

Signs of Big Bang in North Korea

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Eui-Gak Hwang*

Abstract:

North Korea is on the brink with both its leader Kim Jong-Il's health deteriorating and its economic function faltering. Amid reports that China, North Korea's chief ally, is preparing a contingency plan on the basis that isolated North may collapse, North Korea executed its senior economic technocrat Park Nam-Ki on March 12 over a botched currency re-denomination that fueled social tension. In addition there has been yet intense speculation about the North's torpedo attack probability- as well as a host of internet conspiracy theories- to the mysterious explosion of the South's navy 1,200-ton corvette Cheonan on March 26 near the disputed Yellow Sea border. A wild wind is beginning to swirl on the landscape possibly bringing forth either implosion or explosion. This paper looks into both possibility of a sudden "big bang in North Korea" and would-be policy options to be taken by Koreans amid conflicting stakes among neighboring nations.

Key words: big-bang, brinkmanship, explosion, implosion, neutrality, policy priorities, reunification

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1. Introduction

Amidst of an unconfirmed report that China, North Korea's chief ally, is preparing a contingency plan for an uncertain odds of a big-bang in the isolated North, the Daily North Korea (in Seoul) reported that Park Nam-Ki, former head of planning and finance department of the DPRK Workers Party, was executed by firing squad March 12 at a stadium of the North Korean capital, Pyongyang, as a scapegoat for the North's botched currency re-denomination that forced markets to close temporarily and fueled social tensions. The currency re-valuation (each 100 old North Korean won was exchanged for 1 unit of new currency) was taken on November 30, 2009, tacitly aiming at recouping money hoarded by those families who have relatives abroad or access to foreign currency. Officially the currency reform was taken as a part of efforts to fight inflation, but in fact as a part to reassert control over its burgeoning shadow market economy. That monetary reform reportedly sparked unrest after many North Koreans were stuck with piles of worthless (old) bills.

In fact, North Korea has attempted several times to introduce partial but various economic reforms and foreign investment luring policies to overcome the backlash of its economy, but only without success due to "faulty implementation". Many North Korean technocrats as well as the leadership do not understand both economic principles and markets. The reclusive state has kept no confidence in expanding private market and instead relied on state-controlled system, which has not well functioned in the short-supply economy. To make matters worse, limited resources have directed excessively to military sector, leaving the economic sector thin in the allocation. As the North strains with the South over mutual hostility, a large diversion of scarce resource to its military is inevitable. But an overt lack of balance between North Korea's economic sector and military sector is dangerous. Resource biased to heavy military sector at the sacrifice of economic investment will necessitate slacker economy even if growth of military sector would have some spill-over effects on other sectors' development only when economic policy implementation is well coordinated. And fat military tends to go "provocative". This reflects the today's picture of North Korea, which often does not refrain from threatening its southern rival with "a sea of fire". The risk is in fact made

far worse by the virtual certainty of possession of nuclear weapons by the rogue regime which is at a blind cul-de-sac economically.

Over more than a decade, the communist state has failed to provide enough food and other necessity goods for its people, despite of its repeated slogan for building a paradise socialist Kingdom. Many grassroots in North Korea have known, either via hearsay or via increasing outside contacts, that life in North Korea compares unfavorably with life across the border. North Korean bureaucrats also know well that the state is in short supply of resources to reward their zeal, and they are increasingly looking for the secondary market opportunities which inbred both legal and illegal trading. Even hungry soldiers engage in either stealing and extorting farm produces which could contribute to erode the legitimacy of the North military and political leadership. Frequent stealing and rampant corruption amid widespread hunger accord with natural phenomena. Most ordinary people should be able to generate food and income that the state is no longer able to provide. Despite tight controls, therefore, people are continuing to eke out a meager living by selling and buying scarce and necessary goods in non-official market. But although this market is necessary in the face of widespread famine, its secondary, unregulated nature breeds illegality. The economy is rife with corruption, and problems of bribery and human trafficking continue to plague the north. Such markets are allowed unofficially as a subsidiary means to offer convenience in people's daily lives, but the overall shortage economy is not improving, but rather deteriorating over time due to its reclusive policy and system.

