

Prospects of the inter-Korean Economic Cooperation And North Korean External Trade

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Abstract

This article will describe the recent status of the North Korean economy and its external trade as well as the derailed North-South economic interaction. Despite several attempts by North Korea to introduce change involving the term 'economic reform', North Korea has not yet advanced during the last thirty years. Its economic deadlocks are owed, first, to its very principles in which economic reform must be permissible only within the set of basic values held by the monopoly about "juche (self-reliant)" socialism. In other words, even partial decentralization is itself being centrally directed and eyed with military-first targets. Second, the North Korean leadership and its supporting elites, the final arbiters deciding how far it is permissible to open its system, are apprehensive that a change in its system would actually lead to the collapse of their established power structure. The fear of reform arbiters regarding a revolutionary bottom-up movement has played a role in inhibiting action. North-South economic cooperation as well as the resistance to North's external openness must also be considered for its potential positive and negative effects on the people in the monarchic hermit kingdom. North Korea is likely to remain little changed as long as Kim's family continues its current rule. The only chance for real change may occur if the young and liberal Kim Jung-eun wakes up and agrees to unite with South Korea.

Keywords: cognition, dependency, external relations, Gaeseong, growth accounting, inflation tax, inter-Korean trade, juche, Keumgang, NTP, reciprocity, social ownership, transmission mechanism.

I. Introduction

Will the North Korean economy revive or remain stagnant? At least some thirty years ago, many sympathetic political economists in the South believed or hoped that the North Korean state-dominated economy

could regain potentiality and catch up to its rival in the South if North Korea (a.k.a. Democratic People's Republic of Korea, DPRK) undergo a lower and transitional form of socialism by promoting economic cooperation with South Korea and other outsiders. In response to such expectations, North Korea took some positive reconciliatory positions toward South Korea. North Korea timidly began to respond to the South's initiatives from President Roh Tae-Woo's declaration for inter-Korea economic cooperation on July 7, 1988, and came to seek cooperation from South Korea's Hyundai to develop the Mt. Keumgang sightseeing projects and the Gaeseong region development.¹

The beginnings of inter-Korea cooperation were very modest at a level of less than \$US 20,000,000 in both 1989 and 1990, but its future seemed hopeful. Trade volume continued to grow, though moving unevenly with the two Korea's moving at different speeds. Inter-Korean trade reached to an annual volume of \$1,820,400 in 2008. The Mt. Keumgang sightseeing program which attracted more than one million tourists from the South after 1989 was halted as of July 12, 2008, just after a South Korean female tourist was gunned down near a Mt. Keumgang beach hotel by a North Korean guard.

The Gaeseong industrial complex began to produce its first commercial output in December 2004, after about three-and-a-half years of gestation, following the joint development agreement made between the South's Hyundai-Asan Corporation and the North Korean agency in August 2000. Beginning in late 2004 and continuing until the end of August 2006, total cash and material flows from the South into the Gaeseong complex were about \$28,056,000 US dollars, which included \$16,000,000 for land compensation for one million pyong (3.3 million square meters) of area, \$7,218,000 for wage and salary for North Korean workers, \$3,105,000 for construction materials, \$1,289,000 for communication, and \$444,000 for taxes. Despite continued growth in total production in the complex with increasing investment from the South, the diminishing marginal return to labor input has been the reality in every aspect of the industrial complex since 2007. For illustration, the average productivity of a North Korean worker at Gaeseong was about \$1,259, approximately 17.7 times greater than the monthly average North Korean wage of \$71 dollars in 2007, but it dropped to \$901, 12.2 times the average wage of \$74.1 in 2008. Productivity dropped further to \$632, only 6.7 times of average wage of \$93.7 in 2010, then to \$673, only 6.5 times average wage of \$104 in 2011.

The cause of the decreased labor productivity in the Gaeseong industrial park was in part due to the strengthened regulations imposed by the North on South Korean's visiting the Gaeseong park in December 2008, in the wake of North-South strife following the Mt. Keumgang tourism suspension. Another cause attributed to the South Korean government occurred on May 24, 2010.² Gaeseong had always served as one of the few (though the largest) inter-Korean links until April 30, 2013, when most South Korean staff were pulled out, and the remaining seven staff members were finally allowed to cross the border into the South on May 3, thus cutting off the inter-Korean economic transaction link. The cuts-off was surprisingly initiated by the North in its protest to the annual South Korea-US joint military drill (Resolve) which, as usual, represented strong US-South Korean ties and a joint determination against the recently intensified activities involving both long-range missile and nuclear development by the North.

During the last ten years, a total of approximately \$10 billion (about 1 trillion Korean won) was invested in the Gaeseong complex by the South Korean firms which started to produce about \$14.9 million worth of outputs with 507 South Korean staff members and 6,013 North Korean workers in 2004. Gaeseong park's production reached a peak of \$469,500,000 in 2012, employing 786 South Korean staff and 53,448 North Korean workers. From 2004 through the end of July 2012, a total of \$247.7 wages (including insurance) were paid to North Korean workers in the Gaeseong park.

North Korea demanded that the 123 South Korean investors stop their manufacturing operations on April 9, 2013, when some 53,000 North Korean workers did not come to work. Pyongyang unilaterally barred the entry of South Koreans and cargo into the park on April 3. The South's investment firms which are labor-intensive industries such as textiles, clothing and electronic parts have faltered with their orders cancelled, buyers were reluctant to do business with them because of political uncertainty and other financial issues. Pyongyang bluntly rejected any dialogue to recover the normal status as of early May, 2013. The government in Seoul then had no choice but to pull South Korean firms and staff out of North Korea for their safety. Seoul even had to agree to meet the North's demand for the more than 10 billion won (worth about \$10,000,000 US dollars) for unpaid wages as well as income taxes and communications fees. The South Korean government had to ensure the safe return of the seven service staff members who

were freed by the North on May 3, only after the final closing of the deal between the South and the North.

The breakdown of the last remaining symbol of cross-border cooperation caused concerns that the hostile parties would have no official communication incentives and channels between each other. On the part of the North, the expulsion of South Korean firms out of Gaeseong complex meant its own propelled closure of a big door cutting off earning dollar source, not to mention inviting a mounting social unrest and despair coming from on-the job trainees' unemployment. Nearly 54,000 North Korean workers had lost their jobs in the Gaeseong park. The shut-off also risked possible suspension of the electricity supply and drinking water purification help from the South into the Gaeseong city area. On the other hand, the Gaeseong pull-out also represented big blows to both the South Korean government and firms.

