
The Current North Korean Economy

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Introduction: Measuring the North Korean Economy

How to Measure the Statisticless?

Achieving an accurate picture of the current economy of North Korea is an extremely difficult task. That difficulty tends to be increased by a failing intrinsic to economists: taking any hard number, however wrong, as a rock to cling to, and a series of statistics, however inaccurate, as a causeway to walk on.

As is well-known, North Korea issues no consistent macroeconomic statistics. Even the often-cited trade statistics are “mirror” statistics prepared from other countries’ declared trade. This chapter therefore treats all numbers agnostically and attempts to represent trends in the North’s economy by relying on actual experience since an office of the Euro-Asian Business Consultancy (EABC) was opened in Pyongyang in 1993.¹

In the second section, “Three Years Since the Death of Kim Il Sung,” I look at the trends in the economy between 1993 and 1996 and attempt a statistical reconstruction of the economic framework. Done much less

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1. This chapter is based largely on the experience of EABC’s operations in North Korea. EABC has been responsible for nearly all the modern round of Western investment in the North, including Shell, ING Bank, Peregrine (at its initial stages), and GlaxoWellcome. Most of the chapter is unreferenced because it is based on information provided by officials of the North Korean government or of North Korean companies who do not wish to be openly identified.

systematically than the work of Marcus Noland and others, the reconstruction relies on some of the insights lent by Noland's series of models. This chapter therefore very much represents work in progress. The next and more systematic step forward will be to refine the primitive input-output model created in 1992, a task that the North Korean authorities seem interested in assisting. "The Current Economic Situation" presents two pictures: the disaster image portrayed in the media and a more moderate picture of an economy and society struggling to survive. The next section, "The Development of the New Regime," describes the changes currently in progress and the way that the economy is being reshaped under pressure and crisis toward a market economy. "Has the North Korean Economy Bottomed Out?" examines that question and considers the possibility that we have misread the potential for the economy to rebound. Finally, "Putting the Economy to Rights" proposes the steps necessary to put the current economy back on its feet.

Any description of the North Korean economy must begin from a base point. Many analysts, swayed by the apparent availability of figures, have used 1990 as such a point. Spot observations of the North's economy are then presumed to represent a decline relative to 1990. However, interviews with factory managers on plant operation suggest that for a major plant, 1990 cannot be a base year; one must go back into the 1980s to find a year in which many plants were in full operation.

That the North Korean economy saw a new downward curve in 1990, 1991, and 1992 cannot be denied, but that the national economy was in good shape in 1990 remains to be proven.

Quantifying the Decline in the Economy

There has been a real, but difficult to measure, decline in the economy. Despite the seeming accuracy of the figures produced by the Bank of Korea, it cannot be calculated with precision. Table 1 shows both the bank's figures and EABC's alternative estimates of the change in growth rate.

Table 2 gives Bank of Korea estimates of the structure of the North Korean economy; these figures are crucial for transforming casual evidence into hard numbers. The table shows a decline in industrial contribution to GNP and a rise in agriculture and services (though it may merely indicate that agriculture is declining more slowly and government services growing marginally).

All econometricians would give margins of error for each of these numbers of about plus or minus 40 percent. For example, the GNP in 1993 might have declined between 2.6 percent and 5.8 percent, and not the 4.2 percent given in table 1. Unfortunately, the errors are likely to be cumulative. Since each number has the same margin of error, the

Table 1 GNP growth estimates, North Korea, 1981-98 (percentages)

	1981-84	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
EABC	4.3	2.4	3.0	3.0	2.4	-3.7	-5.2	-2.0	1.0	-2.0	-1.0	-2.0	0-2.0	1-5.0
Bank of Korea	4.3	2.4	3.0	3.0	2.4	-3.7	-5.1	-7.7	-4.2	-1.8	-4.6	-3.7	-	-

Sources: EABC; Bank of Korea.

Table 2 Sectional growth rates, North Korea: South Korean estimates (percentages)

Sector	1992	1993	1994	1995	1996
Agriculture, forestry, & fisheries	-2.7	-7.6	2.7	-10.5	1.0
Mining	-6.1	-7.2	-5.5	-2.3	-11.8
Manufacturing	-17.0	-1.9	-3.8	-5.3	8.9
Light industries	-7.3	5.0	-0.1	-4.0	-7.1
Heavy industries	-21.0	-4.2	-5.2	-5.9	-9.7
Electricity, gas, & piped water	-5.7	-8.7	4.2	0.1	-7.8
Construction	-2.1	-9.7	-26.9	-3.2	-11.8
Services	0.8	1.2	2.2	1.5	0.8
Government	2.4	2.3	3.3	2.8	1.7
Others	-1.7	-0.5	0.4	-0.7	-0.7
GDP	-7.7	-4.2	-1.8	-4.6	-3.7
GNP	-7.6	-4.3	-1.7	-4.5	-3.7

Source: Bank of Korea.

cumulative error in adding up the six main sectoral numbers results in there being only a 7.7 percent chance that the final number is correct!

These numbers have the same validity as any economic model: that is, they are not based on fact but on assumptions, calibrated by limited observations. They cannot be compared with the figures produced for South Korea. Nevertheless, they form the basis on which a discussion can be built in the absence of any data from the North.

Our own figures have a similar validity. Both show trends rather than absolute amounts. We agree on decline until 1992, but argue for positive growth in 1993 and negative growth in 1994. Growth was clearly positive in the first half of 1995. Until an accurate assessment of the flood damage can be made, the final result for 1994 must be judged marginally negative.

In short, EABC puts the official economy at the end of 1995 as 89 percent of its 1989 level, compared with 77 percent in Bank of Korea estimates.

Three Years Since the Death of Kim Il Sung

The Economy, 1993-96

1993

In 1993 the economy appeared to cease its downward slide. Long-term observers engaged in trade and manufacturing considered that the eco-

conomic activity rate was higher than it had been for several years. This is not reflected in the South's estimate of economic growth shown in table 1. After discussion with the statisticians who prepare these figures, EABC does not believe that they have sufficient information to accurately calculate GNP.

