% of its total imports, worth \$ 1.357 billion.

12) Refer to Groves, Hong, McMillan and Naughton [17] for the problem of information distortion that can arise in a centrally planned economy: The longer a hierarchical distance between the production floor workers and the ultimate decision-maker is, the more information will be distorted, resulting in less incentive and lower productivity.

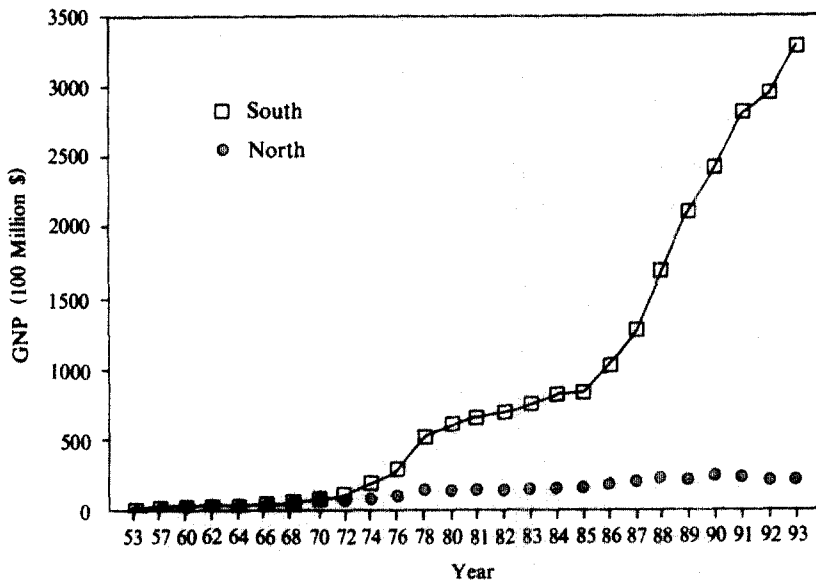
have a two year adjustment period before the start of the Third Seven Year Plan. This action implicitly indicated the unsatisfactory performance of the North Korean economy during this period. It was also in 1984 that North Korea initiated limited economic reforms, which provided some material incentives and autonomy to state enterprises and a semi-open door policy to attract foreign joint venture projects in North Korea. However, the results of these efforts were far below the expectations of North Korean planners, causing North Korea to enact an even more vigorous law to attract foreign joint ventures in 1992. Major goals and officially announced results of each development plan of North Korea are listed in the Table 3.

Summarizing the past performance of the North and South Korean economies, we can conclude that the relatively better endowed North Korean economy could achieve more successful industrialization in the 1950s and 1960s through relying on Soviet-style central planning, the nationalization of the means of production, ideological stimuli, and the mass mobilization of the labor force. North Korea dominated South Korea in economic terms during the 1950s, but this gap began to narrow as South Korea achieved rapid growth after 1962 due to the successful promotion of exports. Finally, by the middle of the 1970s, the South Korean economy had surpassed the North Korean economy, and since then the gap between these two economies has widened as depicted in Figures 1 and 2.

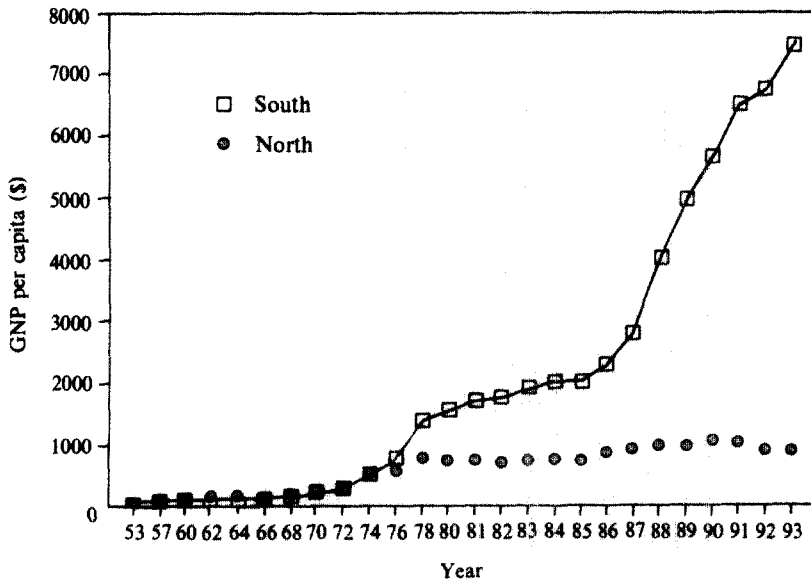
III. Present Situation of the North Korean Economy: A Comparison with the South

While the North Korean economy experienced slow growth during the 1980s, it was a positive growth rate until the end of the 1980s. However, the problems of the North Korean economy, such as inefficient planning, lack of incentives, bottlenecks in key sectors, declining productivity in agriculture and food shortages, along with a chronic trade deficit (refer to Appendix B of Lee [21]) and foreign debt depressed the North's economy despite partial reform efforts in the mid-1980s. North Korea began to experience negative growth in 1990, with its GNP per capita estimated between \$ 1,064 and \$ 1,268 in 1990 according to Chun [11]. While the existing problems were already serious enough to be considered an economic crisis, the reduction in foreign aid from the former Soviet Union and China and the subsequent demands for trade based on

<Figure 1> The North Korean & South Korean GNP



<Figure 2> GNP per Capita of North & South Korea



hard currency rather than the previous subsidized "friendship" prices by the Soviet Union in 1991 and China in 1993 left North Korea with a further problem, a serious foreign exchange shortage.¹³⁾ The Table 4 shows recent macroeconomic data of North Korea, estimated by the National Unification Board of South Korea.

