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I. Introduction

This paper examines the present system of resource allocation in North Korea and analyzes some of the economic issues that will follow unification of North and South Korea. Korean unification, if and when it takes place, will entail two separate, but related economic problems--transforming the centrally planned socialist economy in North Korea into a market economy and integrating it with the market economy of the south.[1]

The transformation of the North Korean economy will require the establishment of private ownership and market institutions. The union of the two economies will entail such difficult problems as determining the conversion rate between the North Korean won and the South Korean won and taking measures to prevent massive migration from north to south.

As is now widely recognized, the cost of unifying the two German economies has turned out to be much more than expected: between 1989 and 1992 East Germany's manufacturing output decreased by one-third and GDP and employment by one-half (Schmidt and Sander 1993, Siebert 1993). Of course, any structural change of that magnitude is costly in terms of output and employment, but there are reasons to believe that with better policies the cost of German unification could have been less. It is thus Korea's fortune to have the German experience to guide it as it prepares for its own unification.

Sections II and III present a brief history of the socialization process undertaken in North Korea since 1945 and the system of allocation currently in place. It should be noted here that these two sections present only a sketchy outline of the North Korean economy as very few data are available. The purpose of these sections is to provide baseline information necessary for devising measures for economic transition and integration. Section IV then discusses some of the problems that will follow Korean unification; specifically the method of privatization, the choice of the conversion rate, and wage policy. Section V concludes the paper.

II. Socialization of Property in North Korea: A Brief History

Soon after the liberation of Korea from the Japanese colonial occupation on August 15, 1945 the establishment of a socialist economy began in the northern half of the Korean peninsular. [more information on this for a Kiel working paper.] A series of reforms was carried out, socializing the instruments and means of production. These reforms included a major land reform; the socialization of key industries, water and mineral resources; the collectivization of agriculture; and the restructuring of individual enterprises according to socialist economic principles. As a result of these reforms, by 1958, state- and collective-ownership became a dominant form of property ownership in the North Korean economy.

(1). From Liberation to the Korean War: 1945-1950

On August 8, 1946 the Law of the Nationalization of Key Industries was promulgated and the process of building a socialist economy in North Korea began. It brought into state-ownership 1,034 private enterprises, more than 90 percent of all the industries in North Korea.

The Law of the Nationalization of Minerals, Forests, and Water Bodies, which was promulgated on December 22, 1947, further hastened the process of socializing industries and the means of production. Thus, by the outbreak of the Korean War natural resources such as minerals, forests, water bodies; social infrastructure such as transportation and post and telecommunications; and services such as banks, foreign trade, cultural and entertainment activities had all been socialized and had come under state planning.

The Law of Land Reform promulgated on March 5, 1946 authorized the government to carry out a major land reform. The land that had been owned by the Japanese and Korean absentee-landlords was distributed to cultivators, and even some of the land owned by "rich" farmers was redistributed to the cultivators with little or no land. The effect of this land reform was to bring about an equitable distribution of land. Thus, small-scale but private ownership became the dominant form of landownership in North Korea.

As land was still owned privately by farmers the government was not yet able to plan and control the development of the rural economy in accordance with socialist economic principles. To achieve its objectives, however, the government resorted to the methods of indirect control.

Farmers were supplied with the producer goods such as agricultural machinery and fertilizers and the consumer goods such as clothes at planned prices. In rural areas, however, small-scale parallel markets for home-produced commodities were allowed to exist, and on these markets prices were freely determined.

On May 20, 1946 a new trading organization owned and operated by collectives was established in rural areas, and it brought about a significant change in the way that commodities were distributed to farmers.

Before the Korean War, private enterprises played a relatively important role in retail trade in the urban area with the state-owned stores and co-operatives accounting for only 3.5 percent of total retail sales in 1946. In August 1946 the government established a state-owned trade organization. The number of stores belonging to that system was 104 in 1947 and it increased to 275 by the middle of 1948. By 1949 the state-owned trade organization accounted for 56.5 percent of retail trade and became a dominant channel for commodity distribution throughout the country.

(2). Post-Korean War Period: 1953-1958

In 1953, when the Korean War ended with a cease-fire agreement, the North Korean government undertook several major changes to bring about further socialization of the economy. One of these was to transform privately owned small-scale farms into co-operative agricultural farms.

In North Korea, industry was regarded as the leading sector with agriculture performing basically a supportive role of providing food, raw materials, and labor for industrial expansion.

