

## Prospects for Economic Reforms in North Korea and Policy Recommendations

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A variety of signs indicate that North Korea is suffering from serious economic setbacks in the 1990s. Especially, the food shortages following large-scale floods over the two consecutive years 1995 and 1996 are believed to be devastating. Allegedly North Korea's energy shortage and transportation bottlenecks have caused a large part of the industrial capacity to go unutilized. As a result, a vicious circle of shortage in the supply of intermediate goods has developed, and the North Korean people seem to be suffering from unprecedented cuts in daily necessities.

Pyongyang attributes such economic difficulties to the unfavorable changes in external circumstances caused by the system transformation in the ex-socialist countries and, more recently, to the flood damage. The problems are described as inevitable but transitory. As cures for the ailing economy, some changes have been undertaken in economic policies recently, but within the confines of the mandatory economic system.

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In order to predict the direction of North Korea's economic policy in the future, the following questions should be answered.

- Are the shortage symptoms in North Korea only transitory as they are interpreted by the leadership there?
- Will it be possible for the DPRK to revive its shortage-plagued economy by means of limited economic policy changes?
- Is it possible for the leadership to reconcile the two seemingly conflicting objectives of maintaining ideological purity and of recovering its ailing economy? If not, what would be the risk-minimizing option?

### **The Nature of the Shortages**

Blaming its acute undersupply on the fall of international communism, the eruption of the nuclear issue and flood damage, Pyongyang regard these economic difficulties as exogenous and transitory to its economic system.

Nevertheless, the economy has all along been showing symptoms of chronic shortages prevalent in the Soviet-type economies, and the extent of the difficulties has been aggravated since the mid-1960s when its military expenditure increased abruptly.<sup>1</sup> Moreover, due to the excessive concentration of economic power in the central government and ideological rigidity that forced the country to adhere to its self-sufficient policy, the extent of shortages in North Korea has been more serious than in the other socialist countries.

In sum, the shortages that came into the limelight in the 1990s are not a transitory phenomenon due to the changes in international circumstances, but a chronic syndrome in North Korea that has long been plaguing (in Kornai's terminology) its "suction economy." The longevity and the comprehensiveness of shortages lead us to conclude that generation and reinforcement

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1 When we look at North Korea's officially announced government expenditures, the military portion exceeded 30% of total expenditures during 1967-71. See for respective years the *Report on Expenditure and Budget* (in Korean) briefed by the Minister of Finance at the DPRK Supreme People's Assembly.

of shortage are endogenous to its economic system. Post-Soviet external circumstances and flood damage were simply catalysts to accelerate the interaction among structural problems; North Korea brought upon itself these unprecedented economic difficulties.

### **Macroeconomic Consequence of Recent Economic Policy**

Recently Pyongyang has been concentrating upon building the Rajin-Sonbong Free Economic and Trade Zone (RFETZ) and promoting export by decentralizing a portion of foreign trade rights to North Korean foreign trade companies (FTCs). It also declared it would place first economic priority on agriculture, light industry, and foreign trade during a three-year adjustment period from 1994 to 1996.

According to the author's analysis, this limited economic opening policy might, contrary to the regime's expectations, aggravate the shortages.

#### **Construction in the RFETZ**

Pyongyang announced at the end of 1991 its plan to build the RFETZ, and promulgated related laws and regulations beginning October 1992. In 1993 it also proposed a relatively detailed blueprint for the development of the area to attract foreign capital.

In its role imposed, the RFETZ of North Korea is different from the Special Economic Zones (SEZ) of China. It seems to the author that the area is supposed to become mainly a center for *entrepôt* trade, a bonded area for processing and assembling, and a base for production of import substitutes and exports under administrative control of the central government. This contrasts with the role of SEZs in China, which are bidirectional windows designed to link the Chinese economy with international markets and as the experimental stages for radical economic reform measures. Given the geographical remoteness

and economic isolation of the RFETZ as well as political and military tension surrounding the Korean peninsula, it will probably be difficult for North Korea to develop the RFETZ relying on external sources of funds and materials.

