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NEED FOR DEVELOPMENT FINANCING AND POLICY INITIATIVES IN NORTHEAST ASIA

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Introduction

It is a historical fact that Northeast Asia, comprised of China, Japan, and South and North Korea, has not fully exploited its potential benefits from closer and more practical economic cooperation in the region. Even though the recent world economic trend has witnessed active regional cooperation typified by the North American Free Trade Agreement (NAFTA) among the United States, Canada, and Mexico, Mercosur among the Southern Cone countries of Brazil, Argentina, Paraguay and Uruguay, the 15-member European Union soon to be expanded further, ASEAN among South Asian countries, and many others, there has been a surprising lack of any formalized regional economic cooperation among the four countries of Northeast Asia. According to the latest IMF estimate, the total world GDP in 2000 was $31.4 trillion at market exchange rates, up from $30.5 trillion in 1999.1 The combined GDP of the four countries of Northeast Asia in 2000 was about $6 trillion, accounting for about one-fifth of the world GDP, and the combined foreign exchange reserves of the four countries at the end of 2000 stood at $740 billion, about 40% of the total world foreign exchange reserves of $1.9 trillion at that time. If we add $220 billion of foreign exchange reserves held by Hong Kong and Taiwan, the Northeast Asian region accounts for half the total world reserves. Thus, as a regional economic bloc, Northeast Asia can have a significant impact on both the world economy in general and on their own economic development in particular if the countries of Northeast Asia can devise practical ways to strengthen economic cooperation as a win-win strategy.

As the ASEAN + 3 Summit Meeting has become annual events in recent years along with more frequent ministerial and other sub-cabinet level meetings among the ASEAN +3, there have been parallel three-way meetings among China, Japan and South Korea to discuss possible ways to deepen economic cooperation in Northeast Asia. In recent years there have also been a number of encouraging signs and certain tentative developments indicating that North Korea may be seriously interested in broadening its relationship with the international community as part of

1 IMF, *World Economic Outlook*, May 2001, p. 165. The world GDP at purchasing

the efforts to emerge out of its prolonged isolation. Many observers ascribe its motivation to the North Korean desire to develop its battered economy by emulating in part the Chinese model of adopting limited economic reforms while maintaining its Socialist political system.

The desperate state of the North Korean economy has been well documented and widely reported.2 In rebuilding its economy, the country faces perhaps one of the biggest challenges in securing a vast amount of needed investment capital, especially in the critical area of infrastructure development and modernization. For example, poor infrastructure accounts for the unusually high transport costs in North Korea, where the cost of transporting a 20-foot container from Inchon in South Korea to Nampo in North Korea is four times higher than the cost of shipping the same container to China. Any meaningful economic development of North Korea requires huge sums of investment capital, especially the external capital in convertible foreign currencies in order to procure essential capital equipment and modern technology.

However, infrastructure development of North Korea can also contribute to closer economic cooperation among all Northeast Asian countries and more strengthened competitiveness of these countries in the world economy. For example, if the railway link between South and North Korea is successfully established to resurrect the Trans-Korean Railway (TKR), the two-way freight traffic between Japan and China can benefit from much lower transport costs than the existing sea or air transport modes. Similarly, if the TKR is connected to the Trans-Siberian Railway (TSR), both Korean and Japanese exporters to Europe will be able to reduce their transportation costs significantly, thereby enhancing their European trade competitiveness. At the same time, North Korea can earn substantial foreign exchanges from charging the user fees on both Japanese and South Korean shippers for using its own railways in the TKR grid.

In addition to many political barriers to achieve a mutually beneficial economic cooperation among the four Northeast Asian countries, successful infrastructure development requires enormous sums of capital, especially foreign capital. This paper discusses potential sources of foreign capital for infrastructure development in Northeast Asia, especially North Korea, which might be available in the near and medium term into the future. There is a general

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power parities was $44.5 trillion in 2000 and $41.6 trillion in 1999.

2 For example, Marcus Noland, *Avoiding the Apocalypse: The Future of the Two*

agreement among experts that North Korea needs a large sum of investment capital to resurrect its battered economy. While the precise number is extremely difficult to project by its very nature, South Korean research institutes have come up with the estimates ranging anywhere from $40 billion to $2,240 billion as the potential total cost for the North-South unification, based upon the German unification experience where the new unified German government expended annually a sum equivalent to about 5-6 percent of the German GDP.

