

MONETARY AND EXCHANGE RATE POLICY IN DECLINING CENTRALLY PLANNED ECONOMIES AND IN EARLY TRANSITION ECONOMIES: SOME OBSERVATIONS OF NORTH KOREA

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I. Introduction

Although the political aspects of North Korea's ongoing crisis have been broadly discussed during the past decade, relatively few papers on the economic aspects of North Korea's decline have been written since 1989. Surely, the famine of the late 1990s, the decline of central planning, the reform measures of July 1, 2002, and the inroads made into North Korea by Chinese and South Korean trade and investment have been reported (Eberstadt 1999; Noland et al. 2000; Natsios 2002; Seliger 2005; Lankov 2006b). But a thorough debate on the economic policy of the country is still lacking. The simple reason for this is the lack of available macroeconomic and microeconomic data, even of the most basic data. However, the experience of other transition countries plus the (albeit slowly) growing amount of information available from North Korea today allow us to understand better the economic problems of the formerly hermetically closed state. This paper attempts to discuss monetary and exchange rate policies of North Korea. Both are crucial for the success of market-oriented approaches that have been among the various, often contradictory, policy measures of the last one-and-a-half decades of struggling in the crisis.

The role of stable money is central for a market economy. It is markedly different from the role of money in a centrally planned economy. Although no centrally planned economy could do completely without money, its role there is minimized. Administered prices in a centrally planned economy make the adjustment function of prices, which is central to the market economy, meaningless. Therefore, any change to a more market-based economic system brings challenges for monetary policy. This has been a difficult lesson for the former centrally planned economies around the world. During the transition to market economies, repressed inflation led to hyperinflation and sometimes demonetization. Banking crises and exchange rate crises were common experiences during the first stages of transition. The Democratic People's Republic of Korea (henceforth North Korea) is no exception to this rule. The breakdown of the centrally planned economy led first to a nonmonetary barter economy and later to a (re-)monetized private sector alongside the moribund official economy.

This creates inevitable contradictions between the official economy and the second, private, economy most notably in the field of exchange rates, which in the public sector often are held artificially high while the private sector shows no trust in the domestic currency. This again creates incentives for a drain of resources toward the private economy. The North Korean state can either tacitly accommodate this policy, with the consequence of possible hyperinflation, or can openly challenge it by police state methods. Currently, a mixture of both is tried, and in both ways the state runs into problems. The freeze on financial relations with North Korea of most international financial actors adds to the problems of North Korea.

Given the distributional consequences of inflation, especially hyperinflation, the discussion of monetary policy in North Korea is not an obscure sideline of research but rather is of high importance for the assessment of regime stability in North Korea. Citizens who are disgruntled because of price increases and related declining living standards were often igniting uprisings, as in Poland in the early 1980s. And the fact that the urban population with less access to the subsistence economy and a less demonetized economy are suffering most from inflation has interesting implications for regime loyalty. Therefore, the problem of stable money can be of utmost importance for the survival or change of the current North Korean political regime.

In the second section of this paper, the monetary policy of centrally planned economies is reviewed; this is followed in section III. by a discussion of the North Korean financial and monetary system. The fourth section deals with the reform measures of July 2002 and their effects on inflation and exchange rates. Section V. discusses the lessons of other transition states for the disinflation policy of North Korea, in particular the possible role of international financial institutions. A short conclusion follows.

II. Prices, Money, and Banking in Centrally Planned Economies and in Economies in Transition

In a market economy, the functioning of the price mechanism as the core of the economic system requires the precondition of more or less stable money. The role of the price system as (in Hayek's words) a "discovery procedure" requires that no unanticipated and unbalanced rises in the price level distort the signaling function of price changes. Only if prices fluctuate according to demand and supply conditions can the economy be expected to work. This is why Walter Eucken (1952), founder of the *ordo-liberal* school of economics, named a functioning price mechanism as the basic principle among his principles of the market economy and spoke of the "primacy of monetary policy," that is, stable money, as the first and imperative condition for the operation of the price mechanism. In terms of the functions of money, the market economy requires that money works as a unit of account, a medium of exchange, a reserve of purchasing power, and a measure of value as well.

In a centrally planned economy, the role of prices is completely different. Here prices are largely administered and do not necessarily bear a relation to supply-and-demand conditions. In the original design of the Soviet economy in the period after the revolution of 1917, even the complete abandonment of money was foreseen: a unit of account would be necessary to carry out the plan, but there could be substitutes for money because goods would be allocated by command. However, soon it was discovered that it was impossible to run an economy entirely on requisitions and rationing coupons. Nevertheless, the role of money remained limited and prices were politically

determined.¹ In terms of the functions of money, money was “full money” only for interhousehold relations but not for relations between households and the socialist sector (that is, the state and cooperative companies), intrasocialist sector relations, and foreign trade where money had the mere function of being a unit of account (*Table 1*).

Table 1: Functions of Money in Market Economies and Centrally Planned Economies

Function of money	Market economies	Centrally planned economies			
		Household to household	Household to socialist sector	Socialist sector to socialist sector	Foreign trade
Unit of account	×	×	×	×	×
Medium of exchange	×	×	×	× ^a	—
Reserve of purchasing power	×	×	×	—	—
Measure of value	×	×	—	—	—

Source: Author's data.

Note: × indicates that this is a function; — indicates that this is not a function.

^a In addition to the official economy.

Differences in the role of money also meant differences in the design of monetary policy. Although every socialist economy had a slightly different system, as a basis the monetary system was a monobank system, with one state bank fulfilling the functions of a central bank as well as that of a commercial bank, with a single branch in every major city. Every company had only one account at one subsidiary of the state bank, and all transactions besides those involving direct wage payments were carried out from deposit to deposit, thereby guaranteeing the oversight of transactions by the state bank, the so-called control by the ruble (or the *won*). The control by the state bank was an important precondition for the carrying out of the plan, and the bank had a de facto veto on monetary transactions not consistent with the central plan. The allocation of credit was not the task of a competitive bank system but instead was politically decided. In contrast with the central banks in market economies, the central banks in socialist economies also settle the revenues and expenditures of the national budget. In addition, the monobank systems in all socialist economies spun off specialized banks, especially for sectoral investment and foreign trade and sometimes also for savings banks.

