Issue Report 11-09

Role of International Financial Institutions in North Korea's Economic Development

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NOVEMBER 2009

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ABSTRACT

The North Korean economy has had zero or minus growth since 1990. Currently, its official economy is almost paralyzed, while a second (unofficial) economy is expanding rapidly. A key determinant is a lack of initial capital to mobilize economic growth engines. The North Korean regime is now going all-out to prevent the spread of the second economy and to reinforce the nation's socialist planned economy. This effort, however, is bearing negligible fruit. The economic growth rate of a country, in general, is determined by domestic savings rate and investment rate. Today, North Korea has difficulty even in basic production and, therefore, cannot increase factor inputs. To cope, North Korea is looking for external assistance.

North Korea is now mired in "coordination failure" -- a common cause of under development -- due to its conflicts with the global community over its nuclear development program. In short, mutual distrust between North Korea and the international community has trapped them in a prisoner's dilemma, wherein neither side can increase factor inputs. Coordination is needed for a breakthrough, but it is difficult for a single nation to take the initiative as a coordinator. Against this backdrop, international financial institutions could be the best alternative (BATNA)[1] to thaw the situation. International financial institutions (IMF and World Bank etc.) founded by the US and its 45 allied countries in 1944 are aimed at promoting international economic cooperation, on the basis of the lessons gained from the Great Depression and the two World Wars. Although international financial institutions cannot extend assistance to North Korea under the current environment, where the potential of a nuclear crisis continues, they have already mapped out an "internal assistance plan" (short-term assistance to food and energy industries and mid- and long-term assistance to the construction of social infrastructure) for when the nuclear crisis is resolved. Such assistance could be extended even before the North's entry as a member country in international financial bodies. However, it is not clear whether the assistance could actually develop the NK economy, thereby meeting their founding objective of facilitating private investment to promote economic development and enhance the quality of life in underdeveloped countries that lack domestic savings for new investments. To clarify this, this paper conducted a quantitative analysis on the influence that assistance from international financial

[1] An abbreviation of the "Best Alternative to a Negotiated Agreement."

institutions has had on the ability of former east European bloc countries to attract foreign direct investment (FDI). Before its collapse, the bloc adhered to socialism, just as North Korea does today. Since 1992, the bloc nations have received about US$8 billion worth of assistance annually.

Through its analysis, this paper derived implications applicable to North Korea. The analysis covered 27 countries in the east European bloc who changed governments and later received assistance from three international financial institutions (IMF, World Bank and the European Bank for Reconstruction and Development) in 1990-2006.

The analysis found that the assistance from the international financial institutions did not directly affect inbound FDI of east European nations during the year they received aid or even one or two years later. However, there was a linear relationship between FDI inflow and the weight of the private sector in GDP as well as the weight of trade in GDP. This can be interpreted to mean investment by foreign private capital depends on the degree of economic openness and private sector development, regardless of the amount of assistance from international financial institutions.

Per-capita GDP growth was seen to have a negative impact on the influx of FDI. This may mean that a higher per-capita GDP growth (income growth rate) had a negative effect (hike in personnel expenses) on investors. Another analysis was also conducted by dividing the countries into two groups – CSB (Central and Southeastern Europe and the Baltics) which overcame the recession caused by regime changes and achieved economic growth rapidly and CIS (Commonwealth of Independent States) which has experienced a protracted slump. The analysis showed that regardless of regional classification and the assistance by international financial institutions, the influx of FDI depended on the weight of the private sector in GDP and the weight of exports and imports in GDP.

Last, the analysis of the correlation between the assistance by international financial institutions to specific industries and the inbound FDI showed that the assistance to manufacturing and trade, infrastructure and traffic, real estate and travel exerted a favorable influence on the influx of FDI. In contrast, the assistance to natural resources and energy industries had modest effect on FDI inflow. The case analysis of CIS and CSB countries empirically verified the results of the statistical analysis.

In conclusion, this paper reevaluated the assistance program of the World Bank and the areas of assistance demanded by North Korea in 2007 by using the above-mentioned empirical analysis. It aimed at presenting a slate of ideal roles for international financial institutions to play in the economic development of North Korea, as well as, finding which areas should be given priority in assistance.

With respect to ideal roles, international financial institutions could extend initial capital as a catalyst to promote the North Korean economic development. Second, they should focus on improving North Korea's investment environment, aimed at clearing the way for foreign private capital to invest in North Korea. Third, given the international political situation facing the Korean peninsula, they could play the role of a "second coordinator" to free the North Korean economy from the prisoner's dilemma. To this end, a "trial project" approach should be adopted by limiting the assistance to specified areas (special economic zone etc.).

As for assistance priorities, support should be given to manufacturing and trade areas that could attract foreign capital more easily than others. Among the requests by North Korea, increasing the scale and ensuring substantial operation of the Gaeseong Industrial Complex and the development of a special economic zone in Haeju region (Gangryeong-gun is under review) could be made in this regard. Second, investment cooperation between international financial institutions, government and the private sector could be aimed at invigorating manufacturing-related trade through the construction of social infrastructure in North Korea, including inter-Korean cooperative strongholds such as special economic zones and a logistics network connecting them. Third, it would be effective to provide assistance to financial and insurance areas that specialize in promoting smooth investment in manufacturing, trading, infrastructure, and transportation. Fourth, although assistance to upgrade farm villages is not expected to attract much private investment, consideration should be made with North Korea's food shortages in mind. Lastly, educational and training programs for government officials need to be given support to enable North Korea to achieve an economic growth on a long-term basis.

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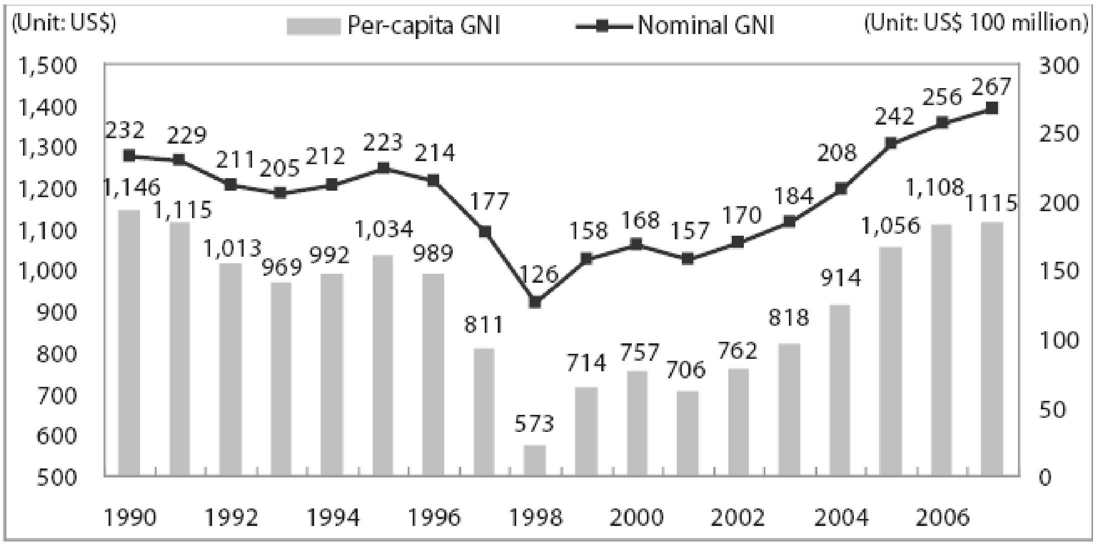
I. NK Economic Development and the Need for International Financial Institutions

1. Economic Growth via Regime Change is Hardly Achievable

Since 1990, the North Korean economy has been in a deep slump, posting zero or minus growth. According to the estimates by the Bank of Korea, North Korea's Gross National Income (GNI) stood at a mere US$26.7 billion in 2007, almost no change in a nearly 20-year span; the GNI was US$23.2 billion in 1990. The per capita income also fell to US$1,115 in 2007 from US$1,146 in 1990.

Figure 1. North Korea's Nominal/Per-Capital GNI



Today, North Korea's official economy is almost paralyzed. Industrial output is depressed due to a chronic shortage of goods, while food rations for residents are ensnarled. Against this backdrop, the second (unofficial) economy is quickly spreading, on the back of private economic activities, including home side jobs and the cultivation of family vegetable gardens, and the expansion of underground market wherein a massive amount of agricultural and manufactured goods swap hands.[2]

In sum, despite its official stance in favor of the socialist planned economy, North

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[2] The second economy refers to economic activities that are directly for the sake of personal interests or recognized as violation of the current laws. Gregory Grossman (1985). The Second Economy of USSR, Problem of Communism, p. 25. Berkeley-Duke occasional papers on the second economy in the USSR; paper no. 1.

Korea could be seen as turning towards market socialism.[3]

The primary reason behind economic stagnation in North Korea is a lack of initial capital to mobilize economic growth engines. Neither the North Korean government nor the private sector can accumulate savings due to an absolute shortage of goods. Accordingly, it is impossible to stockpile initial capital for any investment. Any income of poverty-stricken households is spent only for consumption (for survival) rather than savings. Per capita capital and income are declining due to continuing capital depreciation.[4] Some residents secure surplus capital through second economy activities but keep it undisclosed since interest income is not available. Amid the nationwide lack of capital, imports and production of energy and materials are hampered. That, in turn, hobbles North Korea's ability to supply raw materials and production goods, improve facilities, introduce advanced technologies and promote R&D activities. Consequently, overall industrial production has deteriorated. Similarly, in the agricultural sector, the lack of capital has aggravated supply of inputs such as fertilizers and agricultural machine, leading to a deterioration of agricultural productivity and a chronic food shortage.

The North Korean regime is going all-out to prevent the spread of market capitalism and to reinforce its socialist planned economy, but its efforts have produced little fruit. Economic inefficiency remains inherent in North Korea wherein politics is given top priority and a centrally planned economic system is embedded. In contrast to the exponential growth of information that needs to be centrally processed and an increase in the number and kind of economic institutions and goods, the nation's centralized information processing is limited, thereby deepening the imbalance.[5]

The nature of the North Korean regime is a "sultanistic (dynastic) totalitarian

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[3] The comparative economic systems theory divides economic systems on the basis of criteria such as "the mechanism of ownership, resource distribution and adjustment," "whether the incentives for economic activities are physical benefits or non-physical benefits," and "whether the decision-making structure is decentralized or centralized." Paul R. Gregory and Robert C. Stuart (2004). Comparing Economic Systems in the Twenty-First Century, pp. 68-69 Seventh Edition. Houghton Mifflin Company. Boston, USA.

