

# Economic Recovery in the DPRK Status and Prospect

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## Introduction

Early in September 2000, a front-page story in the *Washington Post* nicely captured the newly prevailing view among international "North Korea watchers" concerning the DPRK economy's current condition and immediate outlook. The article, titled "North Korea Back From The Brink", reported that "[visitors and other analysts] say the North Korean economy is growing for the first time in nine years, the mass starvation is over....". It remarked upon "nascent signs of recovery—more traffic on the roads, more livestock in the fields, peasants who look healthy." The story further noted that the Republic of Korea Bank of Korea (BOK) recently "concluded—with some surprise—that the North's economy grew last year by a sustainable 6.2 percent, the first growth since 1990", and quoted the South Korean central bank as stating that "it's reasonable to predict that the worst is over for the North Korean economy".<sup>2</sup>

Has the North Korean economy already turned the corner? Is it today rebounding from the tribulations of the 1990s? Is it poised for recovery and development in the years just ahead?

Stabilization and improvement of the North Korean economic situation, of course, is an outcome that diverse contingents within the international community are currently longing for, and hoping to see. In humanitarian circles, economic revitalization is correctly regarded as the only means by which the DPRK can manage to feed its own populace, and bring the country's food crisis—which has already claimed a still-unknown toll of life, and occasioned an international food-relief effort now entering its sixth consecutive year—to a decisive close. To many stewards of security policy, North Korea's economic recovery and rehabilitation is taken to be a necessary step along the path that would lead to the ultimate success of the present US-ROK-Japan policy of "engagement" with Pyongyang: by such reasoning, North Korean leadership cannot be expected to accept the far-reaching

changes in international behavior the "Perry Process" would envision for it so long as its system verges on economic collapse. And for proponents of Korean reunification, revitalization of the DPRK economy offers the possibility that the socio-economic chasm between the North and the South—a gap that has been widening for at least a generation—may at last begin to narrow, so that an eventual reintegration of the two Koreas might prove a less wrenching and expensive proposition than it would look to be today.

For a multiplicity of responsible and respectable reasons, then, many specialists and policymakers who concern themselves with North Korean affairs today are wishing for an upturn in the North Korean economy—and tend therefore to be especially alert to those indications and emanations that would seem to corroborate and validate their hopes. Such an approach to problems is entirely human and completely understandable. Yet whatever else may be said about such an approach, it cannot provide a sound basis for objective economic analysis.

In the following pages, I will attempt to make the case that it is still premature to speak of the stabilization of the North Korean economy, much less its recovery. Analysis of the DPRK economic situation, I will argue, must draw the crucial distinction between artificial improvements in living standards due to foreign subventions on the one hand and augmentation of value added due to increased domestic productivity or resource mobilization on the other. Empirical evidence of the latter, I will argue, is still extremely limited. Evidence of an economic stabilization or recovery, moreover, is counterbalanced by other evidence—some of it quantitative and relatively reliable—that bears directly on the development of the DPRK national economy but appears to be inconsistent with the vision of an economic turnaround. Finally, I will argue that the scope for an economic revival in the DPRK in the years immediately ahead will be constrained by a problem "North Korea watchers" do not seem to have fully considered: degradation of the country's human resources. By some quantitative indications, North Korea would appear to have suffered a severe depletion of human capital during its prolonged economic crisis—a depletion perhaps most acute among its young and rising cohorts. Even if the DPRK were to embrace a more pragmatic economic regimen, the productivity improvements elicited by such a shift might be limited for a number of years by the reduced capacities of the North Korean population.

### **Perceptions and Evidence of a North Korean Economic Revival**

As participants in this symposium will readily appreciate, it is a more problematic challenge to assess the economic performance of the

DPRK than that of any other country on the face of the earth today. The difficulty does not derive primarily from the distinctive and idiosyncratic structural characteristics of North Korea's "own style of socialism" [*urisikshoejuui*], although these assuredly complicate the analysis. The central problem is that the DPRK has waged a four-decade long campaign against the release to the outside world of any information that might permit observers to draw independent conclusions about the performance of the North Korean system. It is a campaign the government has prosecuted with remarkable success. As a consequence of this campaign, vastly less quantitative economic information is available about North Korea than for any contemporary country in Asia—very possibly, indeed, less than for any other modern-day, low-income country. Certainly no other urbanized and literate society has ever experienced an enforced statistical blackout of such intensity and duration. Moreover, in the wake of this prolonged suppression of official data and Pyongyang's extreme politicization of economic life, the DPRK's own capability to compile reliable numbers for its own internal use is open to question. It is not self-evident that North Korea's statistical organs can present an accurate picture of socio-economic conditions and trends to the country's own leadership.<sup>3</sup>

Thanks to Pyongyang's relentless war against official statistics, in sum, analysis of the DPRK economy must rely to an extraordinary degree upon intuition, perception, anecdote and inductive reasoning (that is to say, exercises in logic supported by a presumed array of "stylized facts"). Under such circumstances, what the DPRK leadership says and indicates about the condition of its national economy weighs heavily as evidence. And the North Korean government has been talking as if its economy were stabilizing, and recovering, for the past two years.

Pyongyang's tone of economic confidence can be dated to the September 1998 Supreme People's Assembly (SPA), when Kim Jong II formally acceded to the DPRK's "top position of state".<sup>4</sup> At that gathering, the era of the "Arduous March"—as the time of troubles following Kim II Sung's death had been designated—was officially declared to be over. With Kim Jong II's public elevation to supreme leadership, the country had embarked on the path to becoming a "rich and powerful state" [*Kangsong Taeguk*]<sup>5</sup>—the slogan adopted to describe the epoch ahead.