1. This was especially clear in the case of the “price scissors” of industrial goods and agricultural goods, which led to an administered revaluation of the former as a precondition for forced and rapid industrialization in the Soviet Union in the late 1920s and early 1930s, which again was seen as a precondition for achieving a communist society.

Administered prices meant that the prices could not fluctuate according to supply and demand and also that the price level, as measured by consumer prices, did not rise; that is, inflation was not open but was repressed (Nuti 1986). However, the amount of money in circulation in typical socialist economies grew faster than the amount of available consumer goods, mainly because of the relative neglect of the consumer goods and services sector vis-à-vis the investment sector. At the same time, nominal wages were rising, thereby conveying the illusion of rising incomes.² This led to the phenomenon of a monetary overhang: money was not able to buy goods and was put in savings accounts. These forced savings financed the early rapid expansion of many socialist states. Rationing mechanisms other than inflation, namely queuing and rationing by coupon, took place in the markets for consumer goods and services. Also, in socialist countries' secondhand markets for long-lived consumer goods (and in famine-stricken North Korea, even for daily supplies), the price structure was perverted: used but available goods were sometimes much more expensive than new but rationed goods.

The lack of market solutions in the official economy led to a growing second economy, which itself was divided into legal, semilegal, and illegal (black) markets (Katsenelinboigen 1977). Farmers' markets were especially important for increasing the insufficient supply of food that rationing systems brought about. Although food sold in farmers' markets was grown on only a minuscule percentage of the countries' arable land, such food often constituted a considerable percentage of the available food.³ In the farmers' markets, prices often fluctuated, until an upper limit was set by state controls or even was freely arrived at. While working as a "social mollifier" (Sampson 1987) by allowing some alleviation of bottlenecks and shortages, the semilegal and illegal economy nevertheless came at a price, namely, the gradual erosion of socialist morale and also the gradual loss of control by the center.

The nature of the central planning process led to a gradual loss of control at the central level and created new, market-based opportunities outside the central plan. One major reason was the inability of central planners to centralize sufficient information about the situation on the firm level, thereby giving firms the possibility to get soft plans—plans that are easily to fulfill—accepted. Central planners reacted with so-called markup plans, in which plans for year *X* included an automatic markup from

2. Rising nominal incomes were the inevitable consequence of systemic conflict. Where systemic conflict was most visible and measurable—in divided Germany—the necessity for comparing favorably with the market economy competitor was also highest, which explains the relatively higher importance of the availability of consumer goods in East Germany. North Korea, in a similar situation, chose another way: namely, ending all publication of statistical data and the hermetic closing off of the country once South Korea overtook North Korea in terms of growth rates.

3. According to Gey (2004, 128), in the Soviet Union private plots with less than 2 percent of the arable land produced approximately one-quarter of the total agricultural production.

plans of year $X-1$, but this was a crude instrument not able to cope with the differing situation on the sectoral and firm levels. The hoarding of resources, necessary to overcome the ubiquitous bottlenecks in production, added to weak plans. Finally, growing amounts of resources were used outside of the plan. This took two forms: First, resources were used to fulfill the plan, without being included in the plan. Because planners knew that there would be bottlenecks (for example, missing intermediate products, lack of energy) in the production process, they hoarded resources either to catch up with production after the bottleneck was overcome or for direct exchanges outside the plan. *Tolkatchiki* (string pullers), organizing direct exchanges of raw materials and intermediate goods, became a cornerstone of real-world centrally planned economies.

Second, resources were used for purposes clearly outside the plan, mostly in the form of the enrichment of managers, who ran firms as fiefdoms. This eventually created a huge market, and in this market prices fluctuated according to supply-and-demand conditions. One effect of the increased demand outside the plan was the so-called siphoning effect (Kim 2000), namely the demand for consumer goods by companies (partly semilegal, the so-called small wholesale; and partly illegal). Illegality and intransparency meant that this market was not integrated, and this situation led to highly volatile prices in these markets. As a medium of exchange, foreign currencies (mostly the U.S. dollar or, to a lesser extent, the deutsche mark) were preferred, and thereby the black market for foreign currency became larger and better organized. The dollarization of the centrally planned economies began as early as the late 1970s, and it reached its peak after transition.

The exchange rate in centrally planned economies played only a minor role because the stated political goal of autarky made foreign trade operations peripheral. Thus, the official exchange rate was important only for the negligible quantity of tourism. Trade was carried out in foreign currencies, and the official exchange rate played a role only for accounting of the national budget (unit of account). Multiple exchange rates were applied in many cases to distinguish different forms of foreign currency operations. As a general rule, the national currency was highly overvalued as measured by the prices for currency on the black market.

The transition to market economies brought about a number of challenges in the areas of monetary and exchange rate policy. To reestablish the price mechanism as the core principle of the formerly socialist economies, prices had to be freed. In most transition economies, this led to an overnight jump in prices, erasing the monetary overhang. Especially for recipients of fixed incomes, like retirees, the distributional consequences were dramatic and their savings were erased literally overnight. Hyperinflation of up to 1,000 percent or more was a common feature in many transition countries. In addition, the shifting power relations in early transition often led to a

wage-price spiral and the gradual lifting of price controls in areas deemed of social interest (for example, daily supplies); this meant that inflation remained at a gallop even after the first peaks of hyperinflation. Disinflation policy in transition countries often needed more than a decade to finally succeed.

During the time of central planning, money was not supposed to be full-use money (with the exception of interhousehold relations), and money during transition could not fulfill the functions of full-use money although it was supposed to be able to. Money's functions as a measure of value and storage of value were lost with hyperinflation, and gradually this also led to a shift to other means of exchange (dollarization and barter). Finally, in many cases, the function of a unit of account was largely lost because menu costs (that is, the costs of changing price tags and menus and adapting to such change) related to high inflation. Only as legal tender did money retain this latter function, but not in the everyday dealings of households and companies. Reestablishing national currencies as full-use money has been an important goal of monetary policy in transition countries.

