# **ARTICLES**

86 / Promising Industries for South-North Economic Cooperation in the IMF Economic Crisis Period

··· Lee Chan Woo

104 / Recent Changes in the International Environment Surrounding the Korean Peninsula and Changes in North Korea's South Korea Policy

··· Yeon-chul Kim

116 / An Evaluation of Recent U.S. and Korean Expert Analyses on the Future of North Korea

··· Kim Yong-ho

··· Keun Lee

# Promising Industries for South-North Economic Cooperation in the IMF Economic Crisis Period

Lee Chan-Woo\*

#### Introduction

Since December of 1997 when South Korea was forced to receive funds from the IMF as a part of the efforts to save the national economy, the country has been pursuing wide-ranging structural adjustments and the elimination of bubbles in the political, economic and social sectors. Although it will have many short-term negative effects such as the bankruptcy of many firms and a high unemployment rate, it could result in a more sound national economy in the long run.

Meanwhile, in the midst of the continuing economic crisis including the food shortage, North Korea has been rearranging its power structure with emphasis on party organizations since Kim Jong-il's assumption of the position of Party Secretary. North Korea has two supreme goals: system maintenance and regime solidification on one hand, and economic recovery on the other hand. Therefore, in 1988, it will pursue these dual goals at the same time. While solidifying the Kim Jong-il regime through Kim Jong-il's inauguration as the state head and tightening ideological control on the people, North Korea will also strive to solve the economic problems by improving agricultural policies and attracting more foreign investment.

Under the current IMF crisis, South Korea cannot afford any

<sup>\*</sup> Dr. Lee is a Research Fellow at the Daewoo Research Institute

more to maintain the policy of "pressuring the North from the position of dominance for the inducement of unification." Such a policy, as it was pursued by the Kim Young Sam government, can no longer be sustained as the government is reducing the budget and firms are retrenching their investment. Structural adjustments and bankruptcy will force firms to make investment decisions solely on the basis of "profitability," which translates into the lessening of their emotionally-based investment into the North. Even processing on commission trade, whose share of the total North-South trade has been steadily increasing, is no longer expected to grow under the present situation of the strong dollar. The appreciation of the dollar means an increase in costs for South Korean firms who have to pay salaries, distribution costs, and mediation fees in dollars. Therefore, North-South trade cannot avoid a substantial downturn, unless the two sides agree on such legal and institutional measures as to reduce South Koreans' costs. From this perspective, our policy on economic cooperation with the North will have to change. In the past, the pursuit of economic exchanges and cooperation was often considered to be dependent upon political factors, but from now on we should have more practical and realistic policies that are based on the principle of the economic sector's autonomy or independence.

The weakening of South Korea's economic capability is not something North Korea desires. It is true that the decrease of South Korea's national power might be a political help to the North's regime stability, but more importantly, considering North Korea's economic situation in which needs economic assistance including food and foreign currency through economic cooperation, the weakening of South Korea's economy is not good news. Analyzing North Korea's recent comments on the South, one can detect the North's willingness to improve relations with the South, although it is being qualified by the precondition that the South's North Korea policy must change first.

Therefore, both the South's new Government, facing the IMF crisis, and the North's Kim Jong-il regime, facing even more severe economic difficulties, find themselves in a situation that drives them to dialogue. Rather than maintaining the conflictual relation-

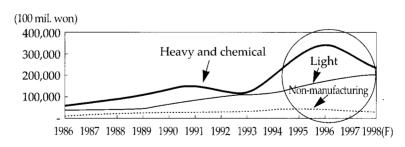
ship, both sides should overcome their own crises and achieve peaceful coexistence through national reconciliation and cooperation, thus laying the foundation for the era of a unified Korea.

From the above perspective, this paper will first review the directions of changes in both the South's and the North's industrial structures, and then derive some industrial areas where both sides can cooperate for mutual benefit.

# Changes in the South's Industrial Structure

The South has an industrial structure that is centered around large conglomerates and export-oriented heavy and chemical industries. For this reason, the economy is not able to respond quickly to the world market's fluctuations, as clearly seen in the case of the price fall of semiconductors in 1996. Manufacturing industries, as they tend to make medium-low price, medium-low quality products in large quantity, are not responding aptly to the market trend of increasing demand for high quality goods and diverse goods. The intensive investment into heavy and chemical industries that occurred from 1994 to 1997 intensified such a structure, and many point out that excessive investment as one of the reasons for the current financial crisis.