[4] Jeffrey D. Sachs (2005), The End of Poverty, pp. 377-379, 21st Century Books

[5] The objects of management by central planning authorities and industrial ministries are not individual companies/factories but mutual relations between companies and factories and related activities. As the number of companies and factories doubled, their mutual relations achieved a four-fold increase, thereby requiring four-fold growth in central management capacity. Yang Moon-Soo (2001) 『The Economic Structure of North Korea: Economic Development and the Mechanism of Stagnation』 pp. 410-411. Seoul National University Press.

system."[6] In other words, the regime reflects an entire state that is subordinate to a leader and the dynastic leadership of the leader is cemented through massive mass-mobilization (Arirang performance etc.). Bottom-up changes are possible under "political efficacy" and an "independent communication network."[7] Political efficacy refers to an environment in which the public has been led to believe that it influences politics. In North Korea, however, the state monopolizes an information distribution network and its repressive mechanics work effectively. Thus, it is hard to expect bottom-up changes to occur. Considering such characteristics of the NK regime, it would be difficult for the country to solve its economic difficulties through voluntary changes inside the inner circle of the power elite.

2. The Need for International Financial Institutions

Under a general economic growth model, savings is directly related to investment[8] and the economic growth rate of a country hinges on its domestic savings rate. To address the phenomenon of diminishing returns –a situation in which the amount of output doubles if the amount of input of production factors doubles but over time, a smaller output is achieved despite an increasing amount of input, improved productivity is needed along with technological advancement[9].

In particular, considering that the growth rate of GNP is determined by production system, it is important to develop new technologies and improve human capital. To this end, the government's role[10] is critical in R&D and educational investment.

Nevertheless, the production factors that North Korea can wield today are limited to land and labor.[11] They are not enough to achieve economic growth. Consequently, North Korea has no option but to rely on external supports, including the inter-

[6] Juan J. Linz & Alfred Stepan *Problems of Democratic Transition and Consolidation: Southern Europe, South America, and Post-Communist Europe*, (Baltimore: Johns Hopkins University Press, 1996), pp. 344-365.

[7] The social solidarity (Solidarnosc) movement in Poland was possible since there existed these two factors there. However, if the mass act passively under the leisure time hypothesis that claims that the mass don't have to have any interest in politics since they are busy in living their life, the political efficacy is unlikely to be created. Angus Campbell, et. (1952) *The Voter Decides*, University of Michigan Press.

[8] Under the Harrod-Domar growth model, the economic growth rate of a country changes in accordance with the level of domestic savings rate. This is because an increase in savings directly leads to an increase in investment.

[9] Solow growth model

[10] Endogenous growth model

[11] The land herein refers to natural resources, while the labor refers to the labor capability and will of a human being. The capital refers to fixed facilities such as building, machine and facilities, plus an inventory of finished goods.

Korean economic cooperation and economic assistance from the US and Japan.[12]

The inter-Korean economic cooperation was pursued as a way to promote the opening up of North Korea, to reduce the cost of unification through economic restoration, and to revive the South Korean industries that are on the wane.

The inter-Korean economic cooperation started as a simple exchange of goods prompted by the July 7 Special Declaration in 1988. It declared that the inter-Korean trade and exchange will be regarded as a one-nation internal trade.[13] Against this backdrop, a reconciliatory mood ensued, followed by the adoption of the Inter-Korean Basic Agreement (December 11, 1991) under the former South Korean President Roh Tae-Woo's foreign policy initiative called the Northern Diplomacy, or Nordpolitik; the Seoul visit of North Korean deputy prime minister Kim Dal-Hyun (July 19, 1992); and the establishment of a diplomatic tie between South Korea and China (August 24, 1992).

This trend was bolstered by new institutional frameworks such as the Inter-Korean Exchange and Cooperation Act (Aug. 1, 1990) and its enforcement decree (Aug. 9, 1990) and the Inter-Korean Cooperation Fund Act (Aug. 1, 1990) and its enforcement decree (Dec. 31, 1990). The historic summit between Kim Dae-Jung, the former South Korean president and Kim Jong-Il, the North Korean leader (June 2000) served as a catalyst to expand inter-Korean economic cooperation toward development and investment in North Korea, including a new industrial complex.

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[12] The Harrod-Domar growth model served as a logical basis for the Marshal Plan, which claimed that a massive transfer of capital and technologies was needed to restore the economy of western Europe after World War II. Furthermore, it also served as an economic basis for financial support from international financial institutions.

[13] The July 7 Special Declaration – originally called a Special Declaration for National Self-Reliance and Unification and Prosperity – was unveiled by former South Korean President Roh Tae-Woo on July 7, 1988. The main features were: 1) mutual exchange between compatriots of two Koreas and the free travel of overseas compatriots between two Koreas; 2) correspondence and mutual visits between separated family members; 3) exchange of goods and the opening-up between two Koreas; 4) no opposition to allied countries' support to North Korea; 5) pursuit of international cooperation instead of confrontation diplomacy; and 6) the improvement in NK's relations with the US and Japan, plus the improvement in ROK's relations with China and Russia. The July 7 Special Declaration aimed to relinquish long-held confrontational relations with North Korea for a beneficial partnership and to integrate the two Koreas into a single community socially, economically and culturally through mutual exchanges.

Table 1. Major Inter-Korean Economic Cooperation Activities

Item	Overview of cooperative activities
Gaeseong Industrial Complex	*Aug. 2000 – Hyundai Asan and North Korea adopt the "Industrial Area Development Agreement." *Nov. 2002 – North Korea enacts the "Gaeseong Industrial Complex Act." *June 2003 – The phase 1 of the development begins. *June 2004 – Contracts signed to accommodate 15 companies inside the Pilot Industrial Complex and the first product of the complex was produced in December. *Aug. 2009 – Number of companies in Gaeseong are 112, with a cumulative amount of production and exports estimated at US$635.93 million and US$107.48 million, respectively.
Mt. Geumgang Tour Program	*Apr. 1998 – Entrepreneurs allowed to visit North Korea under government measures to invigorate inter-Korean economic cooperation. *June 1998 – The late honorary Hyundai group chairman Chung Ju-Yung visits North Korea and reaches an agreement with the Chosun Asia Pacific Peace Committee for Mt.Geumgang tour and development projects. *Nov. 1998 – Projects for joint operation and investment between Hyundai and North Korea receive approval. *Jan. 2002 – The government announces measures (including a subsidy for expenses) to support the continuity of Mt. Geumgang tour program. *Nov. 2002 – North Korea releases the "Mt. Geumgang Tourist Zone Act" to guarantee free investment and tour activities. *2007 – The annual number of tourists visiting Mt. Geumgang reaches 345,000. July 2008 – Mt. Geumgang tour program is halted indefinitely due to fatal shooting of a South Korean tourist at Mt. Geumgang resort area.
Trade	*Nov. 1988 – First inbound shipments of ceramic wares from North Korea by Daewoo Corp. *Feb. 1989 – First outbound shipments of jumpers to North Korea by Hyundai Corp.

	*Sept. 1992 – First inbound shipments of shirts processed at North Korea by Kolon Corp. *1999 – Inter-Korean trade exceeds US$300 million (US$333.44 million in total) *Mar.-July 2000 – Inter-Korean economic cooperation expands to IT areas, led by Samsung Electronics, Hana Business.Com, and Entrac. *2008 – Inter-Korean trade tops US$1.8 billion (US$1.82 billion in total)

Source: The Ministry of Unification 『Inter-Korean Trade Statistics』

Figure 2. Production and Workforce at Gaeseong Industrial Complex

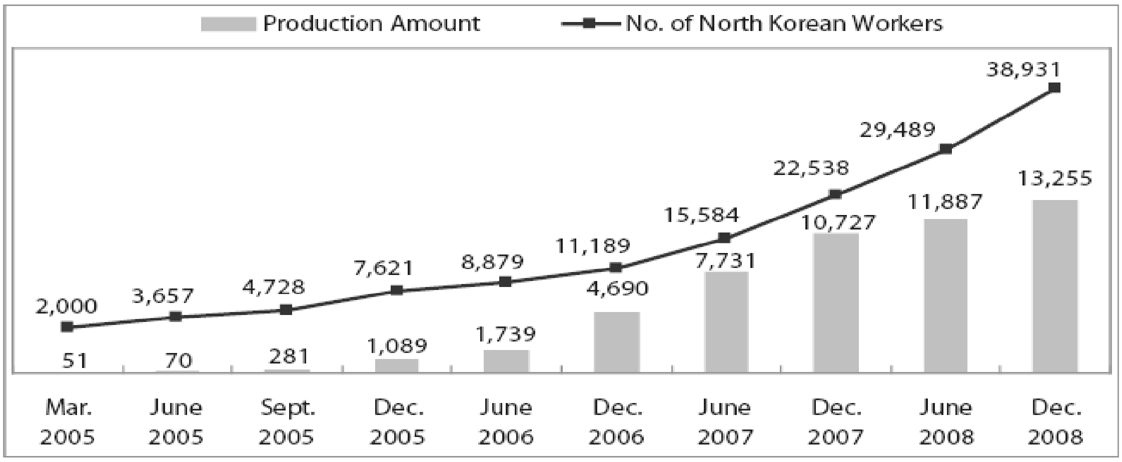
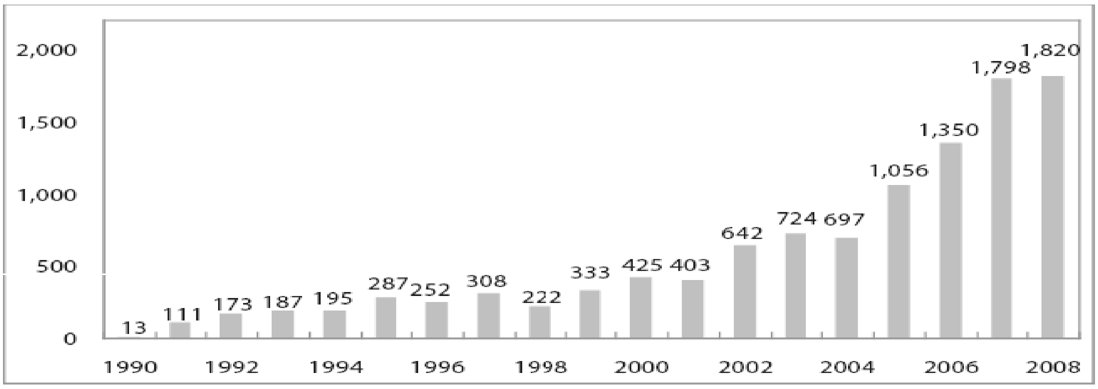


Figure 3. Inter-Korean Trade **(Unit: US$ 1 mil.)**



Source: The Ministry of Unification

The inter-Korean economic cooperation, however, has had ups and downs according to changes in the political situation between the two Koreas, who have been in a military confrontation under different governments and ideologies. The Kim Young-Sam administration adhered to a principle connecting politics with economic matters.

