

HOW NORTH KOREA FINANCES ITS INTERNATIONAL TRADE DEFICIT: AN EDUCATED GUESS

By Edward M. Graham

The Democratic People's Republic of Korea (henceforth North Korea) certainly seems to like being different from other countries. Whereas governments of virtually all the world's countries regularly publish data on their international commercial and financial transactions, North Korea does not. Thus, any effort to compile data on the international transactions of this country is, by necessity, an educated guess. This article represents such a guess for 2005, the most recent year for which needed mirror data (see below) are available. What one quickly learns is that some of the needed guesses can be made with a high degree of certainty, whereas others are subject to so much uncertainty that one is not, at the end of the day, confident as to whether even the orders of magnitude are right.

It thus follows that, although it is possible to give an educated guess to the question of how does North Korea pay for its imports of goods and services from other countries, the guess is subject to major uncertainty. Therefore, in what follows, where there is a high degree of uncertainty regarding a particular item, a range of estimates is provided and broken down into three categories: "conservative," meaning that this guess is judged by this author likely, if anything, to understate the true magnitude of the transaction; "most likely," meaning that this is my own best guess, which of course still could be quite wrong; and "wild," meaning that, although such a guess has been offered by at least one source of information (or expert), in this author's judgment it is most likely on the very high side.

Complicating matters is that some significant but unknown portion of North Korea's exports is accounted for by what most governments would consider to be

illicit goods and services. These illicit goods and services include weapons, mostly missiles, that are sold, as it were, under the counter, which is to say that the sales are not recorded even by the importing nation; amphetamines and other drugs generally considered to be contraband, including narcotics; and counterfeited U.S. (and, according to some reports, Chinese) currency. Furthermore, some portion of the earnings of the *pachinko* industry—basically, a form of gambling—find their way into North Korea. In Japan, *pachinko* parlors gross collectively as much as \$30 billion per year. Strictly speaking, these earnings are not illicit, but, nonetheless, how much of this eventually finds its way to North Korea is as uncertain as are the magnitudes of the truly illicit transactions.

The year 2005 is in fact a rather propitious year to examine the external accounts of North Korea. This is because, during the second half of the 1990s, the North Korean economy experienced a near collapse, which included a period of famine.¹ Thus, for humanitarian reasons, in subsequent years North Korea became a recipient of significant amounts of aid from overseas donors, including the United States.² However, actions (long-range missile tests, threats to restart the North Korean nuclear program) by the North Korean state seen as belligerent by many of the donor nations led to most of this aid being wound down or terminated by 2005. Thus, by 2005, North Korea largely stood on its own in terms of financing its external transactions, and it was without large-scale support from external donors.

So, given these considerations, let us look at what were in 2005 the international transactions of North Korea, beginning with the most visible ones and ending with the most invisible ones.

1. See Stephan Haggard and Marcus Noland, *Famine in North Korea: Markets, Aids, and Reforms* (New York: Columbia University Press, 2007).

2. See Nicholas Eberstadt, "North Korea's Survival Game: Understanding the Recent Past, Thinking about the Future," in *A New International Engagement Agreement for North Korea: Contending Perspectives*, ed. Ahn Choon-yong, Nicholas Eberstadt, and Lee Young-sun (Washington, D.C.: Korea Economic Institute, 2004).

Trade in Licit Goods

To begin, although North Korea does not publish even international trade statistics, we can glean what are the licit exports and imports of this mysterious land from the data of those nations that trade with North Korea and that do publish trade data broken down by trading partner. Fortunately, as noted above, all nations that have any substantial amount of trade with North Korea do publish such data. Values of North Korea's exports and imports compiled from these so-called mirror accounts (so called because the exports of North Korea are mirrored in the import accounts of its trading partners) are listed in summary form in **Table 1**. The data are for trade in goods only, not services, and then only for licit goods. Exports of illicit goods will be considered later in this article. The exports and imports of North Korea from each of its six largest trading partners in each category are also indicated.