The South government will be encumbered by a big financial burden of some 370 billion won about \$370,000,000(US) in emergency relief funds to those firms suffering from the liquidity crunches following the suspension of the inter-Korean industrial complex in Gaeseong. As such, in the beginning, the South-North economic cooperation initiative appeared to be "a win-win game" for both parties when looked through the pure economic cooperative perspectives. But every sequential severance ends up over time with "all lose-lose game" for both parties who are in a mutually distrustful relation, like one not reconcilable without physical reunification. Looking from a political and ideological viewpoint, the attempt at economic cooperation is fragile and is destined for a breakdown at any time. Indeed, just as it is impossible to mix fire and water, it is nearly impossible to keep the North Korean communists harmonized with the South Korean capitalists regardless of their ethnological identity.

Inter-Korean economic co-operation started to bud with "The Agreement on the Implementation of Trade and Economic Co-operation and the Establishment of the South-North Joint Economic Committee (23 articles) signed by both parties on June 20, 1985. The agreement was boosted by South Korean President Roh Tae-woo's unilateral announcement of his "Special Declaration on National Self-Esteem, Unification and Prosperity" on July 7, 1988. After 1989, inter-Korean trade started to grow along with many twists and turns such as North Korea's withdrawal from the nuclear non-proliferation treaty (NPT) in March 1993, and its subsequent attempts at missile launches and nuclear

tests, as well as the North's reckless opposition to the annual ROK-US annual defense exercises.

Total net monetary gains that North Korea was believed to have collected from the somewhat thwarted North-South relation (1989-2012) is approximated to amount to at least eleven to twelve billion US dollars. By now, North Korea appears to calculate that any further monetary gain expected from further continuing relations with the South may endanger its internal political security because "ear-to-ear" information on South Korean prosperity is increasingly being spread. In fact, the Gaeseong park has served as one of the information dissemination sources for North Korean workers. Meanwhile, the North Korean economy has not seen much improvement, not only because of the North's lack of reform and limited openness, but also by its increasing diversion of the limited capital and resources into its military at the cost of agricultural and industrial development. In short, North Korea has regarded economic reform as a would-be cause of system instability.

The new leadership inherited by young Kim Jong-eun has not yet fully settled on its policies. However, North Korea is likely to continue depending on China as its dominant trade partner, for China is likely to remain the only close ally, both geopolitically and ideologically. The remaining problem is that the North's trade competitiveness has been in a continuously declining trend with China over the past ten years. The North needs to improve its external relations and must search for diversified partnerships, including, potentially at least, the United States which imposes its economic embargo because of North Korea's unceasing nuclear weapon development. That is the question yet to be answered.

Section II will review the North's external economy: its external trade policy, current status, characteristics, and future prospects and tasks. In section III, North-South trade cooperation will be discussed, including its historical process, its current limits, and its future prospects. In section IV, the North Korean economy will be briefly compared with that of the South in terms of major aggregate indicators along with an introduction of a theoretical model, for simply illustrative purposes, which can be used to identify the role of several factors in economic growth when relevant data become available for the two states. The last section will conclude with suggestions for Kim Jong-eun's economic policy tasks and perspectives.

II. North Korea's External Trade³

North Korea's economic system has been basically a centralized and socialized one from the start, as was the North's external policy. However, some careful decentralization in external trade business was attempted from the late 1970s to the early 1980s by permitting local authorities and production units belonging to the Prime Minister's Cabinet to trade directly with foreign partners. Trade decentralization was further fostered when the communist party's economy and the People's Army's economy were separated from one another, setting up autonomous foreign trade operation firms under each independent authority in the 1970s. Many trade and banking companies belonging to the two independent economic entities increased in numbers during the mid-1990s when "hardship march" was pushed in the North. The trade expansion by these firms necessitated many changes in domestic markets in which transactions between trade goods and non-trade goods (using local currencies) were linked through the local market deals. Despite the temporary set-back of market activities due to (1) the forced marketing limitation measure taken in October 2005; and, (2) the currency reform taken in November 2009, the overall private and public marketing activities in the North have been steadily expanding.⁴ In passing, it must be noted that North Korea adopted its 8th revised constitution on September 5, 1998. Based on this new constitution, many economic functions hither-to under the control of the Labor (Communist) Party were transferred to the Cabinet, which revitalized the Department of Trade to manage decentralized external trade operation. But the Financial Accounting Department, No. 38 House, and No. 39 House under the supervision of the Labor Party continues to exercise stronger influences over the overall state budget. Thus, although trade operations are being decentralized, in theory, the results under the sole control of the Party.

(1) *External Trade*

As compared to the relatively stagnant external trade activities, the North's trade (export and import) has shown an overall expanding trend in the 21st century. Total trade rose more than 2.8-fold over a decade, from \$2.27 billion US dollars in 2001 to \$6.32 billion US dollars in 2011. The export value increased 4.3 times from \$650 million dollars in 2001 to \$2,788 million dollars in 2011, while import value expanded 2.2 times from \$1,620 million dollars in 2001 to \$3,528 million dollars in

2011 (Table 1). Major export items of North Korea were fishery products and textile goods which occupied 37% and 17% of the total export in the early 2000s. Exports of coal and steel products which totaled 7% in 2003 occupied approximately 59.4% of the total export in 2011. The export value of textile goods was about \$47.4 million dollars while fishery products amounted to \$83.4 million dollars in 2011. The value of export of steel and other mineral products was \$31.7 million dollars, 100% of which was shipped to China in 2011.

The largest import items were mainly petroleum (crude material) and other fuel products which accounted for about 15 to 25% of annual imports in the 2000s, followed by machine and electronic products. The import value of crude oil and other mineral products reached about \$84.4 million dollars, an increase of 54% over the previous year, accounting for 23.9% of the total imports in 2011. The value of machinery and electronic machines was \$58.7 million dollars, a 16.6% share of total imports, and textile yarn and thread accounted for \$45.8 million dollars (13% of total import value) while transportation equipment valued at \$26.5 million dollars (7.5% share) was in 2011.

North Korea's biggest trade partner was China, followed by Russia, Germany, India, and Bangladesh.

Table 1: North Korea's Trade by Select Years (Unit: million US dollars)

	1991	1996	2001	2006	2008	2009	2010	2011
Export	945	727	650	998	918	1,063	1,513	2,788
Import	1,639	1,316	1,620	2,049	2,686	2,351	2,660	3,528
Total	2,680	2,043	2,270	3,047	3,816	3,414	4,170	6,316
Balance	-694	-589	-370	-	-	-	-	-740

Source: KOTRA, *North Korea's External Trade, 2011*⁵

(2) North Korea's Major Trade Partners

There have been some changes over time in the respective rankings of trading partners. Overall, about 61 countries have been involved in some degree of substantial trade with North Korea. The list of the ten largest trade partners in 2011 showed that Japan and Singapore had dropped out, while Taiwan, Indonesia, Brazil, and the Netherlands were

newly added in the data of 2011 (Table 2).