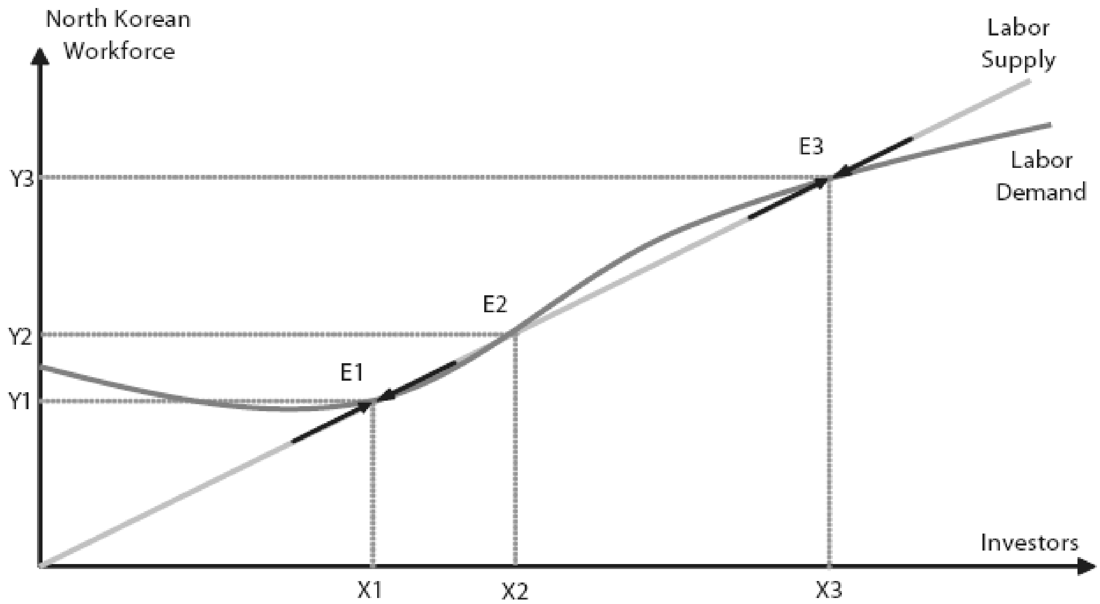
In other words, broader economic cooperation was not possible without the settlement of nuclear issues. Therefore, the scope of inter-Korean economic cooperation failed to go beyond the inter-Korean political and military limits. Under the strategic objective of using economic cooperation to improve inter-Korean relations, the Kim Dae-Jung administration used the inter-Korean economic cooperation as a strategic card to restore political relations with North Korea. That policy was adopted and expanded during succeeding Roh Moo-Hyun administration. After the Lee Myung-Bak administration took office, the inter-Korean economic cooperation contracted amid strained relations between the two Koreas. However, relations later improved on the back of the talks between former US president Bill Clinton and Kim Jong-Il and the death of former South Korean president Kim Dae-Jung.

The Mt. Geumgang tour program was halted because of the fatal shooting of a South Korean tourist in 2008. The Gaeseong Industrial Complex also faced a crisis when it was shutdown due to the detention of a South Korean worker by North Korean authorities, entrance and exit restrictions on companies at Gaeseong, and excessive demands by the North regarding operations at the complex.

North Korean officials applied the brakes on inter-Korean economic cooperation, claiming that moves by the South, including the disapproval of the June 15 and October 4 declarations, each signed by the Kim Dae-Jung and Roh Moo-Hyun administrations and the Kim Jong-Il regime, and the go-ahead of a massive ROK-US joint military exercise, could be interpreted as showing an intent to strangle the NK regime. However, after visits to North Korea by Bill Clinton and the Hyundai group chairwoman Hyun Jung-Eun in August 2009, North Korea sent a condolence delegation to Seoul to pay respects to late former South Korean president Kim Dae-Jung and declared that it will lift all the restrictions on the inter-Korean economic cooperation.

In conclusion, North Korea is mired in “coordination failure” – a common cause of under development – due to its conflicts with the international community arising from its nuclear development program. As shown in the graph below, North Korea is in E1, where only a minimum level of production is available. In the curve of North Korea’s labor supply versus investors’ labor demand, the left area of E1 represents labor demand outstripping supply, indicating that companies may increase investments. Conversely, in the area between E1 and E2, labor demand is outweighed by supply, and converges into E1 area without an increase in investment.

If the two Koreas go beyond E2 toward E3, they could achieve more economic gains. However, mutual distrust prevents them from moving towards E3. In other words, North Korea and the international community have mutual distrust, thereby trapping themselves in a prisoner's dilemma whereby the two parties cannot increase labor and capital investment. Coordination is needed to break through the situation. The problem is that the North Korean regime and the US government expect each other to take the initiative as a coordinator. As a result, nothing is done and the North's economy remains frozen, stuck in poverty.[14]



To break through the "coordination failure," international financial institutions could play the role as an optimal alternative (BATNA).[15] The coordination failure is blamed mainly on the "governments" of the countries concerned, i.e., the United States and North Korea. However, given the reality that it is difficult for anybody to intervene, international financial institutions are urged to take on the role as a

[14] North Korea's current situation is not a simple one-dimensional stage like a "vicious economic cycle." Rather, it is beset with individual problems that compound each other concurrently. The situation is like "crabs in a basket." When one crab tries to escape by stepping on another crab, a third crab will try and pull back the would-be escapee. Hence, no crabs escape. Trapped by complicated problems in various areas, including international politics, security, military, economy and society, if one step is taken to tide over economic difficulty, the international political issue pulls it back and, at the same time, the security issue prevents it from taking another step. This situation can be interpreted as a mixture of "kicking away the ladder," claimed by F. List (1841, 2005) and Jang Hah-Jun (2003). Restrictions arise from the reality of international politics and security.

[15] BATNA is an abbreviation of the Best Alternative to a Negotiated Agreement. In the negotiation theory, the BATNA refers to an optimal alternative when negotiations break down and a consensus is difficult to come by.

secondary coordinator. The instability of North Korean residents and neighboring countries is escalating as the North Korean nuclear issue remains stuck in a protracted deadlock. Against this backdrop, a new compromise could be explored by making it clear to North Korea that Western support is helpful. This could be done by addressing the North Korean nuclear issue through the six-party talks, while extending economic support on a trial basis through international financial institutions, who prepared measures to support North Korea even before the North becomes a member country. Once the North Korea nuclear issue is resolved, they could extend special aid in the form of emergency concessional funds and trust funds.

If a consensus is reached among member countries, the international financial institutions wherein the US is the largest stakeholder (The US has a majority stake of 17.09% in IMF and 16.38% in IBRD), could deploy special funds such as emergency concessional funds and trust funds. The past examples of this include the Soviet Union (1991), the West Bank of Jordan and the Gaza Strip (1993), Bosnia & Herzegovina (1995), and Kosovo and East Timor (1999), all of which were supported through special funds although they were not member countries[16].

II. Relations Between International Financial Institutions and North Korea

1. The Role of International Financial Institutions

In 1944, to prevent the recurrence of economic turmoil such as the Great Depression and the prevalence of closed and exclusive trading blocs, as well as, to obtain post-war hegemony, the United States and its major allies launched the Bretton Woods system, which was intended to formalize international monetary relations. This came at a time when European countries and the Third World countries both had no option but to accept the Bretton Woods system. The European countries, such as Britain and France, desperately needed US assistance for post-war restoration and the underdeveloped economies heavily relied on the Europeans. Thereafter, the International Monetary Fund (IMF) and the International Bank for Reconstruction and Development (IBRD) were created to institutionally bolster the Bretton Woods system.[17] The IMF was founded as an international credit organization. Its role was

[16] The qualification to become the member countries of the World Bank is limited to 1) the member countries of the UN East Asian Economic Council or 2) the member countries of the UN or the organizations under the umbrella of the UN. The membership requires more than three-fourths of the total votes (given to each member state on a differential basis) and approval by more than two-thirds of the World Bank’s Board of Directors. The World Bank currently has 183 member countries.

[17] GATT (later expanded to WTO) was also founded then to remove trade barriers. At

to extend loans to prevent countries from using deflationary policies to settle international payments deficits. The IBRD was established to raise funds to support the post-war restoration of European countries and the economic development of colonized countries that had gained independence. Also established were a group of regional development banks, including the European Bank for Reconstruction and Development (EBRD), the Inter-American Development Bank (IDB), the Asian Development Bank (ADB), and the African Development Bank Group (AfDB). Today's international financial institutions have a common goal: facilitating private investment to improve the quality of life and to promote economic development in less developed countries that lack domestic savings for new investments.

Table 2. Founding Role of Major International Financial Institutions[18]

Institutions	Roles
IMF	Help increase and maintain a high level of employment and real wages among member countries
IBRD	Increase overseas private investment, or failing that, provide alternative financing
IDA	Improve the quality of life in less developed countries by contributing to economic development and rehabilitation. Also complement the activities of the IBRD
EBRD	Contribute to economic advancement and rehabilitation. Also improve private and corporate initiatives

Since the Third World debt crisis in 1982, the IMF and the World Bank have strongly

present, the IMF and the World Bank are not the subsidiary organizations of the United Nations. In reality, however, these organizations are engaged in mutual cooperation. Following the presentation of future strategic goals for international societies and the United Nations by the UN Secretary General (e.g., "New Millennium Development Goal" presented by the then Secretary General Kofi Annan in 2002), the IMF and the World Bank focus their development assistance on the projects that comply with the future strategic goals.

[18] IBRD Articles of Agreement, "Article I: Purposes" (as amended effective February 16, 1989); IDA Articles of Agreement, "Article I: Purposes"; Articles of Agreement of the International Monetary Fund, "Article I: Purposes" (adopted at the United Nations Monetary and Financial Conference, Bretton Woods, New Hampshire, July 22, 1944. Entered into force December 27, 1945): Agreement Establishing the European Bank for Reconstruction and Development; "Chapter I. Purposes, Functions and Membership" (signed on 29 May 1990 and entered into force on 28 March 1991).

influenced developing countries. In particular, the introduction of the SAPs[19] paved the way for these organizations to influence a wide spectrum of national policies among underdeveloped nations, government budgets, industrial regulation, market price, labor market regulation, and privatization. From the 1990s, the IMF and the World Bank started attaching regime-related conditions to loans, thereby intervening in democracy, government decentralization, the independence of central banks and corporate governance. The 1991 collapse of the Soviet Union, the leader of the communist bloc, prompted the institutions to expand their activities throughout the world. The communist bloc, which was characterized by the dictatorship of the communist party, a planned economy, a bureaucratic adjustment mechanism, and moral incentives, collapsed from political and economic dilemmas that had accumulated in its system. Soon after their governments changed, however, the east European countries suffered "conversion depression." Their GDP plunged. Russia, for example, suffered negative growth of 12% on average during the first three years of its transition period and eventually declared a moratorium in 1998.[20] The international financial institutions spearheaded the regime change of the former Soviet countries. Under the "Washington Consensus" that emphasized non-state intervention and market mechanism, the institutions prescribed shock therapy – the implementation of radical and comprehensive reform measures within a short period of time.[21] Following the advice by the international financial institutions, the governments of the former Soviet countries implemented economic reforms that were characterized by "liberalization, stabilization and privatization."

