

Transition from the Bottom-Up: Institutional Change in North Korea

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March 20, 2006

JEL codes: P2, I12, J19

Keywords: famine, North Korea, transition, reform

Abstract

During the 1990s, a famine in North Korea killed perhaps 3 to 5 percent of the population. In the context of this trauma, the state's inability to fulfill its normal obligations instigated an unmanaged yet rational process of coping and adjustment under duress by enterprises, households, and local institutions. Policy reversals in the fall of 2005 may reflect an attempt by central authorities to reverse this transition process and may intensify distress in the future. This model of transition—driven essentially by state failure—may become increasingly prominent in the future.

It is a great honor to deliver the second annual Association of Comparative Economic Studies presidential address. I am tempted to deliver one of those “state of comparative economics” talks, but many others here this evening could do so far better than I. Instead, I will review the last 15 years or so of North Korean economic history, which is hopefully of some intrinsic interest, with the aim of illustrating a conceptual theme regarding the nature of institutional change. (And if I slip up and refer to “we,” it is not that my position as president of the association has gone to my head but that much of the research to which I will refer has been done jointly with Stephan Haggard.)

Economists often think about institutional change as the outcome of top-down reforms designed by policymakers or technocrats interested in improving efficiency or achieving other political or economic goals. Specialists in comparative economics probably have a more nuanced understanding of political-economy incentives and the nature of institutional change than the economics profession as a whole but generally conceive of change as emanating from an intentional process. I would like to discuss North Korea as a case study of a different conception of change, one in which the failure of the state to perform its normal functions generates transition through an unmanaged, yet rational, process of coping and adjustment under duress by lower-level social units and institutions.

During the 1990s, a famine in North Korea killed perhaps 600,000 to 1 million people or roughly 3 to 5 percent of the population, making it one of the worst famines of the 20th century.¹ The inability of the state to fulfill its obligations under the existing institutional relationships necessitated coping responses by local party, government, and military units as well as enterprises and households and contributed to a bottom-up marketization of the economy. Transformation of the institutions of the North Korean economy over the past decade can best be understood not as a top-down attempt by the governing authorities to marketize or improve efficiency, as usually characterized, but rather as a bottom-up grassroots de facto marketization arising from coping responses to the trauma of famine, which the government has sought to both ratify but control ex post. Policy reversals in the fall of 2005—banning private trade in grain, resuscitating the

¹ More detailed background on agriculture and the subsequent famine can be found in Noland (2000, 2004a), Haggard and Noland (2006), and additional sources cited therein.

quantity rationing system, and reversion to confiscatory seizures from rural cultivators—both reveal policymakers’ discomfort with this process and its outcomes and may augur a future intensification of distress through disruptions to both the demand and supply sides of the food economy. With many of the Central and Eastern European countries converging on Western institutional norms, while parts of the former Soviet Union remain more closely wedded to earlier economic and political models, this transition modality essentially arising out of state failure may become increasingly prominent in the future.

Background on Korea

The Korean peninsula was colonized by Japan during the first decade of the 20th century. During Japanese colonial occupation, considerable industrialization occurred in the northern part of the peninsula, building on developments that had occurred under the Choson dynasty during the last quarter of the 19th century. The south was the breadbasket.

At the close of the Second World War, the peninsula was divided into zones of US and Soviet military occupation, in the southern and northern parts of the peninsula, respectively. Unable to agree on a formula for unification, rival states—the Republic of Korea in the south and the Democratic People’s Republic of Korea in the north—were declared in 1948. In 1950, in a bid to unify the peninsula forcibly, North Korea attacked South Korea. The US and China were drawn into the conflict, and in 1953 an armistice ended the fighting and more or less re-established the original borders.

The two Korean states subsequently not only pursued divergent development strategies but also pushed those strategies to extremes. South Korea not only adopted a capitalist system but also went on to pioneer an outward-oriented development strategy, emphasizing international trade as a catalyst. North Korea, in contrast, not only adopted central planning but also intentionally time-phased its plans to frustrate linkages with those of other fraternally allied socialist states and in doing so created the world’s most autarkic economy, notable in the degree to which markets were repressed under the deified leadership of founding leader Kim Il-sung. *Juche*, normally translated as “self-

reliance,” was adopted as the national ideology, though in fact, North Korea always remained reliant on external support.

The contrast in outcomes was astonishing: Between 1963, when major reforms were initiated, and 1997, when it experienced a financial crisis in the context of a broader regional upheaval, South Korea averaged 8 percent real growth and experienced only a single year of negative growth—1980, following the second oil shock and the assassination of the president. According to the Penn World Tables, at the start of that period the country’s income level was lower than that of Bolivia and Mozambique; by the end it was higher than that of Greece and Portugal.² North Korea, in contrast, is the only significantly industrialized country to experience a peacetime famine.

These divergent outcomes are very much related to the two countries’ political systems. As remarkable as South Korea’s economic performance has been, its political development has been as impressive, if not more so: In a single decade between 1987 and 1997, leadership of the South Korean government went from an authoritarian strongman (General Chun Doo-hwan) to his elected but hand-picked successor (General Roh Tae-woo) to an elected centrist civilian politician (Kim Young-sam) to a former dissident (Kim Dae-jung). In contrast, North Korea remains mired in a Stalinist hereditary dynasty.