A technical matter: the Republic of Korea (South Korea) considers trade with North Korea as internal trade and hence does not report this trade (or at least its full value) to the United Nations. Thus, the data in Table 1 are adjusted so as to add the value of inter-Korean (North-South) trade as reported by the South Korean Ministry of Unification. It should be noted that, unlike the UN data, the Korean data do include imports and exports of certain services, most notably those associated with the Mt. Kumgang and Kaesong projects, discussed further below.

As shown on Table 1, North Korea's licit exports of goods are far exceeded by its licit imports of goods. Indeed, assuming that the mirror accounts for North Korea's exports include transaction costs at 15 percent, the actual export receipts of the country would be about \$1.39 billion, resulting in a deficit on trade in licit goods of about \$1.62 billion. The question then becomes, how did North Korea finance this deficit? There are several possible sources of finance, including (1) non-trade-related capital flows to North Korea, including borrowing from international banks, sale of government bonds, private remittances, and for-

Table 1: Exports and Imports of Licit Goods by North Korea, Data from Mirror Accounts of Trading Partners, 2005

Trade by country	Amount of trade (millions of dollars)
Exports	1,635.4
China	499.1
Republic of Korea	340.3
Thailand	133.1
Japan	131.7
Brazil	77.1
Mexico	70.2
Imports	3,018.1
China	1,081.1
Republic of Korea	715.5
Russia	224.2
Thailand	207.0
Qatar	181.7
Singapore	73.2

Sources: All figures except exports and imports to and from the Republic of Korea are from the United Nations Commodity Trade Statistics Database, <http://comtrade.un.org/>. Exports and imports to and from the Republic of Korea are from "Inter-Korean Trade Volume from 2000 to 2005," Ministry of Unification, www.unikorea.go.kr. Totals have been adjusted to reflect added Korean data.

eign direct investment; (2) receipts of overseas development assistance; and (3) net receipts from exports of illicit goods and services.

Capital Flows to North Korea

Borrowing from International Banks

A place to start is borrowing by North Korea from international banks. North Korea has borrowed internationally from banks and has issued sovereign bonds, but the latter of these sources seems to have generated no funds for the nation in recent years.³ As for the borrowing of North Korea and also bank deposits held by North Korea in international banks, data are available from the Bank for International Settlements

3. Dick K. Nanto and Emma Chanlett-Avery, "The North Korean Economy: Background and Policy Analysis," Report no. RL32493, Congressional Research Service, Washington, D.C., 9 February 2005, <http://fpc.state.gov/documents/organization/45200.pdf>.

(BIS; see *Table 2*). The data in the table indicate total deposits from and loans to North Korea held by BIS reporting banks, which include virtually all of the large international private banks. The data indicate total such deposits and loans as well as deposits of and loans to the North Korean nonbank sector (from which could then be calculated the deposits of and loans to the North Korean banking sector). Although in the absence of more information the statement that follows must be considered conjectural, it seems likely that the deposits held by the North Korean banking sector effectively represent foreign exchange reserves of the North Korean central bank (such as it is), and that the loans held by this sector represent the liabilities of the central bank. If so, as can be gleaned from the table, the net foreign exchange reserves of North Korea are scant and hardly changed between 2004 and 2005. Deposits of and loans to the North Korean nonbanking sector likely are working balances used to finance imports; but, again, in the absence of more information, this statement is conjectural.

North Korean borrowings from international banks do include borrowings from banks other than BIS reporting banks; in particular, there is some borrowing from the multilateral development banks. The Organization for Economic Cooperation and Development does publish some data that combine the borrowing from BIS banks with that from the multilateral development banks. Thus, according to the OECD, the total liabilities of North Korea to foreign banks decreased from \$289 million in December 2004 to \$133 million in December 2005, a net drop of \$156 million.⁴ In fact, over the past several years, total liabilities of North Korea to foreign banks have fluctuated from year to year; for example, they were up by \$7 million in 2000 and by \$154 million in 2001, down by \$86 million in 2002, and up by \$79 million in 2003. A large percentage of these liabilities are of short maturity, that is, one year or less. A reasonable interpretation is that this bank borrowing is used in certain years to cover a shortfall in international receipts (when such receipts are less than international payments), but in other years, when there is a surplus of receipts over payments, the bank debt is repaid.