Over the following two years, North Korean officialdom and their media outlets have repeatedly asserted that the worst of the economic crisis is over, and that the national economy is on the upswing. A few illustrations will suffice. In April 1999, at the annual SPA gathering, the DPRK Finance Minister announced that state budget totals for 1998

exceeded those for 1997; she proclaimed that "the finance of the country took a new road of advance last year.... [T]he forced march of socialism [has been brought] to a successful end".<sup>5</sup> Some months later, in its authoritative annual Joint New Year's Day editorial, the North Korean government acknowledged that "Our economy is still in a difficult condition", but announced that 1999 was

a historic year in which a great turn was made in the building of a powerful nation.... Over the last couple of months, we have ridden out the unprecedented hill of trials... Under the torch of Songgang, we waged vigorous struggles to bring about a product-upsurge in various fields of the people's economy.... Last year [i.e., 1999] the solid foundation for a powerful nation was made and we grew strong enough to make a quicker advance in the future.<sup>6</sup>

At the April 2000 SPA meeting, the DPRK Finance Minister reported the budget results for 1999, and declared they were "evidence that the economy has begun to recover".<sup>7</sup> And by summer 2000, the DPRK's Kim Jong II had personally informed Hyundai group founder Chung Ju-yung that the North Korean economy grew by 6 percent in 1999—and could grow 20 percent a year "if inter-Korean cooperation is further activated".<sup>8</sup>

In the outside world, the interpretation that current events signaled a North Korean economic turnaround began to gather in the middle of 1999. Again, a few illustrative examples must suffice. In May 1999, Ambassador Charles Kartman, U.S. Special Envoy for the Korean Peace Talks, presumably drawing upon the intelligence sources at his disposal, told an audience at the Korea Society that "the DPRK economy hit its trough months ago".<sup>9</sup> In August 1999, the ROK Korea Trade and Investment Promotion Agency (KOTRA) noted that the DPRK had, for several months, ceased denuding its forest land to sell logs to China in exchange for foodstuffs—a development taken to suggest that North Korea's "serious food shortage has been mitigated".<sup>10</sup> In December 1999, *Yonhap* news agency reported that Kim Jong II appeared to be pleased with his country's economic performance in 1999 because he conducted more "on the spot guidance" visits in economic sectors than in the previous year—and was filmed smiling on several of those occasions.<sup>11</sup> That same month, the Korea Development Institute (KDI) noted that a commentator for pro-DPRK publications in Japan had written that the North Korean economy had "bottomed out between October and November 1998, [and] has now entered a rapid recovery phase".<sup>12</sup> In January 2000, the ROK Ministry of National Unification released a paper concluding that the North Korean economy turned around and grew "a little bit" in

1999.<sup>13</sup> In March 2000, the *New York Times* stated that "[l]ast year, the [North Korean] economy is believed to have grown slightly, for the first time in a decade".<sup>14</sup> That same month, a survey of research institutes in Seoul by the *Korean Economic Daily* suggested that "North Korea's gross domestic product (GDP) grew by up to three percent last year".<sup>15</sup> And in June 2000, as already mentioned, the ROK Bank of Korea put North Korea's 1999 GDP growth at 6.2 percent.

### **The Bank of Korea's 1999 GDP Estimates for the DPRK**

Since the BOK's annual report on the North Korean GDP constitutes the most detailed and painstaking quantitative estimate of the economic performance of the DPRK currently published, we should review its results and the method by which they were derived.

The BOK has never laid out all the particular points of its methodology, but it has described the approach in general terms. Using classified information from the ROK intelligence service, the BOK assembles several dozen separate physical production (and demographic) indicators that are meant to represent performance in various sectors of the DPRK national economy.<sup>16</sup> The BOK then applies the ROK relative prices to these vectors to obtain implicit cost structures and thereby to calculate value added (in ROK *won*). These computations thus offer not only an estimate for value added in the economy as a whole, but also for the level and trend of value added in the economy's major subsidiary components.

Table 1 presents the results of the BOK's June 2000 study. By the BOK's reckoning, output in North Korea's service and government sectors slumped in 1999, but value added in agriculture, manufacturing and mining, and construction were up sharply over 1998, with especially pronounced gains in construction (over 24 percent) and agriculture (over 9 percent). Elaborating upon its results, the study explains that North Korea's sharp rise in GDP over 1998 "was mainly thanks to an increase in grain production and the expanded support by South Korea and international community".

Since neither the finer points of the BOK's methodology nor the detailed physical indicators utilized are in the public domain, it is impossible to attempt to reproduce these results. One may, nevertheless, highlight three important issues in the BOK's approach, each of which could strongly affect calculated GDP totals.

The first is the particular choice of physical production data series. In a society as closed as the DPRK, the exact levels of annual output for various commodities are far from obvious; even for primary and homogeneous North Korean commodities, output estimates differ appreciably among ostensibly informed outside sources. In attributing

**TABLE 1: BOK Estimates of North Korea's  
GDP Growth Rates**  
(Unit: % per year)

<i>Sector</i>	1994	1995	1996	1997	1998	1999
Agriculture, Forestry, Fishing	2.7	-10.4	0.5	-3.8	4.1	9.2
Manufacturing	-3.7	-5.2	-8.9	-16.8	3.1	8.5
Construction	-26.9	-3.2	11.8	-9.9	-11.4	24
Services	2.4	1.7	1.1	1.3	-0.5	-2
(Government)	-3.3	2.8	1.8	2.2	-0.3	-4.5
Overall GDP Growth Rate	-2.1	-4.1	-3.6	-6.3	-1.1	6.2