The system of privately-owned, small-scale farms was found, however, unable to perform this function adequately. Thus, in 1955 the process of building agricultural co-operatives and transforming privately-owned, small-scale farms into socialist collectives began throughout the country. This process was completed by August 1958.

While collectivization was taking place in rural North Korea, self-employed and individually-owned industrial and commercial enterprises were also being transformed into state-owned enterprises. By 1958, the socialization of privately-owned businesses was completed and all the self-employed, hand-craft producers and private industrial and commercial enterprises were converted into collective ownership.

Thus, by 1958 every sector of the North Korean economy--industry, agriculture and commerce--became socialistic, and the foundation for a centrally planned development of a socialist economy was firmly in place.

III. System of Allocation in North Korea

The North Korean economy is a system of centralized planning, implemented administratively through commands and extensive, detailed instructions. Subordinates in this hierarchical organization provide information and suggestions that may influence planning and its implementation, but they are bound by commands once they are issued. This highly centralized, hierarchical system is in turn directed and controlled by the Communist Workers' Party. It is, however, the Secretariat of the Party's Central Committee that carries out the directives of the party through various organizations in the central government as well as in the provincial and local administrations.

The following presents in some detail the allocation systems used in North Korea for natural resources, producer goods, and consumer goods:

(1). Natural Resources

On December 22, 1947, with the Law of the Nationalization of Mineral, Forest and Water Bodies the government established socialist-ownership for all natural resources. Since then it has controlled the prices and allocation of these resources (except for land) in accordance with socialist economic principles.

The benchmark prices for coal and other minerals are set equal to the production cost in the mines where production conditions are least favorable and the cost is therefore the highest. This practice guarantees that these mines make normal profit while those with more favorable conditions generate rents, which belong to the state, under a uniform price system. The prices of natural resources do not, however, include the charge for using fixed capital as it is not regarded as a cost. In terms of accounting this practice does not make any difference as the rent is collected by the state, but it leads to underpricing [in comparison with what? the world price?] of natural resources and thus their overuse by downstream industries.

Soon after 1945 a policy of self-sufficiency in natural resources was instituted for the purpose of better utilizing the country's natural resources and building an independent economy. As a result of that policy North Korea now provides over 75 percent of the domestic demand for natural resources.

North Korea now has a comprehensive industrial system which fully utilizes its natural resources. It has well-developed industrial capabilities for ferrous and non-ferrous metals, fuel and electric power, and chemicals. These capabilities have provided an impetus to the development of the machinery and construction industries.

In allocating natural resources among various industries the North Korean government has given priority to industry over agriculture, heavy industry over light industry, excavation industry over manufacturing, and industrial goods production over consumer goods production. This priority system is based on the socialist economic principle that the growth of industrial goods production will lead to the development of the consumer goods industry. This same principle has led to the priority of the heavy industry in resource allocation, which is then expected to bring about the development of the light industry and agriculture by providing them with capital goods.[2]

In parallel with the strategy of heavy industrialization, the government adopted a development policy for local industries. As part of <u>chuch'e</u> (self-sufficiency) policy it encouraged the use of locally available raw materials, fuels, and labor to meet the local demands for industrial goods such as textiles, food products and other consumer goods (Merrill 1991). Thus, in developing industries the North Korean government has used a dual approach of centralization and decentralization.

(2). Producer Goods

Under the Law of the Nationalization of Key Industries issued on August 10, 1946, over 90 percent of the extant enterprises was transferred to state-ownership. In 1946, state-owned and collective-owned enterprises produced 72.4 percent of the total industrial output while private enterprises--mostly in light industries--produced 27.6 percent. In 1949, these percentages changed to 90.7 percent and 9.3 percent, respectively, with state- and collective-owned enterprises dominating every industry.

Until the beginning of the Korea War (1950-53), both production and distribution of producer goods--capital and intermediate goods--were basically controlled and planned by the government. In early 1948, a new contract system was adopted and producer goods began to be produced and distributed according to supply contracts. This system ensured the supply of producer goods to state-owned enterprises and restricted speculations by private enterprises.

Under the system established soon after World War II each province was in charge of providing enterprises with producer goods. There was no agency in the central government that was responsible for the allocation of producer goods nationwide. As a result, there was little co-ordination between provinces in the production and distribution of producer goods. This problem was remedied with the introduction of the Dai-An allocation system in the early 1960s.