Broadly, we can think of five potential sources of external capital for infrastructure development in North Korea: international financial institutions (IFIs), bilateral donor agencies, private international capital markets, international bank loans, and foreign direct investments (FDIs). These sources of funds can act singly or collaboratively in providing funds for infrastructure development in Northeast Asia in general and most importantly for North Korea in particular. For example, both IFIs and bilateral donor sources can work together through international trust funds, as in the case of the Trust Fund for Gaza and West Bank to support Palestine, where the funds came from IFIs such as the World Bank as well as from other donor countries directly. Similar arrangements have been made for financial assistance to Kosovo, East Timor, and Bosnia.

External development financing sources can vary among countries depending upon a country's development stage, its external credit rating, and its degree of access to international financing sources. Among the four countries of Northeast Asia, Japan has been generally a capital export country during the past several decades due to its huge current account surpluses accumulated over the years, resulting in the largest foreign exchange reserve holder in the world. China has enjoyed in recent years its status as the largest recipient of foreign direct investments among all the developing countries of the world, and it also has been highly active in tapping both international capital markets and IFIs for long-term development financing. South Korea has mainly relied upon international capital markets for long-term financing, even though foreign direct investments have also played an increasingly important role in recent several years after the 1997 financial crisis. Like Japan, South Korea has graduated from the IFI financing due to its high per capita income, except for the temporary reliance on IFIs in the immediate aftermath of the 1997 financial crisis, but such financing was more for macroeconomic objectives rather than

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Koreas, Institute for International Economics, Washington, 2000.

for financing development projects. North Korea, on the other hand, has been relatively isolated from international financing sources up until now due to its deliberate *juche* (self reliance) policy.

Infrastructure and Economic Development

Infrastructure is an umbrella term for many activities sometimes referred to as "social overhead capital," and it may be classified into three broad categories. First, public utilities include powe r, telecommunications, piped water supply, sanitation and sewerage, and piped gas. Second, public works include roads and major dam and canal works for irrigation and drainage. Finally, other transport sectors include railways, urban transport, ports, waterways, and airports. Infrastructure represents, if not the engine, then the wheels of economic activity. Good infrastructure raises productivity and lowers production costs, and it has to expand fast enough to accommodate economic and population growth. The adequacy of infrastructure helps determine one country's success and another's failure in enhancing production, expanding trade, coping with population growth, reducing poverty and improving environment conditions.

A World Bank study finds that infrastructure capacity grows step by step with economic output – a 1 percent increase in the stock of infrastructure is associated with a 1 percent increase in GDP in all countries.3 For these reasons, each year developing countries invest about 4 percent of their national output and a fifth of their total investment into infrastructure. While most of infrastructure services are provided by the private sector in industrialized countries, the exact opposite has been the case in developing countries, where governments own, operate and finance nearly all infrastructure. Thus, the record of success and failure in infrastructure in developing countries is largely a story of government's performance. Infrastructure can deliver major benefits in economic growth but only when it provides services that respond to effective demand and does so efficiently. While major investments have been made in infrastructure stocks, in many developing countries these assets are not generating the quantity and quality of services demanded. The costs of this waste are high in terms of foregone economic growth and

3 World Bank, *World Development Report,* 1994.

lost opportunities for poverty reduction and environmental improvement.

To ensure efficient, responsive delivery of infrastructure services, a number of developing countries in recent years have attempted to improve the service delivery through commercial management, competition, and stakeholder involvement. Such a new focus includes managing infrastructure like a business, not a bureaucracy, as it has so often happened to be the case in many developing countries. Infrastructure can be viewed as a service industry that responds efficiently to customer demand, and private sector involvement in management, financing, or ownership is often needed to ensure a commercial orientation in infrastructure. Private sector involvement in infrastructure has been a growing phenomenon even in developing countries. Such a development has been most noticeable in the area of financing infrastructure with the use of private capital instead of public funds.