1. Economy of Shortage:

Food, Energy and Foreign Exchange

Of the current problems of the North Korean economy, the most serious is the shortage of food. North Korea maintained agricultural grain production of 4.5 to 5 million tons a year up to the late 1980s. However, due to declining agricultural productivity and bad weather, the grain production of North Korea declined from 4.81 million tons in 1990 to 4.43 tons in 1991, 4.27 tons in 1992, and 3.88 tons in 1993. North Korea imported 1.3 million tons, 0.83 million tons, and 1.09 million tons of grain in 1991, 1992 and 1993 respectively, but the annual demands for these years were 6.47 million tons, 6.5 million tons and 6.58 tons respectively, leading to absolute shortages in the range of 0.36 million tons in 1991, 1.24 million tons in 1992, and 1.22 million tons in 1993 in estimates of the National Unification Board of South Korea. Acknowledging this problem of food shortage, Kang Sung-San, the prime minister of North Korea, announced at the 7th meeting of the 9th Supreme People's Assembly of April, 1994, that increasing grain production would be the top priority task for the following two to three years of the "adjustment period,"¹⁴⁾ with a target of production of 15 million tons during this period.

The second urgent problem of the North Korean economy is the shortage of en-

13) Li Lanqing, Chinese Trade Minister and concurrently a Politburo member of the Chinese Communist Party Central Committee, in a meeting with visiting Kang, Jong-Mo, vice chairman of North Korea's External Economy and Trade Commission, said in late 1992 that all trade with China beginning in 1993 must be paid for in cash by North Korea (*Vantage Point*, January [29]: p. 14)

14) On December 8, 1993, the North Korean prime minister Kang, Sung-San announced in the Central Committee meeting that due to the unfavorable international environment surrounding North Korea, the projected industrial production target of the Third Seven Year Plan(1987~1990) was not met. Officially acknowledging the failure of the Third Seven Plan, prime minister Kang said that instead of setting up a plan to start the Fourth Seven Year Plan, which was supposed to begin in 1994, the North Korean government would have the next two to three years as an "adjustment period of socialist economic development." During this period, he said that the North Korean government would pursue "agriculture-first," "light industry-first," and "trade-first" policies (*Weekly Maekyung* (in Korean), 1994. 1. 12).

(Table 3) The Nine Development Plans of North Korea: Goals and Performance

Plan	Goals	Announced Results(Targets)
1 Year Plans (1947, 1948)	<ul style="list-style-type: none"> -Consolidation of firms -Increased production of basic necessities -Increased agricultural production 	<ul style="list-style-type: none"> -Industrial Production: 1946~1947 : 54% increase 1947~1948 : 38% increase -Grain Production: 1947 : 2,069,000 tons 1948 : 2,668,000 tons
1st 2 Year Plan (1949~1950)	<ul style="list-style-type: none"> -Solidifying economic foundation for self-reliant economy 	<ul style="list-style-type: none"> -1949 Industrial Production : 3.4 times greater than 1946 level -Grain Production : 58% increase between 1946~1949
3Year Plan (1954~1956)	<ul style="list-style-type: none"> -Surpass the output level and efficiencies of pre-war period 	<ul style="list-style-type: none"> -Industrial production: 2.8 times greater than 1953 level Reported annual growth rate : 41.7% -Grain Production: 19% increase between 1949~1956
1st 5 Year Plan (1957~1961)	<ul style="list-style-type: none"> -Further consolidation of economic foundation of socialism -Increased production of basic necessities 	<ul style="list-style-type: none"> -Industrial Production: 3 times (2.6 times) Reported annual growth rate : 36.6% -Grain production: 1960 : 3,760,000 tons
1st 7 Year Plan (1961~1967, extended to 1970)	<ul style="list-style-type: none"> -Decisive strengthening of the material and technical foundation for socialism 	<ul style="list-style-type: none"> -Industrial Production: 3.3 times (3.2 times) Reported annual growth rate : 12.8% -Grain Production : (6,000,000 to 7,000,000 tons)
6Year Plan (1971~1976)	<ul style="list-style-type: none"> -Accomplishments of Industrialization -Advance technical revolution 	<ul style="list-style-type: none"> -Industrial Production : 2.5 times (2.2 times) Reported Annual growth rate : 16.3% -Grain production : 8,000,000 tons (7,500,000 tons)
2nd Year Plan (1978~1984)	<ul style="list-style-type: none"> -Self-reliance and modernization -Frugality campaign -Increase foreign trade -Modernization of transportation sector 	<ul style="list-style-type: none"> -Industrial Production 2.2 times (2.2 times) Reported annual growth rate : 12.1% -Grain Production: 10,000,000 tons (10,000,000 tons)
3rd Year Plan (1987~1993)	<ul style="list-style-type: none"> -Promotion of Juche ideology -Modernization -Increase foreign trade 	<ul style="list-style-type: none"> -Industrial Production 1.5 times (1.9 times) Planned annual growth rate : 12.2% -Grain Production : (1.4 times)

Source : Table of Lee [21].