Table 2: Deposits of and Loans to North Korea in Bank for International Settlements (BIS) Reporting Banks, December 2004 and December 2005, millions of dollars

	December 2004	December 2005
Deposits (all sectors)	262	238
Deposits (nonbank sectors)	157	77
Loans to North Korea (all sectors)	81	121
Loans to North Korea (nonbank sectors)	33	19
Deposits (banks; calculated)	105	161
Loans (banks; calculated)	48	102

Source: Bank for International Settlements, "Locational Banking Statistics," Tables 7A and 7B, www.bis.org/statistics/bankstats.htm.

This interpretation in fact represents yet another conjecture that cannot be verified, absent hard data on fluctuations in North Korea's foreign exchange reserves; but it would seem to be a reasonable guess. Thus, it would seem that in 2005 the total international receipts of the North Korean government from all sources did exceed the payments by that country by something like \$156 million. Importantly, this guess excludes those net receipts that might have been received by North Koreans but not transferred to the government, for example, receipts from international criminal activities not under government control. There indeed is some evidence that such activities do exist in North Korea (see below). Even so, what seems clear is that, in 2005, North Korea had sufficient receipts from transactions other than exports of licit goods as listed in Table 1 to cover its trade deficit in such goods and still repay some debt owed to international banks.

Even so, a further examination of borrowing from international banks suggests that North Korea probably did not have a substantial buildup of official re-

4. "Joint BIS-IMF-OECD World Bank Statistics on External Debt," www.oecd.org/dataoecd/54/52/31603957.xls.

serves in 2005. This can be inferred because, in the first quarter of 2006, according to the OECD, North Korea increased its liabilities to foreign banks by a total of about \$428 million, a move that is best explained by a shortage of reserves and thus hard to explain if the North Korean central bank in fact held substantial foreign exchange. We come back to this issue toward the end of this article.

International Bonds

During the 1960s and 1970s, North Korea did place sovereign bonds on international markets, mostly to the USSR (which have been assumed by Russia). The cumulative value of these bonds is estimated to be \$12 billion, of which \$8 billion is held by Russia.⁵ On 22 December 2006, Russia announced that it would forgive about 80 percent of this indebtedness. North Korea apparently issued no sovereign bonds in 2005, nor indeed has it done so during any recent year.

Private Remittances

With respect to private remittances, we enter a very murky zone. The major source of private remittances from outside North Korea would seem to be from persons of North Korean ancestry who are now citizens of Japan, where the major source of funds for these remittances is the earnings from *pachinko* parlors in Japan. But how much money flows to North Korea from Japanese *pachinko* parlors? The honest answer is that no one outside of North Korea itself really seems to know. Much of the money going to North Korea is carried there in cash by individuals and is not reported to the Japanese authorities. Thus, in 2003, the Japanese finance minister, testifying before the Diet, reported that \$34 million in remittances to North Korea had been officially declared.⁶ In the

same year, however, a Japanese newspaper, the *Daily Yomiuri*, reported that the actual amount was between \$200 and \$600 million per year.⁷ The authors of a Congressional Research Service report suggest that a “working estimate” might be \$100 million per year. However, a recent article in the *Wall Street Journal* suggests that the figure might be as high as \$300 million.⁸ A number of sources report that, whatever the amount, it is in decline owing to a decline in the Japanese *pachinko* industry itself and also to stepped-up Japanese inspections of ships entering or leaving Japan en route from or to North Korea.⁹

Given the vast uncertainty surrounding the amount of these remittances, I will submit that a conservative figure for 2005 would be \$34 million, a likely figure to be \$100 million, and a wild figure to be \$300 million.