EABC's main dealings are with North Korean businesses in Pyongyang. To some extent, therefore, the South Korean estimates and those of EABC diverge because Pyongyang is only part of the North's economy. In 1993 the main source of decline was the poor performance of the agricultural sector, which makes up about 30 percent of GNP. Both EABC and the South Koreans agree that in 1993 light industry and services grew. The disagreement lies in the scale of growth in these sectors versus decline of agricultural output.

EABC believes that the apparent decline in agricultural output can be partially explained by farmers diverting more production to the private economy and that other parts of the private economy also grew strongly. Consequently, the overall economy stabilized.

1994

In 1994 the overall economic environment was hostile both to investment and the local economy for three reasons. First and most important, the North Korean government withheld investment funds out of fear there would be a war over the nuclear issue.

Second, the death of Kim Il Sung led to diversion of official and private activity into mourning and related pursuits. Consequently, cumulatively between 15 days and one month's production was lost in many, if not all, sectors.

Third, and equally important, the inflow of foreign remittances from Japan was cut back, as was aid from China. This is reflected in figure 1. It, too, is built from partial data, but it shows a drop in both imports and exports. While construction certainly fell, EABC does not believe it fell to the extent shown in table 2. However, the negative impact on light industry and services was much higher than the table suggests.

Consequently in 1994 the economy performed significantly worse than in 1993. The South's overall growth estimates fail to indicate this, mainly because agricultural production improved.

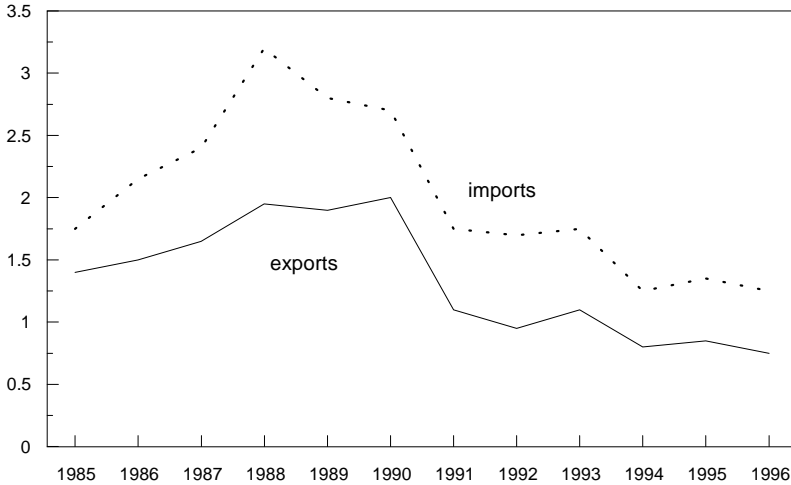
1995

In the first half of 1995 the North Korean economy rebounded strongly. Funds put aside in case of war were released to state enterprises, which then ordered new machinery. Throughout Pyongyang new businesses emerged and old businesses expanded.

Only in August did these developments partially halt as the severity

Figure 1 Trade volume, North Korea, 1985-96

billions of dollars



Source: Korea Trade-Investment Promotion Agency (KOTRA).

of the flood damage in the North Pyongan Province became known. Still, those parts of the economy not directly affected continued to grow.

The year saw a major achievement in infrastructure with the completion and paving of the expressway between Sinuiju and Pyongyang, matching the paving of the Pyongyang-Panmunjom expressway earlier in the 1990s.

Our evidence suggests growth in light industries and services that is not reflected in the South Korean estimates. The GNP decline in 1995 was less than that of 1994, and numerous enterprises enjoyed substantial growth. One Pyongyang group recorded a growth in sales of over 50 percent.

Concerns about the extensive and growing use of hard currency led to currency reforms at the end of November 1995. North Korean estimates of the flood damage were about 30 billion won—75 percent of the annual GNP.

1996

EABC's impression is of a general drop in economic activity, though real agricultural production may not have been significantly lower than in 1995. The estimated probable decline is between 2 and 4 percent.

During part of 1996 the major steel works were not in operation, causing a serious decline in total output. North Korean estimates of the 1996 flood damage were around 5 billion won.

The Growth of the Unofficial Economy

The official economy is only a part of the whole. With the weakening of central control in 1990, and further weakening of central decision making in July 1994, the unofficial economy has grown substantially.

The problem is that it is almost impossible to measure. Broadly speaking, it consists of the following elements:

- *individual patch farming*—cultivation of crops for the private sector, which is widely prevalent in the countryside;
- *direct manufacture and sale*—manufacture and sale outside the planned system by factories and cooperatives;
- *direct barter between work units*—exchange of commodities that each work unit produces outside the planned system;
- *private service sector*—tailoring, trading, and hairdressing;
- *hard currency sector*—sale of imported or domestic goods for hard currency; and
- *joint ventures*—engaging in joint ventures, which are all outside the planned system.

Cumulatively, this makes up a very large sector of the economy in agriculture and services, and a limited sector in light manufacturing. By its nature heavy industry and mining, which make up 24.4 percent of the official economy, can only participate through direct barter, as described above.

Given that all estimates about North Korea *are* only estimates, a structure can be suggested, as shown in table 3. It indicates that our new estimates of the total economy would be 22 percent larger than estimates of the official economy. Not all of this is post-1990 growth, and it is subject to the same margins of error as estimates of official growth.

Given these caveats, the estimates suggest that the total economy is about the same size as in 1990 and that the market economy or unofficial economy represents about 20 percent of the total economy. Moreover, the unofficial economy is where growth is occurring: between 1990 and 1995, the size of the market economy has at least doubled.

In 1995 and 1996 the balance between official and unofficial economy remains difficult to measure. Until the reform of the hard currency at the end of November 1995, the unofficial economy grew faster than the

Table 3 Estimates of the official and unofficial economy of North Korea, 1994 (percentage)

Sector	Official	Unofficial	Contribution to structure	Official and unofficial combined
Agriculture, forestry, & fisheries	29.5	33	10.0	33.5
Mining	7.8			6.3
Manufacturing	23.6			20.2
Light industries	7.0	20	1.4	6.7
Heavy industries	16.6	5	0.8	13.4
Electricity, gas, & piped water	4.8			3.9
Construction	6.3	10	0.6	5.6
Services	28.0			31.5
Government	18.6	0		14.9
Others	9.4	120	11.3	16.6
GDP	100.0		24.1	100.0

Note: Since the base is South Korean estimates, these figures must be used as indicative only.