The change from a monobank system to a two-tier bank system created additional challenges (Bonin and Wachtel 2002). First, the new commercial banks often lacked a sound capital basis and were in many cases merely financing institutions for large companies, collecting savings and handing them out as soft loans to their parent companies. Even where banks were not involved in these often fraudulent operations, the allocation of credit by banks posed a huge challenge for them. Banks were ill-equipped for this challenge, and massive numbers of bad loans were the consequence. Second, the central banks lacked experienced personnel to properly supervise commercial banks, prevent the aforementioned soft loans, and set up early-warning systems for banking crises. Bank runs were a common feature of early transition, until the banking sectors were either largely in the hands of foreign banks or, at least, sufficiently consolidated. Third, the central bank itself often lacked the independence from the state necessary to maintain price stability, even in those cases where such independence was formally granted by law. The degree of central bank independence had a considerable influence on the success of disinflation processes (Dvorsky 2000).

Last, the exchange rate management had to be completely reorganized (Dean 2003). The unification of exchange rates from former dual or multiple rates was a necessary precondition. Owing to the overvaluation of official exchange rates as well as inflation differentials, the freed and unified exchange rates steeply depreciated and continued to do so for some time. The meager amount of official reserves often ran out when fixed exchange rates were applied. Fixed exchange rates had the advantage of giving the economy a macroeconomic anchor that was easy to monitor; however, subjecting all other macroeconomic policies to this stability anchor was often politically not attainable. Pressure for expansionary monetary policies and frequent banking crises

led in many cases to exchange rate crises. New arrangements like currency boards or, less successfully, crawling pegs or currency bands were introduced to overcome these problems. Only the final years of transition saw successful exchange rate–based stabilization for most transition countries and the gradual shifting to other forms of macroeconomic stabilization in the most advanced countries, mainly through inflation targeting (Wachtel and Korhonen 2004).

The public crises of the monetary and financial system in the transition process were not only adjustment costs of transition itself; mostly they were the result of long-lasting misalignments under central planning. North Korea has not yet embarked on full-scale economic liberalization, but already the catastrophic results of central planning and its decline in the areas of monetary and exchange rate policies can be observed. The next section provides an overview of the North Korean monetary and financial system and its decline.

III. The North Korean Monetary and Financial System— An Overview

The former section described the features of money, prices, and exchange rates for centrally planned economies in general. But can it also be applied to the case of North Korea? After all, the unique *juche* ideology, the degree of closure higher than in all other socialist states, and the features of Asian despotism in the political regime might lead to the conclusion that North Korea is different from the rest of the socialist countries. In fact, while the ideological superstructure seems to be different, in terms of the economy North Korea has been quite close to its Soviet archetype although this model has long been in decline.⁴ North Korea throughout its phase of central planning, which gradually ended in the 1990s, demonstrated the typical features of all centrally planned economies in terms of monetary policy—a monotier banking system with specialized sectoral banks, residual exchange rate management by the foreign trade bank, and control of the plan by the central bank (control of the North Korean *won*). Also, the problems of centrally planned economies were duplicated in North Korea (Park 2003): repressed instead of open inflation, forced savings, the gradual loss of control of the plan, flourishing and uncontrolled foreign currency holdings, and the gradual rise of the black market or semilegal markets outside the planning system. Only the degree of enforcement of the centrally planned economy has been different,

4. The specific and distinctive features of the political and economic system of various socialist regimes have often been claimed by area studies specialists who point out the uniqueness of Albanian socialism under Hoxha, Yugoslavian workers' self-management, Hungarian "goulash communism," or North Korean *juche* (self-reliance) and *songun* (military first) ideologies. In the transition process, however, these features soon melted away, and they have remained somewhat folkloric elements in an otherwise very similar set of problems.

with a highly oppressive political system making enforcement easier. As a country just transforming from a feudal society to an industrial one, the lack of experienced planning personnel and the low initial levels of education in North Korea made central control more difficult than in, for example, central and eastern Europe.⁵

The core position in the financial system of North Korea was that of the central bank as an institution under the orders of the cabinet. The cooperative farm trust, responsible for rural finance, and the foreign trade bank, for foreign financial affairs, were directly subordinated to the central bank. Savings were under the responsibility of the Ministry of Post and Communication; savings institutions included the Koryo Commercial Bank for foreign settlements, a joint venture bank, the savings network of post offices, the Golden Triangle Bank for the Rajin-Sonbong free trade area since the early 1990s, and the Korea International Insurance Company. Other financial institutions seem to be under the control of the Korean Workers' Party (KWP) or the People's Army.⁶ The Daesung Bank, Geumbul Bank, Kumkang Bank, Changwang Trust Bank, Tongil Palchon (Unification and Development) Bank, Koryo Bank, and Daedong Trust (Credit) Bank belong to the KWP; the Ilshin International Bank and the First Trust Finance Company belong to the People's Army. Few things are known about the transactions of these banks.

The breakdown of the centrally planned economy also brought initial attempts at investment in North Korea's financial sector. In 2000, a group of individual British investors or, according to another source, Hong Kong fund managers took over majority shareholding in the Daedong Credit Bank, and a foreign general manager has been appointed. This bank holds accounts solely in foreign currency and caters to the aid community and the few foreign firms engaged in trade and investment in North Korea as well as an unknown number of North Korean businesses that operate in foreign currency (European Business Association 2005). In 2006 in London the Chosun Development and Investment Fund was set up with the aim of raising \$50 million to invest in North Korea; it announced that it would apply professional standards for investment (*Korea Herald* 2006a).

The amount of transactions the banks and financial institutions handle is difficult to determine. Park (2003, 369) reports that the foreign trade bank has financial

5. Anecdotal evidence for the role of the oppressive regime can be found, for example, in the fact that forced savings extended to the so-called voluntary but, in reality, state-enforced campaigns to donate gold and other precious metals to the state.