A single nation but wildly different trajectories.

The Famine Experience

North Korea made a fateful decision to pursue the understandable goal of national food security through a misguided strategy of self-sufficiency. On the supply side, to compensate for inauspicious natural conditions including a high ratio of people to arable land and short growing seasons, yields were maximized through the development of a highly industrial input-intensive system of agricultural production, for example, involving the heavy application of chemical fertilizers and the extensive use of electrically driven irrigation—both of which were dependent on imported oil. Farming

² See Noland and Pack (2002) for a discussion of how South Korea was “deceptively poor” in the 1950s and the specific factors that contributed to rapid rise in its per capita income.

was collectivized and subjected to central planning, and private trade in grain was banned.

Beginning in the mid-1980s, external shocks associated with deteriorating relations with the Soviet Union and the subsequent dissolution of the Soviet Union and the Eastern Bloc contributed to the implosion of the industrial economy. Deprived of industrial inputs, agricultural yields and output fell—and remain—below 1990 levels (figure 1).

Under these circumstances, the government had a choice—relieve the supply constraint through a combination of increased commercial imports and/or aid or suppress consumption. Regrettably it did the latter, initiating a “let’s eat two meals a day” campaign in 1990 or earlier and cutting rations delivered by the public distribution system (PDS), the quantity rationing system from which urban residents, roughly two-thirds of the country, obtained their food. Careful examination of the North Korean data suggests that mortality rates were rising noticeably by 1994, if not 1993.

Inexplicably, the North Korean leadership apparently failed to grasp the epochal changes around them, and it was not until the spring of 1995 with a famine well under way that they appealed for assistance first to Japan, then to South Korea, and eventually to the United Nations. Floods that summer (and the following summer as well) played an important political role insofar as they facilitated the depiction of the famine as being the result of natural disasters, though, in fact, they were a relatively minor contributing factor (Noland, Robinson, and Wang 2001; Smith and Huang 2003).

Assistance was rapidly forthcoming, but the North Korean government impeded the normal assessment, monitoring, and evaluation functions of the relief organizations—for example, prohibiting the use of Korean speakers and banning access and relief to certain geographic areas, including ones suspected to be the worst affected (figure 2). Critically, with assistance ramping up, the government cut commercial imports, in essence using humanitarian aid as a form of balance of payments support (figure 3). This action was crucial. As shown in Figure 4, which displays counterfactual aggregate supply lines overlaid on the estimates by the World Food Program (WFP) and the Food and Agriculture Organization (FAO) of North Korean minimum and normal human needs, North Korea could have avoided the brunt of the famine that was to engulf it if it had

maintained commercial imports and/or appealed for aid on time. This policy failure both underscores the culpability of the North Korean government in not maintaining aggregate supplies and suggests implicitly the distributional nature of the famine, which more detailed investigation affirms.

Estimates vary widely, but the most sober academic research suggests that between 1994 and 1998, the famine killed perhaps 600,000 to 1 million people, or roughly 3 to 5 percent of the precrisis population of approximately 22 million. The young and the old, as well as certain socio-economic groups and geographical areas, were disproportionately affected. With most of the food consumed in North Korea coming from domestic production, the famine had elements of a food availability decline associated with the significant supply-side shocks that the economy experienced in the early 1990s. Yet the government also made strategic choices that left certain traditional food-importing regions to fend for themselves, generating the highly nonuniform incidence of elevated mortality and malnutrition that persists to this day. The famine had a strong distributional component, and it would be a mistake to characterize the North Korean experience as a pure food availability decline famine. Indeed, in a fundamental sense, the famine reflected the inability of the citizenry to exercise any right politically with respect to either the appeal for external assistance or the use of such aid. Put differently, the populace was unable to exercise its entitlement to external assistance through existing UN institutions and obligations.³ The famine was very much a product of a political system that has systematically denied its populace the most elemental human, civil, and political rights.

And to be clear, while the government was unwilling or unable to fulfill its core responsibilities vis-à-vis the citizenry, failure did not extend to the political regime. Although there appears to have been a rise in the influence of the armed forces relative to the party, neither the political regime nor the state collapsed or underwent fundamental change. Collapse was limited to the economic sphere.

³ See Haggard and Noland (2005) for a detailed elaboration of this argument.

Institutional Change

From 1995 on, the state-administered PDS did not deliver minimum human needs, even on paper, and the trauma of the famine forced small social units—households, enterprises, local party and government organizations, and military units—to engage in coping behavior to survive (figure 5). Furthermore, these averages obscure important regional variations, and refugee surveys suggest that in some areas the PDS had ceased to operate in the early 1990s.