According to North Korea's investment guide to the RFETZ for foreign investors,<sup>2</sup> expected average investment per project for the chemical, electronic, and textile industries is approximately US\$500 million, \$50 million, and \$10 million respectively. Recently, in view of the poor results in the efforts to attract foreign capital, expectations were lowered for the scale of RFETZ projects for light industry. It still remains, however, above \$5 million per project.<sup>3</sup>

Considering that the average investment scale of foreign capital per project in China is some \$2 million, Pyongyang is overly optimistic. Moreover, in order to attract foreign capital according to the development plan, the area's infrastructure for transportation and communication as well as hotel facilities need to be constructed first.

The current situation in the RFETZ implies that the gestation period of investment funds will be considerably longer than expected by the planners. Moreover, most of Pyongyang's planned projects are at the moment not particularly attractive to foreign investors. All this taken into account, the construction of the RFETZ will be a great burden on North Korea's shortage-plagued economy. In view of poor inducement of foreign capital into the zone as yet and its remote location,<sup>4</sup> construction of

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2 Committee for Promotion of External Economic Cooperation, *Golden Triangle: Rajin-Sonbong* (Pyongyang: 1993).

3 Since November 1995, North Korean officials held investment forums in the United States, Japan, Hong Kong, and recently in the Rajin-Sonbong zone itself. They also proposed their revised investment guidelines for the RFETZ. It was also confirmed that the original three-stage RFETZ development plan had been readjusted to a two-stage plan.

4 According to North Korean official announcement, \$350 million of foreign investment has been agreed, but only \$35 million has been realized.

infrastructure and industrial facilities and housing for the labor will only be possible with a huge supply of already scarce raw materials and intermediate goods as well as internal financial resources.

Measures to attract foreign capital through establishing the RFETZ that are not linked to reforms of the economic system hardly render credibility to potential investors, nor will they have any positive linkage effect on the North Korean industries.

#### **Partial decentralization of foreign trade rights**

Recently Pyongyang has allowed the establishment of FTCs at various hierarchic levels, independent as well as under the auspices of administrative organs. In the process, the range of FTC businesses has broadened compared to the past monopolistic pattern. The decision-making power for the composition of exports and imports has also been decentralized partially to the FTCs, and such changes brought about certain competitive actions among them. The number of existing FTCs was reported to be over 200 by the end of 1994, and it has been going up.

North Korea's effort to promote export, however, has been unsuccessful because it has not been accompanied by measures to remove the structural obstacles to efficient foreign trade. Its export potential cannot be fully exploited and its trade pattern is distorted because of the lack of scarcity prices, overvalued currency, proliferation of black market and rent-seeking activities, insulation of producers from the external market, and excessive interference by the bureaucrats. Industrial readjustment for the development of comparative advantage will also be difficult for North Korea which has neither efficient markets nor the required resources for investment.

In addition, as a seller's market prevails in the shortage-plagued economy, its FTCs compete with domestic industrial enterprises for materials such as steel products, coal and cement, for the purpose of exports and production respectively. Blind

promotion of export without the development of its comparative advantage and export capability will, therefore, inevitably aggravate shortages of basic necessities and raw materials. It might also intensify inflation pressure within the economy.

Abrupt interference in the process of trade by powerful organs and individuals seeking to accrue commissions from limited export capability and strong import demand is another source of distortion of commodity composition of trade and of unreliable trade practices in North Korea's FTCs. Under such circumstances, North Korea's commodity composition of exports can easily be determined by the accessibility of materials rather than by the relative costs of production. Analogously, commodity composition of imports is decided by the scale of rent accruing to the powerful organs or individuals rather than by the economy's need.

To sum up, with North Korea's existing economic system we cannot expect that partial decentralization of trade rights to the FTCs will bring about the expected increase in exports. The worst result of such policy changes is that it adds even more shortage pressure upon the economy as rent-seeking activities of the FTCs and the competition for materials between FTCs and domestic enterprises prevails.

