The Method of Monetary Integration and the Decision of Exchange Rate in the Unification Process of North and South Korea

Youngyoon Kim
Young Hoon Lee

One of the significant issues in the unification process between North and South Korea will be to find a method of monetary integration and decide upon the exchange rate. Monetary integration will be an important pre-condition for a successful social and economic unification between the two Koreas.

Monetary integration gives rise to a set of questions such as which currency should be chosen, how much of it must be issued in the object region of unification, and how should the exchange rate between two different countries be decided.

If the foreign exchange in the object region is transacted freely, the exchange rate can be decided reasonably by the evaluation of money as assets. But as the concepts of principal economic data in a socialist economy like North Korea are different from those in capitalist economies and there are insufficient economic statistics, the exchange rate between North and South Korea cannot be calculated by an econometric method. This was also the case in the monetary integration between East and West Germany.

This paper inquires into a method of monetary integration between North and South Korea with a special focus on the course of monetary integration and the exchange rate decision.

To begin, the essay analyses the function and the characteristics of the North Korean currency, discusses the theory of exchange rate decision and the limitation of its application to the monetary integration between North and South Korea. Then it surveys the process of monetary integration between East and West Germany and the side-effects from their exchange rate decision. Finally, it presents a course and method of the monetary integration for the case of unification on the Korean peninsula, and important tasks that South Korea should carry out.

Characteristics of the North Korean Won Currency

In socialism money is regarded as a transitional entity that should be abolished. Theoretically, money circulates only during the period of transition to the socialist stage, and is destined to vanish with the establishment of socialist society.[1] In the North Korea of transition stage, money operates as the means to control planned economy with a special emphasis on its rational utilization.

The rational utilization of money is well reflected in that to realize its economic program the North Korean government regulates the circulation of money through so-called control by Won. It functions by "finance control" and "bank control." Finance control is the control of monetary distribution such as

---

1 "Money is the economic category that is generated according to a certain phase of social development, however, ceases to exist in accordance with disappearing the basis of a certain phase....If we regard the economic basis of commodity-money with respect to dissolution of property, we can come to a conclusion that the relation of commodity-money existing for several modes of production will be abolished in the case of the end of the transition to socialism." Lee Won Kyung, *Sahoijooeui Hwapye Jedo* [The Monetary System in Socialism] (Pyongyang: The Social Science Publisher, 1986), pp. 9–10; *Bukhaneui Kyongje* [The Economy of North Korea] (Kwang Ju, Korea: The Kwang Ju Publisher, 1988), pp. 301–308.

compilation of the budget by government, fund raising for state enterprises by banks and profit sharing by state enterprises. Bank control is operated through the monobanking system introduced by Lenin. The Central bank of North Korea (Chosun Choongang Eunhaeng) concentrically raises state funds and provides credibility to all state enterprises and administrative institutions, which must in turn open and settle their accounts with the Central Bank. Not only does the Central Bank supervise the fixed capital of all state enterprises and administrative institutions but it also manages their financial structures.

The circulation of North Korean money is divided into two: currency circulation and non-currency circulation. Currency circulation takes place primarily between a socialist administration (such as a state enterprise or a collective farm) and North Korean residents, or among residents. Non-currency circulation takes place among state enterprises, administrative institutions, or between state enterprises and administrative institutions, through their accounts in the Central Bank. Currency circulation is subjected to restrictions and is not preliminarily planned, so as a result one knows only the amount of currency circulation. Non-currency circulation is the direct object of economic planning and is regulated by economic plan. Therefore it continues to extend the boundary of its circulation in terms of planned economic logic.

Due to a shortage of commodities, the internal convertibility of the North Korean Won is seriously limited. On the contrary, residents who have foreign currency can buy goods in foreign exchange shops. This currency substitution that foreign currency is preferred to domestic currency is a phenomenon that appears generally in countries troubled by hyper-inflation. In North Korea although inflation is officially close to zero, this phenomenon may result from precipitous deterioration of real purchasing power of the North Korean Won. The disequilibrium between the value of real variables and the level of money supply owing to a shortage of goods brings about these limits in the convertibilty between commodities and money.[2]

The exchange rate is decided not by means of demand and supply of foreign exchange but unilaterally by the North Korean government. Now there are multiple exchange rates such as "official exchange rate," "exchange rate for trade," and "non-commercial exchange rate."