Now impoverished yet nuclear armed North Korea is seeking to expand the planned supply through state-run commercial networks in its destitute economy, while it is attempting to accelerate Chinese investment not just in sealed-off special economic zones, but in major cities like Nampo and Wonsan. Surprisingly, however, North Korea announced on April 8, 2010 that it will freeze all South Korean assets in Mt. Kumgang resort areas. Pyongyang's official TV spokes woman also said that North Korea may re-examine the South's joint industries now operating in Gaesung industrial complex. The North said it was ending the deal with the Hyundai firm and threatened to seek a new business partner for tourism at Kumgang. It is known that Pyongyang has Chinese

money in mind to assume the Mt. Kumgang sightseeing operation in lieu of South Koreans.¹

It is a big blow as well as irrational action taken by the North to South Korean investors in the North. However, if North Korea were to phase out South Korean investors out of North Korea, it would lose its credibility and trust among potential foreign investors, either Chinese or others. This North Korean irrational practice will only pay back to it with another calamity of the failed economy. When Pyongyang squeezes South Korean investors with the confiscation, it must know that the squeeze will in turn hurt the North's economy. For the move will be seen to international business community as an unreliable villain as well as an unthinkable violation of trading contract, which in turn would harbingers a negative shift in thinking of potential foreign investors about the North Korean partnership. More importantly, Chinese may also be aware that it is not moral internationally for them to take a free ride on the horse deprived from South Korean investors. Would all these events not work together to ring the knell of Kim Jong-Il regime?

2. Can Kim Jong-Il's Regime Sustain Much Longer?

Economically, North Korea has already begun to manifest itself to be non-sustainable much longer despite of its loud paeans to both its *juche* (self-reliance) and its supreme ruler. Richard Holbrooke described in his article that "History is not immutable. But there is pattern that comes very close to bring a law of history: in the long run, the rise and fall of great nations is driven primarily by their economic strength"². Earlier, Paul Kennedy also pointed out the same logic by saying that "the historical record suggests that there is a very clear connection in the long run between the individ-

¹ Amid a search of clues to the disaster which left 46 South Korean sailors dead being under way with increasing focus on the possibility that a North submarine might have caused the 1,200 ton corvette Cheonan sunk, the North might take this kind of preemptive cover-up measure, anticipating the inevitable severe follow-up friction ahead between two Koreas. Mt. Kumgang resort earned Pyongyang tens of millions of dollars a year in hard cash. Tours were suspended in July 2008 after a North Korean soldier shot dead a South Korean woman tourist who wandered onto a restricted beach. The resort was visited by more than 1 million South Koreans until the incident.

² Richard Holbrooke (2008), *The Next President: Mastering a Daunting Agenda*, Foreign Affairs, September/October, p.4.

ual economic rise and fall and its growth and decline as an important military power. This, too, is hardly surprising, since it flows from two related facts. The first is that economic resources are necessary to support a large-scale military establishment. The second is that, so far as the international system is concerned, both wealth and power are always relative and should be seen as such". .."whether a nation be today mighty and rich or not depend on the abundance or security of its power and riches, but principally on whether its neighbors possess more or less of it"³. As compared to South Korea, North Korea has remained much poorer since the mid-1970s.

Being extremely poor under dictatorial state, North Korea is ever increasingly vulnerable with serious backlash in its political security and military control as well. In terms of Paul Kennedy's metaphor, the economically near-bankrupt Kim Jong-Il regime is no longer likely to be capable to match with its rival in the South, if not its possession of nuclear warheads being earned only by leaving its people under the hard screw. Despite the self-reliance and military-first policy prove the main causes of its failing economy, the North leadership does not dare to make fundamental change of its misguided doctrine. The leadership is correctly being occupied with the lingering worry about the risky outcome to impact on its power structure once the society is to change. As noted above, the North leadership would not hesitate to abrogate any mutual or international agreement or treaty one-sidedly if facing the necessity of.

So far Kim Jong-Il regime has preserved thanks to his ruthless control policy, his gift for political manipulation, and his use of brinkmanship diplomacy and his not-leaky seizure of military power elites.

North Korea's elites have not so far dared to challenge him and they, feeling cornered, understand that unity under Kim's leadership is only condition for their survival. They have supported their leader with little regard for the plight of most ordinary North Koreans. But will this false unity among the North's power elites continue beyond Kim Jong-Il's era? Would the North's populace not seriously question the regime's legitimacy despite that the state is incapable of meeting its most basic needs, including feeding its people?