#### **Readjustment of Management and Incentive System**

Facing serious shortages, North Korea has been transforming some independent industrial enterprises into "corporate enterprises" to strengthen the extent of self-reliance in obtaining raw material and intermediate goods for production. On the contrary, some existing corporate enterprises in the energy, mechanical, and chemical sectors were divided and replaced under the direct control of the central planning authority to secure major intermediate goods for prior construction projects.

In addition, since February 1994 North Korean authorities have emphasized the transformation of collective cooperative

farm management committees of villages into county "state-run agricultural management committees", under the management system of the state-run Agricultural Corporate Enterprise. This movement also seems to be an effort to strengthen the extent of self-reliance in the supply of industrial products for agriculture at the county level.

Nevertheless, Pyongyang's adoption of these policies does not seem to be an effort to reform its economic system. They are simply temporary expedients within the confines of its present economic system to alleviate the shortages in the material supply system. In fact, as material supply through official distribution channels decreased sharply in the 1990s, a kind of self-interest tendency seems to have emerged among regions and production units in North Korea. Such tendency has become another source of shortages for food and intermediate goods for production in the official distribution channel.

In March 1992 North Korea raised the "living expenses" (wages) paid to workers, military servicemen, students, etc., by 43.4% on average. It would seem, however, that such an across-the-board wage increase can hardly be an effective policy to improve incentive. Moreover, because of the ever-expanding illegal commercial activities accompanied by an increase in the velocity of currency circulation and monetary overhang, any increase in money supply in North Korea may easily bring about hidden inflation. In fact, North Korea converted its old won currency to a new won, on a one-to-one basis, on 15 July 1992. The purpose was to reduce the monetary overhang in the second economy, but it appears to have had little effect—for example the black market exchange rate of the won for a US dollar went up from 80 in 1993 to 120 in the spring of 1996.

#### **A simple macroeconomic model**

The macroeconomic impact of Pyongyang's recent economic policies can be easily explained by a simple macroeconomic

model of a socialist economy characterized by shortages, as follows.

North Korea's shortage in energy and intermediate goods, labor supply ( $N_S$ : man-hour/year) and imported intermediated goods ( $R$ ) determine output ( $Y$ ) of the economy.<sup>5</sup>

$$Y = Y(N_S, R) \quad Y_N > 0, Y_R > 0 \quad (1)$$

Labor supply ( $N_S$ ) is determined by incentive level ( $W$ ) including money wage and excess demand for cash ( $E_C$ ) for the purpose of transactions in the black market.

$$N_S = N(W, E_C) \quad N_W > 0, N_{E_C} > 0 \quad (2)$$

The volume of export determined by the level of incentives for export ( $e$ ), and the desired household consumption ( $C$ ) as a function of material incentives and excess demand for cash are:

$$C_A = Y - I - X(e) \quad X_e > 0 \quad (3)$$

$$C = C(W, E_C) \quad C_W > 0, C_{E_C} < 0 \quad (4)$$

The excess demand for goods ( $E_G$ ) is:

$$E_G = C + I + X(e) - Y \quad (5)$$

Letting  $k$  and  $M^s$  be the reciprocal of the velocity of cash circulation and supply of cash, respectively, the excess demand for cash ( $E_C$ ) is given by:

$$E_C = k\{Y - I - X(e)\} - M^s \quad (6)$$

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5 Given the wage level and incentive system fixed by the state, labor demand of state enterprises ( $N_D$ ) is determined by the planned output ( $P$ ) ( $N_D = N_D(P)$ ), and because the chronic shortage has motivated North Korean firms to accomplish targets by labor mobilization as an alternative. Therefore, as excess demand for labor prevails, output is determined by the supply of labor ( $N_S$ ).