Even murkier is the matter of private remittances (or transfers) abroad. Stories abound of senior North Korean officials holding large sums in private, secret bank accounts in places such as Macau and Switzerland. No reliable information whatsoever is available on this matter. I will leave it at this: to the extent that private remittances or transfers were made overseas by North Korean persons, one would have to subtract such remittances and transfers from estimates of net capital inflow to North Korea presented at the end of this article. But even what order of magnitude these private transactions might be is simply unknown.

Direct Investment in Projects in North Korea by South Korean Firms

As indicated earlier in this article, there are two large investment undertakings by South Korean firms in North Korea: those at the Mt. Kumgang resort com-

5. Nanto and Chanlett-Avery, “The North Korean Economy.”

6. Reported in Nanto and Chanlett-Avery, “The North Korean Economy,” note 43, from *Financial Times* Global Newswire, 6 June 2003.

7. Nanto and Chanlett-Avery, “The North Korean Economy,” note 42.

8. Charles Wolfe Jr., “Tokyo’s Leverage over Pyongyang,” *Wall Street Journal*, 21 November 2006.

9. On the stepped-up inspections (and refusal of Japan to allow certain North Korean ships to enter Japanese ports), see International Crisis Group, “Japan and North Korea: Bones of Contention,” Asia Report no. 100, 27 June 2005, http://www.crisisgroup.org/library/documents/asia/north_korea/100_japan_and_north_korea_bones_of_contention.pdf.

plex near the southeast border with South Korea and at the Kaesong industrial complex just north of Seoul. Current account transactions (exports and imports of goods and services, payments of fees to the North Korean government) are reflected in the figures for North Korean trade with South Korea already provided in Table 1. These figures, however, do not necessarily capture investment flows from South Korea into these and possibly other projects.

According to the Bank of Korea, long-term investment flows from South Korea to the North in 2005 were \$270 million.¹⁰ Alas, for our purposes, these figures combined with those of Table 1 do create some double-counting because some of the goods imported from South Korea by the North are almost surely investment goods, goods being financed by the reported invested flows. A breakdown of these goods by end use is not available, but existing data do suggest that virtually all of the investment flows noted above are in fact used to finance investment goods from the South: Ministry of Unification data in particular show that, in 2005, exports from the South to the North connected with the Kaesong industrial complex totaled \$177 million and that “other” exports (excluding those connected with Kaesong and those classified as “general trade” or “processing-on-commission trade”) were \$93 million. The total of these two is \$270 million, exactly the figure reported by the Bank of Korea noted above. If we assume that the \$93 million represents investment goods to Mt. Kumgang and the \$177 million represents capital goods only to Kaesong (the lattermost assumption is likely correct because in 2005 Kaesong was not yet developed to the point where there was much output being generated), then it would appear that the \$270 million in investment was used entirely to finance imports of capital goods to North Korea as reported in Table 1. Thus, to account for this financing, we must either treat the investment as a capital inflow to North Korea (which we do here) or, alternatively, treat the imported capital goods as though they were free to North

Korea (and, thus, reduce the deficit in the balance of trade in licit goods by the amount of these exports).

In addition to direct investment from South Korea, North Korea does receive some foreign direct investment from China. The figure that we could find—\$290 million—was from South Korean sources,¹¹ however, and was combined with other capital flows from China to North Korea.

Receipts of Overseas Development Assistance

As noted, by 2005, overseas development assistance (aid from international donors) was relatively scant compared with earlier years. Nonetheless, development assistance continued from South Korea. In 2005, the South Korean Ministry of Unification reported that aid to North Korea was provided by the South in the following amounts: \$123.9 million from the South Korean government and \$88.7 million from South Korean private sources; these total to \$212.5 million (allowing for a rounding error).¹² However, in the Korean National Assembly, during 2006, a number of opposition assembly members questioned these figures, arguing that actual assistance to the North from the South Korean government had been many times the figures actually reported.