As the centralized system broke down, and the state unable to play its traditional role as a provider of food, households came to increasingly rely on the market as their primary institutional channel to obtain food. Local institutions were left to fend for themselves; they began to exhibit a variety of coping behaviors including foraging and other forms of prohibited movement, using barter and eventually monetized trade, including transactions with Chinese counterparties, to obtain food. The authorities responded by tolerating to a greater or lesser degree unauthorized movement and the development (and/or expansion) of informal markets, including the revival of traditional farmer's markets. The marketization that began with food gradually encompassed a broader range of household goods, in part building upon officially sanctioned cottage industries for consumer goods that began in 1984 (“the August 3 campaign for people's goods”), as well as forced sales of household items by liquidity-constrained households to secure food and increasingly gray-area activities by local government and party officials and enterprise managers.

Beyond the predictable asset stripping that occurred as the system decayed, the August 3 campaign unintentionally created a legal and institutional space for using SOE resources in an entrepreneurial or coping fashion as the economy deteriorated in the 1990s. Entrepreneurs affiliated with SOEs or other institutions (including government agencies) to obtain political protection in system with few private property rights or recourse to dispute adjudication. In return, these institutional patrons received a share of the profits generated by what were effectively private initiatives, even entering into multiyear contracts that specified obligations and responsibilities each party, including the right of control over assets that are nominally owned by the patron institution as well

as the right to transfer these assets at the conclusion of the contract period. In at least some cases, entrepreneurs who affiliated with government offices received preferential tax treatment. Workers also bought their way out of their obligations at the SOE by simply paying a daily tax to be reclassified as an “August 3” worker and thus enabled to engage in entrepreneurial activity.

The result of these crisis-driven adaptations was a considerable decentralization of the industrial economy, with local political authorities and managers playing a more important role. The loosening of the central distribution mechanism was manifested in an increase in direct sales outlets where these ventures sold directly to public at non-controlled prices as well as an increase in department stores selling Chinese goods at non-controlled prices, again paralleling the shift from the PDS to the market in the case of food. It is difficult to quantify these developments. One Western firm operating in North Korea during the 1990s estimated that in 1994 the growing “unofficial” economy was nearly one quarter the size of official output (Michell 1998). The system fraying was sufficiently large that the state established an ad hoc penal system to handle the surge in criminalized coping behaviors such as internal movement for foraging and trade, as well as exit from the country (Noland 2000, Natsios 2002, Hawk 2003).

This process accelerated after the 2002 policy changes essentially decriminalized much of the coping activity. The number of North Koreans engaged in small-scale trading and retail services has grown steadily, and an estimated 8 percent of the workforce is so employed, a figure that has probably risen since the estimate was made (Gey 2004). Women are particularly prominent in these activities.

A variety of evidence documents the increasing prominence of the market as a mechanism for securing food, including the results obtained from large-scale surveys of refugees conducted in China and household focus group interviews conducted by the WFP in North Korea, as well as a balance sheet exercise undertaken by Haggard and Noland (2006) (table 1). The general conclusion of this work is that at least for the nonprivileged classes, the market has become the primary institutional mechanism for securing food.

Markets, while geographically fragmented, do function. Prices respond to supply shocks, for example, the announcement of large aid donations or the suspension of

imports from China during the SARS crisis of 2004. Prices also display considerable geographic dispersion, suggesting that markets remain fragmented presumably due to physical transportation difficulties as well as the still underdeveloped state of market institutions such as middlemen. High prices in the rustbelt areas of the northeast imply relative scarcity.

What began as a socialist famine in which access to food was determined by one's relationship to the state has evolved into a chronic food emergency in which access to food is largely determined by the ability to command resources in the market. This process created a new set of cleavages and stratifications within North Korean society: The industrial proletariat employed in state-owned enterprises, which had enjoyed a privileged position, has been impoverished. Ethnic minorities and others with familial ties outside North Korea who had faced discrimination were advantageously positioned to access external resources and trading opportunities and have seen their fortunes rise. And perhaps most fundamentally, in 1998, *songun* or "military-first" politics was declared, formally elevating the armed forces above the party and the proletariat. The upshot is that contemporary vulnerability is concentrated among urban nonelite, some of whom spend as much as 80 percent of household income on food.

Aid played an ambiguous role in this process. On the one hand it was largely distributed through the central government, reinforcing state power. In recent years, as the state has been increasingly unable to procure domestic production, the PDS has become largely a mechanism for distributing aid. Yet aid also encouraged the development of markets, by creating the possibility of capturing astronomical rents through diversion—which could be realized only if markets existed—and providing enormous incentives to create those markets, through entrepreneurial behavior (legal or illegal) to establish the institutional infrastructure of markets, such as entities offering transportation or hauling services.

As previously mentioned, the aid program was plagued by multiple problems, which greatly impeded the ability of donors to monitor distribution and prevent the diversion of aid from its intended uses or beneficiaries. Estimates of diversion, ranging from 10 to 50 percent have been constructed through a variety of methods. The analytical work has received support from a small but revealing body of documentary evidence of

diversion in the form of surreptitiously shot video footage, much of it produced by Japanese NGO, Rescue the North Korean People Urgent Action Network (RENK), some examples of which are reported in figures 6 and 7. This evidence should be approached with appropriate caution: most importantly, it cannot speak to the issue of magnitude. But the results of the balance sheet calculation imply the responses obtained by the WFP in their focus groups are consistent with the upper end of that range. With aid feeding roughly one-quarter to one-third of the population over the past decade, these estimates, if correct, imply diversion of aid sufficient to feed roughly 3 to 15 percent of the North Korean people.