6. The amount of control is not always clear, though. The Daesung (Daesong) Bank, for example, is apparently controlled by the Daesong General Trading Company, which itself is controlled by the KWP. However, other sources list the Daesung Bank according to its statutes as controlled by the central bank. See Kartman (1995).

transactions with about 1,000 banks and financial institutions around the world. Since the imposition of financial sanctions on North Korea, these ties have been mostly severed, as the general manager of Daedong Credit Bank asserts (Gelken 2006).

The central bank has the tasks of issuing and controlling money, settling accounts, and supplying capital (that is, allocating credit according to the central plan), and it is responsible for the national budget (revenues and expenditures). It has 11 general branches in major cities and provinces and 210 posts in cities and counties. Its main task in monetary policy is the equilibration of the amount of cash in circulation with the necessary amount of cash; it does this through the so-called cash plan. At a first glance, these tasks are not so different from that of a central bank in a market economy if the functions of central bank and commercial banks are seen together. However, among the major differences are not only the function of the central bank as the treasurer of the government but also its rather limited role owing to the large nonmonetary distribution system. North Korea was the socialist country that used most extensively a system of rationing through a public distribution system (PDS) instead of markets. According to Lankov (2006a), in the mid-1970s even the state shops had become nothing more than outlets of the PDS, and money played practically no role in obtaining goods. The PDS to a large extent substituted for the monetary economy; nevertheless the problems of a monetary overhang existed in North Korea. Park (2003, 384) estimates that from 1990 to 2001—before the reforms of 2002—the cash holdings of North Korean citizens rose 7.5 times, without any additional goods to buy. This was a major factor for the measures of 2002, when this overhang was erased overnight by drastic price increases.

Like other socialist states, North Korea desperately looked for sources for foreign currency because, despite pledges of self-sufficiency, in reality imports were bitterly needed, not the least to pay for luxury items for the entourage of the leadership and for the import of high technology for military purposes. Nevertheless, the exchange rate played only a minor role in the centrally planned economy of North Korea. The foreign trade bank was in charge of foreign settlements, foreign currency management, and the control of inflows and outflows of foreign currency. The currency peg maintained to the U.S. dollar and later to the euro has no relation to the respective purchasing power of currency, to the amount of reserves held, or to the demand and supply of foreign currency; it is merely an accounting rate, used only in the transactions for purposes like tourism but not for foreign trade. Foreign currency played a growing role in transactions among citizens and also companies during the 1990s.

This overview of the North Korean financial and monetary system is brief by necessity because there are still no data available regarding the structure of the financial system, inflation, and the monetary base. It is apparent, however, that up until the end of the Soviet bloc North Korea fitted well into the socialist system in terms of monetary

policy. With the end of its supply of cheap energy from the Soviet Union, the dismantlement of the socialist economic integration system, the recall of North Koreans from abroad, and the reduction of aid by the Soviet Union (later Russia) and China, the rapid decline of the centrally planned economy in North Korea began. The PDS, which always had been unreliable, in many places completely ceased to exist; in some sections of the country the government was able to hand out rations only at a much lower level than the subsistence minimum. Deforestation occurred in the mountains because of the need for firewood, and new arable land destroyed the soil. The summer (monsoon) rain caused devastating floods. Factories were running at very low levels of capacity utilization and often completely shut down owing to the lack of raw materials, energy, and intermediate products.⁷ As long as the PDS worked reasonably well, workers had an incentive to stay in their factory because it entitled them to provisions. When the PDS broke down, however, people roaming the country and traveling to Manchuria defied the originally strict rules on domestic travel, and the controls on people's movement in fact broke down. People resorted to all sorts of trade to overcome their hardships: selling their personal belongings, diverting goods from their public use, and stripping companies of their assets.⁸

During this time, the economy became largely demonetized. There were simply no goods to be sold in the state shops, and barter became the most important way of selling and buying. In addition, aid from the international community and, later, China and South Korea brought an inflow of foreign currency (for example, through the aid community established in Pyongyang). In the markets newly opened since the late 1990s, for the first time repressed inflation was transformed into open inflation. By 2002, the situation had become more difficult: differences between market prices and the official state prices were a hundredfold, draining more and more goods from the state system. North Korea resorted to price and wage reform on July 1, 2002. The effects of this reform and the situation in recent years will be discussed in the next section.

IV. The July 1, 2002, Measures and Open Hyperinflation in the Market

In July 2002 important changes were enacted, especially a thorough price and wage reform (Hong 2002; Gey 2004; Seliger 2004). These reforms were described officially as an "economic adjustment policy for a strong and prosperous state." The unbalanced rise of prices and wages was the cornerstone of the new economic policy, essentially

7. Accounts of the extent of the shutdown of companies vary, but some estimate that as little as 10 to 20 percent of their capacity was in use.

8. Because equipment was old and worn out, it could often be sold only as scrap metal to China; however, in 2005 such scrap metal brought high prices because of China's need for raw materials.

resembling a one-time, unilateral rise of the price level. With the reforms of July 2002, the prices were not only changed, but also the price-fixing mechanism was newly arranged: the state still sets a standard price for goods, but local factories since July 2002 can set specific prices differing from this standard price when they gain approval for this initiative from a supervisory organization. This is part of a reform envisaging more autonomy in central planning, which was more clearly laid out by Kim Jong-il in October 2002: planning on the national level will concern only the most important economic variables, while concrete production plans are made on the lower levels of planning, thereby moving the North Korean economic system in the direction of indicative planning. Factories under the new planning system are now at least partly in charge of procurement as well as selling their output, which is a major change from orthodox central planning. This change also demands autonomous accounting, leading to overall more autonomy and responsibility of the factories (Hong 2002, 97).