(Table 4) Recent Macroeconomic Data of North Korea

	1987	1988	1989	1990	1991	1992	1993
GNP growth rates(%)	3.3	3	2.4	-3.7	-5	-7.6	-4.3
GNP(\$ bn)	19.4	20.6	21.1	23.1	22.9	21.1	20.5
GNP per capita (\$)	936	980	987	1064	1038	943	904
Export (\$ bn)			1.91	1.96	1.01	1.02	1.02
Imports(\$ bn)			2.89	2.81	1.71	1.64	1.62
External debt(\$ mm)			678	786	928	972	1032

Source: Bank of Korea [8].

ergy. First, due to the production equipment becoming more and more obsolete and the decreased production of coal, the electricity generation in North Korea has gradually decreased. The Table 5 shows the current energy situation of North Korea, estimated by the National Unification Board of South Korea.

Second, the energy shortage problem of the North Korean Economy comes from the reduced oil imports.¹⁵⁾ As shown in the Table 5, North Korea, whose oil consumption wholly depends on imports, has been able to import decreasing amounts of oil each year since the early 1990s. This fact is due mostly to reduced oil imports from the former Soviet Union. Even though the amount of oil imported from China has remained approximately the same during the past several years, North Korea's oil imports from the former Soviet Union have decreased sharply since 1991, when the Soviet Union refused to provide oil to North Korea at the previous subsidized friendship prices and asked North Korea to pay hard currencies for the oil imports. Even with the oil imports of 1.52 million tons in 1992, it is estimated that merely 43.4% of the refinery facilities in North Korea could be operated at full capacity. These two problems have caused a severe energy shortage in North Korea since the early 1990s. According to anecdotes from witnesses who have visited North Korean factories recently, the average operation rate of North Korean factories may be less than 50%. In order to overcome such an energy crisis, the North Korean government has tried a couple of efforts in recent years.

15) According to Chang [5], North Korea imported 2.65 million tons of oil in 1988, and 17% of that imported oil was used in industry while the other 71% was used in transportation. Unlike South Korea, North Korea depended on coal (40%) and hydro-electric generation (60%) for its electricity.

(Table 5) Production and Imports of Energy in North Korea

	1989	1990	1991	1992
Electricity Generation(bn kwh)		27.7	26.3	24.7
Coal Production(Mn tons)		33	31	29.2
Oil import(1,000 tons)	2600	2520	1892	1520
Import from China	1073	1063	1102	1006
Import from Russia	506	410	42	190

Source: National Unification Board (1993); *Chosun Ilbo* (in Korean), April 30, 1994.

One of these efforts was to import oil from Middle East countries like Iran in exchange for military goods such as Scud missiles, which are suspected to be delivered from North Korea to such countries as Iran and Syria.¹⁶⁾ Furthermore, although not officially confirmed yet, it is believed that the North Korean government has been trying vigorously to find an oil field in the North Korean sea with the help of western countries like Sweden since as early as 1964 when the Soviet Union began helping North Korea explore this area.¹⁷⁾

The food and energy shortage problems of the North Korean economy are largely due to the lack of foreign exchange needed to import necessary equipments and fertilizers to grow grains and to import the lacking food and oils. As shown in Table 4, North Korea has had a stubborn trade deficit of approximately \$600 to 700 million in every year since the late 1980s. Furthermore, due to its bad credit records, North Korea can not attract further foreign debt in the 1990s, also shown in Table 4. In addition to the necessary foreign exchange to pay for these trade deficits, North Korea needs hard currencies to import the lacking foods and oil. As estimated above, North Korea is currently in absolute shortage of approximately 1.2 million tons of grain and is importing approximately 1 million tons less oil in 1992 compared with 1989. To resolve these two shortage problems, North Korea would need at least \$250 million.¹⁸⁾ Therefore, the North Korean economy would

16) North Korea has tested Rodong-1, a missile which has a range of 1,000 km, on the East sea of Korea on May 29 and 30. It is believed to be developed in order to be exported to Iran in exchange for oil (*New York Times*, June 13, 1993). It was expected that Iran would import 150 units of Rodong-1 in 1993 (*Hanguk Ilbo* (in Korean), May 17, 1993)

17) For further detail, please refer to *Sisa Journal* (in Korean), July 1, 1993.

18) The way to calculate this \$250 million follows: 1) First, let us assume that North Korea would import 1.2 million tons of grain (mostly corn) from China. If we apply the price of \$

currently need approximately \$ 850 million of hard currencies to finance the trade deficit and to import the minimum amount of foods and oil. This does not even consider additional hard currencies needed for imports of necessary capital and consumer goods that are also in serious shortage situations. One way to resolve this chronic foreign exchange shortage problem has been to rely on the flow of funds coming from *Chochongryon*, a pro-North Korea organization among Korean-Japanese in Japan. Various sources have estimated this fund to be as large as \$ 600 to \$ 750 million annually.¹⁹⁾ So far, we have examined the current situation of the North Korean economy and its most urgent shortage problems of foods and energy. The current economic problems of North Korea come from two sources. First of all, due to the inevitable inefficient nature of the centrally planned economy, the North Korean economy suffers from many problems common to other socialist countries. In addition to this internal cause, a series of external shocks, including the collapse of the former Soviet Union, the resulting dissolution of the former trading arrangements in the Council for Mutual Economic Assistance (CMEA) in early 1991, and the decrease of economic aid that resulted in the early 1990s delivered a critical blow to the already faltering North Korean economy. Thus by 1993, it was clear that North Korea was no match for South Korea in the race of economic prosperity with its economic size sixteen times smaller and its per capita GNP eight times smaller than those of the South. Recognizing these difficulties of the North Korean economy, North Korean leader Kim Il-Sung delivered a New Year speech in January, 1994, emphasizing the following three areas: agriculture, light-industry, and trade. Furthermore, successful political transformation in South Korea towards a democratic system in the late 1980s made South Korean society so much more stable than the North's that by 1990, comparisons in any area were pointless. The Table 6 compares the North Korean economy to the South's, based on estimates by the National Unification Board of South Korea in 1994.