The welfare effects of diversion are subtle and depend importantly on specific assumptions. Diversion directly moves food away from intended beneficiaries, who depending on their personal, familial, and social network circumstances, may or may not be able to compensate for this loss through other sources of supply, including the market. Conversely, food is fungible, at least to a degree, and to the extent that recipients of diverted aid substitute it for food that they would have otherwise purchased, diversion tends to depress prices in the market—where many of the beneficiaries or their families are, in reality, obtaining their food.

The availability of supplies outside state control—siphoned off from cooperative farm output, diverted from aid, and obtained through trade with China—was both encouraged by and contributed to the development of the institutional infrastructure of a market, such as traders, transporters, etc. There is evidence that the military has been deeply involved in this process, though not to gorge themselves on WFP protein biscuits—they have first draw on the North Korean harvest. Rather because in the absence of well-defined property rights or dispute resolution mechanisms, their existing organization, as well as resources in the form of men, trucks, fuel, and, it should be said, guns, make them ideally situated to perform the role of middlemen distributors. Military and police organizations are also prominent participants informal money lending businesses, presumably owing to their unique ability to collect debts.

In sum the existing evidence paints a consistent picture of the North Korean food economy: The state is increasingly unable to extract supply from the cultivators,

consumers are reliant on the market, and the state-run PDS is largely a mechanism for distributing aid.

The July 2002 Policy Changes

With the planning mechanism mortally wounded, the payments system collapsed, industrial output in decline, and the economy marketizing beyond state control, the government initiated a number of policy changes in July 2002 that decriminalized some of the coping practices that had developed in the previous decade. The policy changes could be thought of as having four components:

- microeconomic reforms, including alteration of administered prices and wages;
- macroeconomic reforms, including the introduction of direct taxes;
- establishment of special economic zones; and
- aid-seeking.⁴

In the interests of brevity, I will focus on the implications of the price changes, which could be thought of as having three components:

- changes in relative prices and wages, which could be interpreted as an attempt to increase the role of material incentives,
- a 10-fold increase in the price level, which could be interpreted as an attempt to deal with monetary overhang, and
- ongoing inflation (perhaps 130 to 140 percent annually), which was the product of the collapse of fiscal revenue, exacerbated by the maintenance of a bloated military—over 1 million troops in a country of perhaps 22 million people.

Although one can develop economic explanations for each of these changes, the simplest appears to be that the specifics of these policy changes were to reward friends and punish enemies. Favored groups such as the military received supernormal wage increases, while the enormous jump in the price level, unnecessary to generate the change

⁴ More complete analyses of these policy initiatives can be found in Noland (2004b), Haggard and Noland (2006), and sources cited therein.

in relative prices, could be interpreted as a blow aimed at wiping out the working capital of the class of traders and black marketers that sprung up over the previous decade.

But these traders were not gullible, and the sustained inflation resulted in a collapse of the currency, contributing to a widening gap between those with and without access to foreign exchange. (One defector, referring to the portraits adorning US and North Korean paper currency observed that “[George] Washington is better than Kim Il-sung.”) The result has been to exacerbate preexisting inequality and create a class of new urban poor.

Moreover, these developments have necessitated an ideological reinterpretation of the national ideology of *juche* or self-reliance, to legitimate the policy changes and justify the departure from the country’s socialist tradition. The response has been to intensify the *songun* (“military-first”) campaign, elevating the military in the North Korean political pantheon. These developments are overturning the traditional paths to power and status: Army officers and entrepreneurs have now replaced party cadres and bureaucrats as preferred sons-in-law.

As the military waxes while the commitment to socialism wanes, North Korea appears to be evolving toward some kind of unique postcommunist totalitarian state—not the sort of classically fascist regime that its propaganda excoriates but sort of a strange revival of dynastic feudalism in the form of a nonsocialist, patrimonial state but with a more efficient state apparatus than, for example, Iraq under Saddam Hussein.

The central issue is whether the current regime can manage this internal change while confronting the implicit legitimization challenge posed by prosperous, democratic South Korea and diplomatic tensions emanating from its nuclear weapons program.

Epilogue

Events during the fall of 2005 would seem to confirm this essentially pessimistic view of North Korea. Reports began filtering out of North Korea of the government engaging in confiscatory grain seizures and renegeing on commitments to the farmers regarding the shares of output that would be retained by the cultivators for free disposal. Then in September, buoyed by a good harvest and enhanced bilateral assistance from South

Korea and China, the government announced that it was banning private trade in grain, resuscitating the PDS, and expelling the WFP and private NGOs engaged in humanitarian assistance. At this writing the status of the humanitarian organizations remains unresolved: in March 2006 the WFP's Executive Board approved a proposal for a greatly downsized assistance program, but the terms of engagement, particularly with respect to monitoring, remain under negotiation.