Source: EABC estimates.

official economy. This was particularly marked because of the problems of the Korean steel industry due to a lack of coal and electricity. The general conclusion that may be drawn is that the growth of the unofficial economy continued but the status of the whole economy was in doubt. In 1997, the combined GNP is almost certainly lower than in 1994.

The Current Economic Situation

“Heartache occurrences are happening everywhere.”

—Attributed to Kim Jung Il in so-called secret speech of December 1996

This section attempts to reconcile two extreme views: that North Korea is collapsing and that a new North Korea is emerging through the crisis.

The Food Crisis: A Country Moving from Scarcity to Starvation

Since the mid-1980s, South Korean reports on the food situation in the North have varied from “two meals a day” to a complete breakdown of the ration system lasting for several years. In December 1995 we could read of the prospect of mass starvation by March 1996, based on reports that the August 1995 floods swept away a quarter of North Korea’s rice land—or a half of the total rice crop, assuming that it destroyed large

stocks of rice as well as the crops in the field. In January 1997 famine by March was similarly predicted. By late April press reports spoke of death by starvation, although official UN agencies had yet to confirm any deaths. The UN continued to talk of a “famine in the making,” not yet a famine in process.

The North Korean authorities themselves put the damage of the 1995 floods at \$15 billion. This will take either 75 percent of the estimates of North Korean GNP or, more realistically, five years of total nonmilitary investment to recover. The UN Relief Program appealed for 200,000 tons of rice, or \$30 million, and received only \$800,000. The Japanese and Korean governments gave 450,000 tons of rice before the August floods, on reports of an imminent shortage.

North Korea survived the 1995-96 crisis without the dire consequences predicted. In 1996 there were further floods, and North Korea itself predicted a shortage of 2 million tons of grain. UN sources in May 1997 put this shortfall at 1 million tons until the next harvest. There is evidence that the crisis predicted for March 1996 may well in fact have occurred in April or May 1997, before the spring crops were available in sufficient quantity.

What is almost certain is that in some parts of Chagang and Yanggang this crisis is happening now. These are mainly the mountain grain deficit areas, but possibly a grim situation prevails even in Hwanghae-do. Apart from imports, which go to feed Pyongyang first, there is thought now to be little movement of grain from surplus areas to deficit areas.

The national shortage of grain may be exaggerated, but an increasing percentage of production lies outside the control of the government. Lee Min-bok, an agricultural expert who defected in February 1995, wrote in a South Korean newspaper that “the government warehouses may be empty, but the people of North Korea never have empty stomachs.” This accords exactly with the observations and reports of our Pyongyang office in 1995.

That was the situation before the floods of August 1995, which according to the latest UN information put about 156,000 people in acute need of food. This figure is a great reduction from the 5 million originally claimed. The flood was a considerable, but localized, disaster, with Huichon in Chagang Province the worst-hit area. Huichon remains the main up-country destination for visiting aid experts.

The government had already calculated in 1995 that it could not meet existing rations to the end of the year and had appealed for rice donations. A total of 450,000 tons were received and a further 350,000 tons bought commercially, mainly from Thailand.

The floods in 1996 were in a different and, from the point of view of rice growing, more important part of the country—Hwanghae Province. The initial calculation was that 2 million tons of grain are required in 1997, of which North Korea was likely to acquire only about 500,000 to

750,000 tons in the best-case scenario. In May 1997 the estimate was that 1 million tons are required before the harvest, of which only about 300,000 tons are likely to be supplied.

Rumors of cuts in rations have persisted for many years, and therefore the truth of the matter cannot be easily established. There are indications that in 1995-96 a temporary reduction of rations was in effect in some parts of North Korea to balance existing stocks, followed in 1997 by a reduction to 100 grams per person per day, even in Pyongyang—only one-fifth of what was once supposed to be received. In general it appears that rural rations were cut much more sharply than urban rations, on the grounds that country people could find food more easily than city dwellers. Rations for the four provinces with a land border with China seem to have stopped entirely.

In 1995, the damage was insured on the London market as far as crop losses were concerned. Restoring the fields to productive use in time for the 1996 harvest was not possible. It is reported that in Hwanghae-do the 1996 flood damage is not yet repaired, although the crops were again insured in London. Huichon is not adequately rebuilt, though some suspect that the delay is partly intentional to highlight the country's dramatic need.

In June 1997 the South Korean National Unification Board announced that in its estimation the North had secured sufficient food to meet the basic needs of the population until the next harvest. While perhaps true in terms of macro numbers, there is increasing evidence of malnutrition and possible starvation in certain areas of the North suffering grain deficits. Tellingly, agricultural authorities are now asserting that the population is too weak to weed the crop in the field. This is consistent with the lethargy that a starving or malnourished population shows. While Pyongyang is receiving rations, most of the country, with the exception of the northeast, is desperately short of food.

While hopes and energies were directed toward the September-October harvest, a prolonged drought in July has made the prospect of a good corn harvest recede. The North had done its best to repair flood damage and strengthen flood control methods. In an irony of nature, the rainy season of June-July has yielded very little rain, and thus the North now faces not too much water but an absence of any water. We now have to factor in the possibility that there will be another very bad harvest over most of the North, and that the need for international aid will increase rather than decrease in 1997-98.

The food crisis will get worse before it gets better; unless North Korea receives substantial food aid in the next 12 months and also accesses its commercial assets to the full, the country faces the probability of selective starvation. It may already have begun. (Despite intermittent stories, international aid agencies have not yet authenticated any death from starvation.)

An Economy without Power or Raw Materials

The second type of evidence that visitors to North Korea often report consists of idle factories. Since the North always used to try to make a visit into a propaganda showpiece, the inability to find any factory working at full production indicates that the level of industrial activity must be residual. This is jointly attributed to a shortage of power and a shortage of raw materials. Kim Young Sam, in his December statement, declared that Pyongyang is blacked out every night. Factories are idle because there is too little power, attributed to the cessation of oil from Russia. Statistics are produced to show that the flow of oil from Russia to North Korea has fallen to almost nothing.