The Dai-An system of allocation is a hierarchical system consisting of one central state agency and a agency for each of the provinces, localities, and enterprises. The state agency controls the allocation of producer goods for the purpose of promoting national economic development. The provincial agency is responsible for ensuring the supply of production materials to the enterprises within the province and distributing their products. The local agency is responsible for allocating production materials to the enterprises in its locality and distributing their products. The functions of the enterprise agency, which is located within an enterprise, are to ensure the supply of production materials needed by the enterprise and thus free its managers for decisions relating to production activities.

The strategy of the Dai-An system of allocation has been to concentrate on investment in capital goods industries such as engineering and heavy industries. The rationale for this is the socialist principle that investment in the capital goods sector expands the capital equipment of the consumer goods sector and thereby its output. It should be noted, however, that behind this strategy for heavy industrialization was the aim of establishing an armaments industry (Merrill 1991).

The success of heavy industrialization in North Korea came, however, at a high cost; it came at the expense of light manufacturing, agriculture and services. By 1989 this imbalance became a major burden on the economy, and to correct it the government designated 1989 as "the year of light industry", adopting a three-year plan for the development of light manufacturing industry. However, due to shortages of resources the actual output of light manufactured goods seems to have fallen far short of the planned target.

In North Korea, the capital goods that are exchanged between state-owned enterprises and collective-owned enterprises are considered as commodities whereas those that are exchanged between two state-owned enterprises are not. The reason for this is that when capital goods are exchanged between state-owned enterprises the transaction is merely a physical transfer without any change in ownership as the parties to the exchange are all state-owned. For the accounting purpose, however, such a transaction is recorded as an exchange of commodity at a price set by the state. This price is used by individual enterprises, which all have a "semi-independent accounting system", in their cost calculation.

The price charged for a capital good is a "wholesale" price set by the state. The wholesale price for exchange between state-owned enterprises is computed by adding an average profit margin to the original production cost, the profit here being only an accounting concept. This price does not, however, fully reflect the labor cost of production and in fact is lower than the cost of production. This practice is of no consequence to the government revenue since the exchange of capital goods is between state-owned enterprises, but the underpricing of capital goods tends to bring about the overuse of capital goods by state-owned enterprises.

The same capital goods carry the same prices throughout the entire country, but differences in price exist to reflect differences in quality and to give an incentive for quality improvement. The wholesale prices of capital goods are widely used for accounting and as an instrument for improving management. They are also used in calculating the gross output value of industry, making plans, and predicting output growth.

Generally speaking, there are no retail prices for capital goods in North Korea. When capital goods produced by state-owned enterprises are transferred to collective-owned enterprises a price called the supply price, which is different from the wholesale price, is used. This price is computed by adding a profit margin plus a commission to the original production cost. Capital goods such as agricultural machinery are supplied to collective-owned farms at supply prices.

(3). Consumer Goods

North Korea has established a socialist welfare society and the pricing of consumer goods and their allocation are thus determined in accordance with the principles of such a society. Thus, most necessities such as food, housing, education and medical services are provided either at a subsidized price or free of charge.

In 1946, state- and collective-owned trade organization were established to improve the distribution of consumer goods and to restrict speculative activities. These trade organizations now exist throughout the country and are co-ordinated by a central state organization.

In 1946 the percentage of socialized trade as a share of total domestic retail trade was only 3.5 percent but it increased to 56.5 percent by 1949. In order to increase the socialized trade the state supplied consumer goods to cities and country-side through the socialized distribution network at prices lower than those prevailing in free markets. To achieve further socialization the government created in 1954 retail trade organizations, and in August 1958 it succeeded in completely socializing the distribution of consumer goods throughout the country.

The distribution of consumer goods is carried out jointly by wholesale trade organizations managed by the central government and retail trade organizations managed by local governments. Wholesale trade organizations distribute the goods produced by enterprises to retail trade organizations, and the latter in turn distribute them to consumers through state-owned stores and farmers' markets.

North Korea maintains a contract system for consumer goods. The retail trade organization estimates the consumer needs for various commodities on the basis of information on sales, inventories and market investigation. It then forwards a request to a higher-level wholesale trade organization which in turn signs a purchase contract with an enterprise. When the contracted commodity is produced it is sent to the retail trade organization by way of the wholesale trade organization. The retail trade organization then distributes the commodity to the final consumers through various stores.

In addition to the system of distribution described above, there is another distribution system called a direct selling system. Under this system enterprises producing light manufactured goods may sell their products directly to final consumers without going through the system of distribution described above.

The retail prices of most of the consumer goods are determined by the state, which are equal to their whole prices plus value added in distribution. Although the price is based on the value of socially necessary labor embodied in the commodity it also reflects changes in supply and demand. Thus, for certain commodities prices can vary depending on the season even though they are uniform throughout the entire country.