Traditionally, new infrastructure projects in developing countries have been predominantly financed with official funds. Even now, about 90 percent of financial flows for infrastructure are channeled through a government sponsor, which bears almost all project risks. Tax revenues and government borrowings are the predominant source of infrastructure finance. Borrowing, whether from official or private sources, is backed by a government's full faith and credit, and thus by its tax powers. Under this system, governments bear virtually all risks associated with infrastructure financing. In recent years, however, innovative and diverse financing techniques are being employed to support an accelerating transition from public to private sector risk bearing in infrastructure projects. Private sponsorship and financing offer the twin benefits of additional funds and more efficient provision – especially valuable because substantial new investments are needed to meet the growing demand for modern infrastructure services in Northeast Asia. Mechanisms for financing specific stand-alone projects are contributing to the learning process as governments shift from being infrastructure providers to becoming facilitators, and as private companies and lenders take a more direct role. Private financing is needed to ease the burden on government finances, but, more importantly, it will encourage better risk sharing, accountability, monitoring, and management in infrastructure provisions.

Since the late 1980s, private participation in infrastructure exploded in both size and

scope principally in two ways: through the privatization of state-owned utilities and through policy reform that made possible the private construction of new facilities in competition with, or as a complement to, existing infrastructure entities. The principal new infrastructure entrepreneurs are international firms seeking business in developing countries. These multinational firms bring to bear not only their management expertise and technical skills, but also their credit standing and ability to finance investments in developing countries. Major electric, telecommunications, and water utilities in industrial countries face slowly growing demand and increased competition due to deregulation in their home markets. As a result, these private firms are vigorously seeking high-yielding investments in developing countries. Construction conglomerates are active in toll-road construction and in power projects, where they sometimes take an equity interest. Some companies also specialize in stand-alone infrastructure projects, putting together financing packages and overseeing project development and operation.

Many new infrastructure projects in the private sector are built by "special-purpose corporations" which bring together private sponsors and other equity holders. Project financing, which permits sponsors to raise funds secured by the revenues and assets of a particular project, is often used in new ventures that have no track records. New companies, as in electric power generation, toll roads, or environmental infrastructure, have only the prospect of a future earnings stream to support borrowings. For them, a key issue is what recourse lenders have if investments fail to produce the expected returns. The use of non-recourse or limited-recourse financing, also known as project financing, is a market response to the growing need for private sector involvement in infrastructure projects. Such financing takes some of the sophisticated new techniques such as BOT (build, operate and transfer), BOO (build, own and operate), BTO (build, transfer and operate), etc. Northeast Asian countries, especially North Korea, can benefit from using both traditional and new financing techniques in their infrastructure development.

International Financial Institutions

Since the end of World War II, a number of IFIs have been established for the express purpose of providing external finance and technical assistance to developing countries. The oldest and the most well known among them is the World Bank Group, which is composed of three operational

agencies of the International Bank for Reconstruction and Development (IBRD), International Development Association (IDA) and International Finance Corporation (IFC). Along with the World Bank, the other twin IFI born in the 1944 Bretton Woods Conference is the International Monetary Fund (IMF). IBRD loans have maturities of 15 to 20 years in general at an interest rate of 6 to 7 percent, calculated on the basis of annual weighted long-term borrowing costs of the World Bank's international bond issues plus a 0.5 percent margin. IDA credits have much longer maturities of 35 to 40 years and carry no interest except for annual service charges of 0.5 to 1 percent, and they are available to poorer developing countries whose per capita GNP as of 1996 was below $925. According to an estimate by the Bank of Korea, per capita GNP of North Korea stood at $573 in 1998, thus making the country eligible for IDA assistance. Both IBRD and IDA made total new commitments of $29 billion in 1999 and $15.3 billion in 2000. Twenty-six percent of these commitments in 2000 were for infrastructure projects including electricity and oil and gas, and 22 percent was for human development projects such as education, which is sort of soft infrastructure compared to the hard infrastructure projects such as transportation and power projects.

The IFC is the private sector assistance arm of the World Bank Group. While IBRD and IDA loans are extended to governments and government agencies of developing countries, the IFC makes loans as well as equity investments exclusively for the private sector firms in developing countries without any government guarantees. Since private firms in North Korea are almost non-existent at present, IFC might be less relevant at this stage but it can play a useful role later when foreign direct investments lead to establishments of private business entities either as stand-alone companies or as joint venture firms in partnership with North Korean host organizations. The IMF has many lending facilities ranging from five-year credit tranche loans to 10-year extended fund facilities and others. The IMF equivalent to IDA credits is the Poverty Reduction and Growth Facility (PRGF) available only to poorest developing countries, with the same per capita GNP cap of $925 as of 1996 as in the case of IDA credits.