The government may be able to operate the PDS on an expanded, if not universal, basis this year, and in the end the humanitarian groups may be allowed to continue to function, though with greatly weakened monitoring regimes. However, having reneged on its commitments to the farmers, it would not be surprising to observe the cultivators reverting to famine-era coping behavior such as preharvesting, hoarding, and diversion of effort to tending secret private plots to the detriment of observable cooperative farms, thereby setting the stage for an intensification of distress next year, absent some compensatory assistance by external donors.

As an illustration of such a possibility, consider the 1995–96 corn experience. Traditionally, farmers were fed through an annual allotment retained in-kind. In 1995, after the procurement exercise, the authorities realized that they had obtained too little food to operate the PDS and returned to the cooperative farms to extract additional grain that had already been committed to on-farm consumption over the coming year. The following year, half of the maize crop of 2.3 million metric tons, or enough to feed the whole country for three months, was “lost.” The government's behavior in 2005 does not appear to be nearly as traumatic as the ex post attempt to compress farm rations a decade earlier, and one would not expect the farmers to “lose” half the corn harvest in response. Yet it is reasonable to expect that that earlier experience constitutes an important component of the collective memory that will condition their reaction to the government's moves. In short, the already credibility-challenged government may face a time-inconsistency problem with respect to the supply response of the farmers and as a consequence may encounter difficulty operating the PDS in the future.

Why take such risks? There are at least three nonmutually exclusive interpretations, all speculative in nature. The first is that the authorities are uncomfortable with the bottom-up marketization of the economy, and the attempt to ban

the market for food is the first step in a broader attempt to roll back the institutional changes that have occurred over the past decade. This explanation is possible, but apart from food, if anything the authorities appear to be acquiescing in a gradual liberalization of the economy, so that other aspects of state behavior do not appear to be consistent with this hypothesis. The second interpretation is that the move to reassert state management over the distribution of food is an attempt to strengthen political control over the population and by resuscitating the PDS, reconstitute a network of local political officials loyal to the center—i.e., it is an attempt to strengthen political control, not roll back economic change. The final interpretation is that the government's recent moves are an attempted anti-inflation policy: The authorities are spooked by the ongoing inflation, have no effective ability to control the prices on consumer goods entering the country from China, but do believe that they can control the price of grain, which looms large in the consumption basket and is largely produced domestically or obtained through aid flows—two channels subject to at least imperfect state control. Although this final interpretation might not make policy sense to the membership of the Association of Comparative Economic Studies, it does have a kind of Stalinist command-and-control ring of truth to it. What these three interpretations share in common is a discomfort with the changes of the previous decade and a desire by the authorities to reassert control. Regardless of the state's motivation, from the standpoint of the average North Korean household, the disruption to both the demand and supply sides of the food market is not a favorable development.

In January 2006 North Korean leader Kim Jong-il visited China. Notably, as in the case of an earlier trip in 2004, he visited not only the capital Beijing but also the economically dynamic cities of southern China, implying that there was more on the agenda than simply extracting aid from the Chinese government. Kim, in fact, upon his departure, acknowledged the “correctness” of the Chinese model. Although there are enormous differences between North Korea and China, one can hope that this experience spurs further experimentation and reform in North Korea.

Yet the basic story of North Korea's transition as a chaotic, yet rational, bottom-up process borne out of state failure may become increasingly prominent in the field of comparative economics. Although countries of Central and Eastern Europe are joining

the EU and increasingly resemble the industrialized democracies of the OECD, parts of the former Soviet Union have made much less decisive breaks with the past in terms of both political and economic organization. Their future experiences may more closely resemble the unintended outcomes of a decentralized process of coping and adjustment than top-down reforms of informed pro-active economic policymakers.