The aim of the rise in prices and wages—550-fold for rice (from 0.08 to 44 North Korean *won*) but only 20-fold for the basic wage (from 110 to 2,200 *won*)—was to narrow the gap between official prices in state shops and prices in the markets (the *jangmadang*). This has been temporarily achieved; however, over recent years this gap has opened further than ever before. The one-time effect has not been accompanied by the necessary incentives and possibilities for increased production, thereby making the reform ultimately aimless. Certainly trade now offers incentives in terms of living possibilities and even high profits in North Korea, owing to arbitrage and risk premiums (in the case of semilegal or illegal trade). In the long run, the knowledge of this new class of petit entrepreneurs might help the transformation of North Korea to a full-fledged market economy. After all, the scarcity of entrepreneurial spirit is one of the great obstacles to economic transformation, and the new markets allow for the development of such a class.

In the production sector, however, it looks bleaker because the incentives on the company level are still weak, and, at the same time, the flexibility for individual companies to make a profit legally is still nonexistent. The political costs of raising wages far less than prices were negligible because rationing by quantity prevented most people from buying in the state system, and the prices in the markets did not change. The trends in some of the most important prices can be seen in **Table 2**. Because of the lack of officially available data, there are limitations to the collection in Table 2, but the undeniable conclusion from these data is that North Korea has entered a stage of hyperinflation.

Some qualifications and observations have to be made to this conclusion: First, for most people in North Korea money plays a minor role in daily survival (contrary to the reports of the new, capitalist spirit experienced by some observers in Pyongyang). The PDS has even strengthened its role during the past two years, largely owing to

the channeling of food aid from South Korea and China through the PDS (Lankov 2006a). Thus, even hyperinflation—although cumbersome and for many people possibly even life threatening—does not necessarily lead to the chaotic economic situation known from hyperinflations in other countries like Germany in 1923 or in various Latin American countries in the recent decade. After 16 years of famine or near famine, people are equipped as much as possible for a subsistence economy of kitchen gardens and foraging for wild food. Those who were not prepared are, as aid workers bitterly mention, already long dead.

Table 2: Price and Wage Developments in North Korea, 1992–2006, in North Korean won

Time frame	Prices of market items(per kilogram)				Basic wages for laborers (monthly)
	Rice	Corn	Beans	Pork	
Official prices					
Before July 1, 2002	0.08	0.07	0.08	17	110
After July 1, 2002	44	33	40	170	2,000
Market prices					
1992–93	17–25	10			
1994–95	20–35	20–40			
1996	85–100	50–60			
Tongil market; February 2004			1,600–1,900	900	
Hamheung; August 2005	850				
Hamheung; March 2006	950				
Onsung; June 2006	1,200	250		1,600–1,800	
Onsung; September 2006	1,300	300		3,300	
2006					5,000–20,000

Sources: Gey (2004), North Korean Economic Forum (2005, 425), author's observations, author's interviews with aid workers and with European embassy staff in Pyongyang (June 2005, March and July 2006), Han (2006), Kim (2006).

The second observation is that markets are by no means a unified system of supply and demand, but barriers to entry are high; markets are local, or at best, regional; and the law of one price clearly does not apply. In other words, the relevant markets are extremely compartmentalized, not only regionally but often—owing to police crackdowns during the rice-planting and harvesting seasons—seasonally also. This allows for large arbitrage profits, which seem to be exploited by those who have, for example, the necessary means of transport, like a truck. Prices are highly volatile

according to local conditions, and the disciplining effects of competition do not apply as a general rule.

Third, wages, which before 2002 had been relatively uniform (although a service worker even then lived on wages as low as 20 *won* per month, while a company director could make approximately 300 *won* per month), are far more varied today. The average wage for workers (Table 2) is estimated to have been 110 *won* per month before the July 1, 2002, reforms and 2,000 *won* per month afterward. Since then a large spread has developed according to workplace (for example, companies producing for export or that work with foreign investment pay much higher wages), qualifications, and connections. An aid worker reported in early 2006 wages of as low as 1,200 *won* per month for a nurse and 2,500 *won* per month for a medical doctor for an eastern province. At the same time, wages for embassy personnel were already estimated at higher than 10,000 *won* per month, including wages of manual laborers; and it was reported that farm workers at Chongsan Cooperative Farm, a kind of model farm, received in addition to food rations a monthly incentive of 40,000 *won* each (Ser 2006).

Much higher profits are possible for those with special skills needed for trade, for example, for Koreans who speak Chinese and who work near the Chinese border. Private Chinese language lessons have become a highly profitable business in the border city of Sinuiju, defectors report. Teachers earn for one hour of teaching more than the average worker earns in a month. Overall, the wage spread is an important incentive for a better allocation of skills and mobilization of effort; this is true, however, only as long as higher wages really can buy more goods.⁹

Hyperinflation can also be observed through the development of the exchange rate in the semilegal and illegal markets. The new exchange rate of the U.S. dollar to the North Korean *won* after July 1, 2002, was also an attempt to narrow (but not close) the gap between the official rate and the free market (black market) rate. The former distinction between various kinds of *won*—foreign and domestic—was abandoned, and the exchange rate was unified.¹⁰ The move in 2003 to introduce the euro as official foreign currency also aimed to control the holdings of foreign currency, which grew through increased exchanges with foreigners and currency holdings of traders

9. The comparison of various wages also sheds some new light on the somewhat bizarre discussion of possible human rights violations because of workers' exploitation in the Kaesong industrial complex. While surely the state pockets most of the wages of the workers in this area, still they can be called the lucky few, given their much higher wages and excellent facilities and services (like free transportation, lunch, and medical services) compared with their compatriots.

10. Originally, there had been red *won* for visitors from socialist countries and green *won* for visitors from capitalist countries.

who, for example, crossed the border with China either legally or illegally. However, the black market exchange rate in 2002 was still approximately five times the new official rate. After that the speed of depreciation of the *won* vis-à-vis foreign currencies even increased (*Table 3*).

Table 3: Official and Unofficial North Korean *Won*–Euro Exchange Rates in North Korea, 2002–2006

Rates	Before July 1, 2002	After July 1, 2002	2003	2004	2005	2006
Official exchange rate	2.160	155.700	172.450	181.625	n.a.	n.a.
Exchange rate in the <i>jangmadang</i>	200–400 ^a	500–700	1,500	2,500	3,200	3,600

Sources: *Korea Herald* (2005), with data from the Bank of Korea for the official exchange rate 2002–2004; author's observations.

n.a. The Bank of Korea did not publish an official exchange rate that was comparable with the other data in this table.

a This rate applies to the time immediately preceding the changes.