In North Korea official exchange rates until 1990 were reportedly based on the official exchange rate of the USSR Ruble.[3] The official exchange rate of the North Korean Won is applied when they make an announcement of their national income, which is somewhat highly appreciated. The exchange rate for trade, which is used for trade and non-trade exchange with other countries, is known to be based on the ratio of the price of domestic goods to that of foreign goods. But it hardly reflects the purchasing power of money between North Korea and its trading partners, because the North Korean price system is fundamentally different. The non-commercial exchange rate, which has been employed in non-commodity trade and capital transactions with foreign countries, has recently been merged into the exchange rate for trade.

The Theory of Exchange Rate Decision and its Application to the Monetary Integration between the Two Koreas

Exchange rate represents the value of money between two countries. The price of foreign exchange is primarily decided by the demand and supply of foreign exchange, which is not

---

2 Generally the level of money supply is more than the value of real variables in socialism. But as a result of the government's control of price, any inflation makes its appearance as "repressed inflation." Consequently it is accompanied by ration of all consumption goods and the spread of black markets.

3 Hwang, Eui-Gak, *Bukhan Kyongje Ron* [The Theory of The North Korean Economy] (Seoul: Nanam, 1992), p. 80.

decided by the same factors that determine the price of general commodities.[4]

The theories of exchange rate decision differ according to factors that influence the demand and supply of foreign exchange. These theories are classified into the monetary approach that regards the value of money as assets and the non-monetary approach based on balance of payment.

In the monetary approach the exchange rate, like other assets, could be decided by the variables related to the economy and the demand and supply of money. However in the non-monetary approach or the decision of exchange rate by balance of payment, it depends on the revaluation or devaluation of foreign exchange.

In the monetary approach, there are theories of 'purchasing power parity', 'psychological exchange,' and 'model of portfolio balance.' In the non-monetary approach there is a theory of 'the international indebtedness.'

Decision of exchange rate by the theory of purchasing power parity assumes that the exchange rate between two countries is the ratio of internal purchasing powers of the two countries' currencies. Demand for payments in a certain currency is due to its purchasing power, which becomes the external value of each country's currency. Such logic stems from the fact that the purchasing power of money[5] is in inverse proportion to the price level, and that the purchasing power can be expressed by the price level.

The theory of psychological exchange argues that the exchange rate is decided by the demand and supply of foreign exchange, which in turn is influenced by the psychological responses of economic agents to the state of elements such as political, economic, social affairs and so forth. According to this

---

4 Kim, In-Jun, *Kukje Kyongje Ron* [The Theory of International Economy] (Seoul, 1985), p. 103.

5 Purchasing power means the amount of goods and services.

theory, the exchange rate fluctuates depending upon the demand and supply of foreign exchange, factors of which are related to utility and satisfaction obtained by purchasing foreign money.

The portfolio balance model is the theory maintaining that exchange rate fluctuates according to the behavior of assets' owners trying to take a portfolio balance of assets. The exchange rate does reveal similar changes with price fluctuation in long term, but it is decided by the demand and supply in the assets market composed of various financial assets in the short run. The theory regards the amount of money, domestic bonds, and foreign bonds as total wealth, and the exchange rate to be decided at the equilibrium of these three factors.

In the theory of the international indebtedness, exchange rate is decided by the demand and supply of foreign exchange, which is represented as a balance of payment composed of the balance of trade and the balance of non-trade.

Besides the above mentioned factors, there are many other things influencing the decision of exchange rate: the interest rate, degree of credibility, the existence of speculation objects, economic crisis, political instability, interest rate policy and so on.

The theory of international indebtedness, based on the international gold standard system, is to be criticized from its conceptional vagueness in comparison with the concept of international balance of payment. It neglects the elasticity existing in the process of demand and supply of foreign exchange.

However, it is nearly impossible to apply any of the above mentioned theories of exchange rate decision to the monetary integration between North and South Korea. The reasons for this impossibility lie first of all in the different concepts of economic indicators of socialist and market oriented currency and, second, in the insufficiency as well as overvaluation of the North Korean statistics necessary in the exchange rate decision. Moreover, North Korea has traded with other countries but not according to the exchange rate decided by the international balance of payment.