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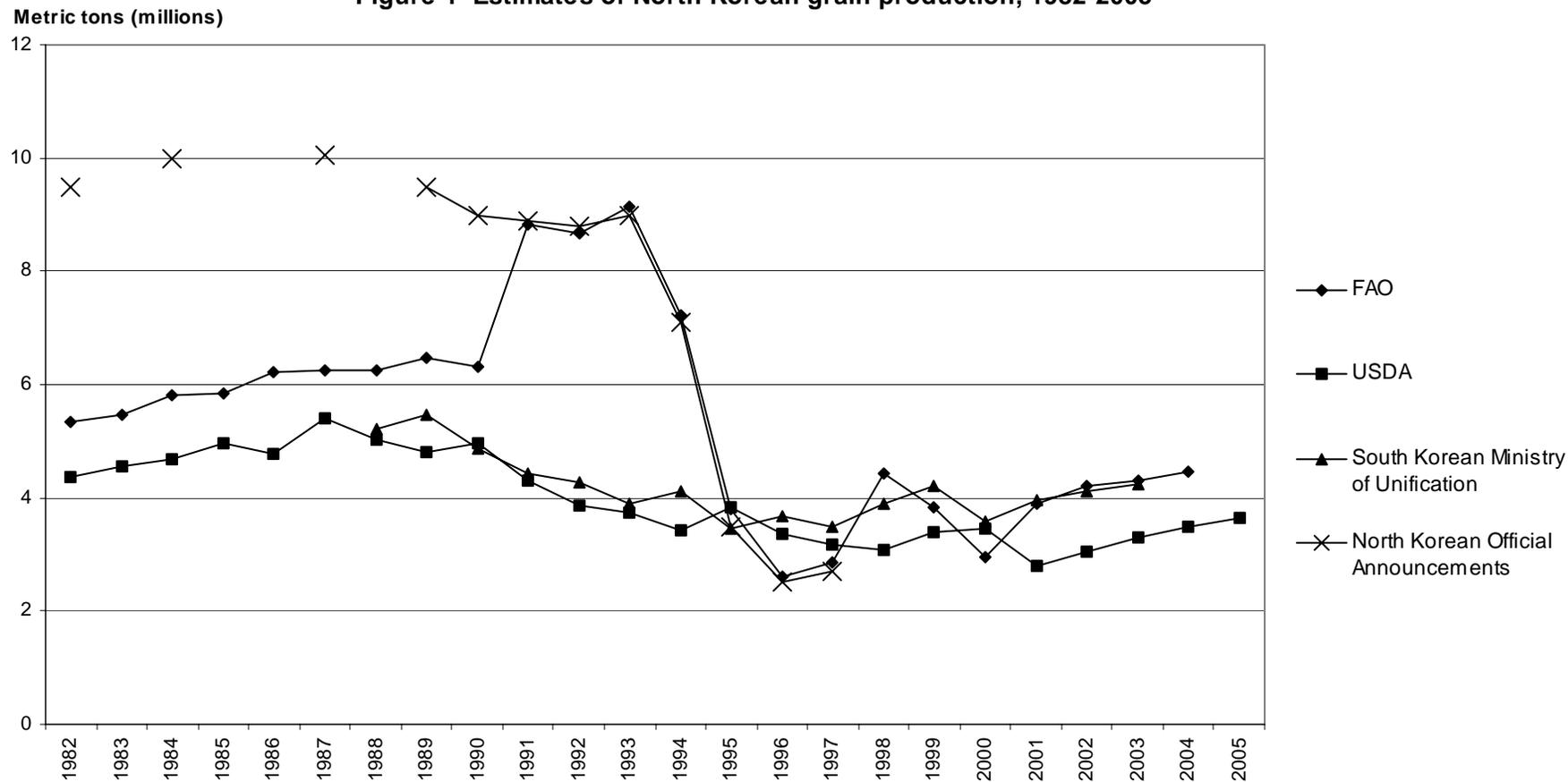
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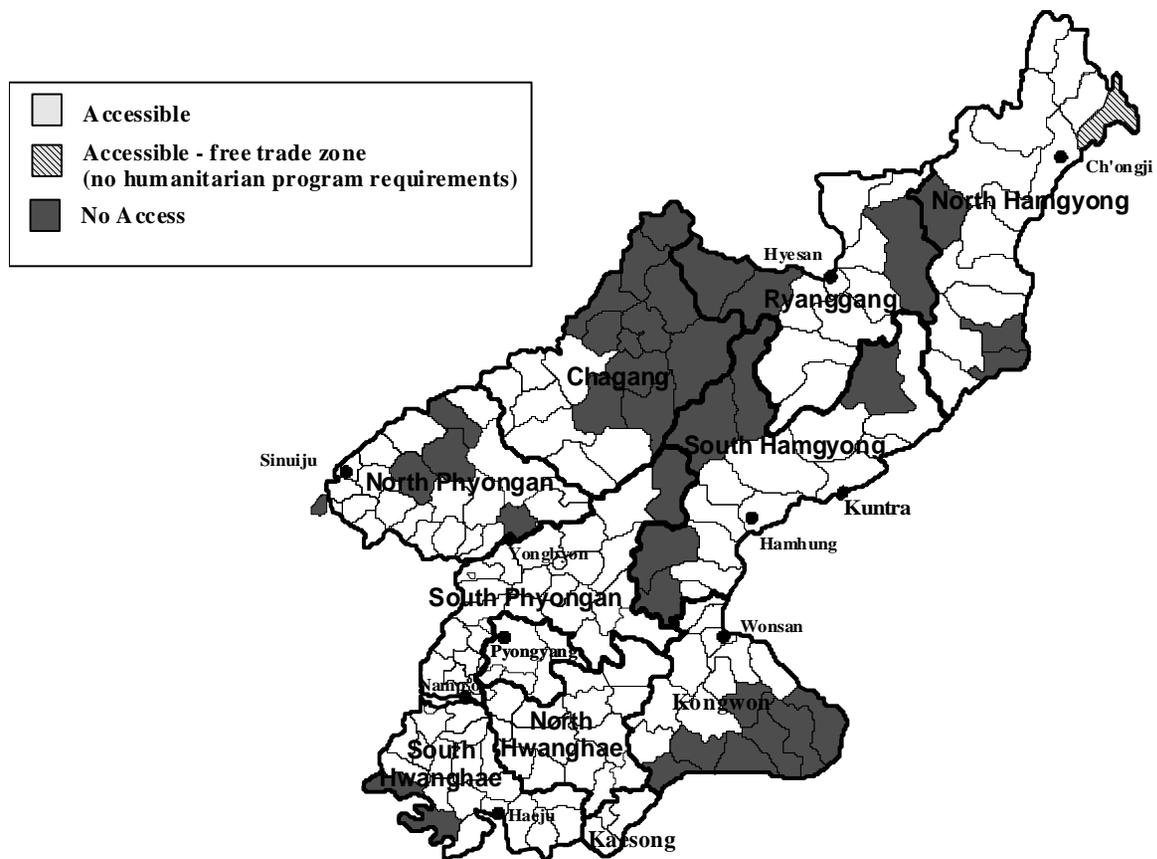
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Figure 1 Estimates of North Korean grain production, 1982-2005