For commodities such as food and fuels supplied for home use, food supplied to deep-sea fishermen, and food and school clothes and text books supplied to children, special prices called the "supply prices" apply. These prices are lower than the retail prices, and the difference in price is borne by the state.

The farmers' market is a specially designated place where collective farms and farmers with sideline production can sell part of their agricultural and livestock products. Although prices are freely determined by supply and demand on these markets, fluctuations in price are circumscribed due to the availability of substitute goods supplied through the state-owned distribution channels.

In 1950, the government formulated the Regulation on the Farmers' Market, which stipulated that each county ("koon") establish one or two farmers' markets to be held three times a month. The value of trade on these markets accounted for 11 percent of the country's total retail trade in 1949, decreasing to a little over 5 percent in 1956 and then disappearing completely in the 1960s. In 1969 farmers' markets re-opened, and since 1984 every district in Pyongyang and Chungjin have farmers' markets.

Much of the trade that takes place on the farmers' market is legal, but some of the transactions are illegal. These illicit activities may involve, among others, theft of socialist properties, use of company time for private activity, illegal production such as engaging in prohibited trade, and corruption.

IV. Issues in Transition and Economic Union

Since the mid-1980s North Korea has carried out various reforms to correct the problems typical of centrally planned socialist economies such as the soft budget constraint and ineffective worker incentive provisions. These reforms have included a new emphasis on financial accountability and relative autonomy of state-owned enterprises and the promotion of foreign direct investment and the nonstate sector in the consumer goods and service industries. If the Chinese experience with similar reforms is anything to go by, the North Korean reforms are, however, bound to fail. The problems have arisen from the contradictions inherent to the centrally planned socialist system and cannot be thus corrected without fundamental changes in the property system and incentive structure (Kang and Lee 1992).

Given the unlikelihood of minor reforms being successful in North Korea, the most likely path to unification will be through the eventual collapse of the system described above. Unification will then require the transformation of the socialist system of allocation in the north into a market system and its integration with the system in the south.

The transition from a centrally planned socialist economy to a market economy requires more than dismantling the socialist system. In its place a market system has to be deliberately introduced. Market institutions have to be established but doing so will be a costly, time-consuming process as evidenced in the Eastern European countries (Winiecki 1992).

If unification on the Korean peninsular is a matter subject to control, its optimal path would be first to transform the North Korean economy into a viable market economy and then to bring about its union with the South Korean economy. This may be, however, impossible for political reasons and, as in the case of Germany, there may be no alternative to big-bang unification.

If the German experience of unification is an indication of the problems that North Korea will face, it will initially suffer severe output and employment contraction. Such severe contraction in the economy may be an unavoidable cost of a radical structural change, not limited to the transition from a Soviet-type centrally planned to a market economy. In fact, the post-World War II conversion of a war-time to a peace-time economy in the United States also brought about a contraction in output and employment no less severe in magnitude than that suffered by East Germany. Its industrial production decreased by roughly 40 percent between the fourth quarter of 1944 and the first quarter of 1946, and employment fell by 30 percent between the first quarter of 1944 and the fourth quarter of 1945 (Schatz and Schmidt 1992).

In the case of East Germany the severity of its economic contraction may have been, however, affected by three policy decisions carried out at the time of unification. These are (1) the method of privatizing state- and collective-owned properties, (2) the choice of the conversion rate between the two currencies, and (3) wage policy. If there is any lesson to be learned from the German experience, it will be that Korea should be better prepared to deal with these three policy decisions.

(1). Privatization

One of the first things that need to be done in North Korea in the process of its transformation is the privatization of most, if not all, of state-owned enterprises and collective farms. The German experience of privatization points out that although privatizing small-scale enterprises, especially in the service sector, is relatively easy there are several obstacles to privatizing large state-owned industrial enterprises. First of all, many of these enterprises are overstaffed and have poor performance. Furthermore, the claims of dispossessed previous owners and the lack of capital market institutions hinder quick privatization (Schmieding 1992).

Uncertainty regarding the property right (ownership) has been identified as a main cause for lack of investment and, worse, for depletion of the existing assets in eastern Germany (Sinn 1992). The establishment of a clear ownership title can be, however, a costly process. Some of the reasons for that are the difficulty in distinguishing between the ownership of a firm and the ownership of land, incomplete and neglected records, the administrative bottleneck in processing claims applications (1.2 million applications in the case of Germany), and multiple ownership claims when a firm has added pieces of land and buildings over time (Siebert 1991).