Source: Bank of Korea, June 2000

a major increase in cereal production to the DPRK in 1999, the BOK used a grain harvest number of 4.22 million tons. That figure happens to be very close to the 4.28 million ton claim for 1999 by the DPRK's Assistant Minister of Agriculture (tendered to the FAO in Rome in November 1999).<sup>17</sup> It would be distinctly higher, however, than the estimate of South Korea's own Rural Development Administration, which was expecting the DPRK to produce 3.9 million tons of grain in 1999<sup>18</sup> — and it would be far above the 3.4 million tons that the UN Office for Coordination of Humanitarian Affairs believes the DPRK harvested that year.<sup>19</sup> The UN Food and Agriculture Organization (FAO), incidentally, reports that North Korean cereal production *fell by* over 9 percent in 1999 (to 4.0 million tons from 4.4 million tons in 1998).<sup>20</sup> Although precise figures cannot be calculated without access to the BOK model, it would appear that entering those FAO estimates in the place of the ROK intelligence service numbers for grain output could virtually eliminate the BOK's entire calculated increase in North Korean GDP for 1999.

A second issue regards the use of the ROK price and cost structure in computing value added within the North Korean national economy. By embracing the South Korean relative price structure, the BOK approach also implicitly posits for the DPRK the same relationship between gross output, intermediate output, and net value added as obtained within the various sectors of the ROK economy. Unfortunately, there is little reason to expect this presumption to hold up in practice. Among other problems, socialist centrally-planned economies are famously less adept at economizing the use of inputs than their market-oriented sisters: for any given branch of the economy, *ceteris paribus*, the ratio of value added to gross output would be expected to be characteristically lower in the Communist system. Even if the BOK's physical production estimates accurately tracked changes in commodity output, the risk of biasing upwards consequent estimates of sectoral value added would loom large. (Examination of these potential biases might seem especially *a propos* for the DPRK construction sector—a branch of the economy evidently deemed severely inefficient even by North Korea's own leadership, but accorded a 20-plus percentage point leap in annual output in 1999 under the BOK methodology.)

The third, and possibly most vexatious, issue regards the treatment of the external economy (including transfers from abroad) in the calculation of DPRK gross domestic product.

In the national accounts framework, "gross domestic product" has a very specific, conceptual meaning. In their classic text on national accounts and national income analysis, Ruggles and Ruggles spell this meaning out:

[GDP] takes for its frame of reference the production occurring within a geographic area, irrespective of whether the productive resources in question are owned by the nationals of that area or not.... *[T]he focus of gross domestic product is the productive activity taking place within designated boundaries..* From a statistical point of view the shift in coverage from gross national product to gross domestic product will...affect exports and property income received...and imports and property income paid.... *In measuring gross domestic product, property income received from and paid to abroad must be excluded from consideration,* so that only imports and exports will appear on the sources side of what will now be the Gross Domestic Income and Product Account.<sup>21</sup> [emphasis added]

To arrive at gross domestic product, in other words, one must adjust local product not only to reflect the net balance of trade, but also to accord for the net international flow of "property income" (or as we would say today, factor income). Yet for North Korea, this is no easy

task. To accomplish those very calculations, we would require: a) reliable estimates of the DPRK's net balance of trade; b) reliable figures on North Korea's net factor income from abroad; and c) a reliable exchange rate at which to convert these foreign balances into domestic resource values.

With regard to the net balance of trade, a formal calculation of GDP for the DPRK presupposes that local product be reduced by the amount of North Korea's perennial balance of trade deficit (however accurately that annual sum can be reckoned). The BOK indicates that it attempts a national accounts tally for North Korea within the framework of the United Nations' System of National Accounts (SNA)—an approach which posits that the various accounting identities be linked (with accounting linkages that include transactions with the rest of the world). Whether the BOK actually computes those full identities, and attempts to incorporate North Korea's net trade balances into these national accounts calculations, however, is not at all clear from the published materials the BOK has circulated to date.

Then there is the question of "net factor income from abroad". Exactly how, say, the United States' 1999 commitment of 600,000 tons of food aid to the DPRK should be treated in the national accounting framework is not entirely clear. The United States maintains that transfer was a humanitarian gift, whereas the DPRK has always insisted that it was a "fee" for the privilege of visiting the underground Kumchang-ri facility.<sup>22</sup> If the North Korean line is accepted, those payments (and others generated by extortive diplomacy) might arguably be akin to "net factor income from abroad"—and thus would be subtracted from output in determining GDP. On the other hand, if the inflows of aid that North Korea has absorbed over the past years are categorized as gifts, the logic of GDP calculations would suggest that they still be subtracted from total product precisely to the degree that they finance imports.<sup>23</sup> Either way, the foreign exchange value of transfers from abroad must be deducted from local production totals if the level of gross domestic product is to be established.

Exactly how should they be deducted, though? By calculating North Korean GDP in ROK *won*, the Bank of Korea attempts to circumvent the medium of exchange question for the North Korean economy. While the approach may solve the immediate computation problem, it only finesses the underlying conceptual problem. With the United States dollar reportedly trading against the DPRK *won* for 50 to 100 times the officially fixed rate in Najin-Sonbong and other areas of the country in recent years<sup>24</sup>, it is apparent that the domestic resource value of foreign exchange in North Korea is vastly higher than is implied by officially-established exchange rates that link the dollar, the



ROK *won*, and the DPRK *won*. Thus, a full adjustment to factor out foreign aid, "property income from abroad", and other components of the country's balance of trade deficit could have an even greater impact in reducing calculated gross value added in the DPRK than the BOK's ostensible approach would indicate.