Table 2: DPRK's 10 Top Trade Partners in 2011 (unit: million US dollars, %)

Country	North's export (growth rate)	North's import (growth rate)	export+import (growth rate)	Composition (%)
Total	2,788 (84.3)	3,528 (32.6)	6,317 (51.4)	100.0
China	2,464 (107.4)	3,165 (39.0)	5,629 (62.4)	89.1
Russia	12.9 (-51.9)	99.8 (19.4)	112.8 (2.0)	1.8
Germany	42.1 (22.6)	16.2 (-33.8)	58.4 (-0.9)	0.9
India	0.6 (-98.1)	50.1 (96.7)	50.7 (-13.1)	0.8
Bangladesh	44.6 (21.5)	0.06 (-38.1)	44.7 (21.3)	0.7
Taiwan	24.7 (211.8)	14.0 (4.9)	38.7 (81.9)	0.6
Indonesia	31.8 (310.0)	6.4 (-45.8)	38.2 (95.4)	0.6
Thailand	12.6 (-41.5)	23.7 (-20.1)	36.3 (-29.0)	0.6
Brazil	19.9 (-14.6)	14.2 (53.0)	34.1 (44.6)	0.5
Netherland	29.0 (33.3)	1.9 (-7.2)	31.0 (29.7)	0.5

Source: KOTRA, *North Korea's External Trade, 2011*

As shown in Table 2, DPRK's top trade partner was, not surprisingly, China as of 2011. North Korea's exports to China increased by 107.4% over the previous year to \$2.46 billion, accounting for 88.4% of its total exports of the year. The North's imports from China reached \$3.17 billion, an increase of 39.0% or 89.7% of DPRK's overall imports in that year. DPRK-China trade trends over the last eleven years, is shown in Table 3.

Table 3: Actual Trade between North Korea and China (unit: million US dollars)

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
X	167	271	395	586	499	468	582	754	793	1188	2464
M	571	467	628	1	1081	1232	1392	2033	1888	2278	3165

Note: X is North Korea's export to China, and M is North Korea's import from China Source: KOTRA, *North Korea's External Trade, 2011*

In 2001, North Korea's major export items were fish and shell products (30%), clothing and textile (17%), steel and minerals (15%), vegetable seeds (14%), electric tools and machines (12%), and others (12%). But the composition had changed by 2011 to coal fuel (36%), iron ore and lime (22%), clothing and textile (14%), steel (10%), and others (18%). The North's imports include fuel, machines, steel, food, household electric and plastic goods, and other kitchen tools as shown in Figures 1 and 2 below.

Figure 1: North Korea's Export to China by Items in both 2001 and 2011

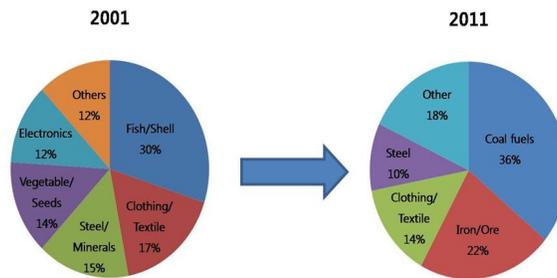
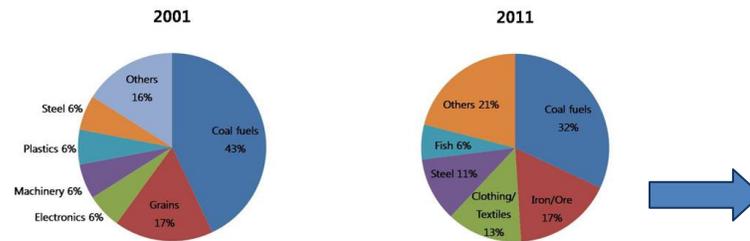


Figure 2: North Korea's Import from China by Items in both 2001 and 2011



North Korea's heavy trade dependency on China lies in both economic factors and political and military factors. First, proximity must be noted. This helps both partners save transportation costs. Second, the rapid growth of the Chinese economy as a leading world manufacturing nation has been increasing China's demands for minerals from the DPRK since 2005. Third, China has steadily reduced its import tariffs for North Korean materials, indeed by nearly 50% in the border regions. In addition, the DPRK has no other favorable nation except for China in terms of its military alliance package. China still provides 80% or more of the North's requirements for crude oil as well as almost half of the North's food supply. China and North Korea know that their bilateral military ties are the most important ones for their mutual security in the region. Nevertheless, the economic condition of North Koreans in general, other than the elite class belonging to both party and military sectors, has not improved much, despite the growth in bilateral trade during the past decade. At the same time, the North's trade specialization index, that is $((\text{export} - \text{import}) / (\text{export} + \text{import}))$ has remained very low, and has not improved much during the last decade. This implies that North Korea's trade competitiveness has remained unchanged as its major trade items have been mostly primary goods. The other important point to note is that a careful analysis of North Korea's commodity trade index, that is, $(\text{export price index} / \text{import price index})$ reveals that the increase in external trade has been the result of a larger rise of export unit prices relative to the rise of import unit prices. In particular, the export unit prices of mineral goods, which were one of the major exporting items of North Korea, rose to raise their export

values, which in turn made it possible to expand imports whose overall unit prices relatively dropped.

In contrast, trade between DPRK and Japan hit its highest level in 1995 (North Korea import \$255 million dollars of foods and exported \$340 million dollars). However, since 1995 that trade continued to shrink, vanishing by 2010. This rapid trade decrease between the DPRK and Japan was associated with Japan's strong negative response, not only to the North's continuing violation of human rights and the abduction of innocent foreign citizens, but also to the North's nuclear weapons and hostile missile tests. In June 2009, Japan froze its overall exports to North Korea while insisting that normalization would be possible only if the issue of the abducted citizens were resolved. However, there may be some cautious initiatives now being taken by Japan (under Prime Minister Shinzo Abe who took office in late 2012) to reopening bilateral trade, while many countries, including China and South Korea are severing ties with North Korea because of Pyongyang's missile and nuclear programs. While a sweeping change is not yet clear in Beijing's approach to Pyongyang, the move such as the Bank of China's cutting off ties with North Korea's main foreign exchange bank effective as of early May 2013 appears to be a sign of China's patience wearing thin because of a string of provocations by its rebellious ally. Any worsening ties between North Korea and China provide an opportunity for both Tokyo and Pyongyang to resume closer relations.