In Germany, until March 1991 any attempts at privatization by the Treuhandanstalt was frozen whenever claims by previous owners were announced.[3] A decision on 23 April 1991 by the German Constitution Court has reduced, but not eliminated, the role of restitution by making the ruling that restitution does not have to be the only solution for expropriation that took place after 1949. The decision has thus separated in principle the issue of the claims of dispossessed previous owners from the issue of compensation.

State-Owned Enterprises

Privatizing large state-owned industrial enterprises in North Korea will also certainly run into various obstacles. But it is likely to be less of a problem than for Germany as most of the 1,034 private enterprises that were nationalized in 1946 had belonged to Japanese and there will be therefore fewer ownership disputes over these properties. Many of the enterprises that were established after 1946 were probably created by the state or local authorities, and there would not be many claims for restitution or compensation. But even in these cases potential disputes can arise regarding the ownership of the land on which a state-owned enterprise was established. If the German experience is any guide to privatization, Korea should from early on establish compensation, not restitution, as a general rule for solving the problem of ownership in North Korea.

With this issue of ownership settled, privatization is then a matter of choosing between the sales and give-away approach. The German Treuhand approach is basically a sales approach although it is additionally burdened with the task of restructuring the enterprises to be privatized, whereas the voucher scheme used in the former Czechoslovakia is a give-away approach.

In deciding which approach to privatization to use Korea may consider the three criteria proposed by Blanchard and Layard (1992)--speed, fairness, and efficient control.

Clearly, speed is an important factor in privatization. As pointed out by Blanchard and Layard, speed hastens arrival; it prevents reversal; it removes uncertainty; it protects the government budget from being siphoned off to support inefficient firms; and it may help fairness by minimizing the danger of insider privatization. Given that the Treuhandanstalt, which in effect began privatizing East German assets in June 1990, still has some assets to privatize (as of August 1993), one can easily conclude that for speedy privatization the give-away approach is superior to the sales approach.

To achieve fairness in privatization, i.e., a fair distribution of the assets of state-owned enterprises, Blanchard and Layard advocate giving them away via a distribution of shares or vouchers to the citizens preferably in equal amounts to all, including children.

An additional argument in favor of give-away is that sales would favor the former nomenklatura as they are the ones with liquid assets and can thus purchase the usually undervalued assets in the transition economy. But in the case of Korea it is likely that a majority of north Korean assets will be purchased by South Korean residents and businesses and not by the North Korean nomenklatura. Furthermore, with the inflow of money and businesses from the south it is unlikely that assets will remain undervalued for long in north Korea once privatization begins. Fairness can be then achieved by a distribution of privatization proceeds among the North Koreans.

In considering fairness in the context of Korea we need to pay attention to the issue of a regional balance between north and south. If most of the North Korean assets are purchased by South Koreans and sales revenues are distributed to the North Koreans, the pattern of social structure that will emerge in northern Korea will be a dualistic one consisting of southern "capitalists" and northern workers. In a society where for more than forty years capitalists have been pictured as exploiters of the working class, economically prosperous southern "capitalists" would be an object of envy and hatred especially if unification brings about contraction in output and employment in the north as severe as that in eastern Germany. Given the fractious regionalism that Korea has suffered in its long history, the fairness issue should not be confined only to that of who among the North Koreans gets the assets but to that of whether assets in the north will become to be controlled predominantly by the South Koreans.

This issue of a regional balance strengthens the argument in favor of a give-away scheme. A free distribution of shares or vouchers would give the North Koreans a clear title to properties in the north and, with a proper education, a sense of being themselves capitalists. Certainly there will be some who would like to sell their shares or vouchers to increase their current consumption. Trading in shares or vouchers can be, however, justifiably prevented for a year or so until the North Koreans become better informed of the nature of vouchers and shares and of the workings of the capitalist market economy, especially the workings of the stock market. Lack of such knowledge clearly constitutes a case of market imperfection especially in an economy where people have lived in a centrally planned economy. In such a situation the banning of trading in vouchers or shares for a year or so, except in the way proposed below, seems fully warranted on the basis of equity as well as economic efficiency.

The third criterion for privatization is efficient control of assets. On this criterion the sales approach is superior to a free distribution of shares or vouchers as it is simple in administration and leads to good corporate governance. The voucher system has some serious drawbacks in efficiency as the share ownership will be widely diffused among a large number of people and consequently the interest of owners cannot be adequately protected.