Net infusion of foreign resources into the DPRK system on a significant scale, indeed, may constitute the main conceptual rub against the current attempt to calculate accurate trends for the North Korean GDP. Unless those infusions are accounted and corrected for, calculated GDP will be exaggerated—possibly quite significantly. If external transfers are on the increase—as they apparently have been for the DPRK during the past few years—trends could be biased upward correspondingly. The BOK analysts indicate that they recognize this problem when they identify "expanded support by South Korea and the international community" as one of the two principal factors accounting for their computed increase in 1999 GDP for the DPRK. But it is by no means clear that their effort distinguishes between increased domestic generation of economic output and the elevation of local (individual and governmental) consumption levels due to foreign aid—or can even manage to do so.

#### **Additional Indicators of Performance in the DPRK Macroeconomy**

As we have just seen, the proposition that North Korea's GDP is in the process of stabilization and recovery is built upon fragile evidence and a somewhat tenuous methodology. But additional empirical evidence on the performance of the DPRK is also available. This evidence includes the two most reliable quantitative sources of data about the North Korean economy. There is an inescapable measure of ambiguity in any interpretation of these data and reports. On their face, however, the trends reflected by these additional indicators would not appear to square with economic stabilization and recovery. To the contrary: they could be read more easily as signs of continuing macroeconomic weakness and decline.

*Trade Performance.* Although North Korea does not release trade data, North Korean export and import performance can be reconstructed, after a fashion, by compiling reports by its trading partners on their sales to and purchases from the DPRK. Such "mirror statistics" are used by KOTRA and the Government of Japan's Japan External Trade Organization (JETRO) to estimate global export and import trends for the DPRK. (For a variety of technical reasons, these trade trends are calculated in current United States dollars—a constant long-term trade series for the DPRK is not available.) Their estimates for North Korean trade trends over the years 1989 - 99 are presented in

**TABLE 2: North Korean Exports and Imports: 1990 - 1999**  
*(all numbers are in US\$ million)*

<b>Year</b>	<b>KOTRA Export Es- timates</b>	<b>JETRO Export Estimates</b>	<b>KOTRA Import Es- timates</b>	<b>JETRO Import Estimates</b>
<i>1989</i>		1559		2519
<i>1990</i>	1960	1860	2760	2920
<i>1991</i>	1116	995	1716	1610
<i>1992</i>	1183	1290	1651	1510
<i>1993</i>	1199	980	1628	1770
<i>1994</i>	1015	979	1287	1250
<i>1995</i>	959	850	1380	1440
<i>1996</i>	908	791	1320	1340
<i>1997</i>	1097	1030	1387	1470
<i>1998</i>	651	644	1013	1170
<i>1999</i>	637	597	1177	1210

Table 2. As can be seen, JETRO and KOTRA estimates of North Korea's trade trends track very closely. Both series indicate a severe deterioration of North Korean trade performance during the decade under consideration. Between 1990 and 1999, according to both series, total DPRK trade turnover plummeted by an estimated 62 percent or more.

According to both series, however, a consequential portion of this trade collapse occurred in the last couple of years. Between 1997 and 1999, according to both KOTRA and JETRO estimates, DPRK trade turnover fell by well over 25 percent.<sup>25</sup> By virtually any definition, a sudden contraction of trade volume on such a scale would qualify as a "trade shock"—and a severe one.

A severe trade shock does not automatically preclude the possibility of stabilization and growth of a national economy—as the economic histories of the major combatant powers in World War II clearly attest.<sup>26</sup> In those cases, however, output growth depended upon a shift to a wartime economic footing and a militant mobilization of theretofore unutilized or underutilized factors of production—an option not

obviously open to the already hyper-militarized North Korean command economy in 1997.

Between 1997 and 1999, according to KOTRA's estimates, the nominal dollar volume of North Korea's imports fell by over fifteen percent; by JETRO's reckoning, imports declined by over 17 percent. That drop in estimated import levels, we should note, took place despite an evident rise in Western aid (i.e., import finance) during those same years. All other things being equal, a sharp drop in measured imports would be expected to create supply constraints in a national economy—and thus to constrain output, rather than stabilize or stimulate output.

Export performance should also provide some insight into the state of the macroeconomy. For the DPRK, indeed, export trends may be especially informative: their level and direction depend rather less upon external subsidies and supports than those of imports. According to both JETRO and KOTRA estimates, the nominal dollar value of North Korean global exports dropped by about three eighths between 1997 and 1998—and then dropped still further in 1999. KOTRA and JETRO both estimate the nominal drop in DPRK exports over the 1997-99 period at about 42 percent.

**State Budget.** The returns from the DPRK state budget are the *only* official economic data that the North Korean government releases on a regular basis.<sup>27</sup> On the basis of those reports, it is possible to calculate the annual growth in total state expenditures in nominal DPRK *won*—a number that reflects, in some fashion, changes in the national economy.

Reported and projected annual changes in state expenditures for the 1980 - 2000 period are presented in Table 3. Between 1980 and 1985, North Korea's nominal state expenditures rose at a pace of 8.6 percent per year. The tempo was 5.4 percent a year for 1985 - 90, and 3.8 percent a year for the years 1990 - 94.

For 1998, Pyongyang announced a total increase in expenditures of just 0.4 percent over 1997. In April 1999, the DPRK Minister of Finance projected a 1.8 percent increase over 1998 in state budget expenditures;<sup>28</sup> however, the final report on the 1999 budget indicated that expenditures in this twenty billion *won* account had increased by just three million *won*—that is to say, by 0.015 percent. The DPRK Finance Minister is currently projecting 1.9 percent growth in the state budget for the year 2000.<sup>29</sup> If this target is achieved, the DPRK's nominal state expenditures will increase by an average of under 1 percent per annum for the 1998-2000 period.