The Monetary Integration between East and West Germany

The Process and Content of the Monetary Integration

Monetary integration between East and West Germany led to the transformation of socialist to social market economy in east Germany. Through signing of the first national treaty (for currency, economic and social union) between East and West Germany on 23 May 1990, the West German Mark became the official currency in east Germany from 1 July 1990.

First of all, the two Germanies formed a zone of a single money where West German Mark was circulated as common currency by the national treaty for monetary and economic integration. This led to monetary alliance between them, bringing about the free flow of goods, service, labor and capital, the establishment of a private property system, formation of competitive price, and so on, in East Germany. The West German Mark was thus regarded as official means for payment, settlement of accounts, and storage of value.

The West German government, deeply concerned about the socio-economic conflict and cost that might have accompanied the transformation of East German economic system, had wanted to transform the East German economy gradually. But the socio-economic crisis in the East was followed by a mass immigration of East Germans west, which brought about problems of housing, unemployment and social security costs in West Germany. The two German governments thus decided to integrate the monetary system in order to halt the large-scale emigration of East Germans.

In the monetary integration, the Deutsche Bundesbank as issuing bank assumed the responsibility of the management of business practices for monetary integration and for the new financial policy in East Germany.

The exchange rate between East and West German Marks was fixed at one to one for payments such as wages, allowances, scholarships, pensions, rent, etc., and two to one in the case of the credits and debts of East German Marks. Residents and companies in the East German region were liable to exchange East German Marks only through bank accounts in East Germany. The Eastern residents could exchange savings at one to one within bounds set according to their ages.[6] In the case of East Germans having residency in foreign countries, a special exchange rate was imposed. As the exchange rate could not be estimated by econometric analysis with the existing economic statistics, it was based on the wage level and labor productivity[7] of East Germany, which was presumed to be fifty percent that of West German labor productivity. But this estimation was actually different from the actual circumstances.

Monetary integration was carried out by political measures. First, the West German government had the Deutsche Bundesbank to stabilize the value of money in accordance with Article 10, Clause 2, of the Treaty for currency, economic and social union, which was to constrain inflation and heighten the competitiveness of enterprises in East German region. The Deutsche Bundesbank strictly constrained the budget deficit of the East German government and had it consult directly with the West German government about any issuance of debts regardless of scale. Second, the Deutsche Bundesbank lent the East German bank a total of twenty-five billion Marks to maintain liquidity. Third, a financial system on the basis of free-market economy was established to succeed the monetary and financial policies of West Germany. The West German government tried to found private, co-operative and government-run banks that

6 For East Germans under 15 years of age the ceiling was 2,000 Dst Marks; for those between 16 and 60 maximum was 4,000 Dst Marks; and those 60 years or older could convert up to 6000 Dst Marks at this parity. See "Vertrag über die Schaffung einer Währungs-, Wirtschafts- und Sozialunion," *Pressemitteilung*, 18 May 1990, Auflage 1 (Bonn, 1990).

7 Görzig. B, Gonig, M: "Produktivität und Wettbewebtätigkeit der Wirtschafs der DDR," in: *DIW-Beilräge zur Subjektforschung Heft* 121, Berlin 1991, p. 27.

would pursue profits by the rule of competitiveness, to open a free capital market and to form autonomous rates in the money market.

Results and Implications of German Monetary Integration

Prior to the unification, the scale of the East German economy was a mere twelve percent and labor productivity twenty-five percent of West Germany.[8] Therefore, the one-to-one basis of monetary integration resulted in a sharp increase of wages for those in the East. This in turn brought about a rise in production costs. The price of goods upsurged as subsidies were abolished due to the liberalization of prices. East Germans were interested in their real income and did not care about international competitiveness.

As a result of the one-to-one monetary integration, consumers who had comparatively higher income levels in East Germany demanded mainly the goods made in West Germany. This resulted in a reduction of production, which was followed by mass unemployment, and further social problems.