As a way of getting around these drawbacks Blanchard and Lanyard propose mutual funds or holding companies which will have a majority ownership in a certain number of enterprises. Citizens will then be given shares in each of these mutual funds or holding companies.

There are, however, problems in trying to impose efficient control over assets through mutual funds. To prevent possible fraud the mutual funds will need to be supervised by the government, but then privatization may turn out to be only in namesake as it is still the government that will be managing the enterprises through the mutual funds (Schmieding 1992). But, a more basical question is whether the mutual funds are the best instrument through which the enterprises can be efficiently managed.

Given that in the case of Korea the influx of money and businesses from south will minimize the possibility of undervaluing the North Korean assets a combination of sales and give-away may be the best alternative for privatization. This combined scheme, which takes into account some of the lessons from the German privatization experience (Schatz 1992), may work in the following manner:

The government establishes an independent institution, a trust fund, to which all the properties to be privatized are transferred. A controlling share in each of the enterprises to be privatized is then sold to an investor (an individual or a firm) who offers the highest price. The investor will be then in control of the enterprise and thus in charge of necessary restructuring.

Vouchers, which are claims against the trust fund, are given to every North Korean in an equal amount and are to be exchanged for shares in a special account to be established in every mutual fund currently in operation in South Korea. This special account is only for the North Koreans with its assets consisting solely of the shares in the former North Korean state-owned enterprises.

The vouchers are to be exchanged for shares in one or several mutual funds. They will be then used by the mutual funds to bid for the remaining shares in the privatized enterprises yet held by the trust fund.

In this process of privatization, three competitive markets will emerge: (1) a market for the controlling shares in the enterprises being privatized by the trust fund, (2) a market for the vouchers held by the North Koreans in exchange for shares in the mutual funds, and (3) a market for the remaining shares held by the trust fund in exchange for the vouchers now held by the mutual funds.

As a result of privatization, a North Korean will typically find himself with cash from the trust fund and shares in a mutual fund. The price of the share will be, however, in terms of the voucher and is unlikely to have a market value convertible into cash for a while. Only when the mutual fund has used all of its vouchers to acquire some of the remaining shares held by the trust fund will there be cash offers for the shares of the mutual fund. Only then will North Koreans be able to convert their shares into cash.

Given the great uncertainty regarding the viability of many of the newly privatized enterprises, as evidenced in the case of East Germany (International Herald Tribune, July 12, 1993), it may be economically rational to ban trading in shares in the mutual funds for a year or two. Such time may be needed for the necessary restructuring by the privatized firms and for corresponding portfolio adjustment by the mutual funds. A management-fee schedule directly proportional to the price of the share will give the mutual fund a strong incentive to maximize the value of its portfolio for the time when trading in shares will be allowed.

The process of privatization outlined above will be rapid as the trust fund functions solely as a privatizing agency not involved in the restructuring task. It has the advantage of putting the privatized enterprise under the direct control of a single individual or firm. It also has the advantage of turning the North Koreans into "capitalists" (for some at least for a short period of time until they sell their mutual fund shares). It transfers the task of evaluating privatized enterprises from North Korean individuals to the mutual funds; it is far easier for the North Koreans to shop around for a mutual fund with a track record to show than for a proper mix of shares in the enterprises just recently privatized. The trust will be dissolved once the shares held by it are exchanged for vouchers offered by the mutual funds by a certain future date.

Collective Farms

Four types of land ownership will have to be dealt with in privatizing the collective farms in North Korea. The first is the ownership of the land that belonged to the Japanese colonialists until 1945; the second the ownership of the land that was expropriated from "rich" or absentee Korean landowners under the 1946 Law of Land Reform; the third the ownership of the land that was distributed to cultivators under the same law and held by them until 1958 when collectivization was completed; and the fourth the ownership of the land that was held by small cultivators until 1958.

In the first case, neither compensation nor restitution to the former Japanese landowners will be necessary. In the second case, restitution to previous owners would be unnecessary given that similar land reforms redistributing land from absentee landowners to cultivators had been also carried out in the south. Compensation will have to be made, however, for the land that was expropriated in 1946 and its primary purpose would be to reaffirm the principle of private property in the unified Korea. Since these so-called "rich" or absentee landowners are probably no longer alive, compensation may be made in nominal sums to their descendants who now reside in the south. In the third case--the ownership of land given to cultivators in 1946 but later turned into collective farms--restitution may be a preferred solution as the land reform of 1946 was not probably that different, except for the matter of compensation, from the land reforms carried out in the south. In the fourth case, the matter is straightforward as the land should be restituted to the previous owners. (The farmers who receive land will have to be disqualified from receiving cash and vouchers from the trust fund.)