Opinion is divided about the support that international financial institutions have extended to the east European countries that underwent government change. The

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[19] SAPs is an abbreviation of Structural Adjustment Programs. Today, it is renamed "Poverty Reduction and Growth Facility Supported Programs)

[20] Russia experienced a financial crisis in August 1998. The global economic slump, ignited by the Asian currency crisis in July 1997, deepened the Russian crisis. Russia, which depends on crude oil, natural gases, steels and lumbers more than 80% of its exports, suffered fatal damage from the decline in international commodity prices. Russia then faced a fiscal crisis due to late payments of taxes throughout the whole industrial sectors, including manufacturing and energy, and eventually declared a moratorium. This situation is known as the Soviet Syndrome, echoing the "Polish Syndrome" of the 1980s when Poland experienced similar crisis conditions.

[21] J. Sachs and A. Aslund, who both served as an economic advisor for the Russian government and orchestrated the Russian economic reform process in 1992-1993, said "The Russian economy and society are now totally a mess. To introduce any rational order, a priority should be given to the implementation of a liberalization program in a radical and comprehensive manner." John Marangos (2002) *A Political Economy Approach to the Neoclassical Model of Transition*, pp. 259-276. American Journal of Economics and Sociology.

neo-liberal international financial institutions operate under a motto of free markets and non-government intervention. They are accused of creating a favorable environment for the "financial and knowledge conglomerates" of the advanced western countries by using assistance budgets and access to free markets as a carrot for the developing countries.[22] Validating such claims is the slow economic development of the east European countries that implemented the reforms advocated by the international bodies, plus the deep downturn suffered by east European countries and their Western investors when the global financial crisis erupted in 2008.

The opposite view claims that the primary factor retarding economic development in the former Soviet bloc countries is that they are still tethered to their legacy of socialism. This view insists the countries make more efforts to introduce discipline and hard budget constraints, to abolish national subsidies, and to eradicate entrepreneurial corruption.[23] It also stresses that a higher level of economic freedom leads to a higher level of investment; the free transfer of technology and innovation makes it easier to satisfy client needs; and mutual profits can be maximized through free trade.

2. International Financial Institutions and North Korea

North Korea has been looking for ways to join international financial institutions as to (grammatically ok?) secure resources for economic development. A North Korean delegation visited Washington, D.C., in 1997 and met with IMF officials to officially request support and approval to join international financial institutions. North Korea also asked for delisting from the US list of State Sponsors of International Terrorism. Once listed, the states cannot maintain diplomatic relations with the US, nor receive any support from international financial institutions due to the US domestic laws such as the Foreign Assistance Act, the Bretton Woods Agreement Act and the International Financial Institutions Act.

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[22] Among exemplary scholars with this view are Joseph Stiglitz, the winner of the Nobel Economic Prize in 2001, and Ha-Joon Chang, a professor at the University of Cambridge in the UK. They described IMF, World Bank and WTO as "a wicked trio," saying that they are acting to create a favorable atmosphere for foreign investment and products inside developing countries. In addition, they claim that the IMF and the World Bank demand developing countries adopt the neo-liberalism policies in return for loans, while the WTO contributes to establishing the principle of free trade in areas where rich countries have an advantageous position, not in the areas where rich countries have a weak position. Ha-Joon Chang (2008). *Bad Samaritans: The Myth of Free Trade and the Secret History of Capitalism*. pg. 15-18. Bloomsbury Press, NY, USA.

[23] The World Bank, *Transition The First Ten Years*, Washington, D.C.: The World Bank, 2002.

Table 3. US Laws Related to State Sponsors of International Terrorism

US Act	Main features and applications
International Financial Institutions Act; 1982	Prohibits international financial institutions from providing assistance to North Korea, plus North Korea is not allowed to join the international organizations concerned
Bretton Woods Agreement Act; 1991 amended	Prohibits the IMF from providing assistance to North Korea, plus North Korea is not allowed to join the IMF
Foreign Assistance Act; 1961	Prohibits the US and international financial institutions (IMF, World Bank etc.) from providing assistance to North Korea
Export Administration Act; 1979	Imposes the most strict control through classification into E group in the list of US export control states
Trade Act; 1974	Imposes the highest column-2 tariff rates by removing North Korea from the Normal Trade Relations and the Generalized System of Preference
Arms Export Control Act; 1968	Prohibits transactions of military goods with North Korea
Trade Sanctions Reform Act; 2000	Prohibits any support for commercial exports and imports to/from North Korea
Foreign Operations, Export Financing & Related Programs Appropriations Act; 2006	Prohibits the US from providing assistance and debt write-offs, plus any support through the US EXIM bank (assistance, loans, credits, insurance, guarantees etc.)

Source: Excerpted from the relevant US legal provisions.

The World Bank and the IMF decided in August 2003 and November 2007 that they would extend assistance to North Korea if the North Korean nuclear issue is resolved. A step-by-step process for development assistance to North Korea was mapped out. It called for monitoring the nuclear issue and withholding assistance to North Korea as long as the potential of a nuclear crisis existed. However, once the nuclear issue is resolved, the assistance to North Korea may be released.[24]

Table 4. World Bank's Assistance Scenario for North Korea

Scenario	Definition	Action Plans
Unstable Status Quo	Nuclear threat continues and negotiations are deadlocked	*Maintains watch and economic analysis, while withholding large-scale research. Support is not approved
Negotiated Deal	Successful conclusion of talks to remove nuclear threats	*Upon request from the countries involved in the negotiations, the World Bank and the IMF embark on assistance to North Korea *The assistance to North Korea is concretized step by step as follows, a)A theme-setting in economic reform areas, b)establishment and implementation of national rehabilitation strategies, c)technical supports *Epochal political resolution regarding the nuclear issue and a fundamental change in economic views should be made first.
Regime Collapse & Rapid Unification	Rapid collapse of North Korea due to some reasons	*Driving the ROK government towards sharing the fiscal burden stemming from rapid unification with the international community, while participating in the North Korea rehabilitation projects jointly with the IMF *Be prepared for the possibility of military clashes
Regime Collapse & Delayed	Emergence of new regime in North Korea that	*The World Bank and the IMF implement fiscal and technical supports inside North Korea on a long-term basis.

[24] This report came after North Korea adopted the July 1 economic management improvement measure in 2002. Interpreting the measure as a signal of reform and opening up in North Korea, this report was designed to help develop internal coping strategies for international financial institutions. *Democratic People's Republic of Korea Brief. (Confidential Memo to President of James Wolfensohn on Future Development Assistance to DPRK)* The World Bank East Asia & Pacific Region. (July 2003)

Unification	is more reform-minded than the current regime	*The activities inside North Korea focus on a) economic stabilization, b) establishment and implementation of national rehabilitation and reform strategies, c) gradual integration with the South Korean economy

According to the World Bank's DPRK assistance plan, food and energy will be the top priorities for assistance. This will be followed by the backup for the development of social infrastructure under the Country Assistance Strategy (CAS).

Aside from this plan, the World Bank could provide North Korea with US$46 million to US$115 million in support through its subsidiary, International Development Association (IDA).[26] The organization, established to support less developed countries with per-capita GNP of less than US$1,025, is expected to play the biggest role in supporting North Korea, considering that grant assistance has a high share (over 30%) in IDA's total loans.[27] The scale of assistance, in general, would be based on performance. That is, how successfully North Korea implements economic and system reforms. Past examples showed that the upper 20% countries in terms of per-capita assistance received US$12 per capita, while the bottom 20% countries received US$2.4. Accordingly, if the pace of institutional reforms in North Korea slows, per-capita assistance would be about US$2 to US$3, similar to countries where institutional reforms moved slowly. Conversely, if reform pace picks up comprehensively, North Korea could receive per capita assistance of US$5. Considering that the North has a population of roughly 23 million, the amount of assistance would be US$46 million to US$115 million.[28]

[26] The World Bank, DECRG

[27] The World Bank consists of five organizations, i.e., the IBRD (International Bank for Reconstruction & Development), the IDA (International Development Association," the IFC (International Finance Corporation), the MIGA (Multilateral Investment Guarantee Agency) and the ICSID (International Center for Settlement of Investment Disputes). The IBRD, IDA and IFC, are in charge of development of practical programs. IBRD extends loans to national governments with economic credibility to finance their development programs, while IDA extends supports similar to those by IBRD to less developed countries with per-capita GNP of less than US$1,025. Considering that North Korea does not meet the requirements for support from IBRD, the possibility is high that it will receive support from IDA. The loans by IDA are given under the condition of repayment in 40 years with a 10-year grace period, plus an annual interest rate of 0.75%. IFC finances investment in private sector, while extending support by raising funds in international financial markets. MIGA provides investment insurance to the companies with an intention to make development investment in low income countries. ICSID settles of disputes arising from development investment, although its practical function is weak.

[28] The World Bank, DECRG

Table 5. World Bank's Formula of Calculating the Scale of Assistance

Standards	*Performance-based allocation guideline
Contents	*Assistance is prioritized to those countries equipped with relatively better policies and institutional environments *Assistance is given first to those countries who attempt to develop self-rescue plans on the basis of sound policies
Key considerations	*The quality of the economic management system *Performance results of earlier development assistance (if it exists) *If the level of per capita national income meets basic needs, it is not considered very important.
The screening of qualifications and the procedures of calculation	*Implementation of the World Bank's Country Policy & Institutional Assessment (CPIA) *The Country Performance Rating (CPR) is calculated by combining the CPIA results with assessments on current economic management and past performance of development assistance (if it exists) *The scale of assistance is finally calculated by comparing factors such as CPR, population and per-capita GNP.