Considering that the major portion of North Korea's imports consist of intermediate goods including crude oil, its balance of trade expressed in its own currency unit is:

$$B = X(e) - R \quad (7)$$

The last market is the market for enterprises deposits. The demand for such deposits depends on the level of output, wages, and investment. Letting  $SE$  represent the supply of such deposits, the excess demand for enterprises deposits (ED) is:

$$E_D = D(Y, W, I) - S_E \quad (8)$$

In sum, there exist all five markets for labor, goods, cash, foreign currency, and enterprise deposit in the disequilibrium model explained above. Reflecting the current economic situation in North Korea, it is assumed that there exists excess demand in each market. For simplicity, price level fixed by the state is assumed as in formula (1).

Since by Walras's Law the sum of the five excess demands must be zero, we can eliminate one of the markets and use the remaining four to solve for the behavioral characteristics of the economy.

$$F_1 = N_D - N(W, E_C) = 0 \quad (9)$$

$$F_2 = C(W, E_C) + I - Y(N_s, R) - E_G = 0 \quad (10)$$

$$F_3 = k \cdot \{Y(N_s, R) - I - X(e)\} - M^S - E_C = 0 \quad (11)$$

$$F_4 = R - X(e) + B = 0 \quad (12)$$

Applying Cramer's rule to the above four equations, the response of the endogenous variables ( $N_s$ ,  $E_G$ ,  $E_C$ ,  $B$ ) to changes in the exogenous variables ( $N_D$ ,  $W$ ,  $I$ ,  $R$ ,  $e$ ,  $M^S$ ) can be obtained. Table 1 shows the result.<sup>6</sup>

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6 The stability conditions of the model ( $kY_N N_{E_C} < 1$ , etc.) are assumed to be satisfied.

**Table 1. The impact of policy changes on macroeconomic variables**

Z: Exogenous variables	dN/dZ	dEG/dZ	dEC/dZ	dB/dZ	dY/dZ
W	+	+/-	+	+	+
e	-	+	-	-	-
I	-	+	-	-	-
R	+	-	+	+	+
M <sup>s</sup>	-	+	-	-	-

It is convenient to summarize the results of the analysis with a simple figure. CC and MM indicate the combinations of incentives for labor and exports on which supply and demand for cash and goods are equilibrated respectively. As shown in equations (15) and (16), CC is negatively sloped and MM is negatively sloped.

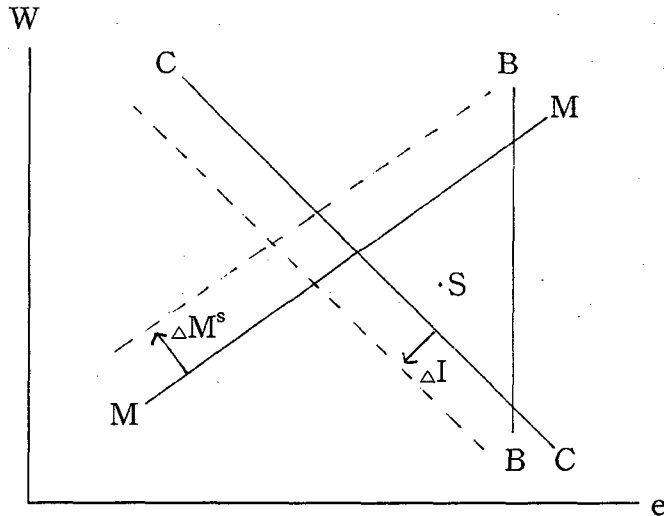
$$E_G = C(W) + I - X(e) - YN(w) = 0 : CC \quad (13)$$

$$E_C = k[Y\{N(W)\} - I - X(e)] - M^s = 0 : MM \quad (14)$$

$$dW/de |_{CC} = -Xe / (C_W - Y_N C_W) < 0 \text{ (assume } C_W > Y_N C_W) \quad (15)$$

$$dW/de |_{MM} = Xe / Y_N N_W > 0 \quad (16)$$

Point S in the figure explains North Korea's current economic situation, which is characterized by excess demand for goods and cash and foreign trade deficit. Increase in investment for RFETZ construction and providing material incentives mainly in the form of upward adjustment of nominal wage will shift the CC line downward and the MM line upward respectively to aggravate macroeconomic disequilibrium. Although an increase in imports of intermediate goods from foreign countries could alleviate North Korea's material shortage, its weakness in export capability makes this an impossible alternative.