Before unification, East German foreign trade was comparatively severed from the world market, and trade with West Germany was conducted by barter. Since more than seventy percent of total export was performed not in terms of competitive prices but through bilateral contracts with East European countries, the East German government could continue to trade without making any efforts to improve quality, pursue technical innovation or curtail product cost. It is therefore no surprise that exports of East German products declined sharply.

From this point of view, the effective method of protecting industries would have been to not abolish the East German Mark all at once and to fix an exchange rate according to its value fixed

---

8 G. Sinn and H. W. Sinn, *Jumpstart: The Economic Unification of Germany* (Cambridge and London: The MIT Press, 1992), p. 59.

through trade with West Germany and transactions in the foreign exchange markets. On the other hand, for those travelling in West Germany, a special exchange rate should have been provided in order to enhance purchasing power.

As said above, East German currency should have been exchanged according to the values of the real market value, so that it might gradually have been revaluated according to the improvement of industrial productivity in the West German region. The reason is that if the East German government had chosen a policy of low exchange rate for export competitiveness and gradual revaluation of East German currency, then the Eastern enterprises could have had the chance to improve their competitiveness and avoid bankruptcies.[9]

The Monetary Integration between North and South Korea and the Decision of Exchange Rate

The Direction of the Monetary Integration

The direction of the monetary integration would differ according to the timing of the unification between North and South Korea.

In case of rapid unification the monetary integration can take place together with other socio-economic integrations between the two Koreas. In the case of gradual unification, however, monetary integration might come after the integration of socio-economic systems.[10] In this case the monetary integration is a road to a political integration.

---

9 It is impossible, however, to realized the scenario due to the past political situation. East Germany had decided upon a rapid transformation process of socialist into social market economic system. The side effects prevailing in unified Germany nowadays stem from this miscalculation. Only when political integration goes hand in hand with economic rule can there be success.

10 The process of monetary integration is discussed on the premise that the North Korean economic system will be transformed into the South Korean economic system.

Rapid Monetary Integration

In the case of rapid monetary integration, the first step would be an establishment of currency union. The South Korean government should set up a timetable for the currency union at the visual point of unification and prepare well in advance to issue money needed to circulate in the North Korean region.

In spite of the rapid unification, if the united Korean government would suspend immediate monetary integration and manage the North Korean region as a special zone for some due course, it might then be desirable that the united government would issue a new currency in the North and have it exchanged with the existing North Korean Won on a one-to-one basis. The reasons for this would be as follows. First, since unification the immediate circulation of South Korean currency in the North Korean region would not coincide with the economic importance of North Korea as a special zone separated from the South Korean economy. The main purpose of segregating the Northern economy from that of South Korea would be to shelter the Northern economy from the shock that would arise in the process of monetary integration between two different systems. In other words, the northern economy should maintain its economic independence for a certain time. Second, if the identical currency, unevaluated by market, were to be circulated in the two regions, money in the Northern region would flow into black markets, thereby weakening the political meaning of unification. Third, in a such a case, the South Korean government would not have enough time to prepare the currency union and to estimate accurately the amount of money needed for circulation in the north. The money overhang in the North Korean region would not be able to be estimated.

In order to establish the currency union, the Bank of Korea should be the bank that issues and absorbs the function of the Central Bank of North Korea, so that it may take charge over the policies of issue and credit in the whole North Korean region.

The commercial function of the Central Bank should be transformed into the commercial banks or special banks to support the development of the Northern region.

In connection with the financial integration followed by the currency union, it will be effective to merge the mono bank system of North Korea into the commercial finance system of South Korea. A special committee to promote the financial integration between North and South Korea should be established so that it may find its way into and manage commercial finance agencies in the North.[11] The united Korean government should support, through administrative systems, opening the branch offices of South Korean financial agencies and founding the various financial agencies, so that enterprises in the North could acquire capital without difficulty; and from a long-term prospect, it should prepare programs to open and foster the capital market through the stock and bond market.

Gradual Monetary Integration

Gradual monetary integration means step-by-step implementation of the currency union based on the exchange rate decided by the market, with the process of transformation of the North Korean economy to a market economy.[12] In such a case, the South Korean government would have enough time to estimate the North Korean economic status and calculate somewhat exactly the amount of currency needed to circulate in the North Korean region, thus avoiding such side-effects seen in the German unification.