Sources: FAOSTAT; USDA and FAS website; Korean Ministry of Unification; Woo (2004)

Figure 2 Accessible and Restricted Counties, October 2004



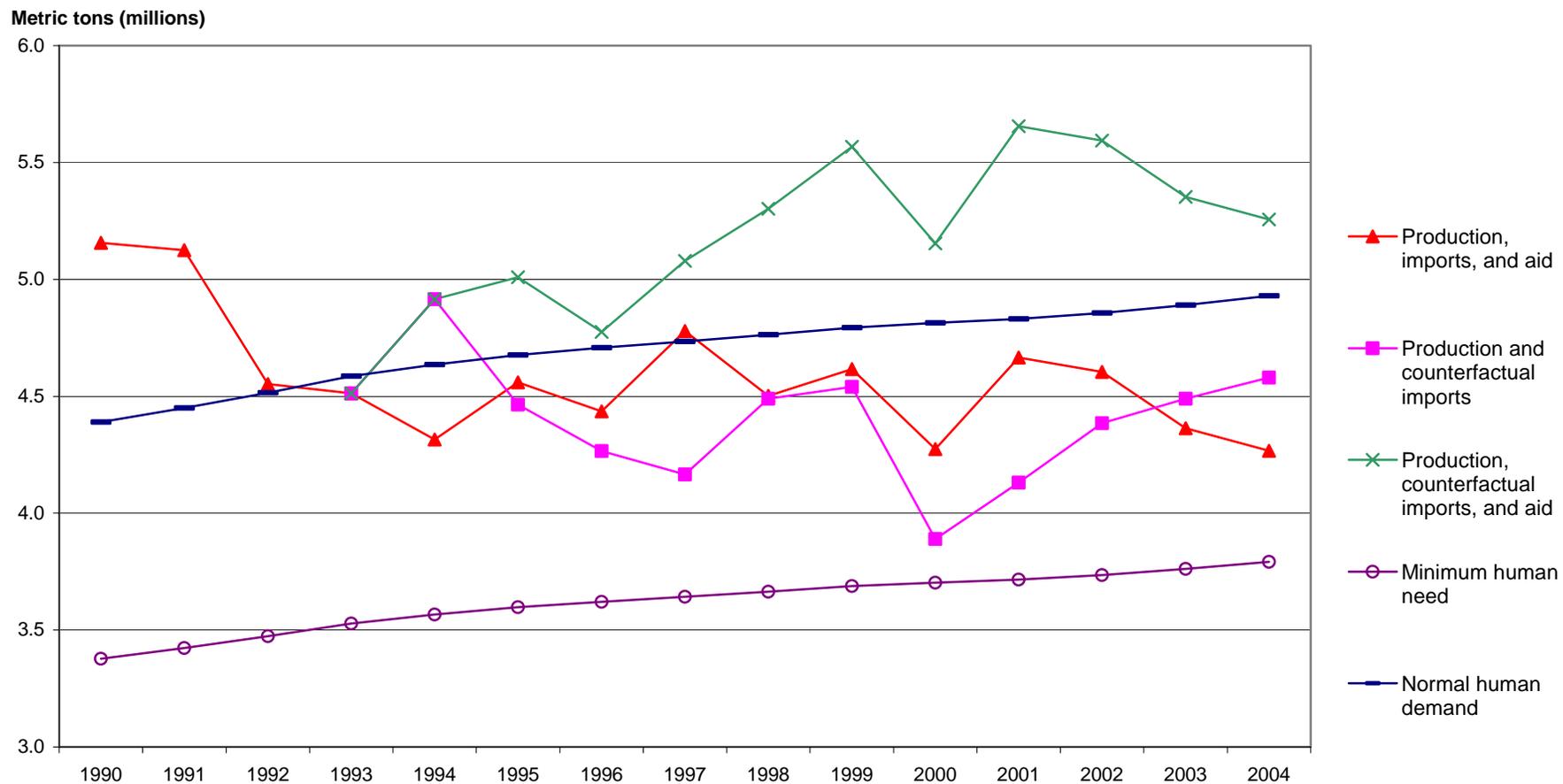
Source: WFP Asia Regional Bureau (2005).