We must wonder: if state budgetary expenditures grew by over five percent a year in the late 1980s (a period, it is now widely believed, of

**TABLE 3: DPRK State Budget's Expenditure**

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	<b>Total Expenditures (billion NK won)</b>	<b>% Change</b>
<b>1980</b>	18.139	
<b>1981</b>	20.684	14.03%
<b>1982</b>	22.68	9.65%
<b>1983</b>	24.384	7.51%
<b>1984</b>	26.551	8.89%
<b>1985</b>	27.439	3.34%
<b>1986</b>	28.539	4.01%
<b>1987</b>	30.337	6.30%
<b>1988</b>	31.906	5.17%
<b>1989</b>	33.608	5.33%
<b>1990</b>	35.656	6.09%
<b>1991</b>	37.194	4.31%
<b>1992</b>		6.24%
<b>1993</b>	40.243	2.40%
<b>1994</b>	41.442	2.98%
<b>1995</b>		
<b>1996</b>		
<b>1997</b>		
<b>1998</b>	20.015	0.40%
<b>1999</b>	20.018	0.015%
<b>2000</b>	20.405	1.93%

Source: Ei-Gak Hwang, *The Korean Economies: A Comparison of North and South*, New York, Oxford University Press, 1993, p. 151

near-stagnation in the DPRK economy) and by almost four percent a year in the early 1990s (a time when the economy was in sharp decline, even by Pyongyang's admission), what does it mean for the macroeconomy when the DPRK state budget is recording an expenditure rise of less than one percent per year?

Again: we should stress that slow growth in the DPRK's nominal state expenditures would not necessarily be antithetical to stabilization and growth for the North Korean macroeconomy. One can hypothesize conditions under which those two trends could be consistent: for example, with a decline in overall domestic price levels, or with sharp

differential growth between the country's market economy and its state economy.

In the DPRK's shortage-and-requisition system, however, price levels (if this term can be used meaningfully under such conditions) are most unlikely to be in decline, owing to the perpetual imbalance between supplies and demand. We cannot dismiss out of hand the possibility that non-state sectors of the North Korean economy are growing rapidly even though the "people's economy" is not. (A recent BOK study, for example, reportedly concluded that underground and other market-style economic activities had come to account for 27 percent of North Korea's Gross National Income.<sup>30</sup>) But when DPRK leadership (and Bank of Korea national accounts analysts) talk of the stabilization and recovery of the North Korean economy, it is the formal "people's economy" to which they refer—and Pyongyang has not yet countenanced any development of a non-state market sector. Quite the contrary: with its April 1999 "Law of People's Economic Plans", Pyongyang strictly reaffirmed that "The DPRK economy is a planned one based on socialist ownership of the means of production", and that "It is the consistent policy of the DPRK to manage and operate the people's economy under centralized and unified guidance".<sup>31</sup>

How the extremely slow growth in reported state expenditures—a fact officially acknowledged by Pyongyang—is to be reconciled with the vision of a stabilizing or recovering national economy is not immediately obvious.<sup>32</sup>

**Energy Shortages.** The third indicator of economic performance to be considered is not quantitative in nature, but it has been officially mentioned by the North Korean government. These are the recurrent reports during the past year of severe power shortages in the national economy.

Once again, a few illustrative citations must exemplify the many. In January of this year, *Nodong Sinmun* wrote of the need to solve the country's "acute power shortages"—a problem the editorial ranked alongside the country's food shortages.<sup>33</sup> In February, Pyongyang's Korea Central News Agency (KCNA) declaimed that "Never before in the history of Korea has there been such power shortage as today. This is adversely affecting the overall economic life in the DPRK".<sup>34</sup> In March, the vice Minister of the DPRK Power and Coal *Industries* "revealed" (in the words of a KBS broadcast summarizing a *Nodong Sinmun* article) that electricity is not being sent sufficiently to mines, metal, chemical, and railways sectors and electricity for residents are not being supplied appropriately. Vice-Minister O Kwang-hum said that hydroelectric power stations are not being operated due to small amount of rain and thermoelectric power stations are not being operated

appropriately due to lack of coal.<sup>35</sup>

And in April, ROK Prime Minister Park Tae-joon reported that North Korean officials had urged the United States to pressure South Korea to provide the DPRK with electricity.<sup>36</sup>

As with so many other things North Korean, there is no single straightforward explanation for these external soundings. Official lamentations about "power shortages" could simply be part of a paper trail that would bolster the North Korean government's brief for pressing the United States and KEDO for additional "compensation" for purportedly foregone energy supplies from its currently shelved graphite-modulated nuclear reactors at Yongbyon. And it is clearly the case that North Korean authorities are fixing to demand additional aid from the United States and the KEDO consortium should Washington and KEDO fail to provide the operating light water nuclear reactors that the "Agreed Framework" had initially envisioned as functioning on DPRK soil in the year 2003.<sup>37</sup> On the other hand, much of the North Korean commentary about energy shortages has focused upon failures due to hydro-electric and coal-industry shortages (*pace* the BOK's imagined surge in North Korea's mining industries!)—problems for which neither the United States nor the KEDO consortium could plausibly be held liable.

Perhaps more pertinently, "energy shortages" could also signify a resurgence of (unfulfilled) demand by revitalized North Korean industrial sectors, and thus augur a recovery of the DPRK national economy. But insofar as anecdotal accounts by foreigners have pointed to an increasing frequency of "blackouts" in the privileged sectors of the country in which they are permitted to reside or travel<sup>38</sup> — and given the inevitable loss of transmission efficiency that might be expected in any national energy grid poorly maintained over long periods of time—it is by no means self-evident that the current alleged "energy shortage" in North Korea is a demand-side problem alone.