Table 3 gives only the official exchange rate and the rates in the markets that are used in North Korea among North Koreans. However, there are additional reports about a real black market (street) rate in the range of one U.S. dollar to 5,000–6,000 North Korean *won*. This rate, which seems to be incompatible with the former rate reported for the *jangmadang*, becomes more understandable in the light of the fact that the *jangmadang*—despite all its hectic, marketlike activity—is not a free market but is instead closely controlled by the state. These controls extend to the kind of goods sold there; for example, in 2005 the selling of cereals in the market was outlawed although this regulation seems to be widely ignored. Also regulated is the amount of goods sold and the selling prices, where some form of price caps seem to apply. Given that there is a new class of entrepreneurs with large amounts of unreported cash and with large needs for foreign currency—U.S. dollars, euros, and yuan in the regions bordering China especially—these widely differing exchange rates make sense.

Although no data are available from the North Korean central bank, monetary policy seems to accommodate hyperinflation. No shortage of *won* has been reported so far. The accommodation of hyperinflation also makes political sense, given the possible distributional consequences of hyperinflation (Seliger, forthcoming 2006). Given that access to arable land is highest in the rural areas (although a considerable percentage of the urban population also depends on kitchen gardens) and that the dependence on

public distribution or markets accordingly is highest in urban areas, the urban population is the segment most affected by inflationary processes.

This is dangerous for regime stability. The urban elites, especially the inhabitants of the capital city of Pyongyang, had formerly been relatively privileged by the centrally planned economy. After the July 1, 2002, reforms a new class of urban poor emerged; also the urban dwellers with relatively higher incomes suffered most from inflation. Although these effects are somewhat diluted by the 2005 reinforcement of the PDS, when selling grain in the market was outlawed and when the PDS was comparatively well-supplied by goods from South Korea, the PDS now seems to have suffered from yet another decline. In addition, the situation following the missile tests of July 2006 did not improve North Korea's standing with the donor community. Therefore, the possible destabilizing effects of inflation should not be underestimated.

North Korean authorities are in this respect in a dilemma: If they continue to accommodate inflation by printing more money, as they do today, they help fuel a process that impoverishes the population—especially the population in the cities, which is by and large better educated and has better means of communication among themselves, thereby making this population group potentially more dangerous. If the authorities do not accommodate inflation, the shortage of money in circulation will mean that wages can no longer be paid and opposition becomes even more likely. The way out of this dilemma—the reinforcement of the PDS and the crackdown on market activities—is also highly unpopular. This does not refer only to traders who would lose their living if markets are closed; it refers to the whole population, which cannot depend on the PDS. Therefore, a long-run solution to the inflation problem has to acknowledge its origins, namely the insufficient marketization of North Korea. Market reforms in the production sector and, above all, the introduction of a profit-based, family-based agricultural system are the only ways out of the dilemma of hyperinflation in North Korea.

Sometimes the above analysis of hyperinflation is questioned on the grounds that for some years there have been signs of hyperinflation in North Korea but that the stability of the overall economic system has not seemed to deteriorate, a situation different from other countries experiencing hyperinflation (Germany in 1923, Argentine and Brazil in the 1990s). It must be remembered that two points are important when judging the impact of hyperinflation on overall economic stability. First, the economic stability of North Korea was greatly enhanced by economic cooperation with China and, mainly, with South Korea. The unconditional aid channeled to North Korea in various forms—for example, through direct monetary transfers before the North-South summit meeting of June 2000, through monetary flows related to the Kaesong and Mount Kumgang projects, through massive food and fertilizer aid, and through the provision of other goods like construction materials—all helped North Korea stabilize

its economy.¹¹ Second, while inflation in the markets is clearly visible and can be judged to be galloping inflation or hyperinflation, the role of markets is still largely suppressed in North Korea. The markets are permitted only because they let off a tiny amount of the pressure that has built up in the North Korean economic system. But this also means that to some extent North Korea can insulate itself from the impact of hyperinflation. Therefore, the term “repressed hyperinflation” might be the best to describe the current situation in North Korea.

But how can North Korea ever expect to return to moderate inflation? To draw lessons for North Korea, the next section looks into the experience of disinflation policies in other former socialist countries.

V. Disinflation Policies in Transition Countries— Some Lessons for North Korea

The reasons for inflationary processes in the case of centrally planned economies, including North Korea, have already been mentioned. It is important to see that ultimately inflation derives from monetary reasons and that accommodation to inflation is necessary for inflation to persist. This also means that it is possible for monetary authorities to control inflation if they know the reasons for its existence and they decide to stop accommodating it. In central and eastern Europe, for example, although the reasons for inflation were generally known, important obstacles to successful disinflation existed. Monetary expansion was considered a necessity as fiscal policy was out of the control of monetary authorities and often monetary authorities initially lacked the independence to withstand pressure from the government. The governments had the huge burden of funding state budgets without sufficient revenues after the breakdown of the old, planned economies where the control by the central bank (control by the ruble) made automatic deductions of taxes possible. New tax authorities had to be established. Moreover, subsidies for daily necessities were maintained long into the transition process. The social safety net—formerly partly unnecessary because there was no unemployment and partly organized by companies, but by now dysfunctional—had to be created anew. The government resorted to seigniorage financing of the budget, that is, the monetization of deficits. When the markets of the former Soviet bloc broke down, credit expansion to support enterprises and prevent them from bankruptcy became even more prevalent. Imported inflation added to domestic inflation once trade was liberalized.

11. In addition, it should not be forgotten that until the end of 2005 up to one-third of the population was fed by international food aid provided mainly through the World Food Program.