The above method of privatizing the collective farms will in effect re-establish the pattern of landownership--"Land to the tiller"--brought about by the 1946 Law of Land Reform. It may be, however, no longer appropriate in Korea where industrialization has so altered its economic structure that agriculture accounts for a relatively small share of GDP. In such a case it may be more rational to make no distinction between collective farms and state-owned industrial enterprises and between farmers and industrial workers. Collective farms will then be privatized by the trust fund in the same manner as state-owned enterprises.

Bottom-Up Privatization

The ultimate purpose of privatizing state-owned enterprises and collective farms is to transform the North Korean economy into a market system. Privatization of the state-owned enterprises--top down privatization--is in fact only one of the twin privatization processes that must take place in transforming the North Korean economy. The other process is bottom-up privatization, i.e., the expansion of the private sector as new private enterprises become established in a former socialist economy.

Bottom-up privatization will take place with direct investments from the south and the rest of the world as well as with investments by some North Koreans. These will be, however, in a handicapped position as, having lived in a socialist planned economy, they would lack the necessary knowhow and even the inclination for entrepreneurial activities and the access to credit necessary for investment. Thus, to achieve a tolerable regional balance in bottom-up privatization it may be necessary to establish specialized financial institutions that would for a short period of time allocate subsidized credit only to the North Koreans.

(2). Choice of the Conversion Rate

How economic union will affect the enterprises in North Korea and thus their output and employment will depend on the conversion rate between the North Korean currency and the South Korean won. At a conversion rate favorable to the former--an overvaluation of the North Korean currency--the wage rate for North Korean labor will be higher in terms of the won than at a less favorable rate. Given their generally low productivity due to "overstaffing" and obsolete technology that is typical of enterprises in a socialist economy, a favorable conversion rate will have an adverse effect on the competitiveness of North Korean enterprises and will thus bring about a contraction in their output and employment.[4]

Furthermore, whatever the conversion rate may be, economic union will put North Korean enterprises at a competitive disadvantage vis-a-vis South Korean firms as the latter would probably have better products to compete with.[5] Consequently, North Korean enterprises will suffer contraction in demand for their products, and a favorable conversion rate will simply make the matter worse for them.

In Germany, the Treaty on German Economic, Monetary and Social Union of July 1, 1990 established the Deutsche Mark as the only currency and the Deutsche Bundesbank as the only central bank in the unified Germany. It also transferred all the civil, commercial and public laws of West Germany to East Germany and set a conversion rate averaging 1.81 ostmark for one Deutsche mark.[6]

All contracts concerning the current income were converted at a rate of 1:1. This impacted adversely overnight the profitability of the East German enterprises. A conversion rate significantly below that would have been necessary to render East German firms viable, but then eastern wages would have been less than one third of West German wages (Schmidt and Sander 1993). At that difference in wages there could have been a mass exodus from East to West

Germany although, according to a survey of East Germans, it is the lack of work for a sufficiently long period, not wage differentials, that would induce them to migrate to West Germany (Akerlof et al. 1991).

In the final analysis, however, one is led to the conclusion that what determined the conversion rate was not economic rationality but political imperative of unification (Hasse 1993). The conversion rate determined the extent of income and wealth transfer from West to East Germany, which was a matter of political decision, and a favorable term of conversion might have been necessary to get enough East German votes for unification. Furthermore, it would be have been symbolically unacceptable to have maintained two different currencies for the newly unified Germany.

(3). Wage Policy

What made the contraction in output and employment worse in east Germany was a wage cost explosion which far exceeded the market-clearing level (Akerlof et al.).[7] Starting even before the currency union, wages began to rise in anticipation of the favorable terms of conversion. As a matter of fact, between the fourth quarter of 1989 and the second quarter of 1990 wages rose by 20 percent (Schmidt and Sander 1993).

The workforce in the old socialist firms and the trade unions, which had spread quickly from West to East Germany, pressed for higher wage contracts. The old socialist management did not resist the pressure for higher wages and moreover had every incentive to agree to the demands of the workforce in the hope of gaining its goodwill (Schatz and Schmidt 1992). In other words, during the transition from a centrally planned to a markety economy the interest of the owners was not adequately represented at the wage bargaining table. There was not even a soft budget constraint on the demands by the management and labor as the government completely abstained itself from wage negotiations.