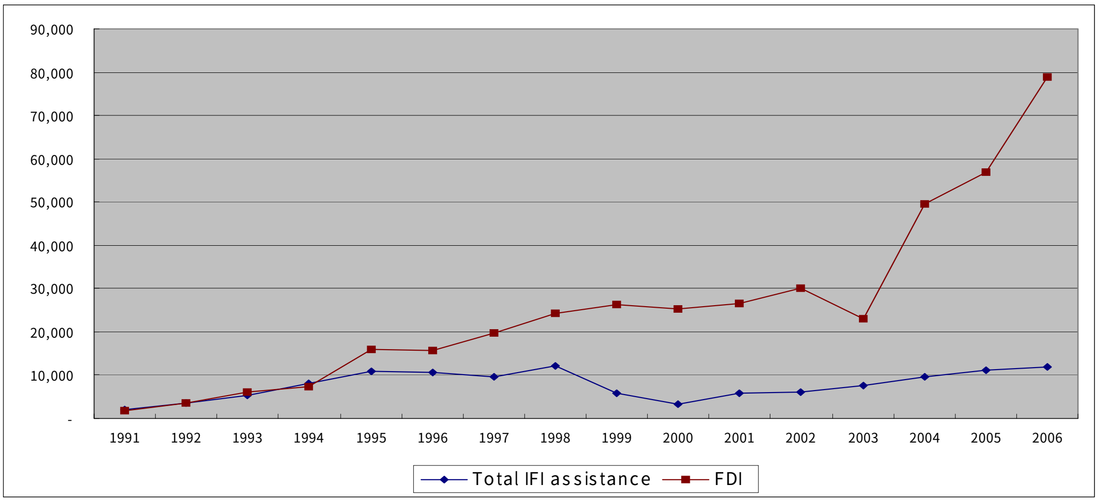
Source: The World Bank Operation Manual

III. Empirical Analysis of International Assistance to Eastern Europe

1. Assistance from International Financial Institutions

Since launching full-scale assistance in 1992 after the collapse of socialism in east Europe, international financial institutions have given roughly US$8 billion in assistance so far. Russia has received the largest portion, worth US$1.6 billion. Poland has received IMF assistance since 1989.

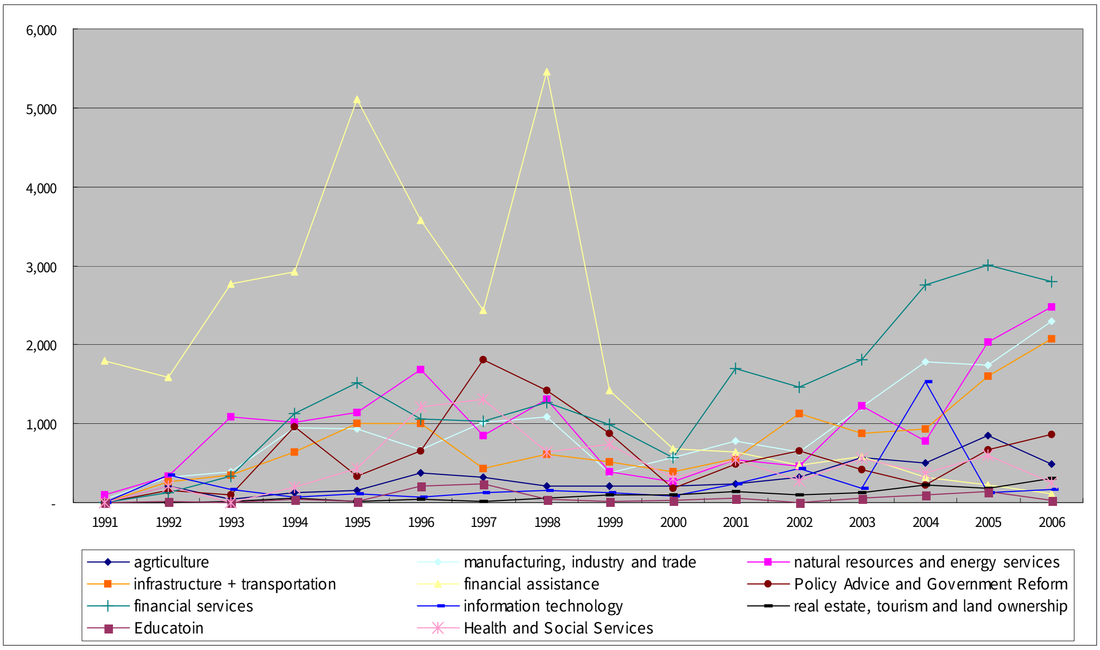
Figure 3. Int'l Financial Institutions' Aid to East Europe and inbound FDI (1991-2006)



Source: World Bank, IMF, EBRD internal D/B; UNCTAD FDI D/B (re-compiled in 2008)

The assistance of international financial institutions focused on institutional reforms in 1990s and infrastructure construction in 2000s. In detail, among the areas of assistance, natural resources and energy, government reforms, and finance and insurance etc. accounted for the largest share in 1990s (excluding the IMF rescue funds). In 2000s, the share for manufacturing and trade and infrastructure and traffic has increased gradually.

Figure 4. Int'l Assistance to East Europe by Industrial Sector (Unit: US$1 mil.)



Source: World Bank, IMF, EBRD internal D/B (re-compiled in 2008)

2. The Effects of Assistance by the Int'l Financial Institutions

As mentioned above, if a state lacks capital, it leads to a shortage of investment, making it difficult for the state to achieve even a minimum level of economic development without external assistance. Hence, loans or FDI become necessary. One of the shared objectives of international financial institutions is to facilitate private investment that improves quality of life and to ensure economic development in underdeveloped countries that lack savings for investments. In this light, it is worth analyzing whether international financial institutions have made practical contribution to attracting FDI or not, and if not, what is the reason.

To this end, this paper analyzed the correlation between FDI inflows and international financial institutions' assistance from 1990 to recent years. In order to derive implications applicable to North Korea, the scope of analysis was limited to regime-change countries that were cemented to socialism just as the North is today.

A statistical analysis was conducted with 27 regime-change countries in the east Europe who have received assistance from international financial institutions such as the World Bank, the IMF and the EBRD from 1990 to 2006. The 27 countries were selected among the former Soviet republics that started to open up and reform in the 1990s, central Europe and Baltic countries, and southeast European countries.[29] An internal database of the international financial institutions (World Bank, IMF and EBRD) was used as the data concerning the assistance by international financial institutions, while the internal statistics of UN Council on Trade and Development (UNCTAD) were used as the data concerning the influx of FDI.[30]

Table 6. List of Regime-Change Countries Analyzed

	Country name		Country name

[29] This classification is different from the classification by the World Bank and Maddison (1982) which divided countries into two groups – CIS (Commonwealth of Independent States) and CSB (Central and Southeastern Europe and the Baltics). This will be explained in more detail later.

[30] To analyze in detail the area and amount of assistance to each regime-change country by international financial institutions, the internal D/B of the IMF and the World Bank (the assistance by the IBRD, the IDA and the IFC was included, while those by the MIGA which is in charge of provision of investment insurance, and the ICSID, which is in charge of the settlement of investment disputes, were excluded. The internal D/B of the UNCTAD and the EBRD were used to identify in detail the area and amount of FDI influx. Over 30,000 data were analyzed. Due to the difference in the method of classification and the classification items among each organization, the data were unified through reclassification.

1	Albania	15	Lithuania
2	Armenia	16	Macedonia
3	Azerbaijan	17	Montenegro
4	Belarus	18	Poland
5	Bosnia & Herzegovina	19	Romania
6	Bulgaria	20	Russia
7	Croatia	21	Serbia
8	Czech Republic	22	Slovak
9	Estonia	23	Slovenia
10	Georgia	24	Tajikistan
11	Hungary	25	Turkmenistan
12	Kazakhstan	26	Ukraine
13	Kyrgyz Republic	27	Uzbekistan
14	Latvia		

The data related to the assistance by the international financial institutions and the attraction of FDI is composed of panel data.[31] Panel data is a data set containing observations on multiple phenomena over multiple time periods. Panel data is composed of time-series data, which contains observation on a single phenomenon over multiple time periods, and cross-sectional data, which contains observations on multiple phenomena at a single point in time. Panel data has the form of Yit (i=1,2,….,N; t=1,2,….,T) and Xkit. Yit denotes the dependent variable for unit i at

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Table 7. Panel Data Structure

Cross-section	Time-series	Y	X_1	...	X_K
1	1	y_{11}	x_{111}	...	x_{K11}
. . .	. . .	. . .	. . .	. . .	. . .
1	T	y_{1T}	x_{11T}	...	x_{K1T}
2	1	y_{21}	x_{121}	...	x_{K21}
. . .	. . .	. . .	. . .	. . .	. . .
2	T	y_{2T}	x_{12T}	...	x_{K2T}
. . .	. . .	. . .	. . .	. . .	. . .
N	1	y_{N1}	x_{1N1}	...	x_{KN1}
. . .	. . .	. . .	. . .	. . .	. . .
N	T	y_{NT}	x_{1NT}	...	x_{KNT}

The research took various independent variables, such as the aid of international financial institutions, economic level and structure of recipient countries, into consideration to identify factors that influence FDI inflow. With some variables, including dependent variables, value divided by GDP was used to eliminate size effect. Since there was a possibility that assistance of international financial institutions could influence FDI one or two years after support is extended, the research used one- and two-year time lag variables.[32]

Table 8. Independent Variables Used in the Analysis

32 Lag variables are variables in which previous values substitute current values. Lag 1 indicates the value from one year ago, and lag 2 refers to the value from two years ago

Variables	Explanation
IFI_GDP	Proportion of funds from international financial institutions in GDP
IFI_lag1_GDP	Proportion of funds received from international financial institutions in GDP after one year
IFI_lag2_GDP	Proportion of funds received from international financial institutions in GDP after two years
Private_GDP	Proportion of private sector in GDP
EXIM_GDP	Proportion of export and import volume in GDP
GDP_per_growth	Per capita GDP growth rate

The analysis can be displayed in the linear function.

$$FDIit = \beta0+\beta1IFI\_GDPit+ \beta2IFI\_lag1\_GDPit + \beta3IFI\_lag2\_GDPit \\ + \beta4Private\_GDPit + \beta5EXIM\_GDPit + \beta6GDP\_per\_growthit \\ + \beta7GDPit + \varepsilon it$$

Here, i=1,...,N; t=1...,T; β0, β1, ..., β7 is estimation parameter.

Eit is independent and identically-distributed error term.