**Figure Macroeconomic impact of recent economic policy**

below CC: excess demand for goods	< 0
above CC: "	> 0
below MM: excess demand for cash	> 0
above MM: "	< 0
right-hand side of BB: trade deficit	> 0
left-hand side of BB: "	< 0

### Prospects for economic policy

If we typify the reform processes of socialist countries, a Soviet-type economy faced with system-specific economic problems will choose either to improve the planning mechanism within the system or to take market-oriented reform measures, according to the estimated relative costs of the alternatives perceived. If the price in terms of its economic, political and social impact is deemed too high for a Soviet-type economy to adopt a market mechanism, the decision maker will decide to reform the economy by improving the planning mechanism. Market-oriented reforms will be adopted only if the shift costs less than the potential benefits from the shift.

The cost-benefit relationship can be summarized by the following equation:

$$F(P,E) = G(P,E) - H(P,E)$$

P = {political variables: perceived impact on decision maker's political position and ideological aspects, influence on the international political relationship, etc.}

E = {economic variables: economic growth, impacts on the macroeconomic stability, income distribution, etc.}

F(P,E): expected effect of the decision

G(P,E): expected benefit of considered economic reform policy

H(P,E): expected costs of considered economic reform policy

where, if  $F > 0$ , considered economic reform policy will be adopted,

if  $F < 0$ , current economic system will be preserved.

Given, for example, China's politico-economic conditions at the end of the 1970s, its adoption of market-oriented reform can be explained by a relatively low transition cost compared with the operating cost of their centrally planned economy, as perceived by the reform-minded leadership. In contrast, for the North Korean leadership the operating cost of market mechanism is too high for it to be adopted as a cure for the ailing economy. That is, the political risk for the North Korean leadership, probably putting the legitimacy of the regime in danger, renders the cost of an institutional shift for market-oriented reform to be perceived as tremendous.

Such limitations facing North Korea together with its recent policy tendency leads us to conclude that it will stick to current economic policy for the time being. It will attempt to improve the planning mechanism and incentive system on one hand, and on the other hand try to secure capital and technology as well as

to promote exports through extending economic relations with the capitalist states including the United States and Japan.

In particular, it will invest more resources in the construction of the RFETZ and the production base for exports. To attract foreign capital, North Korea will continue to readjust its tax system and provide a favorable financial and legal environment to foreign investors. Domestically, efforts will be focused on the establishment of a self-reliant economy at the local administrative unit level (e.g. county level) to alleviate the pressure of shortages.

Nevertheless, as analyzed above, without systematic reform North Korea's limited policy changes within the current economic system such as the construction of RFETZ and partial decentralization of foreign trade rights as well as efforts to establish the self-reliant system at the county level could very well aggravate shortages, bring about significant hidden inflation, and widen the black market. As the inability of limited policy changes to revive the economy becomes apparent, the cost-benefit of system reform deemed by North Korean leadership will change.

Then, as the perceived relative cost of institutional shift decreases and operating cost of the mandatory resource allocation system increases not only in terms of macroeconomic controllability but also in terms of political stability, the leadership cannot but seek market-oriented reform as the alternative.

Fortunately, there appear some signs that indicate that North Korean academics have begun to recognize openly the complementary relationship of market and plan. A paper presented by a North Korean scholar for a international conference held in summer 1995 states as follows:

It is wrong to think that the socialist planned economy cannot cooperate with the capitalist market economy. . . . The management of the socialist economy, when the management officials are not able to manage the economy purposefully and in a planned way due to their low level of consciousness, the market

control can be combined with planning, with priority on the latter. This means planning and market control can be combined in one economic system.

But even in case North Korea implements market-oriented economic reforms, due to political and ideological considerations, it will opt for gradual introduction of market and diversification of property ownership rather than an overall "big bang" style system reform. Moreover, so long as North Korea maintains a socialist political system, overall marketization and privatization will be impossible.