Meanwhile, North Korea will try to export its ideologically well trained workers to neighboring countries (including China, Russia, and Arab and African counties) so that they can earn the hard currencies badly needed by their family members and others back home. As of early 2013, more than 70,000 North Korean workers are known to be workers abroad. The average monthly wage paid to North Korean workers employed in northern China is currently in the range of \$150–200 US dollars. This wage is officially divided between the wage earner (worker) and North Korean agency by a ratio of 6 (\$90-\$120) to 4 (\$60-\$80).

The need for North Korea to expand trade with other countries has been mounting, but its trade growth exposes its society to outside influences. Trade has thus been severely constrained by the regime's inability to control its people's ears, eyes, and mouths when exposed to the outside world. Unless the leadership dares to reform itself dramatically, this will remain a constant problem. For the foreseeable

future, the DPRK's dependency on the People's Republic of China which yet remains its only ally in both economic matters and international affairs, seems to be unavoidable. However, the dependency on other(s) cannot make any better the economic conditions of the Hermit Kingdom unless it adopts bottom-up reform by itself.

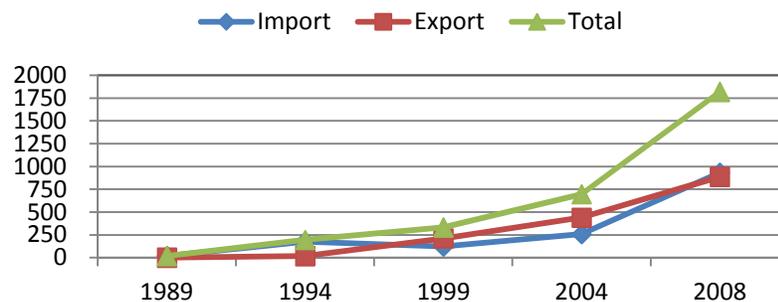
Nothing can be crueller than policies which subjects most of its people to starvation or near-total dependency on another country. The sole task ahead for the North Korean leadership must be, first of all, to consider far-reaching reforms.

III. Inter-Korean Trade and Economic Relations

(1) *Brief Historical Review of Inter-Korean Trade*

Until the closure of the Gaeseong industrial complex at the end of April 2013, inter-trade across the demarcation line had survived for nearly 20 years. The size began to grow from less than US \$20 million dollars in 1989 to the largest annual level of approximately \$1,798 million US dollars in 2007, to \$1,820 million US dollars in 2008. During President Kim Dae-jung's sunshine policy, inter-Korean trade accelerated greatly as shown in Figure 3.

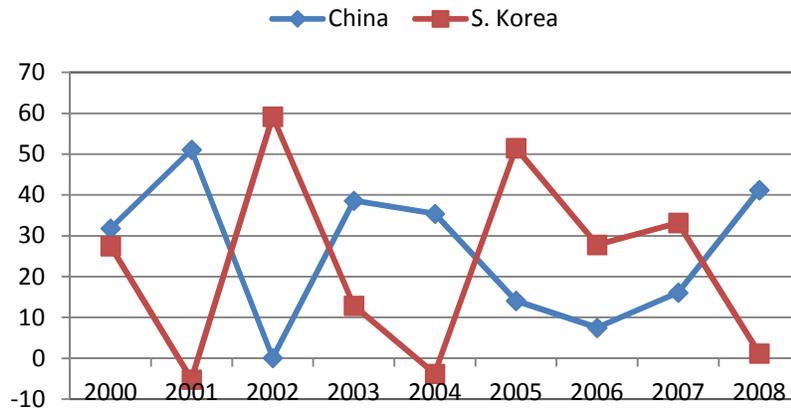
Figure 3: Annual intra-Korean trade by selective years (unit: US million dollars)⁶



Note: Export from the South includes commercial (general) exports, materials for commission-based processing, investment, and humanitarian and other cooperation supports to the North while the import includes only purchase by the South.

It is notable that stagnant trade between North Korea and South Korea not surprisingly contributed to trade growth between North Korea and China. As shown in Figure 4, the inter-Korean trade has moved counter-cyclically with trade trends between North Korea and China over the years.

Figure 4: Growth Trends in both the Inter-Korean Trade and China-North Korea Trade (unit: annual growth rate %)



Inter-Korean trade (and economic cooperation) in the 2000s was composed of the following: (1) commercial trade under which is general trade (GT), commission-based processing trade (CPT), economic cooperation (EC) inclusive of the Gaeseong industrial complex project and the Mt. Keumgang sightseeing project and other public investment project; and (2) non-commercial trade, which included both the public and private social and cultural projects, aids and grants, grains and fertilizer supports, the light water reactor construction subsidies,⁷ and KEDO (Korean Peninsula Energy Development Organization) diesel oil supplies. Among the inter-Korean trades, the commercial and economic cooperation projects inclusive of Mt. Keumgang sightseeing and Gaeseong industrial park which expanded greatly after 2004 up to their respective closures in 2008 and 2013 were the largest ones.

Non-commercial trade (both private and public), simply regarded as assistance to the North, accounted for about 20% of the total inter-Korean economic trade. Of course, a considerable portion of the realized commercial trade had dual characteristics, reflecting both profit-

motivation and some “don’t-know-tomorrow but let’s-take-some-betting” investment anyway. Some such “don’t-ask-investments” were, of course, made in part either “from a naïve sense of fraternity” or “due to any implicit indications from powerful political circle”. Believe it or not, a considerable portion of the inter-Korean economic trade has been designed to help the North while providing, at most, those marginal firms from the South some uncertain but new business.

The past four South Korea regimes were known to have poured into the North a total of \$881.84 million US dollars (equivalent of 8,818.4 billion won in South Korean currency, assuming 1 US dollars=1000 South Korean won) of direct official aid. Kim Young-sam provided \$226.6 million dollars, while Kim Dae-jung donated \$2,702.8 million dollars, and Roh Moo-hyun and Lee Myung-bak contributed \$5,677.7 million dollars and \$211.3 million dollars, respectively. Government aid and increased inter-Korean cooperation aimed to maintain peace and improve relations to reduce the mutual hostility between the two states. Has this rather long-term strategy been successful? It could be considered successful if it had produced at least minimal results, such as the distribution of favorable news about South Korea among North Korean residents.

Along with religious donations and private visitor’s transfers, an estimated \$1.83 billion US dollars has gone into North Korea as humanitarian aid since 2000. According to the Office for the Coordination of Humanitarian Affairs, United Nations 2011, North Korea received \$224.2 million US dollars in 2000, \$377.6 million dollars in 2001, \$360.8 million dollars in 2002, \$182.9 million dollars in 2003, \$301.8 million dollars in 2004, \$46.2 million dollars in 2005, \$40.0 million dollars in 2006, \$103.1 million dollars in 2007, \$56.7 million dollars in 2008, \$64.3 million dollars in 2009, \$24.8 million dollars in 2010, and \$46.4 million dollars in 2011 as humanitarian aid from various governments, private and UN agencies including UNDP, UNICEF, WHO, UNFPA, IFRC, Concern Worldwide, Save the Children, Prerriere Urgence, Triangle, Handicap International and WFP.