Slowly, however, disinflation policies were successful in central and eastern Europe. In a first step, institutional preconditions for inflation fighting were created; a certain degree of independence of the central bank from the government and the parliament was necessary. In the second step, government finance was put on a new, sounder basis: tax authorities were created and new tax laws were not only introduced but also enforced. Treasury bills and government bonds with longer maturities (where accepted by the markets) substituted for the monetization of deficits. Additional sources of revenue for the government were created, in particular by privatization. Subsidies did not completely end at once, but they declined. Bankrupt companies were closed or sold off in pieces, and other enterprises turned around.

In terms of macroeconomic stabilization, the transition economies had the difficult task of finding an anchor that was acceptable politically as well as it was practical. Monetary targets in the early phase of high inflation rates and monetary growth rates were impossible to predict in many cases owing to the monetary overhang, money creation by the government, and also increased intermediary activity by banks and financial institutions that during early transition were insufficiently supervised. The exchange rate, however, was a target easy to monitor, and exchange rate–based stabilization was chosen as the most practical way for stabilization. The introduction of a hard peg in the form of a currency board happened first in Estonia, later in Lithuania, Bulgaria, and in Bosnia and Herzegovina (Korhonen 1999). It meant, however, the complete loss of monetary autonomy and therefore was seen in many countries as politically too costly. Also, the initial level of the exchange rate was crucial, giving the persistent inflation differential and, accordingly, the real appreciation of the currencies a hard peg.¹² Countries like Poland and Russia, choosing a hard peg not supported by a sufficient coverage of foreign reserves or a crawling peg or band, had to maintain the credibility of their pegs, a task at which Russia spectacularly failed in 1998. When initial high levels of inflation slowly decreased and institutional preconditions were improved, many countries, for example, the Czech Republic after 1998, began to shift from exchange rate–based stabilization to inflation targeting.

After 15 years of transition, the overall results in the monetary field are quite rosy: initial hyperinflation and also persistent galloping inflation have been contained, and around 1999–2000 single-digit inflation was reached. Today inflation rates in many central European countries are comparable with or even lower than those in western Europe. To explain this success, not only domestic factors—institutional improvements, change of government finance, decreasing subsidies—can be credited, but also external

12. This last problem has been less of a problem than originally thought, however, because it has been more than offset by productivity gains caused by the transition process on the company level in many countries choosing a hard peg.

factors play an important role for success. Macroeconomically, the declining import prices, especially energy prices after the Russian crisis, were an important factor in slowing inflation although this trend has recently been clearly reversed.¹³ More important are the institutional constraints imposed on transition countries by their integration into international financial institutions and, in the case of central and eastern Europe, the European Union (Seliger 2002). These constraints had not only the direct effects of curbing excessive government spending on subsidies, improving institutional quality (like provisions for central bank independence), and improving the fiscal systems, but they were also particularly important in shaping inflation expectations. Accession to the European Union cannot be underestimated in its dampening effects; also observable is the sharp reduction of the spread on interest rates with EU accession.

These experiences of former centrally planned economies also give a fairly accurate blueprint of what should happen in North Korea. Certainly, first of all a basic decision for introducing market mechanisms has to be made, and this decision, contrary to the more optimistic view of some observers, has not yet been made. It might be argued that the coming into existence of a new private sector in North Korea (in addition to the special economic zones of Kaesong, Mount Kumgang, and maybe Rajin-Sonbong and Sinuiju) heralds the adoption of a Chinese-style transition process. This, however, is not likely particularly in the field of monetary developments. First, the strong industrialization of North Korea does not allow North Korea to rally its support for transition—and thereby guarantee the stability of political leadership—by sharp increases in agricultural productivity, as was the case in China in its early transition stage. Second, the large inflows of foreign currency as a side effect of heavy foreign investment—which upheld exchange rate stability in China, allowed for a growing degree of (though not full) convertibility of the Chinese yuan, and even now exert heavy pressures toward revaluation—cannot be expected in North Korea.¹⁴

Assuming a general decision for a market economy, the first task in North Korea would be the introduction of a sufficient degree of transparency, in particular the publication of statistics on monetary growth including, for example, inflation, the government budget, and subsidies. This is the precondition for the assessment of the degree of the monetization of deficits of the state and the degree of subsidization of

13. Tradable goods explained up to two-thirds of changes of the consumer price indexes in transition economies.

14. This does not mean that North Korea cannot learn from China. Indeed, its most valuable lessons may come from China because they are the most politically accepted lessons. Lee (2006) sketches a possible North Korean monetary and financial reform based on Chinese experience. The argument above refers to the possibility of results similar to those of the Chinese transition process. Also, the existence of the successful other, namely South Korea, gives North Korea far less leeway in economic reform without the danger of regime destabilization.

state firms (and the decision about which firms are bankrupt and which are, eventually, viable). To make such a publication possible, not only have the relevant laws to be revised—today all these figures are state secrets—but also economists and accountants with modern training are needed. This is the only point where some movement can already be seen: beginning with visits to the Chinese central bank in 2001, there have been various training measures for accounting, central banking, and commercial banking for North Korean officials. For example, the Hanns Seidel Foundation of Germany in 2004 and 2005 carried out training measures for medium-level officials from the central bank, the Ministry of Finance, specialized banks, other authorities like the price committee, and academics in Pyongyang.¹⁵ Also, an increasing number of students of management and economics have been sent abroad, especially to China and European countries, which gives some hope for future change in economic policy. However, to make this come true, a much bolder approach is necessary.

Once the relevant experts are educated, it is necessary to strengthen the institutional framework by giving the central bank a sufficient degree of independence and establishing clear norms for central banking as well as government finance and for separating both functions. The introduction of a two-tier banking system would be the last step toward the introduction of a market-based monetary and financial framework. A two-tier banking system also would require the establishment of a supervisory authority, either inside the central bank or in the form of a financial supervisory commission. The introduction of this framework does not mean that the task of transition is successfully concluded. Gaining experience with a market-based system, and gaining a reputation for defending it—for example, in fighting against inflation and against political meddling—are tasks that will require not only experts but also time. Nevertheless, as the old Korean saying goes, a long way cannot be gone until one begins with the first step.