Table 9. Summary of Variables

Variables	Average	Standard deviation	Maximum	Minimum
IFI_GDP	0.01	0.02	0	0.10
Private_GDP	53.68	20.09	10.00	80.00
EXIM_GDP	0.97	0.29	0.29	1.73
GDP_per_growth	2.57	9.98	-44.0663018	82.1096355

Note: lag variables are not included

Among various ways to analyze panel data, the research used one-way random group effect model in order to assess the group effect of the support from international financial institutions on attracting FDI. The research does not assess time effect. According to the Hausman test,[33] random effect is more appropriate to use as the value of p is 0.8496, which does not reject null hypothesis within a 5% significance level. Using random effect model means to follow normal distribution with the

[33] The Hausman test is used to determine whether a fixed or random effects model is appropriate. In null hypothesis, there is no correlation between subject effect and explanatory variables. If the test does not reject null hypothesis, analysis uses random effect model, and if the test does reject null hypothesis, analysis uses fixed effect model.

average of 0 and distribution of σ2.

2.1. Correlation between financial aid from international financial institution and the FDI inflow based on total amount

Analysis shows that IFI_GDP, IFI_lag1_GDP, IFI_lag2_GDP did not have much impact on attracting FDI within a 5% significance level. It means that the financial support from international financial institutions did not have any significant effect on attracting overseas private capital. On the other hand, the proportion of private sectors in GDP had a positive effect on luring FDI. It can be interpreted that the overseas private capital decides whether to invest or not depending on the proportion of private sectors in GDP. Moreover, the proportion of export and import volumes in GDP had a positive impact on enticing FDI. There is linear relationship in between the openness of an economy and the amount of FDI it receives. However, per capita GDP growth rate had a negative impact on FDI inflow. Under the assumption that FDI mostly flows into labor-intensive industry, high per capita GDP growth rate had a negative effect on investors.

Table 10. Panel Data Analysis (1)

Variables	Estimable Coefficient	Standard Error	P-value
IFI_GDP	-7.78	26.28	0.7675
IFI_lag1_GDP	10.82	24.32	0.6567
IFI_lag2_GDP	3.01	22.52	0.8936
Private_GDP	0.11**	0.03	0.0003
EXIM_GDP	5.06**	1.63	0.0022
GDP_per_growth	-0.13**	0.05	0.0173

Note: variables marked with** are significant variables within a 5% significance level

2.2. Correlation among initial conditions, support from international financial institutions, and FDI inflows based on total amount

To assess whether the initial condition[34] of each country affects FDI inflow, the research divided 27 countries into CIS and CSB, and conducted an analysis on these

[34] Initial conditions refer to natural resources, proximity to western economies, prevalence of centralized planned system, degree of industrialization, depressed inflation in transition economies. For example, Russia is rich in natural gas, and oil resources. But these abundant resources are not necessarily a positive factor because they require massive investment in production and transportation system. EBRD, *Transition Report 1999. Ten Years of Transition*, (London : EBRD, 2000), pp.61-62.

two independent variables.[35] Its goal is to assess whether the assistance from international financial institutions has an impact on attracting FDI by acting as a psychological and substantial safety net for overseas private investors or whether the initial condition of a nation influences the inflow of FDI without regard to the support from international financial institutions. Analysis shows that, within a 5% significance level, initial condition of each country did not affect the inflow of FDI regardless of the support from international organizations. However, the proportion of private sector in GDP was correlated to attracting FDI as was the proportion of export and import volumes in GDP. If these two factors were considered initial conditions, they had more influence on attracting FDI than regional conditions, and the monetary support from international financial institutions.

Table 11. Panel Data Analysis (2)

Variables	Estimable Coefficient	Standard Error	P-value
IFI_GDP	-7.75	26.33	0.7687
IFI_lag1_GDP	10.96	24.37	0.6532
IFI_lag2_GDP	3.10	22.56	0.8909
Private_GDP	0.11**	0.03	0.0003
EXIM_GDP	5.04**	1.64	0.0023
GDP_per_growth	-0.13**	0.05	0.0174
Non-CIS (CSB nations)	-0.52	2.30	0.8196

Note: variables marked with** are significant variables within a 5% significance level

2.3. Correlation between the support of international financial institutions for a specific industry and FDI inflow

The analysis has been made under the assumption that support for specific industry could induce FDI. The research divided support areas into 11 sectors, which are

[35] CIS is an acronym for Commonwealth of Independent States. It is a regional organization whose participating countries are former Soviet Republics, formed during the breakup of the Soviet Union. CIS includes Russia, the Ukraine, Belarus, Moldova, Kazakhstan, Uzbekistan, Turkmenistan, Tajikistan, Kyrgyzstan, Armenia, Azerbaijan, and Georgia. CSB stands for central and southeastern Europe and the Baltics, which includes Albania, Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, and Slovenia. While CSB experienced continuous economic growth after GDP decline with improved productivity, and rapid recovery, CIS showed a slow economic growth, and sharp decline in GDP in the initial stage of transition period. This can be attributed to the difference in initial condition. To prove the difference, the analysis divided 27 countries into the two groups.

independent variables in the analysis, and analyzed the impact of support for specific sectors on attracting FDI.[36] As the assistance of the international financial institutions varies according to GDP size of each recipient country, the research used the value of independent variables and dependent variables, not divided by GDP. The research also compares support for specific industries with the total amount of FDI inflows. [37]

Table 12. Eleven Explanatory Variables

Industries	Areas of Support
Agriculture	Agricultural Sector
Manufacturing and Trade	Manufacturing and Trade Segments
Resource and Energy	Resource and Energy Segments
Infrastructure and Transportation	Infrastructure and Transportation
Financial Assistance	Bailout by the IMF
Policy advice and Government reform	Government Reform
Financial Services	Financial Services
Information Technology	Information Technology
Real estate, Tourism and Land ownership	Real estate, and Tourism Segments
Education	Education Segments
Health and Social service	Health and Social services

First, aid to manufacturing and trade by the international financial institutions had a positive impact on luring FDI. These organizations have provided aid to manufacturing, consumer goods, food, textiles, and retail industries in the former socialist economies, where the production of daily necessity and consumer goods had been low, and thus the demand for these products is high. From the 1990s, large clothing companies in the US and Europe produced clothes in the transitioning economies which has the advantage of cheap labor cost, and distributed them around the world. Second, the support for the infrastructure, transportation industry led to an increase of FDI. From the 1990s, the International Finance Corporation (IFC) and the EBRD of the World Bank carried out projects to develop SOC in transition economy in cooperation with private capital. Third, the aid to the real estate and

[36] The model used in panel analysis is one-way random group effect model.

[37] When international financial institutions supported the transportation sector in a country rich in natural resources, the country may experience increase of investment in its natural resources just because its transportation system has improved.

travel industries had a positive impact on inducing FDI. The IFC and the Multilateral Investment Guarantee Agency (MIGA) undertook reform on state-owned land and real estate in transition economy, and supported the construction of hotels, and restaurants for the tourism industry. This spurred overseas private investment. Finally, support for financial and insurance industries, which are related to support for bank assets, loans, microfinance, insurance, and pension had a positive correlation with FDI inflows. It can be interpreted that the introduction of the market economy spurred overseas investment demand, and satisfied domestic needs in the eastern Europe, which, in turn, contributed to the inflow of FDI.

Table 13. Panel Data Analysis (3)

Variables	Estimable Coefficient	Standard Error	P-value
Agriculture	-411.536	341.8	0.2300
Manufacturing and Trade	401.66**	176.2	0.0237
Resource and Energy	-310.40*	111.4	0.0059
Infra and Transportation	709.66**	242.1	0.0038
Financial Assistance	-107.63**	39.5744	0.0071
Policy Advice and Government Reform	47.14	146.1	0.7474
Financial services	548.96**	138.7	0.0001
Information technology	-459.52	400.0	0.2520
Real estate, Tourism and Land ownership	6408.57**	1397.7	<.0001
Education	620.25	1502.8	0.6803
Health and Social service	-60.72	180.1	0.7364

Note 1 : variables marked with** are significant variables within a 5% significance level

Note 2 : variables marked with* are significant variables within a 10% significance level

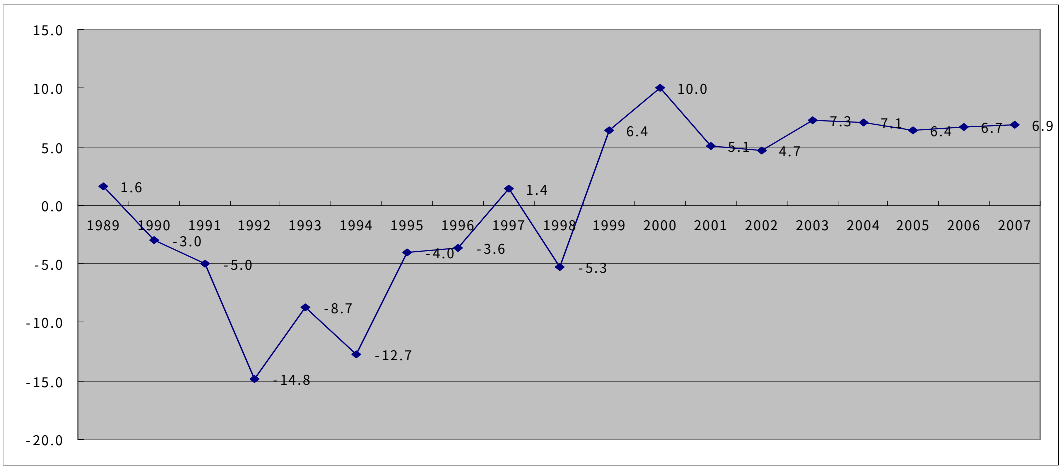
Support for natural resources and energy had a negative correlation with FDI inducement. Even if the support for these sectors increased, the total amount of FDI decreased. It can be interpreted that foreign investors didn't think it is necessary to increase investment in natural resources, oil, coals, and gas. For example, Russia which was rich in natural gas and oil during a transitional period demanded massive investment in facilities for production and transport of natural resources, but the inflow of FDI was relatively low. Bailout of IMF also had a negative correlation with inducing FDI. It means that IMF bailout did not contribute to attracting FDI, and recipient countries failed to improve investment condition for foreign investors.

In conclusion, it turned out that FDI inflow was influenced mostly by business conditions of the recipient country (labor cost, potential of economic growth) regardless of financial support from international financial institutions. Therefore, the support from international financial institutions to an investment-worthy sector and improved business condition could attract FDI. In particular, financial support to labor-intensive work such as manufacturing or service industries such as infrastructure, construction, and finance to improve business condition could spur FDI.