By themselves, the data on trade performance or state outlay growth—or the reports of increasing energy shortages in the national economy—might be dismissed as all-too-familiar inconsistencies in an always-confusing North Korean tableau which nevertheless pointed on balance toward stabilization and upturn in the DPRK's gross domestic product. Taken together, they are not so easily discounted. The seeming contradiction between these poor macroeconomic soundings and the many more optimistic reports by "North Korea watchers" on current economic conditions in the DPRK can be resolved, however, if one considers the role of external assistance in raising living standards and government consumption. A little-noticed KOTRA report in January 2000 may have grasped the essence of this contradiction: it

warned that "despite signs of recovery after bottoming out last year, [N]orth [K]orea's economy will fare badly or worsen this year without assistance from [S]outh [K]orea and other countries...and that the likelihood still exists of a relapse if international assistance decreases".<sup>39</sup>

### **Prospects for Economic Growth in DPRK**

The analysis presented thus far has attempted to raise questions about the soundness of the emerging consensus among informed students of North Korean affairs that the DPRK economy has "bottomed out" and is today in the beginnings of a recovery. It is of course possible that genuine stabilization and recovery for the DPRK economy could be achieved—if North Korean leadership could acquiesce in the policies that could bring about such a revitalization.<sup>40</sup> What may not have been adequately considered by outside observers in contemplating such a prospect, however, is the enduring toll that North Korea's years of extreme economic crisis may exact on its future workforce, even under a more auspicious policy environment than can be imagined in the country today. For disturbing indications are now emerging to suggest that North Korea's long-standing food crisis, its dire famine of the late 1990s, and its governmental disregard of the social welfare of the non-privileged majority of its populace may have had a severe impact on the country's human resource base—and in particular, upon the surviving children who will be the workers of tomorrow.

Just how disastrous in human terms the DPRK's recent crises may have been is impossible to say—for all the cruelly familiar reasons noted earlier. One indication of the impact of these crises, however, is available from the UN World Food Programme/UNICEF/European Union nutrition survey of late 1998—a project framed and implemented with assistance from the US Centers for Disease Control and Prevention (CDC).<sup>41</sup> The survey attempted to conduct a truly random anthropometric survey of the nutritional status of children in North Korea—a venture which begs the unanswerable question of its actual success in so doing. The results from the survey, however, are arresting. [See Tables 4 and 5.]

According to those results, for example, 7-year-old boys in North Korea would currently be fully 20 centimeters shorter, and almost 10 kilograms lighter, than their counterparts in South Korea. If those figures are even roughly representative, North Korean boys today are far smaller than South Korean boys were in the mid-1960s, three and a half decades ago. Indeed: to go by those survey results, and earlier anthropometric surveys from the Koreas, North Korean boys today

**TABLE 4: Average Height of 7-Year-Old Boys,  
ROK and DPRK  
(centimeters)**

<i>Year</i>	<b>ROK</b>	<b>DPRK</b>	<i>Year</i>	<b>ROK</b>	<b>DPRK</b>
1965	115.8		1983	121.1	
1966			1984	121.4	
1967			1985	122.1	
1968			1986	122.3	
1969			1987	122.7	
1970	117.9		1988	123.1	
1971			1989	123.5	
1972			1990	123.8	
1973			1991	124	
1974	119.4		1992	124.3	
1975	118.3		1993		
1976	118.5		1994		
1977	118.7		1995	125.2	
1978	119.1		1996	125.2	
1979	119.8		1997	125.2	
1980	120		1998		105
1981	120.9		1999		
1982	120.9				

would not only be littler than boys from then-impoverished South Korea at the time of the Korean war (1953), but would also be smaller and slighter than their forebears in the Korean war in 1913 - 22 — almost eight decades ago, in the era of Japanese colonialism.

By such indications, it would appear not only that the youngest generation in North Korea has failed to thrive, but that it has actually suffered a terrible physiological retrogression. We must wonder whether this reported maiming of North Korea's youth may not also be a proxy for the reduction in its human capital, and its economic capabilities.

To be sure: we have long known that it is possible to be "small but healthy", to borrow a phrase from David Seckler.<sup>42</sup> But in large populations, what concerns us is not individual cases, but rather the odds. For North Korea's younger generation, the odds against human



**Table 5: Average Weight of 7-Year-Old Boys,  
ROK and DPRK**  
(Kilogramms)

<i>Year</i>	<b>ROK</b>	<b>DPRK</b>	<i>Year</i>	<b>ROK</b>
1965	20.3		1983	22.5
1966			1984	22.5
1967			1985	22.8
1968			1986	23.1
1969			1987	23.3
1970	21.4		1988	23.7
1971			1989	24
1972			1990	24.2
1973			1991	24.6
1974	21.7		1992	24.8
1975	21.1		1993	
1976	21.3		1994	
1977	21.3		1995	25.7
1978	21.5		1996	25.6
1979	21.9		1997	25.9
1980	22.2		1998	
1981	22.4		1999	
1982	22.4			

capital formation appear to have been worsened not just by under-nutrition, but by educational neglect. Data on the DPRK educational system are of course all but unavailable to outsiders. In August 2000, however, Matsuura Koichiro, the head of UNSECO, visited the DPRK and reported at the conclusion of his visit that up to 40 percent of the country's elementary-school-age children currently were not receiving an education.<sup>43</sup>

Today's elementary school children will be tomorrow's working age population. Table 6 illustrates this inexorable progression. In the year 2000, by US Bureau of the Census projections, the cohort aged 15-24 would constitute 22.8 percent of the total population of "working age" (conventionally, arbitrarily, and not unreasonably defined as ages 15-64). Ten years from now, the 15-24 group is anticipated to account for a slightly larger portion of North Korea's "working age" population. The fifteen to twenty-four-year olds of 2010, however, were born

between 1986 and 1995: that is to say, the eldest of that grouping were nine years old when Pyongyang first officially acknowledged its hunger emergency in 1995—and the youngest in that cohort were born into the food emergency, and knew nothing but that emergency as infants, toddlers and young children.