<Figure 1> Changes in South Korea's Facility Investment by Industry



Source: Industrial Bank of Korea, "Survey of Facility Investment Plans", various issues

<Table 1> Changes in the Order of the Composition of Facility Investment (%)

	1	2	3	4	5	6
1975	Primary Metals (17.5)	Petro- chemical (9.8)	Textile (8.6)	Transportation Equipment (6.2)	Base metals (5.6)	Electric/ Electronic Goods (3.0)
1985	Electric/ Electronic Goods (12.1)	Petro- chemical (10.6)	Primary Metals (9.0)	Transportation Equipment (7.6)	Foodstuffs (4.4)	Textile (4.1)
1990	Petro chemical (23.3)	Primary Metals (12.0)	Electric/ Electronic Goods (9.7)	Transportation Equipment (5.0)	Foodstuffs (4.8)	Base metals (4.6)
1997	Electric/ Electronic Goods (22.4)	Petro- chemical (11.0)	Transportation Equipment (10.8)	Primary Metals (7.8)	Foodstuffs (2.6)	Textile (2.5)

Source: Industrial Bank of Korea, Survey of Investment plans, various issues

Since the 70s till the present, South Korea has maintained a basic industrial structure that imports capital goods from the U.S.,

<Table 2> The Changes in Import Dependence by Industries

	1985	1993	Japan(1990)
Agricultural	1.8	1.8	1.4
Mining	0.7	0.5	1.0
Manufacturing	21.7	16.9	6.2
Heavy/Chemical	27.4	18.3	6.0
Chemical	23.1	18.5	6.7
Petroleum/Coal	68.3	52.4	47.8
Ceramics	10.7	5.9	3.4
Primary Metals	18.2	15.9	9.4
Metal Products	14.7	7.1	1.7
Basic Machinery	19.5	14.9	1.8
Electric/Electronics	26.3	21.3	3.8
Precision Machinery	23.1	18.8	3.4
Transportation machinery	17.9	10.8	1.6
Light	13.5	13.5	6.7
Foodstuffs	9.3	9.0	6.9
Textiles/Leather	16.4	16.4	7.7
Paper/Wood	27.1	23.6	9.1
Other Manufactured Goods	6.8	7.9	2.7
Energy, Gas, Water, Construction	4.4	4.6	3.4
Service	4.8	3.5	1.5
Avg. of All Industries	12.9	10.0	3.6

Source: Bank of Korea(1996), "1993 Industry Breakdown."

Japan, and European countries, uses them in manufacturing processed or assembled goods, and then exports them to other developing countries. This kind of structure is not only export-dependent, but also import-dependent. It is basically an import-inducive industrial structure, thus resulting in a chronic trade deficit. South Korea's import dependence in 1993, as calculated from the relevant tables, was 2.8 times that of Japan in 1990.

In addition, the share of import goods in the input for the manufacturing sector was 23.9% in 1993, which was 2.6 times that for Japan's manufacturing sector (9.2% in 1990). This means that price hikes for import goods due to the devaluation of the won could have significant effects on the original costs of domestic products. For this reason, the South Korean manufacturing sector's rate of inducing imports in 1993 was 0.290, 2.4 times that of the Japanese manufacturing sector (0.119 in 1990).

Given this vulnerable industrial structure, the financial crisis accompanied by the devaluation of the won is creating an economic situation characterized by low growth, budget reduction, and high interest rates. It is impossible to precisely predict what effects this macroeconomic situation will have on the industrial structure, but we can reasonably expect to see following short-term changes.

First is the shrinking of industries targeting domestic demand as an inevitable result of decreasing consumption and demand. The strong dollar will force the price of domestically manufactured goods to go up, and the import of consumption goods will be restrained, thus negatively affecting domestically-oriented industries. Also, the high interest rates exceeding 20% will force the bankruptcy of not only marginal firms but also competitive firms, thus resulting in a high unemployment rate.

Second is a further increase of export industries' share. Despite the price hike for capital goods, export products will have price competitiveness in the international market, thus resulting in a trade surplus. As a consequence, those firms that previously moved into foreign low-salary countries might come back home—an example of the "U-turn" phenomena.