³ Paul Kennedy (1987), *The Rise and Fall of the Great Powers*, (Random House, Inc., New York),p.xxii.

Kim Jong-Il's deteriorating health and subsequent inevitable erosion of his power structure may bring about "possible implosion" implicitly related to the above queries. Kim reportedly suffered a stroke in August 2008 and is now undertaking intense care for his worst diabetes mellitus, kidney trouble and high blood pressure. The 68 year-old autocratic communist ruler is reportedly eroding physically and is believed to survive no more than three years from his birth day (February 16, 2010). Once the leader falls down, his impoverished country is not sure where to go.⁴ Neither is the monarchic dictatorial state likely to fix upon a scapegoat (like the execution of Park Nam-Ki) for its own long-time policy failures, nor can it likely avoid implosion. Strengthening UN economic and diplomatic sanctions as well as pressure in the human rights against North Korea and distancing between China and North Korea would also quicken the last day of the Kim family regime.

The clock is now ticking by. What will the international community and South Korea have to do ?

3. Sign of A Big Bang and After-wards?

As to the world community, the leadership of the North Korean political regime is in flux, and the political and economic relationship between North Korea and South Korea is uncertain. The Korean peninsula may explode to further uncertain situation if the blast of the South's 1,200-ton Cheonan near the sea border on March 26, 2010 is to be confirmed of North Korean involvement. Whether it is involved or not, all fronts of on-going situations start now to move in no favor of North Korea, which will eventually contribute to its own collapse crisis. Regardless of whether North Korea breaks down internally or blows up externally, the key point is that how surrounding nations will attempt to keep something of a power balance in the region. These countries are members of so-called six-party talks on the North Korea's nuclear proliferation issue.

⁴ However, Hwang Jang-Yop, who held key posts in North Korea including secretary of the central committee of the workers' Party of DPRK said that North Korea would not collapse so quickly as long as Jang Sung-Tack, Kim's brother-in-law, and his followers assume the power core after Kim in North Korea. This remark was made on March 8, 2010 in Tokyo on his way back to Seoul from his visit to Washington, D.C. Hwang is known to have been very close friend with Mr. Jang before he defected to Seoul in 1997

Among them setting aside South Korea, the United States and China may vie to hold the biggest stake at cleaning-up stage.

The United States may want to place first priority among others to deal with nuclear and other military arsenal stocks held by North Korea. Of course, all neighbors might have common concern about the danger of nuclear and other biological, chemical weapons and guns if stolen to or placed in the hands of international gangsters. Keeping the footballs (arsenals) from passing over to any 'bad guys' will be the top priority matter to be commonly shared by all nations. To safely control those weapons and to keep security there, the United States may be willing to cooperate with Chinese military unless two countries do have their respective secondary interests to swipe (occupy) the territory.

From the perspectives of both geopolitics and military defense, China may have much bigger stake on the peninsula, although the United States may also not want to lose its long military foot in East Asia without any due equivalent compensation. Securing first-hand position for stability and security on the peninsula would be important among others to the eyes of Chinese leaders because this prerogative seize in favor of China will critically help China involve in influencing the nature of a unified Korea. As regards to possible influx of refugees or internal riots due to regime changes, China appears to worry about more than any other nations. But as long as China does not oppose the unified Korea, refugee problem will be only short-term minor one since the unified economy can soon be able to absorb those refugees as new human resources in rebuilding the unified economy.

Then, will the big bang in the North bring about a unified Korea? The issue may be thought of in terms of two hypothetical scenarios related to the kinds of *implosion model*.

The first one is the case of *unconditional implosion*, which is defined as regime collapse without any prior fabricating of an immediate alternative regime. This could follow such events as nation-wide random rioting, targeted assassinations, and many soldiers turning to side with riot civilians, which may lead to a state of temporal

anarchy. This turmoil would accompany floods of refugees, loots, and uncontrolled weapons disposal and trafficking, if not properly and immediately controlled by foreign forces.

The second one is *controlled implosion*, which means that an alternative follow-up regime sets in immediately either by the existing military group or by the inside rival political elites. This new power seizing group may or may not seek to integrate into South Korean structure, attempting to hold the communist system as before. This second scenario would rather lead to a new problematic situation hindering the quick prospect of a unified Korea for further extended period of time.