The South’s private investments into Gaeseong park reached more than \$1,000 million US dollars between 2004 and April 2013. Some of these private investments as well as the humanitarian transfers into North Korea could have been better used to correct its chronic current (trade) account deficits, thus improving the welfare and living conditions of the general populace. But a considerable portion of the total transfers may

have found its way into the Pyongyang's missile and nuclear projects, while most of its people anguished in near marginal living conditions for more than 20 years.

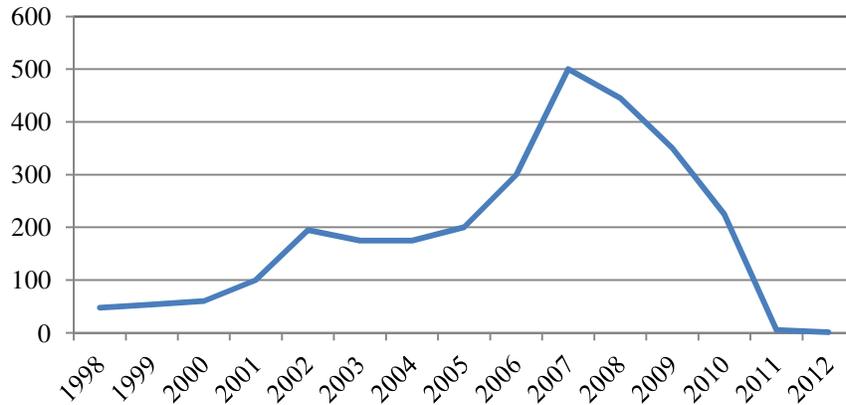
(2) *The inter-Korean Relation Strains and Economic Loss*

The shut-down of the Mt. Keumgang sightseeing project in the wake of the shooting of a South Korean woman tourist in July 2008 invited the Lee Myung-bak government to strengthen its position on "reciprocity" and "normality⁸" principles in dealing with Pyongyang. The strain set in motion a negative chain of events with Pyongyang's subsequent attack on the *Cheonan* navy ship in March 2010. This was followed later in the year by Pyongyang's rapid-fire series of shell bombs on Yeonpyeong island.

Along with such provocations, pro and con arguments regarding the necessity to stick to the inter-Korean relation have become giddy quarrels among the rightists and the leftists in the South. In the past, strict separation between political economic matters was basically adopted in doing the inter-Korean exchange. But Lee Myung-bak envisioned from the start of presidency that the two could not be separated from one another. Lee made it clear to the North that there would be no more humanitarian food aid from the South unless the North behaved properly and appropriately toward the giver. Along with the strain in mid-2008, South Korea stopped sending free food to the North, in addition to suspending tourist visits to the North.

As a result, this reciprocity approach resulted in shrinking the size of the inter-Korean trade. It negatively impacted the overall economic situation of North Korea which had depended on hard currency obtained via the inter-Korean trade to pay off its trade deficits with China in the 2000s. As shown in Figure 5, Pyongyang's trade surplus with Seoul had dropped dramatically with the turn of the year 2008. Facing economic difficulty, North Korea employed its brinkmanship strategy again in 2009, threatening to halt all inter-Korean relations including the Gaeseong industrial park. And Pyongyang also continued its provocative military attacks on both the *Cheonan* navy ship and the Yeonpyeong island in 2010. In response to the North's intransigence, noncompliance and brinkmanship, the Lee Myung-bak government had no other option but to take strong retaliatory economic measures like the suspension of the inter-Korean economic exchange, excluding the Gaeseong industrial park.

Figure 5: Trends of North Korea's Surplus in the inter-Korean Trade (unit: million US dollars)



The Seoul government took the so-called “5.24 measure” in 2010, which called for suspension of all inter-Korean exchange except for the Gaeseong industrial complex projects. Literally, all North-South economic cooperation efforts except the Gaeseong park were closed as of mid-2010. In March 2013, Pyongyang decided to demand that the South’s firms with their staff pull-out from the Gaeseong industrial park by the end of April. This shut-down request was carried out by Pyongyang in its protest against the already scheduled annual US-ROK army joint drill in April. The North’s request for the withdrawal of South Korean staff from the industrial complex thus came as a consequence of escalating inter-Korean tensions. North Korea had blocked entry of South Korean factory managers and cargo from Seoul after April 3. The last symbol of cross-border economic cooperation and exchanges, which had been kept alive despite the North’s nuclear and missile tests, went to halting its operation on April 9, 2013, when 53,000 North Korean workers did not come to work under Pyongyang’s directive.

A total of 123 South Korean corporations have invested a combined estimate of 1 trillion won (equivalent to about \$1 billion US dollars) in power and water supplies and communications as well as manufacturing facilities. The South’s government was requested to provide subsidies to

those withdrawn companies out of its South-North cooperation fund. But the subsidies would fall far short of the 370 billion won (about 370 million US dollars) which they had sunk into their assembly lines.

The pain, however, was to be greater for North Korea with 53,000 workers losing their jobs. Pyongyang would have to forgo about \$86 million US dollars in wages to be paid to them each year. This is not a small sum for a hard-pressed economy.⁹ The internal and external cost of losing regular contact (namely, the cost of engagement) must be equivalent to all costs being tolerated by both parties, if they are to keep the dialogue-based status quo alive. The other non-measurable opportunity cost of stopping the operation of the industrial park would include the costs caused by the drastic cuts-off of the inter-Korean links, not to mention the would-be long-term economic gains forgone for both parties.

(3) Future Prospects of North-South Economic Cooperation

As seen in the past attempts for the inter-Korean cooperation and exchange after the late 1990s, South Korea employed two distinct approaches. One was the deployment of so-called “engagement and appeasement policy,” paying every possible way to keep the other partner cooperative in keeping intact the bilateral relationship. This approach was focused on maintaining peaceful coexistence. Toward that objective, the South had first to engage aggressively in speeding up inter-Korean economic cooperation and exchange. The government-led inter-Korean relations resulted in many negative side effects and problems during the trial process.

The second approach attempted to rectify these negative issues and problems experienced in the first approach. In other words, the new one sought to keep the “reciprocity principle and normality stance” in pursuing the inter-Korean deals. The experiments were proven unsatisfactory, too.

The former experiment contributed to expanding the inter-Korean trade and economic exchanges but without any notable change or improvement in the North’s attitude as well as in the living conditions of common people in North Korea. Increased contacts through the engagement policy thaw mutual distrusts and antagonism that had piled up in both citizens’ over more than a half century of division. The later experiment induced Pyongyang’s political and military repulsion, which, in turn, led to freezing inter-Korean relations themselves. As a result,

both sides were tried, only to exacerbate standoffs eventually leading to the complete shutdown of bilateral economic contacts with mutual feelings of hostility.