115/ton (based on South Korean imports from China in 1993), then the total needed to import 1.2 million tons of corn from China would be \$ 138 million. 2) Second, if we apply the current international (Dubai) oil price of \$ 15.33/barrel, then North Korea would need approximately \$ 111 million to pay for the imports of 1 million tons of oil. Therefore, to resolve the current absolute food and energy shortage problems, North Korea would need at least \$ 249 million in hard currencies.

19) Japanese officials estimate this fund to be \$ 600 million (*New York times*, November 1, 1993). According to *Far Eastern Economics Review* (July 19, 1993), it was estimated to be \$ 750 million.

(Table 6) Major Economic Indicators for North and South Korea
(Data based on the end of 1993)

Classification	North Korea(N)	South Korea(S)	S/N
Population(1,000)	22645	44056	1.9
GNP(\$ 100 Million)	205	3287	16
Per Capita GNP(\$)	904	7466	8.3
Economic Growth Rate(%)	-4.3	5.6	
Government Budget(\$ 100 Million)	187.2*	474	2.5
Military Expenditure(\$ 100 Million)	56.5*	119.2	2.1
Total Trade(\$ 100 Million)	26.4	1660.4	62.9
Export(\$ 100 Million)	10.2	822.4	80.6
Import(\$ 100 Million)	16.2	838	51.7
Net Foreign Debt (\$ 100 Million)	103.2	440.8	4.3

Source: Bank of Korea [8].

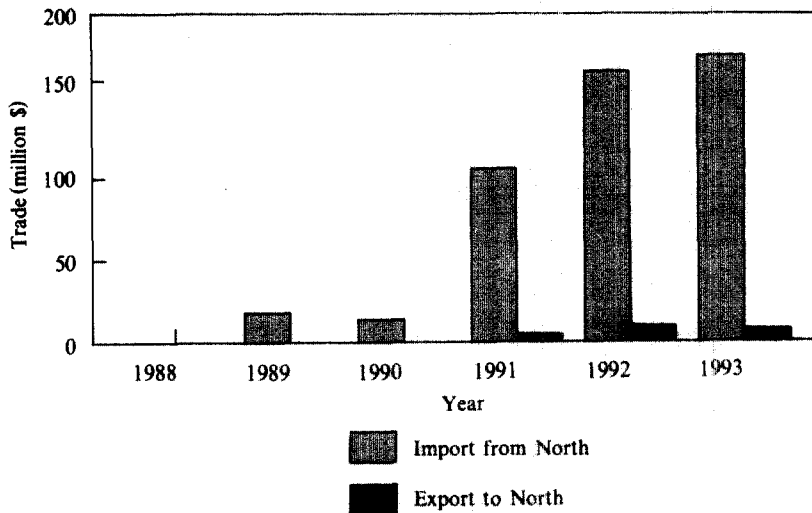
* Trade exchange rate(2.13 won/\$) was used in converting the officially announced North Korean budget data into dollar terms.

2. Inter-Korean Economic Cooperation So Far

Potential gains from economic cooperation between the North and the South can be one of the most important factors promoting unification. The complementary nature of the North and South Korean economies may come from several sources, including different endowments of natural resources, different stages of economic development, technological differences and different factor and commodity prices between the two sides. In the short run, the exchange of goods and services between the North and the South is mutually beneficial due to the complementary nature of the two sides. In fact, such inter-Korean trade has already taken place since October 1988. The total volume of inter-Korean trade approved from October 1988 to December 1992 was \$ 454.1 million, and of this \$ 316.8 million in goods was actually traded according to Kang [1]. In fact, the volume of trade between North and South Korea has increased so sharply in recent years, to a total volume of \$ 186.6 million in 1993, North Korea imported only \$ 8.43 million worth of South Korean goods.

Actual trade of \$ 186.6 million in 1993, that South Korea has become the fourth biggest trading partner of North Korea, following China, Japan, and the CIS (Commonwealth of Independent States). The Figure 3 shows the recent trend of in

〈Figure 3〉 Inter-Korean Trade



Source: Kang [1], Table 5-16.

Sisa Journal(in Korean), April 21, 1994.

ter-Korean trade. As vividly depicted in Figure 3, South Korea's trade with the North so far was heavily biased toward imports. For example, out of the total trade volume of \$ 186.6 million in 1993, North Korea imported only \$ 8.43 million worth of South Korean goods.

Accurately calculating the volume of inter-Korean trade is difficult; most of it is indirect trade²⁰⁾ through Hong Kong, Singapore and Japan, and Pyongyang is very reluctant to publicize inter-Korean trade (particularly to its own people). Even so, it is apparent that the general trend of inter-Korean trade has been upward since the late 1980s. During the four years of trade between North and South, North Korea has exported primary goods such as agricultural products, mineral products, metal products, and steel(which accounted for 80.3% of North Korea's total exports to South Korea in 1993), while South Korea has exported more sophisticated goods such as chemical products (accounting for 9.1% in 1993) and synthetic fibers. Yeon [30] classified potential trade items which would be mutually beneficial for future

20) For example, in 1993, 98.3% of total inter-Korean trade deals were made through indirect trade via a foreign mediator. However, North Korean authorities are slowly asking for more and more direct trade, reflecting their growing enthusiasm for inter-Korean trade, which is obviously profitable to the North. In 1992, only 11 deals were made directly between the two sides, which it increased to 14 cases in 1993.

inter-Korean trade, based on the revealed comparative advantage(RCA) of each item.²¹⁾ Most of those items which North Korea can export to the South are primary goods such as wood, raw silk, frozen fish, minerals, diamonds, and cotton. Among the major items North Korea would be interested in importing from the South are: 1) energy related items such as oil and oil products, cokes and coking coal, 2) capital facilities such as machinery, electric and electronic tools and transportation equipment, and 3) fibers, grains, and land steel products.