Yet this alleged power shortage does not exist. Since the completion of the Pyongyang East Power Station in 1992, power cuts were very rare until the end of 1996, when repairs in the power stations from December 1996 until February 1997 caused a series of cuts. There is no apparent reserve capacity, and the “national” grid is unable to function except very locally. Free oil under the Korean Peninsula Energy Development Organization (KEDO) agreement has assisted marginally in improving the situation. Rather than a power shortage hindering factory production, quite the reverse dynamic is at work: that much heavy industry is working nowhere near capacity is one reason why there is no power shortage. The major problem in the power supply is a shortage of coal due to distribution problems, especially when the hydroelectric power plants are short of water.

The low operating rate of industry generally results from a shortage of raw materials and a lack of available markets. The first problem is best addressed as a shortage of working capital, while a number of North Korean firms are now engaged in reestablishing old trade connections to solve the second.

Finally, in assessing the current level of activity of North Korean factories it is important to establish whether they were working at capacity in the 1980s. In many cases, overcapacity was built into the system.

To be sure, von Hippel and Hayes estimate that energy usage has fallen by half between 1990 and 1996 (see chapter 6). But this does not mean that economic activity has fallen by half, since high energy users have been faster to reduce or shut down their operations than low energy users.

A Trade Volume Cut in Half and No Foreign Exchange Left to Pay for Food

The third plank of the argument for collapse is that North Korea’s trade has fallen in volume dramatically, as already seen in figure 1.

It is argued that after a continuous deficit of this size in a fragile economy, all foreign exchange reserves must be finally exhausted. The

best evidence for this claim is North Korea's failure to pay the Thai government for rice in November 1995, although the country's food situation was so desperate.

Trade is another area where statistics are less than reliable. North Korea collects but does not release trade statistics. All trade data are collected from other countries and compiled by the UN Conference on Trade and Development (UNCTAD), Korea Trade-Investment Promotion Agency (KOTRA), or the Japan External Trade Organization (JETRO). There are many reasons for the unreliability of the statistics between North Korea and its major trading partners:

- Between Japan and North Korea much trade—up to bulldozers—is recorded as “carry-on luggage” on the Mangyongbong-92, the roll-on, roll-off ferry between Niigata and Wonsan. Japan is North Korea's major trading partner, with about \$500 million in recorded trade.
- Between South Korea and North Korea both volume and value are liable to distortion downward. Goods leaving South Korea are often undervalued and booked to destinations other than the North. Because all financial transactions are via Hong Kong, or other third countries, the true record suffers further distortion. This trade was growing rapidly until 1996.
- The attention of customs officials is often elsewhere than along the China-North Korea border. For example, truckloads of fuel cross from China into North Korea where there is no customs post. For border trade between China's Jilin and Liaoning Provinces and North Korea, records are patchy.
- Trade with Russia has clearly fallen, but at the Russian border anything goes. Documentation chiefly consists of dollar bills. Trading by strangers still gets recorded, but between “locals” the record is scanty.
- Goods between North Korea and Macau and Hong Kong are treated in many ways, frequently being recorded as bound to or from China.

Given the very substantial room for error, it is hard to be sure that the volume of trade has moved downward, or how large the North Korean trade deficit is.

Foreign exchange was not at all scarce in Pyongyang before 1996, and many additional transactions are done on a “never pay” barter basis. Over the past two years we have seen the authorities take different attitudes toward the use of foreign exchange, damming it up in the period of nuclear threat during 1994 and releasing it in the first half of 1995. In the second half of 1995 the authorities took a number of unprecedented steps to secure foreign exchange back into the official system, notably imposing surprise tariffs on certain imported items and

remonetization of the “hard (blue) won” in November 1995. At times in 1996 and 1997, North Koreans avoided even the blue won (now colored purple) used only in foreign currency. Because of the shaky position of the Foreign Trade Bank, the issuer of the blue won, the notes often trade for a discount.

A Slide into Anarchy and War

Although the possibility of an offensive seems far-fetched, we cannot ignore evidence that the military moved more hardware into the Demilitarized Zone (DMZ) in 1994 and that a certain loss of central control appears to be occurring.

First, the fundamental premise that the North is starving and its economy is in tatters has not been empirically proven. On the one hand, the North is not watching the sands flow out of an hourglass as total collapse draws near; on the other hand, the economic situation is not improving. This observation works both ways to make armed conflict seem more plausible. If the North were in as desperate straits as the collapse theory suggests, it would not be able to mount a military offensive. If, however, the North faces a crisis between “haves” in the unofficial economy and “have nots” in the official economy, then a war might be a useful distraction and sustainable.

But the North knows that it cannot win a war, and though its armaments are enough to deter and severely damage Seoul, they are not enough to sustain a breakthrough (the same problem as in 1950). Under certain circumstances the North could conceivably take a military action to seize Seoul, or northern Seoul. This, however, is a war games scenario rather than a real-world event.

The North still believes it can win over the hearts and minds of the South if it is given a chance. A hoped-for disaffection of the Southern military and the widening “political corruption scandals” encourage such thinking. The move up to the front should also be seen as a response by the North, with its poor supply abilities, to the need for a forward defensive position.

War is not a likely response, but neither, as defector Hwang Jang-yop has reminded everyone, is it out of the question.

An Economy and Society Adapting to Crisis and Change

When the evidence is put together, we have an economy and society in partial disintegration. A sophisticated version of this thesis would add most of the information included in the next section to argue that the society is in crisis and headed for further breakdown. But the crisis has the potential to create reform as well as collapse. Already, as will

be outlined in the following section, the economy has responded creatively.

According to these figures, the economy at the end of 1996 was cumulatively only 75 percent of its 1990 size (assuming a modest 2 percent decline in GNP in 1995 and 1996). This decline is quite consistent with the fall in GNP of other postcommunist countries. The food supply, problematic for five years, is now at a precarious point: in September 1997 the harvest will be available. In May 1997 it was said that North Korea had run out of food. Yet the same was claimed in March 1996 and the North survived.

The argument goes that with no clear leadership at the top, the ruling circles are unable to respond to this crisis; their failure leads inevitably to a military takeover and a collapse of civilian society. It is true that the North has not had a united policy toward change. Officials who have a road map are worrying only about the next mile rather than plotting the broad strategy of where North Korea should go. In 1994, 1995, and 1996 pursuit of Chinese-style reform by fiat became steadily less likely. In 1997, for reasons explained below, it has become more probable.