The question is how to make any breakthrough out of this tangle. Will it be possible to reopen the inter-Korean economic relations? Considering the recent threats brought on by North Korea, the resumption of any inter-Korean trade relations seems remote. North Korea raised continuing tensions by threatening to 'wipe out' Seoul before and after President Park Geun-hye's inauguration in January 2013. Pyongyang's repeated bluffing and the Gaeseong pull-out were followed by a series of short-range missile launches into the East Sea, which were conducted as recently as on May 18 and 19. Facing weeks of heightened jitters, Park Geun-hye remained rather cool and unfazed by Pyongyang's provocations. This cool reaction from the South was not what Pyongyang had expected.

During her first overseas trip to the United States, President Park affirmed 'trustpolitik' in Washington D.C. on May 8. Park also made it clear to the world that she would open the road to common development of the two Koreas through the trust-building process when North Korea stopped its provocations and chose to take the right path being watched by the international community. Therefore, henceforth new inter-Korean relations will solely depend on how the North will respond to Park's willingness to reopen. In regard to their future, North Korea may have no other better alternative policy than returning to economic cooperation. In the past, as mentioned earlier, North Korea could only be able to expand its external trade capacity thanks to its footing (i.e., balance of payments' surplus position) on the inter-Korean trade.

There is no question that the expansion of North's external trade has played a role in keeping the North's economy level, either from complete breakdown or implosion up to date. This implies that any prolonged suspension of the inter-Korean cooperation will mean a hard blow to Pyongyang. Of course, North Korea has been working hard to enhance its trade with China in lieu of South Korea. Deepened dependency on China is, however, not likely what the "juche" kingdom can continue, either to embrace or to tolerate for long. From the standpoint of North Koreans, it may be increasingly hard if they continue to shy away from their kin people in the south, with whom they share the pain division. For such a reason, along with a lapse of time, inter-Korean relations will eventually come to agree on common (interests) and return to an

agreeable road back to mutual cooperation and exchange. If that is the case, then, how will it have to develop henceforward?

Assuming the new one to be effective for keeping peace, will it also be promoted by a government-led policy as before? In view of political and military factors involved in the failure of the previous attempts (late 1990s through early 2013), they are likely again to recur unless government policies are thoroughly reviewed and revised. Therefore, the “intrinsic economic effects” perceived by private actors may now need more attention than the “externality effects (like peace-keeping and/or system stability)” perceived by the two governments. At least, I, as an economist, think that economic consideration must be given higher priority than political and ideological considerations if the inter-Korean trade can develop and succeed. Perhaps it requires “a new two tracks approach” which would separate state-led, non-commercial motives and private-led commercial motives. Previously, the inter-Korean trade was conducted on the principle of “the old two tracks approach” which dealt with economic matters independently from political motives, or vice versa. Lastly, policy compromise and wisdom in jointing both political and economic considerations within the framework of the ‘political and economic reciprocity principle’ needs to be explored in accordance with each process and case.

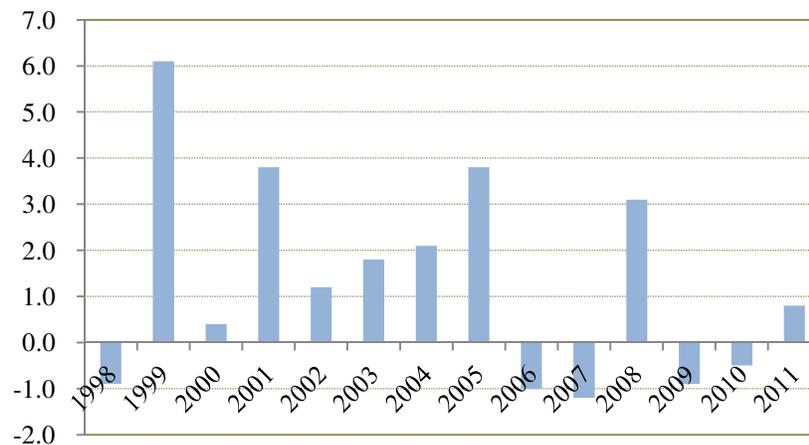
IV. The North Korean Economy¹⁰

It was reported that North Korea suffered from negative growth trends for nine consecutive years, from 1990 through 1998. The year 1999 saw a six percent positive growth which was followed by a range of 1.2 to 3.8 percent growth mainly led by construction, electric and gas, and mineral sectors from 2000 to 2005 (Figure 6). This period of positive growth rates was believed to owe greatly to greater international assistance and expanded external trade as well as such positive effects of enlarged market activities on greater efficiency in the domestic economy. Following the 7.1 economic reform measure in 2002, North Korea officially introduced a producer goods market, a consumer goods market, a financial market, and a labor market. After that, however, the economy returned again to stagnant modes, except for 2008 when there was a bumper farm crop. Stagnancy was largely related to the US-led international economic sanctions against North Korea’s nuclear development programs, in addition to the North’s economic structural malfunctioning.

After 2007, North Korea's economic policy shifted again from market orientated to a state controlling stance, probably recognizing that an expanding market economy might eventually result in weakening the state control power. In the socialistic centrally planned economy, the planned economic sector mainly focused on special classes like the party and military that would always precede and override the general private market economy. This means, in other words, that the state wants to ungird either open private market activities or hidden underground market activities only to the point that it can manage them effectively.

Figuratively speaking, per capita income of North Korea is just a little higher than 1/20 of that of South Korea. The per capita GNI of South Korea was \$22,489 US, while that of North Korea income was about \$1,330 as of the end of 2011. The income gap between two Koreas has been wider over time, indicating that the unification cost, (if measured in terms of an additional investment required to make per capita income equal between the two economies,) would increase more, the longer unification is delayed.¹¹

Figure 6: North Korea's GDP annual growth trend (%)



North Korea's economy has remained stagnant since 2006, but there are some important facts to note, between, before, and after the year 2008. That is, the mining and minerals, manufacturing, and electric, gas, and water sectors recovered steadily after 1999 through 2008, except for

a break of their overall growth trends set in both 2006 and 2007. However, with the beginning of 2009, these sectors become the main causes of stagnant growth again in North Korea. Growth in these North Korean sectors, starting in 2009, declined, mainly due to domestic supply decreases caused by the suspension of food and energy supplies from South Korea and international agencies but also because of the North's increased export drive of its mineral and coal industries which earned hard currencies.