VI. Conclusion

The reform of monetary policy in North Korea is of the utmost importance for the stability of the country, regardless of the country's political leadership. The current state of monetary policy, which can be characterized as repressed hyperinflation, is highly destabilizing for the current regime, so reforms are in its own interest. However, any serious reform poses a different dilemma to North Korea: opening up, transparency, and freer information flows, which are necessary preconditions for market reforms, have themselves a potentially destabilizing effect on the current political regime. They allow the direct comparison of North Korea and South Korea, with a clearly predictable

15. A description of the training can be found in the annex to this paper.

result, namely the request for reforms and opening in the form of mass migration or political protest. So, although hyperinflation is regime destabilizing, inflation fighting might have the same effect. The pessimistic conclusion is that only halfhearted measures for fighting inflation will possibly take place for the time being. For the international community, the only possibility is to support indirectly the process of policy discussion inside North Korea, namely through bringing North Korean students out of the country and bringing foreign experts inside.

Once a serious decision for economic reform has been made, large-scale aid is thinkable, not the least from the international financial institutions (*Korea Herald* 2006b). Also South Korea can surely be expected to play a major role in the reform of monetary and financial policy in North Korea. South Korea is, however, also a curse for reform in the North because any opening of the North will ultimately give the North Koreans a choice of regime, a fact that cannot be tolerated by its current leadership. Needless to say, the nuclear crisis is one of the major stumbling blocks for reform, and it must be removed prior to any large-scale aid from outsiders. Being caught in the dilemma of hyperinflation and seemingly impossible reform alternatives, North Korea will continue its crisis of monetary policy. For observers, foreign as well as domestic, this stagnation should occupy their center of attention.

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Annex: Training Courses in Pyongyang 2004–2005

The International Monetary and Financial System—An Introduction

Lecture plan for a lecture series organized by Korean European Technology and Economic Services (KETES), Pyongyang, in cooperation with Europe Korea Foundation and Hanns Seidel Stiftung Korea (June 2004)

Lecturer: Dr. Bernhard Seliger, Representative, Hanns Seidel Stiftung Korea

Aims of the course: Since the end of the Bretton Woods system in the early 1970s, the international monetary and financial system is characterized by a multiplicity of monetary regimes coexisting, but at the same time the ordering through international and regional institutions. The understanding of the international monetary and financial system is important as a precondition for international trade and investment decisions. This course shall enable participants to get a basic understanding of the international monetary and financial system and to understand recent developments in international monetary and financial policies.

Lecture 1: The International Monetary and Financial System—An Overview

- Discussing basic concepts of monetary policy: Exchange rate, internal/external value of money, PPP, concepts of interest rates, balance of payments, world monetary systems, esp. fixed versus flexible exchange rate policies, spot and forward currency markets, market instruments on currency markets (swaps etc).
- Introducing international financial institutions and their role (IMF, World Bank, regional development banks like ADB, EBRD).
- Giving a short overview over the evolution of the international monetary system from the gold standard through the Bretton Woods time to today.

Lecture 2: Monetary Transformation, Monetary Integration and Monetary Cooperation

- Understanding the change of monetary systems, especially the introduction of a market-based monetary system.
- Case study: Experiences of monetary transformation in Eastern Europe.

- Understanding the role of national moneys and the advantages and problems of monetary integration.
- Case study: European monetary integration 1970–2004 (reasons for monetary cooperation in Europe, from the Werner plan to EMU, challenges of monetary cooperation).
- Discussing monetary cooperation between large monetary areas (euro zone, dollar zone, yen zone)

Lecture 3: Understanding Monetary and Banking Crises

- Understanding the reasons for monetary crisis.
- Case study: The East Asian currency crisis of 1997–1998.
- Case study: The Russian currency crisis.
- Understanding the reasons for banking crises.
- Case study: Banking crises in the Baltic states, 1994–1998.
- Discussing the role of the IMF in the international financial system and a possible reform.

Lecture 4: Financing Development—The Role of Capital Flows for Economic Growth

- Discussing basic concepts of international capital flows (capital, capital flows and the balance of payment, FDI versus portfolio investment).
- Giving an overview over global FDI flows.
- Understanding the impact of FDI on growth and the economy.
- Discussing FDI attraction policies and special economic zones.
- Case study: the special economic zones in China.

The International Monetary and Financial System II—Exchange Rates, Exchange Rate Regimes, and Inflation

Lecture plan for a lecture series organized by Pyongyang International Institute of Technological and Economic Cooperation (PIINTEC), Pyongyang, in cooperation with Europe Korea Foundation and Hanns Seidel Stiftung Korea (June 2005)

Lecturer: Dr. Bernhard Seliger, Representative, Hanns Seidel Stiftung Korea

Aims of the course: The stability of the national and international financial and monetary system is crucially dependent on stable exchange rates and a low-inflation environment. Nationally, growth and development need monetary and exchange rate stability. Internationally, economic exchanges are only possible with the certainty resulting from low or zero inflation and low exchange rate volatility. Nevertheless, fixing exchange rates and prices led many countries to serious difficulties. This lecture series explores case studies of the management of exchange rates and of inflation fighting as basis of sustainable growth and development.

Lecture 1: Exchange Rates, Exchange Rate Determinants and Exchange Rate Regimes

- Discussing basic concepts: Exchange rate, internal/external value, exchange rate regimes.
- Overview over exchange rate regimes worldwide, history of exchange rate regimes.
- Exchange rate regimes and other macroeconomic variables (especially focusing on the role of monetary policy).

Lecture 2: Case Studies of Exchange Rate Regimes and Problem Solving under Different Exchange Rate Regimes

- Case studies for exchange rate regimes: Exchange rate regimes and economic shocks, exchange rate regimes in transition countries, exchange rate unification.

Lecture 3: Inflation and Disinflation

- Understanding the concepts of inflation, deflation, disinflation.
- Reasons for inflation.

- Costs of inflation.
- Inflation and unemployment in market economies (Philips curve debate).
- Disinflation policies.

Lecture 4: Case Studies of Inflation under Different Monetary Regimes

- Case studies: Inflation and exchange rate, hyperinflation and inflation fighting, monetary policy and inflation targeting.