### **Recommendations for Economic Policy<sup>7</sup>**

On the theoretical basis, the author prefers gradualism over abrupt changes for economic reform in North Korea. It will take much time to establish an institutional environment for effective operation of the market mechanism.<sup>8</sup>

In the cost-and-benefit equation, actual cost of new economic policy will be depend on the stage of economic development, industrial structure, behavioral pattern of individual economic agents, decision-maker's experience in economic reform, international economic relationship, etc. With its economic system characterized by a high degree of industrial imbalance and distorted price structure, immediate transformation of the

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7 In contrast with China, North Korea never dubbed its effort to improve its economic performance as "economic reform." For the North Korea's leadership, systematic economic reform in other socialist countries is seen as the symptom of rehabilitation of capitalism. Such perception is based on their belief that economic problems confronting North Korea can be resolved only by the effective utilization of the central planning mechanism.

8 "Institutional environment" in a narrow sense means efficient commercial institutions, banking system and legal guarantee of reform measures. But the term is used here in a broad sense to include the behavioral patterns of individual economic actors who can make rational decisions in accordance with the market signals.

system in North Korea could result in relatively high cost of adaptation in terms of inflation and allocational inefficiency.

Thus, it is recommended for North Korea to adopt readjustment and partial liberalization of prices, and diversification of the ownership of means of production in a step-by-step manner to reinforce economic efficiency and maximize the utilization of accessible resources.<sup>9</sup> In the agricultural sector, Pyongyang needs to concentrate its efforts on increasing agricultural production by separating property rights and management rights. The adoption of "family responsibility system" as in China in the early 1980s would certainly boost North Korea's short-run agricultural production.

Nevertheless, considering structural problems of the North Korean economy, even a gradual approach for economic reform will inevitably bring about the following macroeconomic problems.

First, as the economy has a very low supply elasticity<sup>10</sup> with regard to changes in the market situation, severe inflation pressure will develop in the process of marketization.

Second, taking into account the limited export capacity, unbalanced development of industrial sectors, and ever-accumulating foreign debt, it will be almost impossible for North Korea to overcome its foreign exchange shortage even if it were to adopt a depreciation policy to maintain a foreign exchange balance at

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9 As a comprehensive program for the enterprise reform in Chinese industry, the decision made by the government in 1984 stipulates (1) reducing the scope of mandatory planning and extending guidance planning (2) rationalizing the price system to provide greater price flexibility, and reforming the tax, financial and banking systems to facilitate macroeconomic regulation (3) "separation of government from enterprise functions" (4) "reform of the wage and labor system on the principle of distribution according to work" with the enterprise director assuming full responsibility of management and (5) development of diverse forms of economic organization, including individual, collective and foreign ownership, but subject to the leading role of state enterprises.

10 Due to the excessive scale of military industry, immobility of factors of production, and monopolistic position of "corporate enterprises" as well as bottlenecks accompanied by unbalanced industrial development.

the initial stage of economic reform. Depreciation of the won currency would result in inflation and it would be a time-consuming job to make the currency convertible.<sup>11</sup>

Third, as North Korea lacks financial resources for a speedy and effective economic reform, severe budgetary debts will accumulate in the process of reform.

To minimize the economic side-effects of reform policy, Pyongyang is recommended to select the timing and sequencing of reform policies including economic "liberalization" measures.<sup>12</sup>

According to the result of the author's preliminary analysis, although the list is neither exhaustive nor mutually exclusive in timing of adoption, the following schedule of three stages for economic reform in North Korea is worth considering.<sup>13</sup>

*First stage:* (1) adoption of an agricultural family-responsibility system within the framework of the state-run agricultural corporate enterprises, (2) increase in government investment for light industry and agriculture, (3) decentralization of foreign