North Korea's dual economic system (party and military economic sector and people's economic sector) affect the path and growth in relation to private market development. North Korea faces a dilemma in that it needs both to promote market roles and activities and suppress market roles in diffusing domestic and external information by hearsay. North Korea wants a controllable market system. At the same time, Pyongyang wants to find some way to escape its one-way deepening dependency on China in both military and economy affairs, while it recognizes the inevitability of staying closer to its major ally and supporter in international politics.

Nevertheless, the North Korean economy is now inclined to depend more on its expanded private markets than before as it has begun to overcome the aftermath of monetary reform taken in November, 2009. As well, China's influences are now increasingly growing in its engagement policy toward Pyongyang, using not only economic aid control measures but also political interference toward the North's violation of UN regulation on nuclear programs. Since Pyongyang carried out its third nuclear test in February, 2013, China has shown its displeasure. Beijing's several banks have stopped doing business with North Korean enterprises. As China has recently begun to realign its strategic thinking over its long-time ally whose bellicose behavior is antithetical to Chinese interests, the North leadership appears to be seeking to restore its soured ties with Beijing. How this relationship will develop will be interesting.¹²

For these reasons, North Korea has, on the other hand, its own necessity of showing "covert love calls" to the United States, but it does not know exactly what kind of strategy it needs to use in order to arouse favorable response from the US.

North Korean economic growth has been greatly affected by its external relations, not to speak of its intrinsic economic and non-economic factors.' As already noted, the North Korean economy also

suffered greatly for almost eight years in the 1990s: uncontrollable natural disasters of severe draught and floods.

It may be very interesting, to find out the attributions of these factors (economic and non-economic) to both economic growth and growth setbacks. Indeed, there are many factors affecting both actual and potential growth of an economy. They include the political system and leadership, capital and resource availability, technology levels, and other physical and non-physical productive factors such as human capital, both private and public choice variables, and environmental variables. Environmental variables may include ‘state-of-the-art’ designations, encompassing ideological and psychological factors, rule of law, property rights, openness, and degree of political freedom.

To identify the growth role of each factor, let us introduce a simple analytical model. For simplicity, let’s consider only four-plus factors of production along with endogenous productivity parameter “A”. The factors include labor (L), composite capital (K), human capital (H), and other factor vector (X) encompassing all important resource and environmental variables denoted by a vector X (where $X = \sum_i X_i = X_1 + X_2 + \dots + X_n$). Then the output function is as follows:

$$Y = A(\cdot) F(K, L, H, X) \quad (1)$$

From equation (1), the marginal contribution of relevant variables (such as K, L, H, and each individual element of vector X) to output, as well as productivity variable A(·) which is assumed to be Hicks neutral, could be estimated. Note that functional shifts are assumed to be pure scale change, leaving marginal rates of substitution unchanged at the given level of each input per capita in the production function. If given capital-labor ratio (K/L) is unrelated to the rate of technical change, the Solow’s residuals¹³ could be measured from the following aggregate growth accounting equation:

$$\frac{\Delta Y}{Y} = \frac{\Delta A}{A} + \varepsilon \frac{\Delta K}{K} + \lambda \frac{\Delta L}{L} + \theta \frac{\Delta X}{X} \quad (2)$$

Where $\theta = \sum \theta_i$ and $X = \sum_i X_i$

and $\varepsilon = (\partial Y / \partial K)(K/Y)$ (3)

$\lambda = (\partial Y / \partial L)(L/Y)$ (4)

$$\theta_i = (\partial Y / \partial X_i)(X_i / Y) \quad (5)$$

From (2), (3), (4), and (5), a measure of aggregate technology change rate can be easily obtained as follows:

$$\frac{\Delta A}{A} = \frac{\Delta Y}{Y} - \varepsilon \frac{\Delta K}{K} - \lambda \frac{\Delta L}{L} - \theta \frac{\Delta X}{X} \quad (6)$$

The growth accounting or role of each variable (as shown by equation 6 above) can also be easily measured in terms of per-capita level if all aggregate variables are divided by the total population of the country under study. If relevant data were available for North Korea, the growth accounting of each variable could be estimated by equation (6) for study of their respective contributions to growth. Such measurements can be used to compare the role (effect) of each relevant factor of a country (i.e., North Korea) with that of other country (i.e., South Korea).

The growth source analysis model suggested above would be very useful to identify why some factors do matter more or less productively in the economy under study, providing us with an account of causal interrelations between the kinds of input variables (including political and cultural factors) and economic growth¹⁴. What matters are relevant data and information availability, of course. A serious researcher needs some time-series statistics and data on this secluded state economy, if he or she were to analyze potential growth sources for North Korea.

V. Conclusion:

Starting in 2000, North Korea's foreign trade dependency has greatly increased as compared to the 1990s. In particular, the North's external trade in 2011 jumped twice as much as that of 1990 just before the outbreak of its economic slumps. The North's economy has been not robust at all as its structure has been left unable to sustain itself without economic assistance from outside. The North's economic survival has mostly depended upon both South Korea and China during the twenty-first century. In other words, North Korean's external business has leaned on two countries rather than being global in scope. However, after 2008 when the South adopted the so-called reciprocity principle (that intermingled political and economic factors in the bilateral exchange), the inter-Korean exchange dropped. At the same time there

was an enlargement of trade between DPRK and China. An increase in trade volume has accompanied the qualitative expansion in the bilateral trade in that cross-country division of production on the basis of the comparative advantage inherent in each country. For example, North Korea in recent years has played a role as material and commodity base for Chinese traders. On the other hand, the North's state economic development strategy is now being planned with close linkage with its current and future trade prospects. In reality, however, many strong political issues are still intermingled with economic ones in its external trade. Fiscal stability, the sure protection of foreigners' assets and capital investment within North Korea, the removal of uncertainty in hidden state policies, and stability of the price and exchange system are important priorities needed for the North's sound development of foreign trade.

In recent years, North Korea is suspected of largely depending on an inflation tax to meet expanded fiscal demand.¹⁵ Interesting is the fact that there is close correlation between money supply and inflation, while there proves no concomitant movement between physical production and monetary expansion. Expressed differently, monetary expansion and inflationary policy does not matter much to North Korea's real sector. In truth, the transmission mechanisms that link monetary policy to economic outcomes remain fragile. The reasons must be found in the following: (1) the velocity of money is very low due to the operational inefficiency of the state marketing networks; (2) there exists wide-spread social psychological cognition such as feeling better by holding (or hiding) liquidity, for people do not yet understand the harms of inflation in hoarding money; and, (3) foreign cash holders always feel better off with hyper domestic inflation. All in all it may be possible for the state to raise inflation tax revenue for a while, but the policy outcome will soon boomerang with a widening gross national debt.