For three years, the same policy has been in effect: not standing in the way of the private market and pursuing only one goal for liberalization, the Rajin-Sonbong Free Economic and Trade Zone. The second half of 1997 promises the sanction of further change.

Qualifying What We See

The two contrasting views presented in table 4 represent versions of the truth. The left-hand side paints a picture showing only the bad and, relying largely on hearsay evidence, extrapolates a worst-case scenario of collapse. The experience of EABC is encapsulated in the right-hand side, which presents a case for gradual recovery.

Neither position denies that economic deterioration has occurred on a 1989 base, but those arguing for recovery emphasize that during this same period the private market has changed and grown, though this has not taken up all the slack. Similarly, neither position suggests that the future is one of steady recovery. Even the more optimistic case recognizes that the recovery has been slower than predicted, and the future development of North Korea is predicated on the government not directly attacking the private market and thus creating an instant collapse.

The case for recovery is much more interesting for foreign business than the case for collapse. It indicates that there are numerous opportunities for foreign business as the economy changes. Nevertheless, uncertainty about the speed with which businesses can become large and profitable means that foreign companies are likely to be involved initially in small steps rather than with big investments.

Table 4 North Korea, collapse or gradual recovery: a summary

Collapse	Gradual recovery
1. Economy ¼ the size of 1989. Decline continuing.	1. Decline stabilized; later negative growth due to specific causes. Growth first two quarters of 1995. Private economy growing fast. Total size of economy 90% of 1989. In 1996 setback in the official economy blamed on floods.
2. Widespread and persistent food shortages. Getting steadily worse.	2. Basic needs barely satisfied. Floods cause localized problems—perhaps 4 million in trouble. Adjustment in rations occurring in all localities.
3. Severe power shortages.	3. Power problems intermittent and localized. Greatly improved in Pyongyang since February 1997.
4. Total lack of raw material.	4. Shortage of foreign exchange for working capital.
5. Total lack of foreign exchange.	5. Foreign exchange is strictly rationed.
6. Power struggle for leadership being won by military.	6. Growth of private economy means shrinking government resources.
7. No hope of recovery without total change.	7. Deliberate strategy of having no leader now causing problems. 8. Recovery is slower than predicted. Politics do not allow an open reform policy until July 1997. Changes now in progress.

The Development of the New Regime inside the Old

“Before there were two world economies, now there is only one; we must adapt to the new world order.”

—Kim Jong-u, chairman of Committee for the Promotion of External Economic Cooperation (CPEEC), Hong Kong, 1993

Change in the DPRK

The process of change about to be described is neither stable nor certain. It embodies evolution by covert market forces as the power of the central government weakens.

Since the North Korean regime has not abandoned its belief in socialism, it remains certain that if the economic situation improves, or stabilizes, the regime will try to limit change in various ways. It is unlikely that the North still has the power to stop it completely. The attempt would lead to an increase in social tensions and the collapse of the temporary market solutions.

I see the following trends as having been in progress since 1990:

- growth of the nonplanned economy through expansion of the cooperative sector rather than state sector and through increasing private initiative;
- more autonomy to the provinces;
- development of market mechanisms for handling the failures of the state;
- growth of the private market;
- slackening of the social control system, especially among those under 40;
- growing recognition that restructuring parts, if not all, of the economy to integrate with the world economy is inevitable; and
- growth of a hard currency economy.

The most marked features of 1995-96 were further growth of the hard currency economy and increasing independence and entrepreneurship in state business operations. In 1996-97 North Korea has seen a growing capability to handle limited market operations, such as the supply of petroleum products for hard currency. In particular, the state is now in the position of adapting its own actions to suit these market-created operations. For example, in 1996 the Ministry of Agriculture approached a party-run company that controlled the petroleum supply on the west coast with a cash order (hard currency) for agricultural fuel on a shared profit basis.

In 1995-96 resistance within governing circles to major reforms was still considerable; while all kinds of freedom gradually began to be permitted, not much of the restrictive system was repealed. This has been used as both incentive and trap. The lack of a clear leadership allowed further vacillation and further uncertainty in the “allowable” future shape of the economy.

Because their activities have remained semilegal, those who benefit from the loosening of controls tend to keep quiet, since the loopholes might close again. The main response of the government has been to try to capture the hard currency business outside its control in two ways: remonetarizing the old “blue” notes (November 1995) and imposing selected import duties. Under the new system, the authorities turn a blind eye to any departure from the formal planned structure that generates new resources and does not detract from the formal structure. In practice, this includes

- relaxing to some extent travel restrictions for those willing to risk it,
- permitting unofficial migration,

- encouraging direct sales shops (from cooperatives),
- permitting more resources to stay in the countryside,
- disseminating propaganda to reduce military/civilian conflicts,
- permitting free market activity on an individual and work unit/company basis,
- conducting experiments in free economic activity in localized areas,
- granting permits for more hard currency stores, and
- creating on-street market stalls.

At the same time, an uneven growth of wealth was restricted by demonetizing the old local currency in 1992. The remonetization of the hard won in November 1995 was a similar step.

Despite the legal prohibition of private wealth in Korea, many Koreans have used the new openness (which I believe was already developing during the second half of the 1980s and was not merely a response to the crisis of the 1990s) to become wealthy through developing their own businesses. Most commonly cited are clothes makers, hairdressers, and private traders. Small workshops can be found in select locations throughout Pyongyang where people are still at work late at night, in contrast to the state factories where a rigid eight-hour day is observed. To their numbers must now be added cash farmers and traders in agricultural products and stall holders selling snacks, bakery products, cadre floss, and ice cream.

Any group of North Koreans can form a cooperative to create any business they like. The risk is that they then step outside the state planning system (and, it appears, the state ration system). They must therefore arrange their own food supply through direct shops.

Direct shops (so-called because their signboards commonly give them that label) started as the retail outlets of factories, cooperatives, or—at least in Pyongyang—groups of cooperatives. Prices are generally four times those of ration shops for food and daily necessities, but they may be lower for clothing, shoes, and manufactured articles. No ration tickets are required. These shops must be distinguished from the black market (which is also legal), where individuals from all sectors meet to trade goods and surplus items on a more informal basis.