What to do about these claims? I will simply give, as both a conservative and a most likely guess as to the magnitude of this aid, the Ministry of Unification figure, \$212.5 million. But, as a wild guess, let me offer double this amount, or \$425 million.

In addition to developmental assistance from South Korea, North Korea did still receive some such aid from other countries, but, as noted, it was rather scant. Many of these countries are members of the Organization for Economic Cooperation and Development (OECD) Development Assistance Committee. Total aid to North Korea of these nations, as reported by

10. Lee Young-hoon, “Current Status and Evaluation of Inter-Korean Cooperation Projects [in Korean],” Monetary and Economic Research Paper no. 281, Bank of Korea, Seoul, December 2006.

11. Ibid.

12. “Inter-Korean Trade Volume from 2000 to 2005,” Ministry of Unification, Seoul, www.unikorea.go.kr.

the OECD, in 2005 was \$81 million. North Korea also receives some assistance from China, but this assistance is included in the \$290 million reported under foreign direct investment.

Illicit and Other Nontransparent Exports and Imports

As noted earlier, illicit exports and exports of arms that are not reported by the importing nation are major sources of revenue for North Korea, but their magnitude is subject to considerable uncertainty. Thus, only guesses can be made, and these guesses are generally subject to greater uncertainty than those presented in the previous sections.

Illicit Exports

These exports break into two categories, counterfeit currency (mostly U.S. dollars, but some reports indicate that North Korea has attempted to circulate counterfeit Chinese currency as well) and narcotics and other illicit drugs, mostly methamphetamines. North Korea is also reported to export counterfeited brand-name cigarettes and prescription drugs, but no estimates are available of the magnitude of these exports. However, the magnitude of these exports is believed to be small relative to narcotics.

Counterfeiting would seem to earn North Korea rather little in actual earnings, and, indeed, the North Korean government has claimed that it is not in the counterfeiting business. The North Korean government has, however, also argued that there might be criminal operations in the country that do produce bogus currency (and thus effectively admitted that counterfeiting operations do exist in its territory). The U.S. government does not find the latter argument credible and, indeed, has worked with Chinese authorities to shut down banks in Macau that have apparently been complicit in the circulation of counterfeit currencies

from North Korea. Wherever the truth lies, the U.S. Congressional Research Service reports that North Korea only earns \$15–20 million per year from counterfeiting.¹³ I will use the latter number.

Illicit drug exports are another matter. As with counterfeit currency, the North Korean government claims that it is not at all involved in the production or sale of illicit drugs. However, there is considerable evidence of heroin poppy production in North Korea, and, moreover, there is evidence that methamphetamines seized in Japan are of North Korean origin.¹⁴ According to a story in the *Washington Post* in 2003, the U.S. military command in Seoul estimated the value of illicit drugs exported from North Korea to be between \$500 million and \$1 billion per year.¹⁵ The estimate was based in part on Australia's interception of a ship carrying some \$50 million of heroin. Unfortunately, this author has not been able to find estimates more recent than these. Thus, for purposes of this paper, I will make a conservative estimate of North Korean exports of illicit drugs of \$500 million, a most likely estimate also to be \$500 million, and a wild estimate to be \$1 billion.

Arms Exports Not Reflected in Table 1

There seems to be no question but that North Korea is a major under-the-table exporter of missiles and other arms to other nations, mostly in Africa and the Middle East. Indeed, in a well-reported incident in 2002, Spanish officials interdicted a ship containing parts for Scud missiles that was bound to Yemen from North Korea; the ship had violated no international laws, and it was allowed to proceed. Hard data, however, on North Korean sales of missiles and other arms are as difficult to obtain as data on illicit drugs exports of North Korea. The number most cited with respect to North Korean sales of missiles and other arms appeared in the Japanese newspaper *Daily Yomiuri* in 2003; and I have found that this number,

13. Nanto and Chanlett-Avery, "The North Korean Economy."

14. See, for example, Raphael Perl, "Drug Trafficking and North Korea: Issues for U.S. Policy," Report no. RL32167, Congressional Research Service, Washington, D.C., 25 January 2007, <http://fpc.state.gov/documents/organization/82013.pdf>.