One interesting aspect of the current inter-Korean trade is the growing magnitude of "Original Equipment Manufacturer (OEM)" deals between the two sides. Currently, most of the OEM deals between the North and the South are limited to apparel production only. For example, in 1993, South Korean firms provided \$ 5.93 million worth of textiles and fibers to the North through OEM deals, and North Korea reprocessed these raw materials and delivered final goods of trousers and shirts worth \$ 10.51 million to the South, for further export to foreign market through the international branches of South Korean conglomerates. These kinds of OEM transactions, though still a small portion of the total inter-Korean trade, have gradually increased with satisfactory results for both sides. One shortcoming of these transactions stems from the restricted access of South Korean managers and engineers to North Korean territories: South Korean firms can not follow up on the production procedures until the final products are delivered to the South. However, unlike simple trading of goods and services, which does not require much cooperation between the two sides, these OEM transactions require significant cooperation, to coordinate delivery of the necessary raw materials from South to North, and to exchange ideas on how to produce certain items.

In the long run, however, not only the exchange of goods between the North and the South, but also the exchange of technology and capital of the South for labors of the North through direct foreign investment of South Korean firms will be a major source of economic cooperation. Faced with the problems of obsolete technology, capital shortage, and foreign exchange shortage, North Korea enacted the Foreign Joint Venture Law (FJV, hap-young-bob) in September 1984 to attract foreign capital and technology from western countries. However, the relatively unat-

21) Those items whose RCA of the North exceeds 1(that is, North has comparative advantage in that item), and RCA of the South less than 1(that is, South has comparative disadvantage in that item) are what the North can export to the South in a mutually beneficial way, and vice-versa for those items which can be exported from the South to the North.

tractive terms of the FJV law compared with Chinese and Vietnamese FJV laws, and the suspicion of western investors about the commitment of the North Korean government to the open door policy, resulted in an unsatisfactory number and size of joint ventures. Furthermore, about 70% of these joint ventures were made with the Chochongryon fund, a pro-North Korea organization of Korean Japanese, while most of the rest were signed with Chinese or Soviet funds.²²⁾ Therefore, the desired results of inviting advanced technology and capital from western countries were not achieved, inducing the enactment of three new laws related to foreign investment in October 1992. Even though this new enactment also failed to attract foreign capital due to the nuclear issue, many South Korean firms such as Daewoo showed strong interest in investing in the North.²³⁾ While most South Korean investors prefer to invest in labor-intensive industries, as was the case of the planned textile and apparel factories of Daewoo's Nampo project, North Korea desires foreign investment in areas where it lags. According to the list of joint venture projects desired by North Korea, which was submitted to the UNIDO [29], industries such as electric and electronics, metals, chemicals, machinery, and textiles are favored by the North. However, at least for the time being, it is most likely that North Korea will attract foreign investment in labor-intensive industry; it is here that North Korea has a comparative advantage with its low labor cost and relatively higher labor productivity compared to that of China and other developing countries.²⁴⁾ While the

22) Since the enactment of the 1984 Foreign Joint Venture Law, North Korea could invite 116 actual cases of foreign direct investment out of 140 signed contracts. Out of these 116 projects, 101 came from Japan (most of which were Chochongryon funds), 5 from the former Soviet Union, 5 from China, 1 from Eastern Europe, and 4 from western countries. Only 10 of these projects have values exceeding \$10 million, and most of them were less than \$1 million projects (*Mail KyoungJe-The Economic Daily* (in Korean), July 13, 1994).

23) Daewoo, the fourth biggest conglomerate in South Korea, reached an agreement with the North Korean government to set up a joint venture company in Nampo. According to this agreement, each side is supposed to provide half the amount of total funds needed to set up a company. The board of directors would also be composed of equal numbers of directors from both sides, with two representative directors from each side as well. The decision-making of the board of directors would be in principle unanimous. However, it was agreed to follow the North Korean side in domestic matters and to follow the South Korean side in foreign matters. Most of the products are supposed to be exported, even though Daewoo wanted to sell them in domestic market as well. In hiring and firing laborers, Daewoo is supposed to hire and fire workers through the North Korean labor authority, therefore having little discretionary power over personnel matters. For the first three years, Nampo project will enjoy tax exemptions, and then would pay 25% income taxes afterward. Through this project, Daewoo plans to produce apparels, shoes, bags, and toys.

North Korean government prefers foreign investment in the area of heavy and chemical industry and high value-added industry, large scale fixed investment is required to set up such industries. The North Korean government needs to show more sincere commitment to reform to induce such investments. In the short term, most of the investment from South to North Korea will be limited to smaller scale light industries such as apparel and shoes.