In 1996 and 1997 the growth of private food booths in urban areas selling drinks, snacks, and soup became more visible. Likewise, the hours for the “farmers” markets were permitted to be extended from evenings to all day, indicating how necessity drives economic liberalization.

Yet progress is by no means inevitable. In 1994 the lack of structural change could be considered the result of the confrontation with the United States, but the failure to make progress with open reform after

October 1994 and before the August 1995 floods is a warning to those who are overly optimistic about the ease with which a capitalism-friendly environment in North Korea will come into being.

During this period, a confrontation between the various groups of reformers led to Kim Jong-u's "reform in one area" school winning out over the argument for modest reform throughout the whole country. This victory slowed down the pace of general reform; and since Rajin-Sonbong had not attracted actual investment on the ground by the end of 1995, there was little concrete reform anywhere. Moreover, the real progress made in 1996, which included investors committing \$800 million, will not adequately serve the current needs of North Korea.

The Three-Year Plan

The Third Seven-Year Plan (1987-93) ended in December 1993. This attracted attention from the outside world when the government admitted that the plan had not met all its targets; the unfavorable developments outside North Korea were blamed. Such negative aspects within factual reporting to the Supreme People's Assembly tend to be seized on and exaggerated by South Korea.

In response, Prime Minister Kang Song-san announced a new policy of Trade, Agricultural Development, and Light Industry: it was to form part of a Three-Year Plan that would remedy the failures of the previous plan. North Korea has frequently made such corrections at the end of previous plans. The main goals were to reach the original targets of the Seven-Year Plan—notably 15 million tons of grain; a 30 percent increase in coal output, power generation, and rail transportation; and increases in textile production and footwear. Local areas were to supply 70 percent of their local needs. Kang stated in April 1994, "We must struggle for increased production only with the existing labor force, facilities, and raw materials."

The need to conserve foreign exchange in 1994 made any investment difficult, but in the first half of 1995 the investment budgets for many industries were approved. In general, they appear to have been those originally proposed for 1990. In the second half of 1995, the floods of August shifted focus away from the plan. No reference was made to it during the 10 October celebrations (the 50th anniversary of the Korean Worker's Party). Southern commentators therefore suppose that the plan is dead. In reaching this conclusion, they overlook part of the point of the plan, which was to create a limited freedom for experimentation and enterprise entrepreneurship.

Prime Minister Kang represented the face of liberalization and reform. His office seemed to be willing to challenge other parts of the system, but it was not strong enough to ensure success. His severe ill-

ness in 1996-97 did not help. He had already suffered a major defeat at the end of 1994 when the alternative reform party succeeded in concentrating foreign investment in Rajin-Sonbong. (Kang seems to have preferred a nationwide needs investment program supported by joint ventures.)

The three-year plan ended in December 1996, apparently without comment. It had failed to achieve any of its major targets, though to some degree it had encouraged enterprise and individual entrepreneurship. The next plan has been delayed until the end of 1997.

The Growth of the Hard Currency Economy

In 1995 the hard currency economy leaped forward. All citizens of North Korea are legally permitted to hold certain amounts of foreign currency. However, citizens may only use "hard won," not actual foreign exchange, for local transactions. This won was colored greenish-blue until the end of 1995, while local currency of a different design was known as "brown won." Those state officials who want to improve their lifestyle draw on hard won. In addition, many ration stores acquire a certain amount of hard currency, which is then exchanged on a work unit basis at hard currency stores.

Pyongyang has an estimated 200 to 250 hard currency stores and about 50 more dealing only in RMB, which was considered hard convertible currency in North Korea until 1996. These are patronized largely by locals and sell both imported and local produce. This sector has grown markedly in the last two years. Throughout 1995 and 1996 official attitudes wavered on the question of issuing licenses for new hard currency stores.

The major development of 1995 was the striking growth of sales of locally produced products in hard currency stores; in many stores, perhaps two-thirds of items stocked by volume were locally produced. By selling in hard won, enterprises accumulated wealth that could be turned into imported items or traded for scarce local materials. The pace of this development was a remarkable case of "good" money driving out "bad." The problem it posed for the authorities was that the hard won is freely convertible into foreign exchange, and thus the "good" money supply could not be easily increased beyond the foreign currency supposed to be backing it.

At the end of November 1995 the "blue" won was replaced with the "purple" won. These notes had been printed in time for the April 1995 Festival and issued to the 8,000 to 10,000 visitors; they were then withdrawn about 10 days later, to prevent unauthorized siphoning off of the earnings. Citizens were given a brief period in November to register their blue won and convert it to red won. Those who feared they would

be unable to justify the amount of hard won they held rushed to the hard currency stores, bars, and restaurants and used up what they had.

This move appears to have seriously harmed the development of the market economy. The authorities instigating the change apparently believed that the blue won actually represented misappropriated foreign exchange. Their simplistic view ignored the fact that the real control over the blue won lay with the issuing bank, the Foreign Trade Bank, which set limits on how much blue currency could be changed into foreign currency by both individuals and institutions. Such limits provided a more effective control measure, determining the extent to which hard currency stores could purchase new imported products rather than use blue won to buy scarce domestic products.

Recognizing their mistake, by 1996 the authorities were relatively relaxed about the use of blue won (now colored purple). However, limits on its exchangeability caused several panics in 1996 and 1997 that the blue won would be abolished, or become worthless, which led to the use of any foreign currency available. These panics seem to have been temporary.

At the present time the debate over whether to unify the currency, as happened in China at the beginning of 1994, continues, but the question may well be resolved by the end of 1997. In June 1997 the blue won was abolished in Rajin-Sunbong and the brown won was made convertible at the black-market rate of 210 to the dollar.

The Food Crisis and Economic Reform

A second kind of hard currency is food. In the countryside, according to agricultural specialist Lee Min-bok, who defected in 1995, "among the ordinary people there are those who have become rich through privately harvesting tonnes of food on fields of hundreds of *pyong*." In the countryside "food has the function of money that is much higher than actual [brown] cash. Food can be changed with anything." Lee puts the difference between public and private price at 300 times (as opposed to a maximum multiplier of brown to green won exchange rates of 80 to 115). His brief description indicates how far North Korea has allowed informal structures to develop within the regime's rigid framework. None of this has been formally announced but some aspects are officially smiled on; others are simply ignored.