We can only wonder about the economic potential of this vulnerable group in the North Korean population. Policies can change and sometimes do—even radically. Human capabilities, unfortunately, are typically less prone to sudden melioration. As we look for a brighter economic future for North Korea, we should not forget that the DPRK's grim past may continue to punish future populations for years after the regime's most destructive economic policies are abandoned.

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**TABLE 6: North Korean Population  
2000 - 2010**

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	<i>Male-2000</i>	<i>Female-2000</i>	<i>Male-2010</i>	<i>Female-2010</i>
0 to 4	886,938	846,469	863,242	823,407
5 to 9	985,575	930,118	981,635	937,466
10 to 14	970,737	928,619	881,164	842,593
15 to 19	894,757	862,449	980,914	927,940
20 to 24	810,703	791,678	963,857	925,444
25 to 29	978,090	977,339	885,822	858,153
30 to 34	1,083,794	1,080,367	800,760	786,364
35 to 39	879,136	882,282	962,764	968,122
40 to 44	707,720	724,060	1,059,543	1,065,370
45 to 49	499,435	529,450	848,316	863,099
50 to 54	475,876	538,343	666,866	698,854
55 to 59	496,751	590,913	453,212	500,831
60 to 64	397,102	525,213	403,340	491,723
65 to 69	242,318	402,047	382,254	513,119
70 to 74	117,854	267,280	264,896	419,820
75 to 79	57,918	173,696	133,534	284,811
80+	30,152	122,371	69,069	244,789

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Source: U.S. Bureau of the Census, International Data Base, [www.census.gov/ipc/www/idbagg.html](http://www.census.gov/ipc/www/idbagg.html)

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## Notes

1. The author holds the Henry Wendt Chair in Political Economy at the American Enterprise Institute for Public Policy Research, Washington D.C. An earlier version of this paper was presented at "The Korean Peninsula in the 21<sup>st</sup> Century: Prospects for Stability and Cooperation", a symposium cosponsored by Korea Institute for International Economic Policy (KIEP), Korea Economic Institute of America (KEI), and Paul H. Nitze School of Advanced International Studies (SAIS), Johns Hopkins University, Washington D.C., September 18-19, 2000.
2. Doug Struck, "N.Korea Back From The Brink: Aid Helps End Mass Starvation", *Washington Post*, September 5, 2000, pp. A1, A20.
3. For a fuller examination of these issues, see Nicholas Eberstadt, "'Our Own Style of Statistics': Availability and Reliability of Official Quantitative Data for the Democratic People's Republic of Korea", *Korean Journal of International Studies* (forthcoming).
4. According to the revised 1998 DPRK Constitution, Kim II Sung, though dead, remains the country's "eternal President". Kim Jong Il's highest state post is Chairman of the DPRK National Defense Commission (NDC)—an institution whose authority within the overall state structure is constitutionally ambiguous. In nominating Kim Jong Il for Chairmanship of the NDC, though, SPA Presidium President Kim Yong Nam declared that Chairmanship to be the "highest post of the state". Thus, Kim Jong Il may be said to rank as North Korea's highest *living* functionary.
5. Korean Central News Agency (KCNA), Pyongyang, April 7, 1999; reprinted as "North Korean finance minister reports on state budget", British Broadcasting Company, *BBC Summary of World Broadcasts*, April 9, 1999, FE/D3504/D.
6. "Glorify This Year Greeting the 55th Anniversary of the Party Foundation as A Year of Proud Victory in the Frame of Great Chollima Upsurge", joint editorial of *Nodong Sinmun*, *Choson Inking*, and *Choson Jonwi*, January 1, 2000; available electronically through *People's Korea* website <http://www.korea-np.co.jp/pk>; accessed September 12, 2000.
7. Agence France Presse (AFP), "N.Korea budget deficit in 1999", April 4, 1999.
8. Yonhap News Agency (Seoul), July 6, 2000; reprinted as "ROK Hyundai Official: DPRK Leader Kim Says DPRK Economy Grew 6 Percent" in U.S. Foreign Broadcast Information Service (hereafter, FBIS), FBIS-EAS-2000-0706, July 6, 2000; accessed electronically September 10, 2000.
9. Hong Sun-chik, "Outlook on DPRK's economic policy and North-South economic cooperation", *TongilKyongje*, February 2000; translated as "North Korea's economic outlook examined", *BBC Summary of World Broadcasts*, March 1, 2000, FE/W0629/S1.
10. *Chungang Ilbo* (Internet version), August 30, 1999; reprinted as "KOTRA: DPRK Restricts Exports Of Logs To PRC", FBIS-EAS-1999-0830, August 30, 1999, accessed electronically Sept 5, 2000.
11. *Chungang Ilbo*, December 29, 1999; translated as "Kim Chong-il Said Happy About Signs Of Economic Recovery", FBIS-EAS-1999-1228, accessed electronically September 10, 2000.
12. Yonhap (Internet version), December 25, 1999, reprinted as "DPRK Entering Recovery Phase", FBIS-EAS-1999-1229, December 29, 1999, accessed electronically September 9, 2000.
13. Associated Press, "North Korea expected to try to join international fund groups", January 20, 2000.
14. Howard W. French, "Suddenly, Reclusive North Korea Reaches Out to the World", *New York Times*, March 17, 2000, p. A8.