The potential of economic cooperation between the North and the South is currently obscured due to political reasons such as the nuclear issue as well as such technical problems as customs, transportation means, and payment. Another potential problem can be the possibility of international dispute over the South Korean government's granting of pseudo-Most Favored Nation(MFN) status to North Korea. Currently, transactions between South and North are performed with no tariffs, as they are considered domestic transactions within a single nation. The constitutions of both regimes regard the other as part of its own territories, not as a sovereign nation. However, a foreign country, viewing North Korea and South Korea as two sovereign nations, can argue over the current transaction habits of North and South, demanding the same MFN status based on the non-discriminatory principle of GATT(General Agreement on Tariffs and Trade). Also, due to the economic sanctions imposed on North Korea during the Korean War by US president Truman in 1951, all products produced in North Korea are prohibited from being exported to the U. S. market. Due to this restriction, if a South Korean firm re-exports a product produced North Korea through the OEM contract between the South and the North, it can bring about the problem of "rule of origin" from the U. S. side. Even with the above stated political and technical problems, however, as we can learn from the experience of German unification, deepened economic cooperation will eventually improve the prospects for unification as it facilitates economic and personnel exchange between both sides, and as it relieves political and military tensions between the North and the South.

24) One example of North Korean labor's higher productivity would be the success of "Moranbong Joint Venture Co." This company was established through a joint venture between North Korea and the Chochongryon fund in September 1988. With approximately 800 employees, it is producing about 100,000 units of jacket, 100,000 units of blouse, and 150,000 units of suits annually. While most of the products are exported to Japan, it is said that the quality of these products is almost as good as Japanese products (*Sisa Journal*, October 1st, 1992).

IV. Future Inter-Korean Economic Relations: From Cooperation to Integration

1. Prospects for North Korean Economic Reform

This section addresses the future prospect for North Korean economic reform, based on the experiences of the preceding reforms in China and other socialist countries, and the expected responds of South Korea. Currently the North Korean government has not initiated any market-oriented reforms. As overviewed in Lee [21], North Korea has not made any genuine move toward market transition, except for couple of partial reform measures introduced in the mid-1980s and the recently enacted Foreign Joint Venture(FJV) laws.²⁵⁾ Even these FJV laws did not produce expected results due to the political barriers hindering the inducement of foreign investment. In this section, I will try to set up an expected time table for the future inter-Korea economic and political relations.

The first stage will be the current stage of power transition in North Korea. Currently, after the North Korean so-called "great leader" Kim Il-Sung passed away on July 9, 1994, North Korea is undergoing clandestine procedure of transferring political powers to the son of the deceased great leader, the so called "dear leader" Kim Jung-Il. Not only the transitional nature of the North Korean regime due to this reason, but also the current nuclear issues, that are hindering any further progress of inter-Korean economic cooperation, will prevent North Korea from adopting any radical market-oriented economic reforms, characterized by price liberalization, privatization, and trade liberalization. This stage will last at least until next year when the current nuclear issue is expected to be resolved peacefully between the United States and North Korea with the approval of the South Korean government. Moreover, the North Korean government has already declared 1994 and 1995 as an adjustment period before the beginning of the Fourth Seven Year Plan, meaning that it does not intend to make any substantial changes in its cur-

25) North Korea has enacted its first open door policy law of "Foreign Joint Venture Law" in 1984. In 1992, with the unsatisfactory result of its first open door policy of 1984, North Korea enacted the "Three Laws related to Foreigners' Investment," providing more favorable conditions to foreign investors compared to the 1984 law. In early 1993, North Korea has declared several other laws related to the 1992 laws such as foreign law, free economic and trade zone law, land leasing law, and tax laws for foreigners.

rent policies during this time. Therefore, we can presume that North Korea would maintain the current policies for the next couple of years with particular efforts to solve the urgent current problems of food, energy, and foreign exchange shortages. Facing these shortage problems, North Korea will continue to rely on China as its main source of oil and food supplies. However, as China increasingly asks for hard currencies for its trade with North Korea, they may become unreliable partners. This will lead North Korea to focus its efforts toward expanding trade volume with the South, where it enjoys a substantial amount of trade surplus. Further efforts will continue inviting foreign investments based on the open door policies with a certain possibility of improving its current foreign joint venture laws. At this stage, the most important concerns of the North Korean regime are to solidify the power base of Kim Jung-Il and to ease the urgent problem of shortages. However, due to the fact that Kim Jung-Il will maintain his precedent's policy of *Juche* (self-reliance in economy, self-defensive in military, and adherence to socialism), it would be infeasible to expect any market-oriented reform in North Korea in the short term.

The second stage would be the period after the peaceful resolution of the current nuclear issues and the complete solidification of Kim Jung-Il's power base in North Korea. Only after these political problems are resolved will any meaningful amount of foreign investment flow in, including those from the South. While in the first stage we can expect a certain degree of increased inter-Korean trade with no progression of direct investment from the South, in this second stage we will finally see South Korean firms making significant their investments into the North. For example, a scheduled project of Nampo by Daewoo will finally be carried out according to its original plan, which was set two years ago. Under the current foreign joint venture laws of North Korea, however, foreigners' investments into North Korea will be restricted into FETZ (Free Economic and Trade Zone) only, particularly in the designated Rajin-Sonbong area where the North Korean government most wants to induce foreign capitals. As the world gains more confidence in the stability of the North Korean regime and the country's need for foreign capital continues, North Korea will very likely improve its current Foreign Joint Venture laws by giving more autonomy to foreign managers and by easing some restrictions currently apply to foreign investors. Furthermore, at this stage decentralization and deregulation measures within framework of *Juche* ideology could be implemented with a more active open door policy. In a society like North Korea's where a single regime has