Likewise the social control system, which relied heavily on self-reporting, has weakened, especially among the young. Opinions can be discussed without being reported. Indeed many young people in Pyongyang seem oblivious of the degree to which social control remains in force and unwittingly transgress still-existing boundaries. Lee Min-bok observes that the old way of controlling people by cutting their rations "does not work anymore."

Given the increase in local autonomy, it is hard to judge how all the 202 cities and kuns are managed. This new independence extends right down to power supplies, as local authorities are now encouraged to construct their own power stations. According to Lee,

Once the North Korean authorities were not able to supply food and daily necessities, people started to engage in farming crops privately for sale, and [in] individual businesses, to independently survive rather than starve to death. Some even accumulated personal fortunes. This kind of individualism is fundamentally changing North Korean society. . . . Farming crops privately for sale is one of the things the Kim Jung Il regime most detests, but cadres turn a blind eye to such illegal and “reactionary” individual farming. Cadres cannot do very much as supplies do not arrive on time. Among them some even wait for the opportunity and participate in the trend of individual farming and abuse their authority while going to further extremes.

As the statements of Lee Min-bok imply, the food crisis has sped up the process of actual liberalization of the economy. If the floods of 1995 and 1996 (which affected different parts of the country) had been less severe, the change in the system might have been enough to unlock underutilized resources. However, the scale of food losses in the floods has been too large for the stimulus of spontaneous privatization to compensate for. The consequent need to buy food has resulted in a curtailment in the growth of the hard currency economy described earlier in this section, as money has left the country to buy food.

Future Reform Developments

It is feared that the flow of money out of the economy has been sufficient to severely damage the development of the private-sector hard currency economy. Again in the absence of real statistics, the relative scale of the impact is difficult to measure. In 1997-98 we expect the following:

- the continued creep of individualism;
- despite the recent successes and major reform measures of June 1997 in Rajin-Sonbong, pressure to open up other areas of the country;
- announcement of new “pragmatic actions to promote socialist construction” (which, despite the odd phraseology, will mean about the same as creating a socialist market economy);
- measures by the government to capture more of the private economy through propaganda attacking the growth of individualism, punishment of blatant offenders, changes in the monetary rules, and creation of taxes;

- proposals to major multinationals to participate in the modernization of particular industries; and
- encouragement to state enterprises to be more capitalistic, as well as institutionalization of the quasi-market forces handling supplies of food, energy, and essential services.

The last named is the most satisfactory from the standpoint of developing a market economy, but it also creates problems for foreign firms trying to take advantage of the present system.

In order to regain control, the state must raise more revenue so that it can resume full rations and increase its benefits to citizens. Otherwise, creeping reform would lead directly to collapse. It seems from conversations with senior officials in Pyongyang that the North Korean administration recognizes this and expects Kim Jung Il to sanction these actions in a way that brings creeping reform inside the government program.

Has the North Korean Economy Bottomed Out?

The Position before the Drought

Until mid-July 1997, North Korean officials believed that the 1997 harvest would be a good one and that while supply and distribution problems would remain, essentially the economy could begin to grow again. This was based on their assumption that the infrastructural damage from the poor 1995 and 1996 harvests had been made good by local people and by mobilized troops. The troops would continue to assist in the harvest (and make sure that the state received its due share of the harvest). These improved circumstances were expected to relieve the state's urgent use of foreign currency for food purchases and to allow investment in key industries or the purchase of raw materials to restart basic industries again.

In preparation for "rebooting" the North Korean economy various changes were instituted within the External Economic Commission to place maximum effort on attracting foreign investment throughout the country and to orient local enterprise toward earning foreign exchange. If this meant pragmatic adaptations to the world economy, then Li Songdae, head of the External Economic Commission, and Kim Jung Il were ready to sanction them.

It was also generally believed that Kim Jung Il's ascension to formal power would release the energy of the population. The benefits from this energy could be combined with the Japanese reparations being planned and continuing food aid reinforced by four-way talks.

After the Drought

However, because the maize harvest has been seriously damaged by drought, the final harvest is likely to be worse than projected. If half the maize is damaged, then the total grain yield will be down by 12.5 percent (Smith 1997). This would still be a better harvest than 1996, but the grain shortage would continue through 1997-98.

Since the areas dependent on maize are different from those affected by flooding, parts of the country previously not seriously harmed would suffer, while regions already hit with grain deficits would continue to fail to receive government allocations.

As a result foreign currency would remain in very short supply; and unless foreign food aid increases in volume, the health and lives of the weakest sections of the population would be increasingly at risk. The rationing of foreign exchange was budgeted to restart a number of key industries in October 1997; this may still proceed, since the government will not have full information on the harvest until the end of October.

What Would Touching Bottom Look Like, and Would We Know?

An economy does not reach a turning point in all sectors at the same time. Attention is now focused on the agricultural and food problem, but North Korea appears to anticipate generating \$450 million in exports, which will pay for 2 million tons of grain, rather than merely looking to a good harvest. As one official stated, “even in good times we will still want to import food.”

The turnaround, which will start in one of several ways, will likely begin in one or two regions that will become growth centers, even when other outlying regions continue to suffer. The regions most likely to develop first are Chongjin-Rajin-Sonbong and Pyongyang-Nampo, the two areas where early foreign investment is occurring. The third potential area for early development is along the Chinese border, where a rural market economy is beginning to take root independent of foreign investment.

Those who do not know North Korea well are unfamiliar with the amount of change that has already occurred. No one expects that on becoming president Kim Jung Il will openly endorse a “Chinese model,” and the word “reform” will continue to be politically incorrect, but pragmatic approaches to entering the world economy will be endorsed and encouraged.

Those who express the “collapse” view of table 4 write as though the process of decline is irreversible. Yet even in 1996-97 investment in selected infrastructure continued. They overestimate the amount of terminal decline in the economy and the amounts of money—in fact, relatively

Table 5 Basic running costs of the North Korean economy
(millions of dollars)

Material	Cost
2 millions tons of grain	450
1 million tons of crude	180
500,000 tons of coking coal	90
Parts and modifications for electricity generation	50
Other inputs	50
Fertilizer, herbicide, seed	–
Factory repairs	50
Pharmaceuticals	20
Total	890

small—it would take to reboot the economy. In the final section, I assess what it would take to put the North Korean economy on a stable footing.