3. Empirical Analysis on the Transcendental Analysis Results through the Case Study on Regime-Change Countries

For an empirical analysis, a case study was done on Russia and Poland. Russia suffered economic hardship for ten years after the collapse in 1991. International financial institutions urged Russia to implement liberalization measures, including trade liberation and price control. They estimated that raising prices in one stroke could prevent high inflation and subsequent corruption, and would not distort investment decisions.[38]

Figure 5. GDP Growth Rate in Russia (1989-2007)



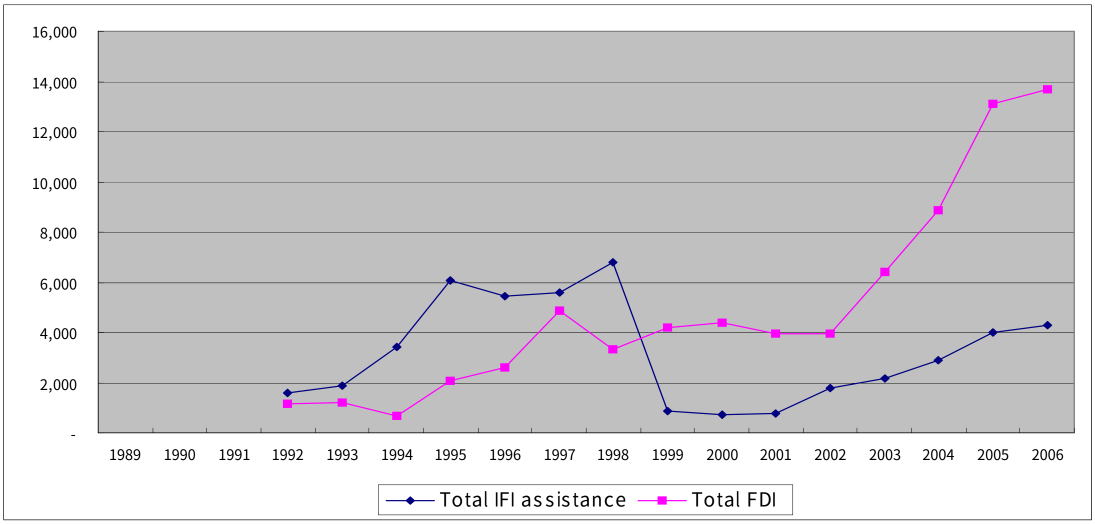
Data: EBRD, Transition Report update 2007, London : EBRD 2007

[38] Aslund 2007

International financial institutions also recommended that Russia lift legal and administrative barriers on manufacturing industry and trade, eliminate subsidies on state-owned firms and industries, and liberalize import to prevent state-owned monopolies.[39] Moreover, they called on Russia to implement stabilization measures to prevent double-digit inflation triggered by the increase of currency issuance.[40]

Since large fiscal deficits could lead to reckless currency issuance and high inflation, addressing fiscal deficit was considered a priority. Judging that budget cut could decrease aggregate demand, and lead to a severe recession, the international financial institutions urged Russia to compensate budget shortfalls with the privatization of state-owned companies. Russia issued vouchers to all of its nationals, giving rise to the emergence of conglomerates. Foreign investment in Russia visibly increased from 1999 and 2000 when Russian President Vladimir Putin took office.

Figure 6. International Institutional Assistance to Russia and FDI Inflows (1989-2006)



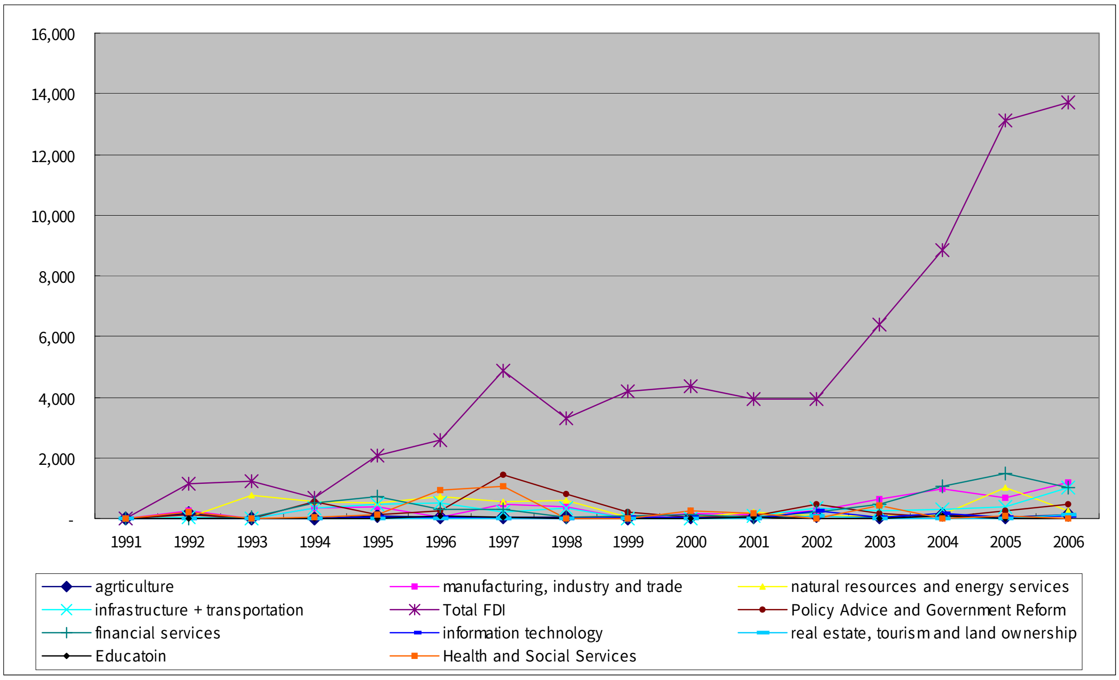
Putin is evaluated to have contributed to the reconstruction of the Russian economy

[39] Aslund 2007 : In the late 1980s, state-owned companies and administrative organizations in the former Soviet Union were gained permission to trade. The government tried to control shipments by introducing export permit system, but, due to the prevalent corruption, companies easily obtained the permit through bargaining.

[40] Jeffrey Sachs believed that how the government finances the budget deficit could help fight inflation. He believed that the government should consider issuing bonds, and receiving offshore loans. However, international financial institutions cited cutting budget deficit as a condition for aid. Martinez-Vazquez, Rioja, Skogstad, Valen *'IMF Conditionality and Objections, The Russian Case'* American Journal of Economics & Sociology, 2001

by leading authoritarian state-owned capitalism,[41] which implemented dirigisme.[42] In its early transition period, Russia had poor infrastructure. Investment in drilling crude oil and developing mines was brisk the most. Investment in trade and business, and financial sector also increased dramatically. Overseas capital also flowed into foodstuffs, tobacco business, machine making, steel, and non-steel products. However, there was little investment in construction, infrastructure, transportation, and distribution industries.

Figure 7. International Institutional Support for Russian Industries and FDI Inflow (1989-2006) (Unit: US$ 1million)



Data: World Bank, IMF, EBRD internal D/B; UNCTAD FDI D/B (2008)

Meanwhile, the economy of Poland started to grow after the collapse of its socialist regime. Even before the regime change, Poland maintained a mature post-totalitarian regime and had room for reform and openness.[43] The fact that the trade union Solidarinosc emerged on the political front with the economic decline in 1980 demonstrated that suppression of military regime did not work. Furthermore, Poland

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[41] William J. Baumol, et., *Good Capitalism, Bad Capitalism, and the Economics of Growth and Prosperity*, New Haven: Yale University Press, 2007

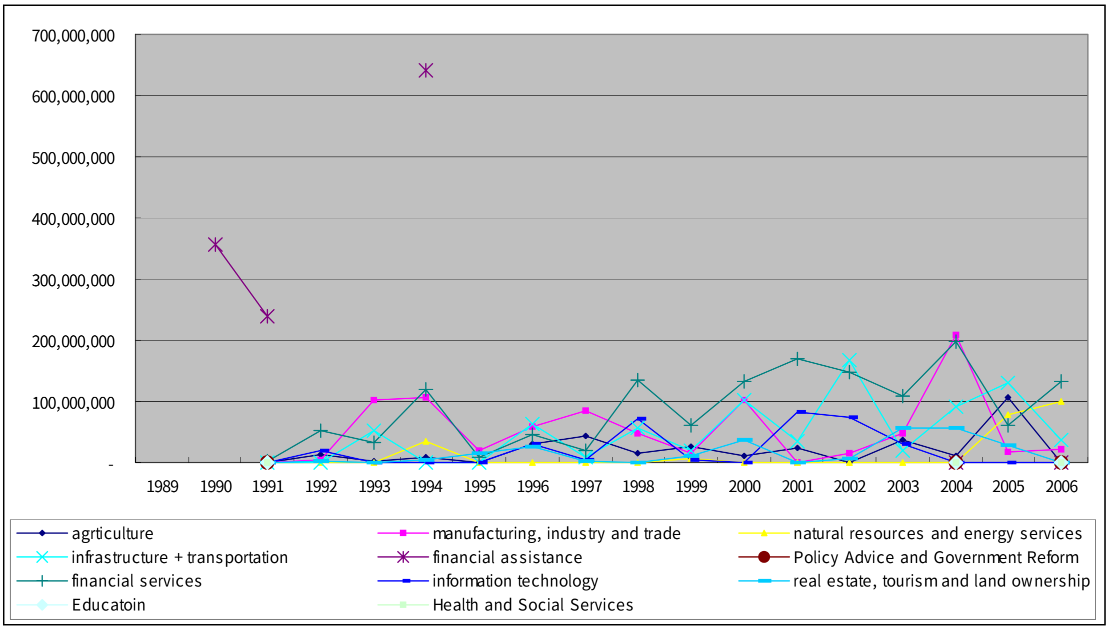
[42] This is similar to the industrialization period of Korea between 1960 and 1970. Putin is well known to have referred to the developmental model of the late Korean president Park Jung-Hee

[43] Juan J. Linz& Alfred Stepan. *op. cit., pp.* 344-365

had a keen interest in opening its economy. It signed bilateral investment treaty and trade agreement in 1989, and double-tax avoidance treaty in 1991. Thanks to these efforts, Poland registered an average of 4.6% of economic growth from 1996 to 2007, considered as one of the transition economies that achieved robust economic growth. Poland has an advanced economic structure where the agriculture, manufacturing, and service industry account for 4.1%, 31.9%, and 64%, respectively in GDP.

International financial institutions supported a structural reform, and construction of infrastructure for establishing the market economy and developing private sector in Poland. The World Bank helped Poland develop a private sector, shift to a market economy, reform policies, and execute structural reform necessary for the ascension to the EU.[44] The government of Poland cooperated closely, asking the World Bank for the support so that it could receive pre- ascension funding from the EU.