The opportunistic behavior of the workforce and management of the old socialist enterprises was further abetted by the self-interest of both West German trade unions and employers associations. As they saw it, low East German wages would have put downward pressure on West German wages and would have given new or restructured enterprises in eastern Germany a competitive edge against the established firms in western Germany. Thus, from the very beginning West German unions and employers associations supported their East German counterparts in the determination of wages (Bofinger and Cernohorsky 1992).

As a way of preserving existing jobs and speeding new job creation Akerlof et al. proposed a program of "self-eliminating flexible employment bonuses." This would presumably have eliminated the gap between the high private cost of labor caused by high Eastern wages and the low marginal product of East German labor. As pointed out, however, by Schmidt and Naujoks (1993), such a scheme would have discriminated against viable East German enterprises, would not have given adequate incentives for adjustment, and could have easily degenerated into a self-perpetuating mechanism for subsidies.

Clearly, given that the absence of the ownership interest at the wage bargaining table was a major cause for the wage cost explosion in East Germany, rapid privatization would have had a dampening effect by firmly establishing the ownership right. The lesson for Korea is clear: it should carry out privatization as quickly as possible, and in the cases where that is not possible the government should represent the ownership and act firmly in its interest. It might even consider adopting some form of incomes policy during the transition period.

V. Conclusion

A conversion rate economically more rational than 1:1 and modest wages increases would have somewhat eased the cost of structural change for the East German economy. It would not, however, have avoided the cost entirely since the demand for its inferior products would have decreased once western goods became available to the East Germans. This cost--temporary de-industrialization of the East German economy--was an unavoidable cost of a closed, inferior economy being integrated overnight into an open market economy. Getting the prices right, i.e., a correct conversion rate and correct wage rates, would not have been enough to prevent the cost of such a radical structural change.

In preparing itself for its eventual unification Korea needs devise a method for rapid and efficient privatization and set the right conversion rate and wage policy. But these would not be enough as the two economies on the Korean peninsular are too disparate for painless integration. In addition, there must be a comprehensive regional development plan that can help make the privatized enterprises viable, create new enterprises, and create employment. Such a plan will include plans for transferring market institutions from the south and developing human capital that can effectively function with these institutions. These tasks cannot be, however, left alone to the market but will have to be carried out by the government. The transformation of the centrally planned economy in the north into a market economy and its integration with the economy in the south will thus require, ironic it may be, an active role by the government.

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Endnotes

1. Since the mid-1980s North Korea has carried out various reforms to correct the problems typical of centrally planned socialist economies such as the soft budget constraint and ineffective worker incentive provisions. If the Chinese experience with similar reforms is anything to go by, the North Korean reforms are, however, bound to fail (Kang and Lee 1992). It is assumed here, given the unlikelihood of minor reforms being successful in North Korea, that the most likely path to unification will be through the eventual collapse of its economy.

2. It should be noted that North Korea followed the Soviet Union and China in adopting the strategy of heavy industrialization for economic development. This strategy, however, had the effect of shifting labor and materials away from agriculture, small-scale industry, and services and thus retarded their development.

3. The Treaty on German Economic, Monetary and Social Union of July 1, 1990, which formalized the economic union of the Federal Republic of Germany and the German Democratic Republic, established the Treuhandanstalt ("trust fund") to help privatize the state-owned enterprises while restructuring and supporting them temporarily.

4. If wages were completely flexible, the choice of the conversion rate would not matter as wages will adjust to their equilibrium level after the economic union. This seems to be, however, an unlikely scenario.

5. After the currency union East Germans almost completely stopped buying East German goods; since 1991 imports of East Germany have exceeded private consumption (Bofinger and Cernohorsky 1992).

6. The main conversion rates agreed upon in the Treaty on the Creation of a Monetary, Economic and Social Union between the Federal Republic of Germany and the German Democratic Republic (approved by both parliaments 20 September 1990) are:

a. Salaries, retiring pensions and housing rents 1:1

b. Credits of enterprises and individuals 2:1

c. Liabilities of enterprises and individuals 2:1

d. Savings of citizens of the GDR up to certain amounts depending on their ages 1:1

e. All savings above these ceilings and cash 2:1

f. Claims of individuals living outside the GDR 3:1.

The average conversion rate calculated by the Deutsche Bundesbank is 1:1.81 (Hasse 1993).

7. A secondary reason is a sharp drop in demand for east German goods as west German goods became available to east Germans and as exports to CMEA (Council for Mutual Economic Assistance) countries declined drastically.