Putting the Economy to Rights

A \$2 Billion Fix

There has been much discussion about the cost of unification, which is generally defined as the cost of bringing the North Koreans up to 75 percent of the income level of South Koreans. Some have questioned whether the 75 percent level was an accurate measure, particularly in view of the assessment that migration in Germany was caused by joblessness, not by a lower standard of living. This section assumes that the population of North Korea will be satisfied by a rapid rise in the standard of living and will not, in the short term, be using the South's standard of living as a benchmark. It also assumes that North Korea remains a sovereign government.

Having long worked with North Korea, I believe that one could “fix up” the North Korean economy for about \$2 billion. Of this, about \$1 billion would be for immediate consumption or stocks to maintain production (see table 5), and \$1 billion would be for investment in removing bottlenecks—mainly in agriculture and minerals—to permit additional annual export generation of about \$1 billion (or equivalent import substitution) for future years (see table 6).

Such an outlay would permit the North Korean government to invest existing funds in further growth projects. Including military expenditure, the North has been estimated to invest between 25 percent and 33 percent of GNP. Given that capital output ratios are low, even with

Table 6 Breakdown of generating \$1 billion in exports from North Korea (millions of dollars)

Industry/material	Investment	Export value
Textiles (raw materials)	100	400
Cement	50	100
Zinc, etc.	300	300
Fisheries	50	50
Fertilizer	20	20
Others	200	130
Infrastructure	230	–
Total	950	\$1 billion

continuing military expenditure, this amount should be sufficient to achieve an 8 percent GNP growth rate if the base is secured (assuming that ICORs are less than 2).

KADO: Agriculture

North Korea is likely to request a structure somewhat similar to KEDO as part of the settlement for Korean agriculture in four-way talks. I have named this the Korean Agricultural Development Organization (KADO). Its general purpose would be to ensure the inputs—delivering the required food and feed grain or other agricultural materials—needed to achieve an acceptable level of nutrition for the North Korean people. Among the objectives of KADO are to rebuild the fertilizer factory at Hamhung, rebuild other fertilizer factories, supply naptha and other inputs, improve the formulation plant for ag chem, introduce advanced seeds suitable for double cropping, and develop storage for animal feed. KADO would also undertake the importation of food grain to meet the present deficit. This program would probably require about \$250 million in the first year and \$30 million in the fifth year, with a reserve for bad harvests. Alternative structures could be devised that would cost considerably less.

Debt and Capitalization

To rejoin the international community, North Korea has to solve the commercial debt issue. Clearly the world expects this to happen, since the price of Korean commercial debt on the secondary market has climbed steeply this year.

There are two steps required here. First, there must be a debt renegotiation and conversion: following the Latin American form, this would entail debt forgiveness and debt consolidation (building in accrued interest) and the floating of zero coupon bonds to repay the principal in 15 or 20 years' time. Second, North Korea must acquire a convertible currency, as only a convertible currency would permit the payment of interest on the accrued debt.

Exchange Rate Issues

The bold experiment of creating convertibility for the brown won in Rajin-Sonbong at the current black-market rate of 210 won per dollar causes one to wonder what the monetary authorities of North Korea had in mind. For about 12 months, they had held intensive discussions with foreign visiting "firemen" about currency reform. The ideas floated ranged from instituting a single currency to convertibility to a new currency. These ideas, which were formulated by the Central Monetary Authority, arose in response to the following issues:

- the bankruptcy of the Korea Foreign Exchange, bank issuer of the blue won;
- the growth of the blue won economy;
- the need for long-term convertibility;
- the successful elimination of FEC from China;
- the desire of the Bank of Chosun to take full monetary control;
- the failure of the earlier reform (blue to purple won) of November 1995;
- the perceived insularity of Rajin-Sonbong;
- the demand by foreigners to unify won in the zone; and
- the free trade nature of the Chinese border in 1997.

During this period of discussion, the black-market rate for brown to blue won plummeted from 10 to 100 but seemed to the Bank of Chosun to have stabilized. The black-market rate was chosen to prevent speculators from taking bags of brown won up to the free trade zone for exchange.

Effectively the per capita GDP of North Korea fell from \$850 to \$8.50. This would be viable only if the won were to float back to something like 10 to the dollar. Unless it proceeds very carefully, the Bank of Chosun has probably set in motion the most horrendous inflationary pressure in world history.

Japanese, Korean, and Chinese Investors

The devaluation of the Korean won makes North Korean labor (temporarily) obscenely competitive. The appeal is particularly to Japanese investors, in parts, fabrications, assembly, and textiles; to Korean investors, in processing and manufacturing; and to Hong Kong-led Chinese investors, in infrastructure, tourism, manufacturing, and processing. Asian investors already make up 98 percent of North Korean foreign investment and this dominance is likely to continue. Western business will play only a small part.

Traps for the North Korean Economy and the Future

I see two main traps for the North Korean economy in the next three years. The first is inflation: unless the brown won climbs back from the core of the earth, North Korea is set for huge inflationary jumps that will destroy most state industry or make most citizens unemployed. The second trap is aid (gift) dependency: every time a boatload of free grain arrives at Nampo, it destroys an attempt at a commercial transaction and delays the recovery of the economy. If North Korean officials expect and plan for free rather than paid-for goods, they will lose the benefits of the growth of the market economy's will.

Aid providers, market suppliers, and the government must cooperate as closely as possible to see that aid does not depress local agricultural initiative or corporate deals. As long as there is an absolute shortage of food the impact of aid will be limited, but the history of South Korean agriculture in the 1950s is an ever-present reminder of what aid dependency can do to farmers.

What does all this add up to? In the view of EABC, the North Korean economy in 1997 fundamentally is flexible enough at the microlevel to adapt. Since the state cannot provide adequate resources to run the country in the old way, macro policies have limited impact in impeding changes in the economy.

North Korea needs pump priming rather than massive rebuilding to get it moving. The state of North Korean industry relative to its major future market, China, is better than that of East Germany relative to West Germany. However, this condition is not permanent. Every year China grows more modern, while North Korea stands still. In order to ride the China wave, the North Korean economy needs to reboot before the end of the century.

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