dominated for more than four decades, hierarchical rigidity is one of the major causes of inefficiency in every area of economic decision making. To overcome this rigidity that comes from central planning and regulation, policies should move towards decentralization and deregulation in order to boost productivity. Precedents of this are discussed in "1984 8. 3. Production of People's Consumer Goods Program", "1985 Creation of Associated Enterprises", and allowance of "Kitchen Plots and Peasant Market".²⁶⁾ Expanding such existing measures will enhance productivity of the North Korean economy at this stage. Furthermore, more active open door policies will be advisable to North Korean reformers at this stage. Current FJV laws restrict foreign investments to the designated FETZ, and they also restrict freedom of management in joint venture firms; less restrictive FJV laws will only be more attractive to foreign investors. Under such circumstances, observing the precedent of inter-Sino (Taiwan and mainland China) economic relations in the 1980s, we can expect a sharp increase of inter-Korean trade and South Korean direct investments into North Korea in the areas of light-industries, a strong area of interest for many South Koreans firms. Inter-Sino economic relations improved greatly in the late 1980s after the Taiwanese government permitted citizens to visit their relatives in the mainland China in October 1987, and then shortly after the mainland Chinese government began providing legal protections and favorable conditions to Taiwanese investors, in July 1988. The Table 7 shows these improvements in inter-

〈Table 7〉 Taiwanese Firms' investment into Mainland China (unit: \$ million)

	1987	1988	1989	1990	1991	1992	1993 ¹⁾	Total
Chinese Data:								
Contact Cases	80 ²⁾	435	552	1011	1737	6430	4891	15136
Contact Amount	100 ²⁾	520	437	892	1391	5540	4637	13607
Taiwanese Data:								
Reported Cases				2227 ³⁾	237	264	1649	4437
Reported Amount				601.6 ³⁾	174	247	667	1690

Note: 1) 1993 first six months.

2) Accumulation up to 1987.

3) Accumulation up to 1990.

Source: Table 3-5 of Kim, Si-Jung [2].

26) For further details of "1984 8. 3. Production of People's Consumer Goods Program" and "Kitchen Plots and Peasant Markets," refer to Lee [2]: pp. 13~17]. Also, see Kang and Lee [18] for "Associated Enterprises".

Sino economic relations in the 1980s.

However, despite expected expansion of trade and investment into North Korea discussed above, North Korea's willingness to initiate market-oriented reform will remain questionable; market-oriented reform measures are against the spirit of the Juche ideology, which remains a guide for the North Korean regime. Therefore, a great deal of modification or, preferably, abolition of Juche ideology will be a prerequisite for genuine market-oriented reform in North Korea. Only after this condition is met, will we see the third stage of the future North Korean economic development. Market-oriented reform can be defined as reform measures toward privatization, price liberalization, and trade liberalization. Based on the experiences of other socialist countries which have initiated economic reforms, we can divide market-oriented reform into two broad categories: 1) Big Bang reform of the former USSR and Eastern Europe, and 2) Gradual reform of China. While Big Bang reform carries out the above three characteristics of reform simultaneously and quickly (and may be accompanied by political reform towards democracy), Gradualism favors partial reform measures, more slowly (and without the change of political system). By partial reform measures, we think about measures such as the Voucher Scheme of state enterprises, long term contracts for renting farmland in agriculture, institutionalization of black markets and allowance of dual price systems, and delegation of decision making power of trading toward local authorities. Proponents of Big Bang reforms claim that Gradualism merely postpones the inevitable costs of restructuring, and that due to the complementarities of different parts of an economy, these parts have to be changed simultaneously for any one to work. On the contrary, proponents of Gradualism claim that Gradualism can avoid the risk of mass unemployment and other dangers (including political turmoil) which often result from Big Bang reform.

Even though each side has its advantages and disadvantages, several factors will prevent North Korea from adopting a Big Bang model: 1) The negative historical evidence of the Big Bang model (the collapse of the former Soviet Union, and enormous chaos in Hungary and Poland early in their reforms), compared to the successful performance of China, will deter North Korea from adopting any radical reforms.²⁷⁾ 2) The absence of political leadership strong enough to pursue such rad-

27) After China initiated gradual reform in 1978, the average growth rate of Chinese economy from 1979 to 1991 was 8.6%. In particular, the growth rate of Guangdong Province during the same period was 12.6%.

ical reform. North Korea has neither a political leader such as Gorbachev of the former Soviet Union, or Walesa of Poland, nor an outside advisor such as Jeffrey Sachs of Harvard University, who is fully committed to genuine reform. 3) The fear of absorption into South Korea among North Korean leaders will also play a significant role in preventing radical reform. Furthermore, for a Big Bang reform to be initiated and succeed, North Korea has to meet several pre-requisite conditions. First, for any radical reform to take place, the initial commitment of leaders is essential, as was the case in the former USSR and Poland. Second, as observed in Poland, not only the commitment of leaders but also the commitment and willingness of citizens to stick to the Big Bang reform and endure adjustment pains of reform are necessary. Third, as in Czechoslovakia, the more industrialized an economy, the more chance a Big Bang reform will succeed.²⁸⁾ Finally, the government has to be capable of financing the budget deficit which usually follows a Big Bang reform. However, North Korea does not meet any of these conditions. Therefore, North Korea's economic reform will take the form of Chinese-style Gradualism, which built the new system without destroying the old one.