However, the export increase due to the recovery of price competitiveness cannot last long, as we evidenced in the case of the 1986-1988 Yen appreciation. As we ignored non-price competitive factors such as quality improvements through research and technology development and service improvements, we eventually lost to other developing countries equipped with low labor costs in the market for medium-low quality goods, and fell behind advanced countries in the market for new and high quality goods.

In order to have an industrial structure that can compete with advanced countries, South Korea faces many important tasks, including increasing the value added for the manufacturing sector, strengthening the linkage between the manufacturing and service sectors, increasing the ability to respond elastically to economic cycles and fluctuations by encouraging venture businesses, and actively promoting knowledge industries such as the information and communications industry. Of course, it is not easy to make a competitive industrial structure under the current situation where shrinking consumption due to low growth and reduced investment due to high interest rates combine to weaken the foundation for domestic demand. Nevertheless, the combined efforts by the government and businesses to create swiftly a new industrial structure centered around high value-added, newly-growing industries seem the only way the South Korean economy can survive through the present crisis.

More specifically, the medium-low value-added industries should be developed into price-competitive export industries through extensive economic cooperation with the North, so that South Korea can move into more advanced and high value-added industries.

# Changes in the North's Industrial Structure

Current State of North Korea's Industrial Structure

Since the 50s, North Korea has pursued a socialist industrialization strategy. As a result, the share of mining and manufacturing sectors in the total output reached 60% in 1987, but since that year the share has begun to drop due to the collapse of socialist economies, thus standing at 28% in 1996. Production continues to

decrease as the currency shortage leads to a shortage in the supply of energy and raw materials and the insufficiency of SOC leads to transportation difficulties. In the meanwhile, the construction and service sectors, which are closely related to ordinary people's daily lives, remain under-developed. As a general characteristic of socialist economies, the share of government service is very high.

<Table 3> The Change in North Korea's Industrial Structure (%)

Category	46	775	<b>'</b> 87	90	194	195	96
Agriculture, Forestry, Fisheries	59.1	21.8	20.0	26.8	29.5	27.6	29.0
Mining & Manufacturing	23.2	63.0	60.0	42.8	31.4	30.5	28.0
Mining					7.8	8.0	7.1
Manufacturing					23.6	22.5	20.9
Construction/Service	17.7	15.2	20.0	30.4	39.1	41.9	43.0
Construction					6.3	6.7	6.4
Government Service		ļ			18.6	20.7	22.5
Private Service					9.3	9.6	9.7

Source: Ministry of Unification(1996), "North Korean Economic Indicatiors", Bank of Korea(1997.7.8), "1996 North Korean GDP Estimatic."

<Table 4> Comparison of Industrial Structures in North Korea and South Korea (1996)

Category	South	North	
Agri., For., Fish	6.3	29.0	
Mining	0.3	7.1	
Manufacturing	25.8	20.9	
Electricity, Gas, Water	2,2	4.3	
Construction	14.5	6.4	
Gov't. Service	8.1	22.5	
Other Service	42.8	9.7	
Total	100.0	100.0	

Sources: the same as above

The Prospect of Changes in North Korea's Industrial Structure

1) The basic directions of North Korea's industrial restructuring Most of North Korea's industrial facilities are old and outdated, its production technologies and management techniques are unsophisticated and of low grade, and labor is over-employed. Therefore, virtually all production factors including facilities, production technologies, management system, and labor, should be the targets for restructuring. Also in order to survive in the international market, the North Korean economy must first strengthen its adjustability to the market economy system. In addition, the restructuring process must proceed in fully consideration of the two production factors, labor and natural resources, which North Korea has in abundance.

Finally, it would be desirable if North Korea's restructuring proceeds not separately, but in connection with South Korea's restructuring, so that both sides can have international competitiveness by complementing each other.

2) North Korea's industrial restructuring through North-South economic cooperation

First of all, North Korea's industrial structure will be restructured in such a way that those industries based on natural resources and labor can play important roles. More specifically, those industries that can earn foreign currencies (e.g., light industries, assembly industries, and mining) should be cultivated first, followed by those industries targeting the domestic market such as construction, tourist industries, distribution industries, and private service industries.

Meanwhile, the share of North Korea's traditionally strong industries, such as iron, machinery, and chemical industries, in total output will drop rapidly due to the outdated facilities and the shortage in raw materials, until their production level recovers later due to South Korean firms's investment.