---

11 The Research Institute for National Unification, *Tongil Dokileui Bunyabyul Siltaeyongu* [Analysis on the Subject of Unified Germany] (Seoul, 1992).

12 In case monetary integration should be pursued prior to sufficient transformation to capitalist market economy in the North Korean region, gradual monetary integration has big advantages in the respect that the rational method of monetary integration based on labor productivity could be applied.

For the sake of gradual monetary integration, it would be important to secure the convertibility[13] of North Korean currency for which trade liberalization should be preconditioned for the following reasons.[14] First, in North Korea exchange rates are decided by political necessity. Second, the exchange rate for trade does not accurately reflect the internal or external convertibility.

Therefore prior to the monetary integration, the exchange rate of North Korea should be gradually decided by the foreign market through the over-all extension of trade, and then the exchange rate between the two Koreas could be naturally be decided in the process of monetary integration.

Convertibility will have positive effects on the transformation to a market economy. First, convertibility of North Korean currency would introduce competitive pressure and the rational price system from abroad. It means that the domestic price system would be decided in accordance with the international relative price system. As a result, the enterprises in the North Korean region would seek to transform from their soft to the hard budget constraints,[15] and to base their products and trade on the principle of comparative advantage. Second, the convertibility would facilitate direct investment from foreign countries that will indeed be necessary for rapid reconstruction of the North Korean economy. Without convertibility, foreign countries—deeply concerned about profit remittance—will hesitate to make investments in North Korea.

---

13 Convertibility means that a currency is freely exchangeable for another currency. However it would be reasonable to implement it in two stages, restricted and unrestricted convertibility. The reason for setting the stage of restricted convertibility is that, without restrictions, the capital in North Korean region may flow out, causing failure in capital accumulation and protection of the domestic industrial sector.

14 A gradual monetary integration between North and South Korea could be realized only in the process of gradual and multi-stage unification.

15 Janos Kornai, *The Socialist System* (Princeton: Princeton University Press, 1992), pp. 140–45.

With respect to convertibility, the North Korean government could choose an exchange rate between fixed and floating systems. In the case of a fixed exchange rate, as the money supply should be determined by balance of payments the result would be domestic price instability. Therefore the existing fixed exchange rate policies are normally a fixed exchange rate that allow change within certain bounds in order to promote the steady growth of export and avoid serious price changes. In the case of a floating exchange rate, the domestic economy can be relatively secure from shocks from abroad. But since the foreign value of domestic money is likely to be unstable, a floating exchange rate cannot ensure the stability and continuance of trade.[16]

The North Korean government, which is nervous about being absorbed by South Korea, seems to have set a goal of export-oriented growth to catch up with the South Korean economy. Therefore it would seem to choose a fixed exchange rate allowing small change.

On the basis of this exchange rate policy, in order to maintain convertibility the Central Bank of North Korea should not exhaust its stock of foreign-exchange reserves. Then what are the conditions under which it, the Central Bank, can confidently avoid reserve depletion without deflation and while maintaining convertibility?

First, macroeconomic policy must be such that it can manage the foreign exchange position. This requires both an adequate stock of reserves and a reasonably satisfactory "flow-balance-of-payments position." The latter needs a competitive exchange rate as well as control over domestic demand; hence any monetary overhang must have been dealt with, monetary policy must be firm, and fiscal discipline must be in place. In the absence of these conditions, because importers will tend to regard it difficult to carry out a declaration of convertibility, demand for imports

16 Jung, Woon Chan, *Kousi Kyongje Ron* [The Theory of Macro Economy] (Seoul: The Tasan Publisher, 1985), pp. 228–34.

will inevitably be so high as to threaten the sustenance of convertibility.[17]

Second, the microeconomic condition for convertibility is the fundamental shift from a planned to a market economy. Its essential element is in fact granting enterprises the right to decide resource allocation for themselves and making them responsible for their own destiny rather than leaving them as agents of the state, subject to the direction of the planners. As long as most decisions on resource allocation are made by the planners, it makes no sense to devolve those decisions for one particular activity, which is what convertibility would imply. To put the matter another way, currency convertibility without commodity convertibility would concentrate all unsatisfied demands on the foreign sector.[18] And as long as enterprises are not subject to hard budget constraints, those demands could be unlimited.[19] As material basis of this decentralization, privatization is a much-emphasized aspect of the move to a market economy.