These comparative cases are intended to sort out that an *unconditional* implosion would be favorable for turning into a best chance of national reunification if and only if all Koreans are prepared in patriotic unity. In other words, a hard-landing approach can be quick one to lead to national reunification. Here the hard-landing means a model of implosion (big bang) that is to be ignited as the masses' uprisings, as experienced in the overthrow of the maverick Romanian communist leader Nicholae Ceausescu.

But it must be kept in mind that there are yet many stumbling blocs in the road to reunification even when a big bang occurs in North Korea. The foremost one must be Chinese key concern about the future impact of a unified Korean peninsula. While Beijing wants to keep on reasonably good terms with other powers in the region, its key concern is to keep its leverage in the peninsula because of Korea's geopolitical importance for Chinese security and stability. Chinese leadership may want to help install a new pro-Chinese leader who will be more subservient than stubborn Kim Jong-Il regime in the North, keeping intact the divided Korea. This implies that if North Korea were swirled into turmoil, China is likely to act promptly, decisively, and unsparingly to advance into the peninsula to keep other powers from putting a hold. Neither are the US and Japan likely to step aside if China exerts its influence deep into the vacuumed peninsula. The key point is that surrounding nations must attempt to keep something of a power balance between nations in the region. Regardless of

whether North Korea breaks down economically or blows up with either implosion or explosion, a national contingency preparation is urgently needed.

4. Big Bang and the Follow-up Move

No one knows about the day when a big bang will explode on the Korean peninsula. But it will come on a day when people do not expect so soon, just as did the Berlin Wall fall down in a day of chilly November 1989. Now is just a time for Koreans to wake up and to prepare for the day. When Korea blows up, Koreans, north and south, must be in charge to use this chance for national integration. Otherwise, the Korean ship will sink apart again under the conflicting influences and leverages of alien engagements.

China, Japan, USA and Russia may support the new building of a unified Korea, depending upon how Koreans can successfully persuade each party of neighbors the balanced leverage among them. It is urgently important for a united Korea *not* to cause any neighbors from feeling threatened in their security and safety in the region.

Keeping a balance of power among nations in the region may require the unified Korea to be politically and military *a neutral state* while taking a market-oriented economic system. South Korea will be able to take a sovereign control over the transition of fallen North Korea (when big-bang occurs) only if it could secure full support from neighbor countries like China, USA, Japan and Russia. If South Korea fails to manage all aspects of its relationship with those countries in its attempt for national reunification, a new roadblock in the course of turning the *rare hard-landing chance* in favor of its national reunification will inevitably follow.

To comfort all neighbors, it may need to promise in advance that a unified Korea would not unfairly side with any party or parties, proclaiming a *neutrality* in international politics, while leaving a room for a united Korea to be thought of in terms of a work in progress rather than *a well-defined end-point*. This is up to the political and diplomatic art and wisdom of those Korean leaders in charge of future direction of the Korean peninsula.

In particular, the North's downfall may accompany a swiftly anarchic situation involving riots, bloodshed, refugees, and raising the specter of the North's nuclear, missile, chemical and bacteriological arsenals on the loose. To effectively control those problems and to achieve one unified Korea without any further splits, the South's military must in advance seek all possible ways to buy patriotic supports and cooperation from the North's military remnants. This scheme needs to be master-minded by all means such as preparatory secret talks and "preliminary patronage contacts" between two military leaders. Mutual concessions can be made by ensuring to absorb the North's military personnel into various proper new posts in a unified Korea. This deal may indeed not be so easy as it is said above, but 'everything can be possible' if facing the necessity of adapting when an abrupt implosion (big-bang) occurs that everybody least thinks. All things will depend upon how Koreans would respond to the new situation and if they would get united toward the national wish for reunification.

No less important is also to organize all necessary initiatives by calling for a multinational cooperation which can help Koreans tackle effectively all thinkable developments and roadblocks to unification. To finance the expected huge cost of reunification, Korea must also seek a world-wide cooperation as well. None the less important is a well preparation for overall economic integration, among others, for a unified Korea.