In conclusion, it must be noted that the North's external reviviscence will henceforth depend not only on the sort of thoroughgoing structural system reform and its openness but also on the international responses to the sort of changes expected for the DPRK's overall internal and external policies. The North's external trade will still face a hard road ahead one created by international economic sanctions unless it is to reform its "juche (self-reliant isolated) political system" and retain its bellicose nuclear bomb projects. In this respect, it is more likely for DPRK to rely on cooperation with China; even though the latter's new leadership is

increasingly showing deep concern over the North's nuclear projects. China's recent economic slowdown, which will not devastate China, will possibly worsen Sino-DPRK's on-going trade relations. The Chinese economy will soon face slower growth, moving to a six to seven percent path, but it will yet remain the largest single contributor to global growth as well as to China-DPRK bilateral trade in the coming years.

As regarding the inter-Korean trade, North Korea may want to recover the established cooperation it enjoyed in the 2000s, which was completely shut down in April, 2013, but is now being resumed. North Korea's hope to normalize inter-Korean relations was revealed timidly by North Korea's call to hold a joint event at either Gaeseong or Mt. Keumgang to celebrate the 13th anniversary of the June 15 South-North Joint Declaration in 2000,¹⁶ but the North turned down on June 11 its initiated inter-Korean talks due to disagreement over the level of the respective chief delegates.

The North's hot and cold policies are ongoing, but if any positive approach returns, it may represent the North's unavoidable shift from a belligerent mode to a peaceful one. And any sure sign of such a policy change in the North will reopen the inter-Korean dialogue and exchange. But it needs some time for both sides to read each other's minds before any real improvement in the relationship of the two Koreas will resume on a sound and strong basis. Will the resumption of inter-Korean relations put either a way perpetuating peaceful (hostile) coexistence under two flags or a road eventually leading to national reunification under one flag? That is what all Koreans as well as the outside world want to wait and see.

Notes:

¹ Hwang, Eui-gak, *The Search for a Unified Korea: Political and Economic Implications*, (Springer, New York, 2010), pp.16-17, for the historical outline of inter-Korean economic cooperation.

² On May 24, 2010 South Korea took strong action demanding the North side to make responsible apologetic step for its hostile torpedo attack commitment against the South's naval submarine ship Cheonan, which sank down with about 50 South Korean young guards on March 26, 2010 off the west coast. The action called for (1) withdrawal of permission for any North Korean flag ships from moving across South's territorial waters, (2)suspension of inter-Korean trade, (3)no permission of South Korean tourists to visit across the border, (4) no

new additional investment into the North, and (5) overall suspension of non-humanitarian aids to North Korea

³ Here the North's external trade indicates its economic exchange (i.e., trade, investment, aids and assistance) with other countries excluding South Korea.

⁴ See Lee, Suk-kee et. al., "*The Comprehensive Evaluation of North Korean Economy in the 2000s*", an unpublished manuscript (in Korean), pp.242-243., Industry Research Institute (2012.12)

⁵ As shown in the Table 1, North Korea (DPRK) has recorded trade deficits over the years. The current (trade) account deficit, $(X-M) < 0$ where X denotes exports and M denotes imports must be supplemented by both net capital inflow denoted by "minus F" (if "plus F" is assumed to imply "net capital outflow") and transfer income inflow, "minus R" (as "plus R" denotes transfer to foreigners). So the balance-of-payments (B) equation is expressed as follows: $B = (X-M) - F - R = 0$ or

$(X-M) = (F+R)$. If $(X-M) < 0$, then $(F+R)$ must be negative, indicating that North Korea must have imported foreign investment (capital) or grants and aids (mainly from South Korea and international agencies) into it to keep its balance of payments in equilibrium. From the standpoint of South Korea, both private capital investment and public provision of grants and other economic net transfers to DPRK can be viewed as opportunity costs, in part, of keeping peace, though temporarily, on the peninsula without making North Korea go crazy. A brief opportunity cost analysis in the context of cost-benefit of inter-Korea trade will be discussed in section III.

⁶ For annual data from 1989 through 2008, refer to Hwang's *The Search for a Unified Korea*, (New York: Springer, 2010), p. 18.

⁷ Total budget for the light water energy project was originally set at 4.6 billion dollars of which South Korea was to assume 70% (3.22 billion dollars), but the project was suspended in December 2003. Actual paid-ups for the project was 1.48 billion dollars before the suspension of which South Korea shared 1.07 billion dollars, Japan 0.39 billion dollars, and EU 0.02 billion dollars.

⁸ By normality, it means, as an example, that humanitarian food aid to North Korean people needs proper monitoring by authoritative international agency to make sure if the food is being correctly delivered to the needy.

⁹ The Korea Herald Editorial, *Permanent Shutdown?*, p.14, April 29, 2013.

¹⁰ As regards to North Korea's major economic indicators, refer to *The Bank of Korea (Economic Statistic Department), Principal Economic Indicators (2013. 3)*

¹¹ For method of estimating the cost of unification in terms of total investment required to make per capita income equalized between the two states, see *Eui-gak Hwang, The Korean Economies: A Comparison of North and South* (Clarendon Press Oxford, 1993), pp.314-317.

¹² It was reported that North Korean leader Kim Jong-eun on May 22, 2013, sent a special envoy, Choe Ryong-hae (63), the director of the General Political Bureau of the North's Korean Peoples' Army, to Beijing in an apparent effort to mend fences with its ally ahead of Chinese President Xi Jinping's summit with US. President Barack Obama in California on June 7 as well as South Korean President Park Geun-hye's meeting in China slated to hold in late June.

¹³ Solow, Robert M., "Technical Change and the Aggregate Production Function," *Review of Economics and Statistics*, 39 (No.3 August 1957), pp. 312-20

¹⁴ For a sample case study of such growth accounting (or source) analysis, see Hwang, Eui-gak, "Exploiting Bright Pearls Hidden in the Pandora's Box of Japanese Urban growth" *Seoul Journal of Economics*, 2009, Vol.22. No.2, pp. 217-243.

¹⁵ Real government revenue (R) from inflation (that is, inflation tax) can be defined in short form as follows: $R = \frac{M}{P}(y, r + \frac{dp}{p}) (\frac{dM}{M})$ where $\frac{M}{P}(\cdot)$ is real money demanded, which is function of real income y and real interest rate r plus inflation rate dp/p. The equation says that inflation tax revenue is real money demand times monetary growth rate, where money growth rate, dM/M, can be rewritten as a sum of inflation rate and real income growth, that is, (dp/p + dy/y).

¹⁶ The late President Kim Dae-jung and late North Korean leader Kim Jong-il met in June 2000 and made the landmark declaration in Pyongyang, that brought about a reconciliatory expansion of relations on the Korean Peninsula.