To summarize, the monetary integration between two Koreas in gradual process requires convertibility of North Korean currency. The convertibility should not be attempted in advance of the fundamental transformation to a market economy. It also requires adequate reserves and the conditions for macroeconomic stabilization.

---

17 John Williams, *The Economic Opening of Eastern Europe* (Washington, DC: Institute for International Economics, 1991), pp. 24–27.

18 Ibid.

19 Janos Kornai, *The Road to a Free Economy* (New York: Norton, 1990), p. 156.

Substantial Implements of Monetary Integration between the Two Koreas[20]

The Amount of Money Supply

For the sake of currency union, the unified Korean government should issue additional money as much as needed to circulate in the North Korean region. This should be estimated from the amount of currency and non-currency circulations in the region.

But since there is no official data related to either the control method of money volume or the velocity of money in North Korea, it is impossible to estimate the needed amount of the currency. Therefore it can only be indirectly estimated by comparative analysis with other socialist countries, based on a ratio of GNP or the amount of financial expenditure. It can be estimated that the amount is about five to ten percent of the North Korean GNP.[21]

The Exchange Rate between the Two Korean Wons

In order to issue additional South Korean currency for circulation in the Northern territory, existing North Korean Won must be exchanged with the South Korean Won. In such a case, the exchange rate between the two Wons must be decided. In the light of German monetary integration, the exchange rate should be decided by the market value of the money.

The exchange rate for North Korean trade should be applied in deciding the exchange rate, but since that does not reflect international market value, it cannot represent the exchange rate between the two Koreas.

---

20 This applies to a rapid monetary integration. In case of a gradual monetary integration, the data for decision of exchange rate can be accepted in the transition to market economy.

21 J. Wilczynski, *The Economics of Socialism* (London: George Allen and Unwin Ltd.), translated by Yeon-Su Bae (YongNam University Press, 1986), p. 152.

Therefore the calculation method of hypothetical money stock could be applied to the decision for an adequate exchange rate. In other words, the amount of circulation currency estimated from the GNP and the adequate amount of currency needed to circulate in North Korean territory would be calculated. The ratio between the two amounts can then be applied to the exchange rate between the two Korean currencies.

Conclusion: The Political Tasks for a Monetary Integration between the Two Koreas

Until now, we have been inquiring into the method of monetary integration. In the integration process, however, the following should be taken into account.

First, it would be rational even for a rapid monetary integration to keep pace with the transformation to market economy according to economic logic. In such a case, the timing of the currency union should be set after the unified Korean government takes necessary steps for the transformation of the North Korean economy to a market economy.

As the transactions of money will be accompanied by economic exchange and resource flow between the two Koreas, currency union should be performed on the basis of the market value of money that reflects its purchasing power. The monetary flow must be held fast to the rule of free exchange, but measures should be taken to disengage Southern speculators in Northern region.

Second, in order to avoid inflation as a result of the monetary integration, it will be necessary to pursue the policy of the two-phased banking system adopted in the German monetary integration. In the first phase, the existing function of North Korean banks should be reformed on the basis of South Korean law on banking management. In the second phase, the whole business of South Korean banks should gradually be extended to the North Korean region.

Third, we should take into account the political situation that affects the exchange rate decision. For example, additional currency should be issued in accordance with the scale of liquidity as a substitute for currency circulation in the North Korean region.

Fourth, it would be also necessary that the North Koreans are to be provided with adequate claims on the state-owned stock of wealth.

Finally, the monetary integration between the two Koreas has to fulfill the following economic aims at the same time: currency conversion should be supported to provide the combined economy with the adequate amount of liquidity, and wages of North Koreans should be supported at a level such that the competitiveness of the North Korean economy would be maintained. To conclude theoretically, unifying North and South Korea in the following stages of unification would be most reasonable: From the moment unification manifests politically, the North Korean economy should maintain her economic independence. Trade with South Korea and other countries should be made at the currency rate that reflects true currency values.