In the course of economic integration, overall new policies for restructuring financial sector, ownership structure, manufacturing sector, and migration problem, etc., are in order. First of all, many experts worry that short-run inter-migration will cause big social problems inclusive of rising unemployment and housing shortage. At the early stage, many refugees may flow into the South, while many northern born southern residents would perhaps like to return to their hometown in the North. Such two-way flows of people's move will contribute to mitigating the would-be problems, of course.

5. Major Economic Policy Tasks for National Reunification: An Illustration of Monetary Integration

As a point of departure, we define the concept of “integration” in terms of *static* sense as a situation in which the peninsula is no longer separated by two frontiers but functions as a whole entity. As contrast, a *dynamic* process of integration implies a gradual convergence into one of the formerly divided entities. Even when two Koreas is politically unified at a point of time, the gradual (dynamic) process will linger on for a while until the integration is completed. In reality, the dynamic process is more usual one, but here we will treat economic integration as if it is an instant one (a *stock variable*) in lieu of a *flow (dynamic)variable*, for simplicity of our discussion.

First of all, economic integration can be regarded as the merging of two (or more) markets (alternatively, economies) into one. Market is the place where all citizens interact one another to keep their living. For the market (or the economy) to function, a commonly acceptable media of exchange (say, money) is required. In short, the market integration between two Koreas must be backed up by a common means of exchange, a unified one currency. For a unified Korea, melting down heretofore two different legal notes into one new legal note is an important task, but this monetary system reform approach is not feasible because of many difficult side effects along with distributional problems. Alternatively, the quantity of North Korean money stock could be exchanged into South Korean money based on a par of exchange. Even in this case, serious question can be raised if the quantity of money held by each household under the communist system could be justified as having fairly accumulated according to each one’s productivity (work ability) instead of community party’s power favoritism. Setting aside all these institutionally-oriented problem, we may here illustrate this alternative approach of the monetary integration for a unified Korea assuming North Korea’s sudden dissolution.

Firstly, we have to approximate shadow (real) exchange rate for North Korea and South Korea by the formula:

$$e = \frac{P_f}{P_d} = \frac{EP_f^*}{P_d}, \text{ where } e \text{ is the real exchange rate; } P_f \text{ domestic price of tradable}$$

goods; P_d domestic price of non-tradable goods; and P_f^* denotes the foreign price of tradable goods (alternatively, world price in foreign money) and E (that is, P_f/P_f^*) is nominal exchange rate.⁵ Of course, here the price must be a weighted average price of all commodities and services in the relevant sample. In reality, however, it is not so easy to approximate any meaning full exchange rate for North Korean currency, because information on both its price and commodity bundles and their relevant weights are not known to outside world. More importantly, the country's trade sector is less than 13 percent of its GDP as contrast to over 70 percent in South Korea. North Korea took its currency reform on November 30, 2009, in which its old money is exchanged to 1/100 of its new currency, establishing new official exchange rate at 1.53 won = 1 US dollar. Using this rate, the cross exchange rate between North Korean won (NW) and South Korean won (SW) is estimated to approximately be around 0.133NW=100 SW, where we simply take 1 US dollar equal to 1000 won of South Korea. The cross rate can be rewritten as 1 NW = 752 SW. This is just calculated (for illustration purpose) assuming that North Korean exchange rate with US dollars is a shadow (real) rate.

Next, we need to estimate total stock of money in circulation just before the integration. This may be roughly calculated by using the North's nominal GDP estimate (or $Y=yp$, where Y is nominal income ; y real income and p aggregate price). Using a well-known Irving Fisher's equation of exchange given by $MV = Y$ or $MV=py$, where M is quantity of money in circulation and V is velocity of money circulation. Given an estimate of Y (nominal GDP), it is straight forward to calculate the quantity of money if we assume the value of velocity (V) to be around 5.0 at most, because commercial transaction is relatively restricted and controlled with limited quantity of

⁵ There are some discussion on whether the exchange rate should be defined as P_f/P_d or P_d/P_f . Both approaches have their pros and cons. In the case of the former one (P_f/P_d), a real appreciation of foreign currency (usually US dollars is taken as a standard foreign currency) is reflected by an increase in the real exchange rate index, while a decline represents a real depreciation for foreign currency *visa-vis* domestic currency. In the case of the latter one (P_d/P_f), both nominal (E) and real (e) value of foreign currency (depreciation /appreciation) moves in the opposite direction with ratios of two price indexes (increase/decrease).