15. Agence France Presse, "N.Korea rebounds from 10-year contraction: economists", March 22, 2000.
16. Demographic indicators are used to estimate output of the government and service sectors, since the approach presumes output per worker in these two branches of the economy to be fixed and invariant.
17. Yonhap news service, November 17, 1999; reprinted as "South agency says grain harvests up 40 percent on last year", *BBC Summary of World Broadcasts*, November 19, 1999, FE/D3696/D.
18. *Korea Times* (Internet version), December 28, 1999; reprinted as "DPRK Grain Production Up, Still Short Of Need" , FBIS-EAS-1999-1228, December 28, 1999, accessed September 13, 2000.
19. Kim Ji-ho, "U.N. report shows no improvement in North Korean food situation", *Korea Herald* (internet version), July 21, 2000.
20. FAO Statistical Database, available electronically at <http://apps.fao.org>, accessed September 13, 2000.
21. Richard Ruggles and Nancy D. Ruggles, *National Income Accounts And National Income Analysis*, (New York: McGraw-Hill Co., 1956), pp. 112-113.
22. For the DPRK's position, see KCNA (Pyongyang), "4th DPRK-U.S. underground facility negotiations," March 18, 1999, available on *People's Korea* web site at <<http://www.korea-np.co.jp/item/1999/9903/990318.htm>>, accessed January 5, 2000.
23. In its original guidelines for National Accounts organization, the OECD specifically stipulated that the export ledger should include "the value of gifts in kind". [Organization for Economic Cooperation and Development, *A Standardized System of National Accounts*, (Paris: OECD, 1958), p.75] Conversely, this would mean the receipt of in-kind gifts should be tallied in the import ledger. KEDO transfers (including heavy fuel oil and other materials) and humanitarian relief supplies (food, medicines) are among the items that would presumably qualify for inclusion under "imports" under this line of reasoning.
24. *Korea Times* (Internet version), July 20, 1998, reprinted as "South Korea; Foreign Currencies Reportedly Circulating In DPRK", FBIS-EAS-1998-201, July 21, 1998.
25. The trend for DPRK trade turnover for 1998/99 is unclear: KOTRA data show an increase, while JETRO data suggest a slight but continuing decrease.
26. Cf. Alan S. Milward, *War, Economy and Society 1939-1945*, (Berkeley, CA: University of California Press, 1977).
27. Although even the release of these numbers, traditionally announced at the country's spring SPA gathering, was interrupted with the over-four-year suspension of the SPA in the wake of Kim II Sung's death.
28. Kang II Chon, "Recent Economic Tendency in DPRK", *People's Korea* (Internet version), available electronically at <http://www.korea-np.co.jp/pk>, accessed September 11, 2000.
29. "SPA Adopts New State Budget for the Year 2000", *People's Korea* (Internet version), April 18, 2000, available electronically at <http://www.korea-np.co.jp/pk>, accessed September 10, 2000.
30. *Korea Herald* (Internet version), August 8, 2000; reprinted as "'Market Economy' in DPRK Accounts for 27% of GNI", FBIS-EAS-2000-0807, August 8, 2000, accessed electronically on September 2, 2000.
31. "DPRK Law on People's Economic Plans", *People's Korea* (Internet version), April 21, 1999, available electronically at <http://www.korea-np.co.jp/pk>, accessed September 11, 2000.
32. The economic implications of these trends, in fact, could be even more inauspicious than a cursory inspection of budget totals might initially suggest. Traditionally, the DPRK's consolidated state budget treated aid from abroad as an item on the revenue side of the ledger; such aid thus directly supported state budgetary

- expenditures. [See, for example, Fujio Goto, *Estimates Of The North Korean Gross Domestic Product, 1956-1959*, (Kyoto: Kyoto Sangyo University Press, 1990), pp. 182-189.] We cannot yet know whether the DPRK has implemented any major unannounced changes in its budget accounting procedures in recent years. If it has not, however, the slow growth of reported expenditures, in tandem with the relatively rapid growth of aid from abroad, would seem to have ominous implications for the performance of the state economy.
33. KCNA (Pyongyang), January 19, 2000; reprinted as "Economic policy to solve 'acute' power shortage and 'food problem'", *BBC Summary of World Broadcasts*, January 26, 2000, FE/W0624/WD2.
  34. Agence France Presse, "N.Korean economy crippled by worst power shortage: state media", February 23, 2000.
  35. KBS Radio (Seoul), March 16, 2000, translated as "Official reportedly reveals power shortages", *BBC Summary of World Broadcasts*, March 18, 2000, FE/D3792/S1.
  36. Yonhap news service, April 12, 2000; reprinted as "DPRK Said To Demand US Pressure Seoul for Electricity", FBIS-EAS-2000-0412, accessed electronically September 10, 2000.
  37. See mferal/a Xinhua News Agency (Beijing), "DPRK Holds U.S. Responsible for Power Shortage", February 3, 2000.
  38. Cf., for example, Agence France Presse, "N.Korean winter conditions severe this year: U.N. report", February 23, 2000.
  39. Yonhap, January 18, 2000; reprinted as "ROK Group Says Recovery Depends on Aid", FBIS-EAS-2000-0118, accessed September 12, 2000.
  40. For a penetrating overview of the issues involved, see Marcus Noland, *Avoiding the Apocalypse: the Future of the Two Koreas*, (Washington, DC: International Institute for Economics, 2000).
  41. For more details, see Nicholas Eberstadt, "Disparities in Socio-economic Development in Divided Korea: Indications And Implications", *Asian Survey*, November-December 2000 (forthcoming).
  42. David Seckler, "Malnutrition: An Intellectual Odyssey," *Western Journal of Agricultural Economics*, vol. 5 (1980), pp. 219-227.
  43. Kyodo News Service, "N.Korea School Enrollment Has Plummeted: UNESCO Chief, August 22, 2000.