Figure 3 North Korean food imports and aid, 1990-2004



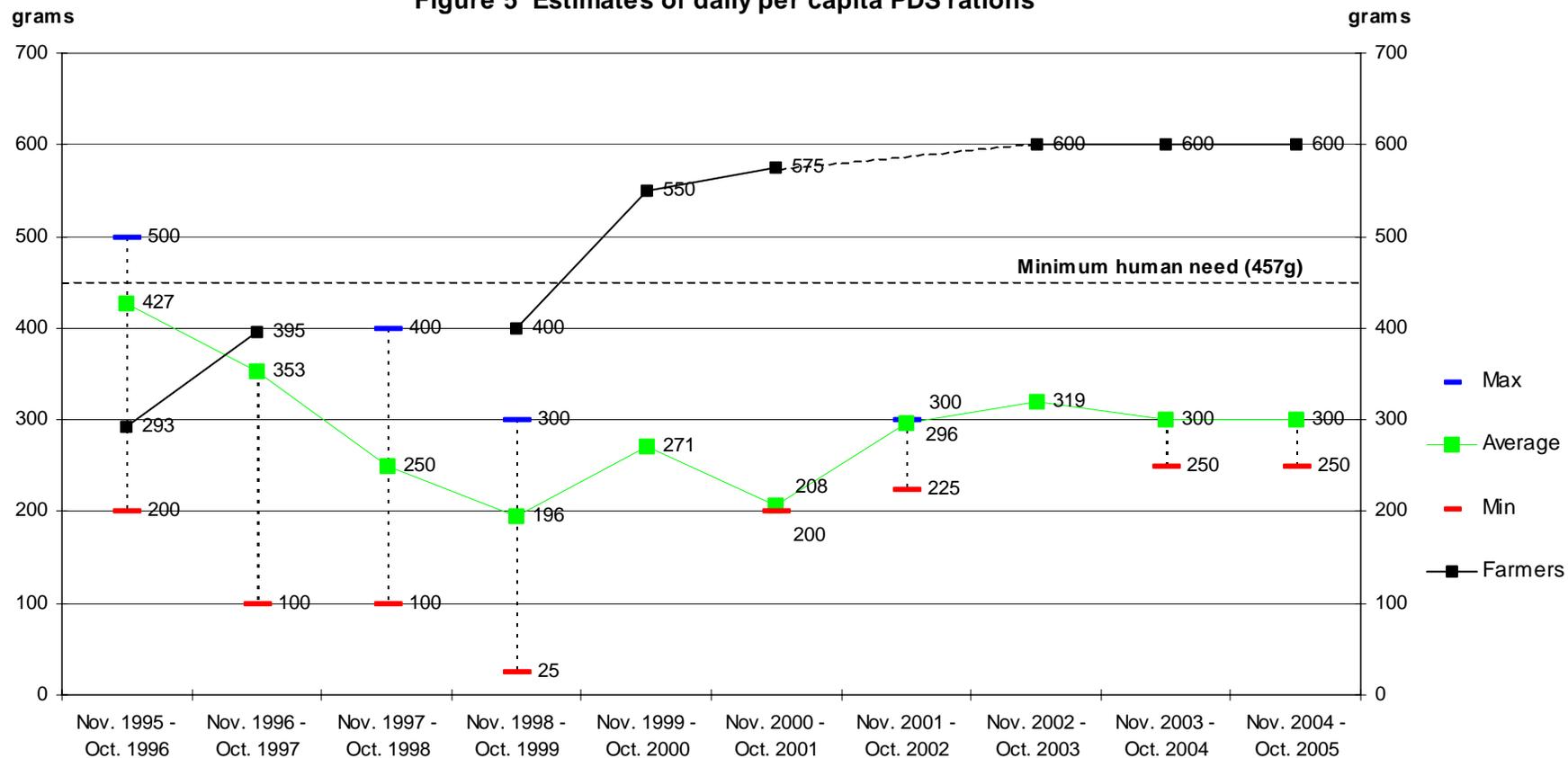
Source: Imports: FAO/WFP (1995, 1996, 1997, 1998a, 1998b, 1999a, 1999b, 2003, 2004); Aid: INTERFAIS (2004, 2005)

Figure 4 Scenarios of food supply and minimum human need, 1990-2004



Note: Demand figures based on population data taken from the Bank of Korea and annual per capita consumption of 167kg in cereal equivalent. Counterfactual supply keeps 1994-2003 imports held at 1993 level. Normal human derived from FAO/WFP (1995). Sources: Production: USDAFAS; Imports: Noland (2003); INTERFAIS (2004, 2005).

Figure 5 Estimates of daily per capita PDS rations



Source: FAO/WFP (various publications); Natsios (2002).

Note: In most cases averages are taken directly from the source. Otherwise, they are calculated as the simple average of the estimates for different cohorts throughout the marketing year.

Figure 6 Sunam market, July 2004



Figure 7 Aid sold in Sunam market



Table 1 Percentage Marketization, 1999 - 2003

Producer marketization (domestic output, less in-kind consumption, share to market)	Consumer marketization (consumption sourced from market share)		Aid as share of PDS
	10 percent aid diverted	50 percent aid diverted	
84	42	52	78

Source: Haggard and Noland (2006).