money supplied. North Korea's nominal GDP was estimated by the Bank of Korea to be about 25,000 billion won in 2007 (before the 2009 monetary reform). Based on this data, quantity of money supply (M) can be approximated to reach around 5,000 billion won. Again a rule of thumb will tell that total amount of the North's notes held by people would be counted to about 500 billion won, a more or less 10 percent of total money creation. To convert this 500 billion North Korean holding currency into the South's legal tender, the united government will need to newly supply about 3,600 billion won (that is, $7.52\text{SW} \times 500\text{billion NW of old unit}$, or $752\text{SW} \times 5\text{ billion NW of new unit}$) of South Korean legal tender that is, equivalent to 500 billion (in old unit, but 5 billion in new unit) of North Korean paper money. This quantity of money is equivalent to 5 times larger than the South's total investment (about 730 billion South Korean won) made by all 101 South's enterprises into Gaesung Industrial complex as of March 2009.

Of course, the conversion rate will mostly likely be determined not by economic principal but by political consideration as was the case of German-post re-unification process. Similarly, determination of wage rate for northerners must be made in principle on the basis of their productivity, but this is also subject to political consideration. Note that there are many other priority policy tasks to deal with in case of a big bang occurrence. They include economic restructuring and privatization among others, which would be accompanied by system transformation in the northern part., none the less of meeting the costs involved.

The cost thereof as well as other unification cost may be in part met from savings that could be available by reforming (unifying) dual military, dual diplomacy operations and other duplicative expenses under the formerly divided states. Both unification and liquidation work will also create a sort of multiplier effects to expand both income and jobs which will in turn contribute to increasing tax revenue that would help meet partially the cost of integration.

Many people may still worry that this unification process would cause huge burden on the absorbing economy. This burden could include higher real tax as well as infla-

tionary tax to be created in reunification process. But if integration is swift and if overall national productivity could be enhanced following successful relocation of North Korean workers into various economic activities in a unified economy, then inflationary pressure would surely be mitigated soon. As long as nation's productivity growth could match the growth rate of money supply, the demand-side inflationary pressure will be problem no longer. The initial fiscal need to transfer from the South to the North may constitute a big share of unification burdens, but it will pay back soon. For income and employment multipliers to be generated by the gross transfer money will in turn benefit economy in the southern part and the northern part as well through overall domestic demand and export expansion.

The unification will balance the pecuniary costs and pecuniary benefits over dynamic process and time. Once the two get united, Koreans in both North and South who are rooted in common culture, language and inherent talents will surely recover their high-spirited identity to build their one nation again as they are released from their past ideological bondage.

The big bang unification can thus give a new birth to "oneness" in all aspects of the nation's life including ideological integration of the new united state, even though each individual's right and freedom to choose his or her political ideology is yet permitted. The example can be found in the general trends occurring in the unified Germany as well as in most East Europe countries since 1990.

As contrast to a big-bang unification approach, proponents for dual systems with two governments in one country (alternatively, named as "confederation approach") during a transitory period presuppose less shocking and less frictional integration. But it must be cautioned as "unrealistic and irretentive" approach in reality, because it is so impossible for communists and democrats to coexist harmoniously under one roof, just as is it impossible to mix fire and water. Such a dual system will fail in motivating divided politicians and their stakes to get together. By passing it may be worth recalling that many so-called political experts discussed German unification in the context of such gradual scenario with an eye on maintaining two separate entities in

German integration process. But in reality, East Germany was quickly dissolved and absorbed by the West Germany. There were no longer two systems, nor two faction governments with different flags in a unified Germany.

6. Conclusion with a Pilot Estimate of Korean Unification Cost (Benefit)

When a big bang shakes the peninsula, the fate of the peninsula depends, first of all, upon the choice Korean people makes. It can be a good turning point for the erstwhile split nations to reunite under one flag of national pride and integrity. Otherwise, the big bang could be a second round of national division unchanged with mutually conflicting alien engagements. Given the diversity of surrounding nations' interests on the peninsula, Koreans should seek to invite cooperation from all parties without allowing unbalanced leverage in coping with afterward situations that evolve in the transitory turmoil. To earn unbiased support from all parties around, Korea may need to boldly proclaim a neutrality in international politics, a position that a united one will not unfairly side with any party or sub-group of the neighbors in the matters of ideological politics and military conflicts while it will keep wide open to all world in free economic trade and cooperation. By proclaiming the future position, Korea can expect a wide support and cooperation from other nations in financing the cost of nation reunification.