Figure 8. Support of International Financial Institutions to Poland by Industrial Sector (1989-2006)



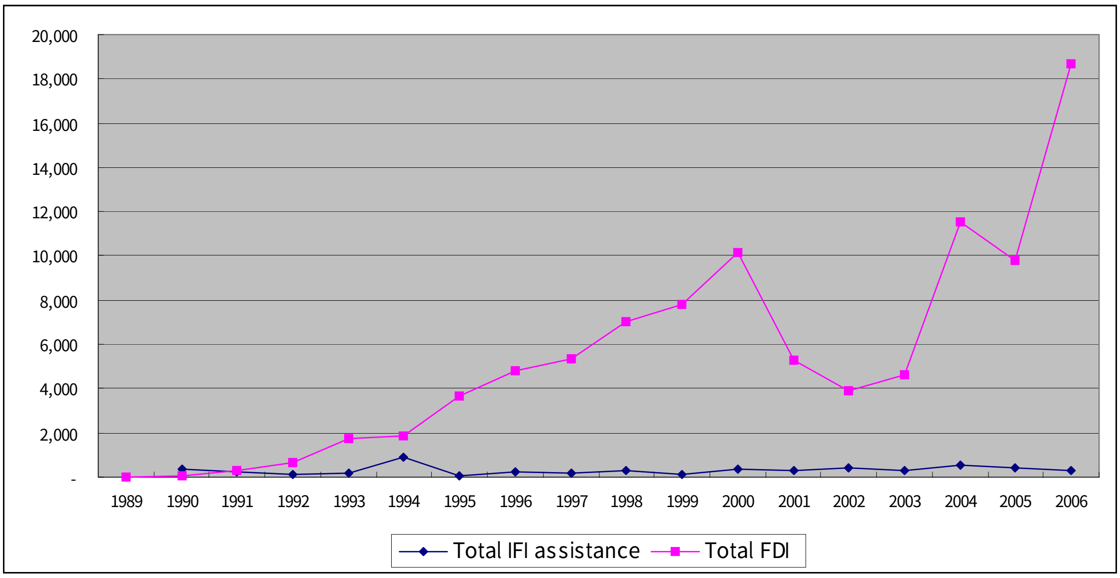
Data: World Bank, IMF, EBRD internal D/B

The IFC of the World Bank mainly supported setting up institutions to establish the market economy and supervisory bodies to promote private sectors, developing financial industries (including microfinance), and promoting private investment for

[44] The World Bank, *Poland Country Assistance Strategy Progress Report, pp. 5-10,* (Washington, DC: The World Bank, 1999)

building social infrastructure. It also introduced various regulations to facilitate more private participation in energy, electricity, telecom and banking. So far, international financial institutions have donated more than US$10 billion to Poland. On the back of aggressive reform by the Poland government, FDI inflow into Poland continued to increase. With the advice from the World Bank, Poland sold off Telekomunikacja Polska, the largest state-owned telecom company, in 2000, and listed PKO Bank Polski, the largest bank, in 2004 on stock market. The government also restructured and privatized its backbone industries, including coal, steel, railroad transport, and energy. As a result, exports to Western European market surged, and overseas direct investment increased dramatically with Poland's accession to the EU.

Figure 9. Support of International Financial Institutions to Poland and FDI Inflow (1989-2006) (Unit: US$ million)



Data : World Bank, IMF, EBRD internal D/B; UNCTAD FDI D/B (2008)

In conclusion, support of international financial institutions to resource industry in Russia failed to induce overseas private capital. At first, the support to Russia's oil and natural gas industries seemed to be able to attract FDI, but the shortage of infrastructure to transport resources was the obstacle, which matches with the previous analysis. Meanwhile, the fact that investment increased with tighter control of the government seven to eight years after the regime change (This could be a period of time for the effects of the assistance provided by international financial institutions to become visible) has a several implications. Even before the aid of international financial institutions, Poland created a suitable business environment. A massive amount of foreign capital flowed into Poland after it opened its economy. In the early 1990s, trade accounted for more than 50% of GDP, and in the 2000s, the proportion of trade in GDP approached 75%. The case of Poland also corresponds with the previous analysis.

IV. Role of International Financial Institutions in Assistance to North Korea and the Areas of Aid

1. The Role of International Financial Institutions

First, international financial institutions should act as a catalyst to attracting overseas capital. In other words, they should provide initial capital and make an initial investment in North Korea as a way to induce FDI into North Korea. In particular, the assistance should go to the sector where the private capital can invest in. From the 1990s, North Korea is seeking membership into international financial institutions, and the global community is considered supporting the request in return for dismantlement of Pyongyang's nuclear weapons. As the support to North Korea only goes to a consensual project, international financial institutions can escape from the criticism that its assistance is too generous, or that its aid can be diverted for military purposes. Second, international financial institutions should focus on improving investment environment. The empirical analysis proved that it was not the support from international financial institutions that induce overseas private investment, but it was market mechanism of the private sectors that influences the investment decision. It is important to note that maturity of institutions[45] and the response of the public could define the result of the economic activity. It also turned out that the outside support alone without continuous investment cannot contribute to the development of a nation. Third, international financial institutions can act as a mediator to get North Korean economy out of prisoners' dilemma. The case of Russia shows that escaping from prisoners' dilemma in the initial stage of development requires the presence of a strong mediator. Russia had suffered moral hazard, and the outflow of capital. After Putin took office, capital flowed into Russia, and the economy started to grow. Considering that one individual government alone cannot act as a mediator on the Korean peninsula where the conflict of interest of six nations is intertwined, it is hoped that international financial institutions play a mediator role. For North Korea's part, there is less political burden if the assistance

[45] Institutions refer to companies, households, market, and financial institutions, and nations. *EBRD, Transition Report 1999, London*: EBRD, 2000

project of the organizations is implemented in limited areas. Therefore, international financial institutions should implement pilot program to prove that North Korea cooperates with the international community and is able to resolve the economic hardship. Finally, the international financial institutions should prioritize the aid areas. The paper will prioritize the aid areas by reviewing the aid plans of the Korean government and international financial institutions.

The aid plan of the World Bank[46] shows that food and energy have priority in the initial stage of assistance. The organization plans to construct social infrastructure in the mid- to long-term, and nurture private sector and develop SOC in the long term.

Table 14. The World Bank's Aid Strategy to North Korea In the Initial Stage

Goal	It is urgent to provide food and energy for the sustainable development of North Korea and growth	
Aid Area	Agriculture(Food)	Energy
Current Condition	· As of 2003, agriculture accounted for 30.2% of its GDP. About 31% of North Koreans are engaged in agriculture. · As of 2003, food supply in North Korea can feed 80% of its population.	· Electricity supply satisfies only 30% of the demand · Severe shortage of electricity in civilian area
Method of Support	· Provision of machines, fertilizers, fuel to enhance agricultural productivity · Restoration of irrigation facilities, project to secure land, implementation of road construction projects · Instruction of agriculture-related technology · Application of market mechanism	· Modernization of outdated electricity facility · Construction of new generation facilities

Source: The World Bank, EASRD, DPRK Assistance Strategy Confidential Memo, (Washington, DC: The World Bank, EASRD, August 2003)

In the inter-Korean summit in 2007, the South Korean government presented an aid plan devised at the request of North Korea and reached an agreement. According to the plan, North Korea was in need of growing its economy, resolving food shortages,

[46] The World Bank, EASRD, DPRK Assistance Strategy Confidential Memo, (Washington DC: The World Bank, EASRD, August 2003)

constructing social infrastructure.

Table 15. Development Aid Plan Requested by North Korea

Area	Method
Improvement and Expansion of the Gaeseong Industrial Complex	· Address traffic and telecommunications issue and open Gyeongeui railroad · Build the second and third industrial complex in Gaeseong in the mid- to long-term
Establishment of the West Sea Peace and Cooperation Zone	△ Establish common fishery area △ Establish special economic zone △ Use Han river estuary
Establishment of Special Economic Zone and using the port of Haeju	· Develop special economic zone in Haeju · Strengthen industrial connection by using the port of Haeju
Designation of Common Fishery Zone	· Designate common fishery area near the Northern Limit Line · Designate fishing-restricted area as peaceful sea zone
Use of the Han River Estuary	· Dissolve military tension, and prevent flood
Construction of Shipyards in Anbyeon and Nampo	· Agree on designating Anbyeon and Nampo as the site for building shipyards
Agriculture, Healthcare, and Environmental Protection	· Focus on resolving food shortages by combining capital and technology of the South and land and human resources of the North while implementing projects such as operation of pilot farming villages. △Establish management system against communicable disease △ Train medical staff in the North △Provide basic medicine and medical equipment △Modernize hospitals
Use and Repair of Railroad from Gaeseong to Shineuiju and Highway from Gaeseong to Pyongyang	· Railroads can be used for North Koreans commuting to work and transporting goods · Construct SOC in cooperation with the North to establish inter-Korean cooperative strongholds and logistics network that connect special economic zones

Based on the aid plan of the World Bank, and the South Korean government, the paper recommends what aid areas should have priority. First, the paper considers that the support to the manufacturing industry in North Korea could attract overseas capital. It is thought that overseas investors could utilize North Korea's abundant and cheap labor force. It is considered possible to develop the manufacturing industry through the development of special economic zone in Haeju and the expansion of the Gaeseong Industrial Complex. In particular, a special economic zone with pro-market institutions would be an attractive investment destination for foreign investors by offering cheap labor force and tax breaks. Second, support to the trade industry could create synergy. It is thought that international financial institutions, governments, and companies can cooperate on the construction of SOC in North Korea for the establishment of inter-Korean cooperative strongholds and logistics network that connects special economic zones.[47] It is worth considering exporting goods produced in special areas through South Korea. Third, the support for the tourism industry attracts much attention from private capital. The assistance to the tourism industry which takes advantage of rich natural environment in North Korea could bring private capital into North Korea. However, as there could be a controversy over cash aid to North Korea, aid to the tourism industry should be considered the second-best option. Fourth, it is necessary to give aid to financial and insurance industries so that the assistance and investment in the manufacturing, trade, infrastructure, and transportation industry proceed smoothly.

Meanwhile, the assistance to agricultural development is expected to have no big impact on inducing private capital. However, considering that North Korea suffers from food shortages, international financial institutions could consider supporting that area. As food aid has its limit in the short term, it is necessary to encourage North Korea to become independent in terms of feeding itself. Furthermore, another area of support that should be considered for the long-term economic growth is the training of North Korean government officials. The program of training North Korean officials about capitalist market economy would make North Korean officials more familiar with the market economy, and deepen their understanding. The development of natural resources should be considered as a mid-to long-term plan as the establishment of infrastructure is necessary.

[47] The incumbent South Korean administration pursues strategy of denuclearization, openness, and per capita of US$3,000 for North Korean civilians.