15. Richard C. Paddock and Barbara Demick, "North Korea's Growing Drug Trade Seen in Botched Heroin Delivery," *Washington Post*, 21 May 2003.

\$580 million for the year 2001, to be repeated extensively in articles pertaining to North Korean arms sales; or, in other words, it is just about the only number out there.¹⁶ The number was reported to be from an anonymous U.S. military source. Thus, I seem to have no choice but to use this number as an estimate of the revenue to North Korea from sales of missiles and other arms.

Barter and Other Unreported Trade between North Korea and China across the Yalu River

The Yalu River on the North Korean and Chinese border is, for most of the year, shallow and easily crossed. Thus, a certain amount of cross-border trade across this river is believed to exist. This trade is not reported in Chinese data and hence is not captured in the mirror data of Table 1. Most of this trade is likely conducted on quite a small scale by entrepreneurial individuals. Examples would include sales of scrap metal from North Korea in China. In 2005, China in fact was experiencing domestic shortages of scrap metal, and prices for this commodity rose substantially, creating incentives for small-scale cross-border sales of the commodity. During the growing season, there is apparently a two-way trade in fresh fruits and vegetables. It is known that North Korea, via this route, imports cell phones and cellular services from China as well as contraband radios and television receivers. There has been reported some human trafficking via this route; this trafficking would, on the basis of very sketchy press reports, seem to consist mostly of young North Korean women being sold as brides to men on the other side of the river.¹⁷ The total volume of any of this trade is unknown. Because most of the trade is either barter or of the cash-and-carry variety, it is a safe guess that the trade is balanced, that is to say that the total value of North Korean exports to China via this route is closely equal to the total value of such imports from China.

It cannot be stressed enough that the numbers cited in this section about illicit and other nontransparent exports of North Korea are subject to enormous uncertainty. Indeed, whether they are fact or fiction can only be assessed by seeing if everything adds up. We proceed to this task in the final section.

Other Nonreported Transactions

As noted earlier, Table 1 includes trade in goods but, with the exception of services sold in conjunction with the Mt. Kumgang and Kaesong projects, does not include services. The main services sold by North Korea to foreigners are almost surely those that are travel related; foreign visitors do come to North Korea and, while there, they of course must purchase lodging, meals, and local transportation. Likewise, the main services imported by North Korea are also likely to be travel related; some North Koreans do, on a very limited basis, travel abroad, and they too must purchase lodging and meals. Alas, I could find no data whatsoever on the numbers of foreign visitors to North Korea in 2005 (or any other year) or the number of North Koreans who traveled abroad; given this, it is difficult even to know whether North Korea is a net importer or a net exporter for these types of services. In this matter, I take a guess that North Korea is in fact a net exporter of travel-related services, and that a net 20,000 visitors per year come to North Korea and spend on average \$1,000 for such services. If this guess is even remotely correct, North Korea then exports a net of \$20 million of travel-related services, a figure carried to **Table 3**.

North Korea is almost surely a net importer of international financial services; as noted above, the country does deal with international banks, and they will charge interest and fees for their services. How great these fees are is not reported, but an educated guess is that they are probably on the order of 8 percent of

16. Asano Yoshiharu, "North Korea Missile Exports Earned 580 Million Dollars in 2001," *Daily Yomiuri*, 13 May 2003.

17. As with other unreported trade, I have been unable to find reliable data on the extent of human trafficking of the sort reported. There is in China an imbalance of men of young marriageable age and women of similar age, where the former outnumber the latter. It is North Korean policy strongly to discourage out-migration of any sort, and hence the sale of brides into China is an activity that takes place contrary to this official policy.