# Promising industries for North-South economic cooperation

In order to overcome the present economic crises, each of the two Koreas is in need of industrial restructuring, for which North-South Korean economic cooperation based on economic principles can be very useful. Currently, there exist many unnecessary costs involved in the process of inter-Korean economic cooperation, such as bribery, excessive transportation costs, and the use of dollars for payment. If both sides can agree to simplify the process, to improve the method of payments, and to connect a land route, South Korean firms will continue to have interest in economic cooperation with North Korea so that they can ultimately utilize the Northern region as production bases within the same economic bloc.

Therefore, here we will examine those industries where both sides can benefit and help their industrial restructuring through mutual cooperation.

Given that North Korea currently has labor, natural resources, and low-level industrial technologies, the most promising areas of cooperation would include textiles, clothing, electronic appliances, parts industry, mining, cement, dry materials, ceramics, and tourist related industries. The agricultural sector, whose productivity is expected to improve considerably with the assistance of fertilizers and chemicals from the South, will be another major area of economic cooperation. In the long term, economic cooperation might be achieved in the South's major industries such as electronics, automobiles, steel and iron, and petrochemicals.

# Mining

Natural resource industries such as iron, non-ferrous metals, and non-metal minerals will play an important role in reviving the North Korean economy. North Korea abounds in metal minerals including iron, gold, silver, bronze, lead, zinc, and nickel, non-metal minerals including tungsten, limestone, graphite, kaolin, and magnesite, as well as energy resources such as coal and uranium. These mineral resources will continue to be developed as North Korea's major export products. At present, North Korea is not allowing South Korean firms to participate in the development of these natural resources. As North-South Korean relations improve, however, North-South cooperation in this area will be a possibility.

## Foods and beverages

Basically targeting domestic demand and consumption, this industrial sector might attract South Korean firms to invest in food processing, beverages, tobacco, instant foods, and milk products. Extensive investment in domestic demand industries is unlikely, however, until North Korea first solves its food problem. Meanwhile, forest products such as mushrooms, mineral water, and fisheries are some of the areas where cooperation through processing exports is highly likely in the short term. These products might be exported to either South Korea or other advanced countries like Japan.

Light Industries (Textiles, Clothing, and Footwear), and the Electronic Appliance Assembly industry

South Korean firms might invest for facility expansion or move into North Korean regions that have favorable conditions in terms of electricity, transportation environment, labor, and also exports. The most promising regions are the Pyongyang-Nampo area, Kaesong area, and the Wonsan area.

In the clothing sector, there were around 22 companies jointly managed by North Korea and Chochongryun-related firms in 1993. One Korean firm, Daewoo, is also manufacturing clothing in its Nampo factory on a processing on commission basis. This sector, therefore, is expected to be the most active in the first phase of North-South Korean economic cooperation.

Meanwhile, economic cooperation in such pollution-inducive light industries as furs and dyeing could be achieved around Shinuiju area that is close to the water and also close to China.

# Cement Industry

North Korea has around 100 billion tons of limestone, which is the raw materials for cement. As they are of good quality, the existing cement factories in North Korea could be revived through South Korea's investment. 95

North Korea has many cement factories. The Sunghori, 28, Haeju, Chunnaeri, Komusan factories, as they were constructed during the Japanese colonial period, are outmoded in terms of facilities. Relatively new and modern cement factories include Sunchon cement factory constructed in the late 70s with an annual capacity of 3 million tons, and the Sangwon cement factory that started production in 1989 with an annual capacity of 2 million tons.

#### Ceramics

The Tanchon area in the province of Hamkyongpukto is known as the world's largest magnesite reservoir, and its quality is also superior. Around Chungjin and Kimchaek area are many factories processing magnesite.

Kaolin, used as the raw material for porcelain dishes, is concentrated in Kyongsong of Hamkyongpukto, Haeju of Hwanghaepukto. These regions, therefore, could be major sites for porcelain industries. South Korean firms could invest in the regions for facility expansion or move production sites into the regions so that they meet the demand from the South and also from the world market.

#### Chemicals

The chemical fertilizers industry needs extensive North-South cooperation for manufacturing organic fertilizers and for expanding the agricultural production. Presently, there are several fertilizer factories in North Korea, including Hungnam Chemical Fertilizers, Sariwon Fertilizers, Sunchon Factory, and the July the 4th Factory.