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- 11 Nevertheless, considering the limited size of the domestic market, outdated technology and production facilities, lack of financial resources for system transition, and limits of natural resource reserves, organic linkage of domestic to foreign economy is a *sin qua non* factor in the process of transition. For this, there should be a development in multilateral trade relations through currency and commodity convertibility.
- 12 The author opts for the word "liberalization" in contrast to "decentralization." In China, for example, we can identify two surges of economic decentralization in the pre-reform period; the first one accompanied with the Great Leap Forward during the period of 1957-58, and the second one throughout the Cultural Revolution period (1966-76). In these cases, "decentralization" was simply the problem of the division of responsibility between administrative levels; there was no genuine relaxation of control over the autonomy of enterprises, so that enterprises were simply shuttled back and forth between central and local authority.
- 13 The proposal is based on the author's perception that for North Korea in the initial stage of a reform process, gains from structural adjustment are relatively easier to capture than those from realization of traditional sources of economic growth such as capital accumulation and technology development as well as elimination of the X-inefficiency.



trade rights to the production units, (4) permission for 100% foreign-capital firms outside the RFETZ.

*Second stage:* (1) adjustment of the price structure according to scarcity, and partial liberalization of prices (allow market transactions for consumer goods and agricultural products), (2) decentralization of managerial rights to the enterprises (not to the local government), (3) gradual depreciation of the currency (two-tier exchange rates could be applied for the RFETZ transitory period).

*Third stage:* (1) replace quantitative control of the economy with a tax system and subsidy scheme, (2) permit private ownership of means of production within some limit in scale (allow market transaction of some producer goods), (3) permit the spontaneous movement of labor among regions and industries.

In view of the industrial imbalances and the rigidity of North Korea's current economic system, its economic reform undoubtedly will take a considerable time, and its success will depend on support from the outside world. In this context, expansion of the inter-Korean economic relationship based on a legal framework agreed upon through South-North dialogue will be helpful for the smooth transition of North Korea's economy because it will be able to be seen as a symbol of peace and political stability on the peninsula for potential investors.

In the multilateral framework, promotion of regional economic cooperation in Northeast Asia under the guidance of "open-regionalism" will play a positive role to revive the North Korean economy. In the process of regional cooperation, it will for the time being be productive to separate economic cooperative issues from political and security ones. For the promotion of infrastructural linkage and mobility of factors of production that are vital for economic cooperation in the region, the following policies are recommended for South and North Korea:

First, both sides should make efforts to ease political and military tension on the peninsula by intensifying economic

exchange between them according to the logic of economy rather than that of politics.

Second, South and North Korea should build, and interconnect existing, infrastructure on the peninsula jointly in accordance with a blueprint for regional economic development in Northeast Asia.

Third, North Korea should integrate its economy into the system of international division of labor in Northeast Asia according to its comparative advantage, by establishing connection between its domestic and external economy. Success in building the RFETZ will contribute to this objective.

Finally, in order to substantiate economic cooperation in Northeast Asia and to ease political tensions on the Korean peninsula, South and North Korea should embark on official dialogue to institutionalize economic exchange between them.

## **Conclusion**

The lesson from China's relatively successful experience of market-oriented reform compared to the vain attempts to improve the planning system on the part of Eastern European socialist countries and the USSR in the past is clear. The only short-cut for Pyongyang to put its sagging economy into the orbit of stable growth and to improve living standards of its people is the introduction of a functioning market mechanism into its economic system.

Although some North Korean economic theorists see no conflicts between plan and market, it will take a considerable time for the Pyongyang leadership, unexperienced reformers that they are, to adopt a market-oriented reform strategy. The most important prerequisites for successful economic reform are reinterpretation of *juche* ideology and an understanding on the part of the leadership of the origin of its economic problems. In some sense, the most serious shortages North Korea faces are time and flexibility of idea.

It is certain that durable peace and political stability on the Korean peninsula will eventually put North Korea along the orbit of economic reform. In the author's point of view, the establishment of a legal framework for South-North economic exchange and interconnection of infrastructure between them will provide North Korea with a favorable environment for its successful economic reform.