At this third stage, the initial outcome of reform will be very important in pursuing further reform. As Fang [15] observed, there exists a positive interdependence between the initial commitment of government and the outcome of reform. That is to say, any reform measure with low initial government commitment is likely to produce a poor outcome, and this poor outcome at the initial stage will further erode the commitment of government, creating a vicious cycle of low commitment and poor outcome. The opposite holds for a virtuous cycle case. Therefore, the initial stage is extremely decisive in creating a virtuous cycle of better outcome and more commitment to reform. With this prediction in mind, North Korea should start a reform measure that is most likely to succeed from the very beginning, considering the fact that the North Korean government's commitment to reform will be rather weak at the initial stage. Based on China's experience, North Korea should begin with agricultural reform. Even though North Korea will not allow comprehensive privatization of farmland at this stage, allowing long term renting of farmland to each family (or a group of families) and selling those products produced in the rented land in the free market will surely boost the productivity of agriculture and help resolve the food shortage problem in the short run, effects ob-

28) For further analysis of Czechoslovakia's reform, see Svejnar [28].

served in China. Furthermore, by introducing the Voucher Scheme and providing more autonomy to state enterprises, North Korea will allow these state enterprises to be owned and run by employees. At this stage, we would also recommend the establishment of non-state enterprises (These would not have to be privately owned, but rather could be collectively owned by workers or even an entire village, as in the case of Chinese "Township and Village Enterprise.") can be recommended. Because the North Korean economy is in a state of underemployment (that is to say, in the non-Pareto Optimal state), establishing a new non-state sector without undermining the productive activity of the state sector will be possible. As studied in McMillan and Naughton (1993), the existence of non-state enterprises will not only enhance the productivity of the non-state sector but also improve the productivity of the state sector due to enhanced competition. Existence of the non-state sector both in agriculture and industry will inevitably create a dual price system at this stage, even though the price gap would narrow. In terms of foreign investment, removal of geographic and managerial restrictions will create a more fertile environment for foreign joint ventures. Only after the North Korean leaders' commitments to market-oriented reform are confirmed, will larger scale investment in heavy and chemical industries flow freely from South Korea into the North.

The final stage of North Korea's economic reform will be the post-Juche stage. By this stage, the economic reform policy of North Korea will already have crossed its Rubicon in a sense that these reform movements will be irreversible. At this stage, abandonment of or substantial amendment to Juche ideology will be expected. Moreover, it would be desirable to have a regime change by this stage replacing Kim Jung-Il's regime with a more legitimate one, able to fully commit to reform. At this stage, a more genuine move toward private ownership, price liberalization (not only in the non-state sector but also in the state sector), and trading liberalization. The keys in getting to this stage are removal of political barriers in the first stage and the creation of a virtuous cycle of commitment to reform and visible reform output in the third stage. At this stage, we will see more active investment from the South Korean side. The South Korean government will be willing to invest in the infra-structure of the North Korean economy in hopes of achieving full economic integration on the Korean peninsula in the near future. According to a study by Lee, Young-Sun[4], it was estimated that South Korea would have to transfer a total of \$1225.26 billion(undiscounted) to the North until 2032 for the

North Korean per capita GNP to equal that of South Korea. This assumes that South Korea would maintain the annual economic growth rate of 6.35 %, and the North Korean economy would grow at the annual rate of 10 % with the help of the transfers from the South. Most of this transfer would come from the private side of South Korea, however. Based on the past two decades of the South Korean investment data, approximately 87 % of total investment made in South Korea came from the private side. If we apply this ratio to the amount of investment transfer from South to North Korea, approximately \$ 1066 billion would come from the private side, and the rest from the South Korean government side.

As a final word of caution, potential reformers of the North, should prepare to tolerate certain degrees of corruption and income inequality, which will be visible in the third and fourth stage. As observed in China, the process of deregulation, privatization, and joint ventures with foreign companies brought of corruption of both bureaucrats and in the private sectors.²⁹⁾ These corruptions are based on the so-called "Quanxi" between local bureaucrats, who have the discretionary power of privatization, and private sectors. While corruption can create agony among people, it can also provide incentives for the bureaucrats to be pro-reformers, one of the major differences between Chinese and Eastern European reforms, where most of the bureaucrats opposed reform. A certain level of such rent-seeking behavior by bureaucrats will ease the resistance of the old system supporters and will be necessary at least in the initial stage of reform.

V. Concluding Remarks

This paper has covered the past, present and the expected future inter-Korean economic relations based on the past performance of both economies and present political and economic situations of both countries. Summarizing the previous inter-Korean economic rivalry, we can say that better endowed and more effective North Korean economy dominated the South Korean economy until the mid-1960s, when South Korea began to emphasize the import substitution of basic necessities. However, with the beginning of the South Korean Five Year Plans in 1964, the gap between the two countries narrowed, South Korea finally surpassed North by the

29) For case studies of "Quanxi", see Victor Nee [26].

mid-1970s, and since then the gap has widened with the South on top. The problems of the North Korean economy in the 1990s came from two different sources: The internal inefficiency problem that came naturally from the centrally planned economy of North Korea, and the external shock of the collapsed of the Soviet Union and its trading system. These two internal and external shocks left the North Korean economy with a serious shortage of food, energy and foreign exchange. In order to overcome these problems, North Korea initiated its open door policy and partial reform measures in the mid-1980s, but these have not brought about the expected results due to the limited nature of these reforms and the political obstacles such as nuclear issues.

With the expected power transition to Kim Jung-Il, however, it is expected that North Korea will go through further reforms to solve the current economic problems. The fourth section of this paper provided one feasible scenario of the future economic reform of the North Korea and the corresponding response of South Korean firms. It is important, however, to remember that the future scenario stated in section four is based on assumptions of peaceful resolution of the current nuclear issues and subsequent allowance by the South Korean government of South Korean firms to trade freely with and invest in the North, more expanded open door policy from North Korea in the near future, and eventually a move to market-oriented reform.

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