At present, North Korea has two oil refinery plants. One is the Sungri Chemical Factories in Sonbong with an annual capacity of 2 million tons, which was built with assistance from the former Soviet Union. The other is the Ponghwa Chemical Factories with an annual capacity of 1.5 million tons, built with help from China. In the long term, however, the country will need to build additional oil refinery plants. As crude oil will be imported overseas, new

plants might be built around the Haeju area, with the city of Haeju serving as the port for crude oil imports.

Domestic consumption for petrochemical products in North Korea has been very limited, but in the future the demand will increase rapidly. At present, there is only one petrochemical plant, the Namhung Young People Chemical Plant in Anju of Pyongyangnamdo, which receives raw materials from the Sungri and Ponghwa chemical factories and manufactures chemical fertilizers and petrochemical products such as polyethylene. In the long term, the Namhung plant's capacity should be expanded and one may consider building a second petrochemical plant in the Haeju area.

## Machinery and Iron & Steel

North Korea's machinery industry developed earlier than the South's as it had its own production system since the 60s. In recent years, however, the industry has lost competitiveness in quality due to delays in technological development and insufficient part supplies. In terms of regional distribution, the industry is distributed across all industrial areas primarily for military considerations. As a result, the inter-industry linkage effects are weak and resources are being wasted due to repeated investment.

Therefore, in developing the machinery industry through North-South economic cooperation, one must consider the local conditions for transportation and distribution. In that respect, Nampo and Chungjin would be promising regions for economic cooperation in this industry. In the early phase, South Korean firms may move production facilities for machine parts, and in long term, they may consider moving production facilities for machine assembly and machine products.

# Non-ferrous Metals

Non-ferrous metals such as silver, lead, zinc, aluminium, gold, and silver are in quantities more than enough to satisfy the domestic demand of North Korea. For this reason, they have been established as one of the major products exported to South Korea,

although the volume is decreasing at present. Meanwhile, the technology gap between the North and the South in the refinery industry is only 3 years. That is the reason why this industry is considered as one of the most promising areas for North-South economic cooperation.

#### Electric and Electronic Goods

The heavy electric sector is able to manufacture electric machines with 50 thousand Kw capacity, but their quality is problematic. The light electric sector is manufacturing lighting and heating tools, although their quality level is also low. The electronic appliances industry is at the stage of assembling products by importing parts, and the semiconductor industry is the least advanced due to difficulties in technology transfer and the lack of capital. The communication devices industry is also at the stage of assembling parts imported, and is not able to make TDX operators. The rate of telephone distribution is low—less than 5 per 100 persons.

However, considering the party assembling character of this industry, the export prospects are rather bright if one utilizes North Korea's low labor costs. Therefore, South Korean factories could be moved to the Northern region through bilateral cooperation.

Promising regions for this industry include the existing Pyongyang-Nampo industrial zone, Shinuiju (targeting China) and Wonsan (targeting Japan).

#### Automobiles

North Korea has a total of around 370,000 automobiles, and 60% of them (around 200,000) are for military use. As a result of extensively pursuing the strategy of making parts domestically since the 70s, more than 90% of parts and engines are made indigenously. However, precise machine parts and electric and electronic parts are imported for assembly. While the production capacity for automobiles is around 33,000 vehicles, only 10,000 are being manu-

factured, more than 90% of which are trucks.

The automobile industrial sector is to be approached from a long-term perspective. When the economic interdependence between North Korea and South Korea reaches a certain threshold through continuing cooperation, South Korean firms may consider moving their production facilities to the North for the goal of strengthening their competitiveness in the world market. As the location of the existing Sungri Automobile firm is oriented for domestic demand, it is not suitable for export-oriented production facilities. When the two Koreas cooperate in this sector, therefore, it seems desirable to make new investment in seashore areas such as Nampo.

## Shipbuilding

The shipbuilding industry should be also approached from a long-term perspective. Just as in the automobile industry, South Korean firms may consider constructing a second shipyard in Wonsan for an increased international competitiveness, but only after the bilateral economic cooperation reaches a certain level.

#### Construction

When the North Korean economy enters into a growth phase with the impetus from economic cooperation with the South, a construction boom is likely. According to a comprehensive plan for land development, there will be many projects related to various types of SOC construction such as roads, railways, ports, airports, communication infrastructure, water services, and natural gas pipe lines. Projects are also expected in housing construction, power plant construction, and land reclamation.