Table 3: Estimates of Capital Flows to North Korea and Receipts from Exports of Illicit Goods and Other Nontransparent Exports, 2005

Sources of funds	Estimates(millions of dollars)		
	Conser- vative	Most likely	Wild
Private remittances	34.0	100.0	300.0
Direct investment from South Korea	270.0	270.0	270.0
Direct investment and other capital flow from China	290.0	290.0	290.0
Development assistance	293.5	293.5	506.0
Counterfeiting	20.0	20.0	20.0
Illicit exports (drugs)	500.0	500.0	1,000.0
Nontransparent exports (arms)	580.0	580.0	580.0
Add: Net export of travel-related services	20.0	20.0	20.0
Subtract: Import of financial services	-16.0	-16.0	-16.0
Total	1,991.5	2,057.5	2,970.0

Source: Author’s estimates; see text for details.

loans outstanding, which averaged about \$200 million in 2005; so, the guess is that North Korea imported about \$16 million worth of financial services.

Other services that North Korea exports would include those provided the diplomatic community in Pyongyang, but, likewise, North Korea must import services in order to maintain its diplomatic missions abroad. In the absence of any data whatsoever on these particular imports and exports, I simply assume that they balance for a net of zero.

Does It All Add Up?

One of the most powerful but least appreciated lessons from economics is that certain things must add

up. Thus, for example, the net inflow (or outflow) of funds from a nation, including flows created by a trade surplus (or deficit), must equal the change in foreign reserves of the nation. With respect to North Korea, we do not have any figures for the last item, the change in foreign reserves, but we have just built a number of estimates of the net flow of funds to North Korea. Furthermore, in the subsection, “Borrowing from International Banks,” above, the data suggest that in 2005 North Korea did experience some increase in foreign reserves, where \$156 million of these reserves were used to pay down loans from international banks. If we assume that this \$156 million did represent the net increase in foreign reserves of North Korea—this might or might not be correct, but we use it as a working assumption—then net receipts of North Korea not reflected in Table 1 would equal North Korea’s trade deficit in licit goods (\$1.62 billion) plus the \$156 million, or a total of \$1.78 billion. Does this last number come close to equaling the total of our guesstimates provided in the sections, “Capital Flows to North Korea” and “Illicit and Other Nontransparent Exports of North Korea”? If so, it is possible that our educated guesses are reasonably accurate. If not, we need to ask why not, because in principle (and in practice, were the true numbers known) they would thusly add up.

Table 3 lays out all of the guesstimates of the previous two sections (except the data on international borrowing of North Korea, which is already included in the \$1.78 billion total derived just above).

What can we conclude? All of the sums, whether from the conservative, the most likely, or the wild estimates, exceed the deficit in licit goods plus the repayment of loans to international banks incurred by North Korea in 2005. There really are only two explanations for these sums being, in this sense, “too high”: either (1) North Korea accumulated significant increases in foreign exchange reserves in 2005¹⁸; or (2) at least some of the line items reported in Table 3 represent estimates that are too high. Both explanations could simultaneously be valid, of course.

18. The reserves could have been accumulated either by the North Korean central bank or in unlisted offshore bank accounts held by individual North Korean persons.

With respect to the possibility that North Korea accumulated a significant increase in foreign exchange reserves, without access to data on these reserves, we do not know whether this accumulation took place. Circumstantial evidence presented earlier in this article suggests that little or no official increase occurred, but this evidence is only circumstantial and could lead to an erroneous conclusion. The possibility that individual line items in Table 3 represent overestimates cannot be ruled out. I would submit that the most likely candidates are the figures for receipts from illicit or nontransparent trade and thus that North Korea's revenues deriving from such activities are in fact less than commonly reported. However, given the uncertainties in so many of the estimates, this too could be wrong. As noted at the outset of this article, the figures associated with much of the external financing of North Korea can indeed only be guessed at, and the uncertainties surrounding these guesses remain substantial.

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