By no means less important is the absorbing government macro-economic (monetary and fiscal) policy in fixing the economy to be shattered in the course of integration. In this regard, there are some important lessons for Korea to get from the economic consequence of German Unification. With the sudden fall of the Berlin Wall in October 1989 and in the ensuing course came great expectations for a renaissance that would presage an even stronger German economy, because its industrial efficiency was expected to quickly overcome the integration bottlenecks that would be encountered. However, things turned out rather differently in reality, perhaps due to "misguided macro-economic policies" rather than monetary costs of unification, resulting in rather poor economic performance and rise in public debt on unification for a decade of the 1990s.

If it had not been the fiscal-monetary policy paradox in that German government which embarked on fiscal consolidation in pro-cyclical and inexplicably aggressive way, while the Bundesbank, in turn, magnified the depressive effects of fiscal policy by tightening money supply, the economic performance could have been much better.⁶ More cohesive policies could effectively have stabilized the German economy during the 1990s as it absorbed the cost of unification. At that period, the influx of labor from former East Germany provided important supply-side relief, so that general labor market pressures were abated along with investment, potential output, and labor productivity growth.

Korean leadership should be well prepared to face up many problems caused by the big-bang, not ignore the importance of the safety and quality of people in place. As the sign of a big bang is now high on the peninsula, Korean people should map out their contingency plan to minimize any negative externalities, roadblocks, and internal and opportunity costs to be accompanied in the big bang process, in addition to their securing international cooperation for a unified Korea. Hope for national reunification will induce all Koreans to work forward together in unity, if people are well guided by wise and unselfish political leader groups.

Lastly, the expected cost (alternatively, benefit) of Korean reunification (which is defined as total investment required to make two Korea's per capita income equal, for illustration purpose) can be estimated as a quick rule of thumb as follows:

Data on marginal capital-output ratio, per capita income gaps between the two economies, and the number of population in the catching-up economy, the investment requirement for making per capita income equal across the border is to be calculated. Firstly, note that $I = K_t - K_{t-1} = \Delta K = (\Delta K / \Delta Y) \times \Delta Y$. The per capita cross income gap between two Koreas is assumed to be ΔY in real value with marginal capital-output ratio $(\Delta K / \Delta Y)$ of around 3 and North Korea's estimate of population is denoted as POP, then incremental investment required to make two income equal will be cal-

⁶ Jorg Bibow, *The Economic Consequence of German Unification: The Impact of Misguided Macroeconomic Policies*, Public Policy Brief (No.67, 2001), The Levy Economic Institute of Bard College, p.8.

culated as $\Delta I = 3 \times \Delta Y \times \text{POP}$, where x is multiplier operator as usual. Using the 2007 Bank of Korea's estimated data, per capita income gap between two Koreas was US \$ 18,905, and the North's population was about 23,200 thousands. Then, the investment cost was estimated to be about 1.32 trillion US dollars, which exceeded slightly the level of South Korea's GDP of that chosen year. Meanwhile, the cost was about US \$ 670.84 billion in 2000 and US \$ 307.50 billion in 1990.⁷ It shows a trend of doubling every 10 years as the income disparity widens over time. This suggests that the quicker the unification, the better in terms of saving the total investment required. It must be pointed out that the direct cost estimate depends largely upon per capita income gap, the number of people of the country that has lower income, and the factor of incremental capital-output ratio. Of course, all unification cost will have something to do with speed of integration, size and scope of socio-economic frictions, and many other internal and external factors. It is a time that Koreans must stand up for this readiness. *"The day will close on you unexpectedly like a trap. For it will come upon all those who live on the (peninsula). Be always on the watch and pray that you may be able to escape (cope with) all that is about to happen"*. – Luke 21: 34-36 (note that words in the *parenthesis* are inserted by the author).

⁷ Refer to Eui-Gak Hwang: *The Korean Economies: A Comparison of North and South*, Clarendon Press of Oxford University, 1993, pp. 314-317.