Such projects are likely to be conducted primarily by mobilizing North Korea's own technology and labor, and South Korean firms will be restricted to the role of providing capital and technology guidance.

#### Distribution

North-South cooperation in the distribution industry will be delayed considerably. However, if a transportation route that goes from China and Russia, via North Korea, and ultimately to South Korea is established, North Korea will become very attractive as a wholesale distribution center. In that case, inter-Korean economic cooperation in this industry is likely.

### Tourist Industry

As inter-Korean economic cooperation expands, South Korean tourists will rush into the Northern region. There is little doubt that the tourist industries will be booming.

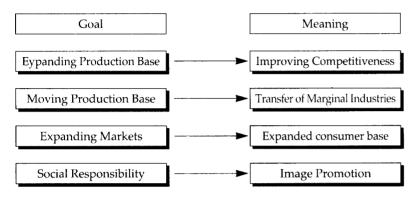
<Table 5> A Comprehensive Plan for North Korea's Land
Development

Principle	Meaning				
Appropriate Development of North Korea's Natural Sites	<ul> <li>Develop famous mountains into tourist sites</li> <li>Consider modern hotel facilities and traditional homestays</li> <li>Develop springs and lakes as recreation sites, promote local cuisine using mountain regetables</li> <li>Develop snowy areas into international sporting resorts</li> <li>Develop communities where retired persons or separated families can stay</li> </ul>				
Overcoming Cultural Differences	Discover traditional folk games, seasonal customs, music, and dance, and commercialize tourism				

# Strategic Goal Setting

In investing and advancing into the Northern region, South Korean firms should start with strategic goal setting. Some of possible goals would include market expansion, establishment of new businesses, expansion or moving of production facilities.

<Figure 2> South Korean Firms's Strategic Goal Setting in Investing in the North



The Strategy of Expanding or Moving Production Facilities

Those industrial sectors in the South that will be losing international competitiveness in the long term could move production sites into the North to recover international competitiveness. In the first stage, labor-intensive industries such as textiles, clothing, footwear, pulp & furnitures, and mining will consider moving their production sites, and as the economic cooperation continues to grow, heavy industrial sectors like automobiles, shipbuilding, iron & steel, machinery, and petrochemicals will follow suit.

## The Strategy of Expanding Markets

This is the strategy of expanding the market for goods and services targeting North Korean residents, but considering their very low buying power at this time, this strategy should be reserved for the future.

For some time, the Northern region will be limited, in the process of North-South economic cooperation, to the role of production sites for export and South Korean demand.

101

In the long term, however, as the Northern region will be developing into a consumption market with population more than 25 million, South Korean firms will be able to realize the market expansion strategy.

Stage-by-stage Investment Strategy

South Korean firms should develop a strategy that can respond selectively to different phases in the process of North-South economic cooperation. In other words, they must prepare a long-term investment strategy even in the first phase by selecting those industrial sectors that are expected to grow in the process of the North's industrial restructuring.

Those sectors that will not only have special demand at the beginning of North-South Korean economic cooperation, but will also have continuously increasing demand in the long term.

Those sectors expected to be the leading industries in the Northern region

Those sectors which will be mutual complementary to the North and the South, and can have strong international competitiveness

Those sectors where demand is expected to expand from the South to the North

#### Conclusion

North-South economic cooperation is now at the crossroads. Under the present situation of the economic crisis, South Korean firms are being forced to consider profitability as the most important factor in making investment decisions. It is little wonder that they have a critical view of economic cooperation with the North. In fact, some of the firms which have been pursuing investment in the North might soon give up their cooperative projects. Politically

speaking, however, the emergence of a new government in the South may have laid the foundation for the North-South Korean relations to move from the era of conflict to that of peaceful coexistence.

In short, the situation of the past government which can be characterized as "continuing political conflict and attempt for economic cooperation," is now changing into the situation of "attempt for political reconciliation and difficulties in economic cooperation."

In this difficult era, both the North and the South need industrial restructuring from a long-term perspective in order to overcome their economic crises.

For that to be realized, both sides must not only build mutual confidence, but also prepare new institutional devices for cooperative areas or improve the existing institutions. Among the most urgent are the establishment of a land transportation route connecting the North and the South, the change in payment methods, and the simplification of investment and trade procedures.

It is only through these efforts that South Korean firms could be engaged in economic cooperation with the North while maintaining the principle of profitability.