The real problem, though, is that the normal financial assistance from the IMF and the World Bank Group is available only to their member countries. The same is true of other regional IFIs such as the Asian Development Bank, Inter-American Development Bank, African

Development Bank, and the European Bank for Reconstruction and Development. Unfortunately, North Korea is not a member of any IFI. In April 1997, the country made its first formal attempt to join an IFI by officially applying for a membership in the Asian Development Bank (ADB). The ADB, headquartered in Manila, the Philippines, has the IDA credit equivalents known as the Asian Development Fund (ADF) credits. ADF credits have a maturity of 35 to 40 years and carry no interest rates except for annual service charge of 1 percent. Despite strong support for the North Korean membership application from China, South Korea and several other Asian developing countries, the two largest ADB shareholders, the United States and Japan, have been against admitting North Korea into ADB and their vetoes effectively have stalled the North Korean application. North Korea has continued to show its interest in the ADB membership, by writing a formal letter in the summer of 2000 reminding the ADB board of its 1997 application.

Admission of North Korea into such IFIs as ADB, World Bank and IMF is contingent in practical terms upon the agreement of both Japan and the United States. The U.S. government withholds its agreement primarily due to the fact that since 1988 North Korea has been on the U.S. government's list as one of the seven countries supporting international terrorism. The other six countries on the list are Cuba, Iran, Iraq, Libya, Sudan and Syria. Furthermore, North Korea is considered a violator of the missile technology control regime. U.S. government officials have hinted on various occasions that North Korea has to satisfy the United States in the terrorism issue, ballistic missile-related matters, and transparency in its nuclear program before they can support the North Korean membership into IFIs. Japan on the other hand wants a satisfactory conclusion of the case of alleged North Korean kidnapping of Japanese citizens before it can consider supporting North Korean membership. Any membership into the World Bank has to be preceded by North Korea being admitted into the IMF first. It is generally understood that a North Korean membership into the IMF would be similarly opposed by the United States and Japan, thus effectively precluding North Korea from becoming a member of both the IMF and the World Bank.

Since it will take some time for North Korea to be admitted into IFIs, North Korea might explore the avenue of international trust funds administered by IFIs even for their non-members.

As mentioned previously, in 1993 the World Bank participated in establishing the Trust Fund for Gaza and West Bank for the express purpose of assisting Palestine that is still not a member of the World Bank. This trust fund raised over $400 million through June 2000, including almost $300 million from the World Bank out of its accumulated net profits and the rest from other donor countries, and these funds have been disbursed for various development projects in Palestine. In 1999, the World Bank and the Asian Development Bank collaborated to establish the Trust Fund for East Timor, which received funds from the World Bank Group as well as many individual donor countries such as Japan, Portugal and Australia. These funds have been used to finance many development projects in East Timor, which was not yet a member of the World Bank and the ADB. Similar trust funds were also established to assist Bosnia in 1996 and Kosovo in 1999, both of which were not members of any IFI at that time. North Korea should explore a similar approach until its formal membership into the ADB and the World Bank.

Some prominent experts in the United States and South Korea have recently proposed establishment of a new Northeast Asian Development Bank (NEADB) as a separate IFI with the implicit purpose of assisting North Korea. NEADB would be engaged in development financing in northeast China, Siberia and Mongolia along with North Korea. At this point, however, it is not clear whether potential donor countries such as the United States and Japan are likely to participate in such a bank. Both the United States and Japanese governments might feel that it would overlap similar functions already being performed by the World Bank and ADB, except for assistance to North Korea. However, it is critical to persuade these two countries as well as Western European countries to join in the new NEADB. Without the active support of these major donor countries, the new bank is not likely to collect enough capital to become a viable IFI with the requisite triple-A credit rating, which is essential for NEADB to carry in order for it to tap international capital markets to raise funds successfully. All IFIs fund their operations mainly by issuing bonds in international capital markets and thus high credit ratings are essential for successful bond issues. Both ADB and the World Bank carry the highest credit ratings of triple-A's due to the strong financial backing from major industrialized member countries such as the United States, Japan, the United Kingdom and Germany. Without their active support, the new NEADB is not likely to receive a high credit rating and thus its ability to issue bonds successfully

at reasonable interest rates in international capital markets would be severely handicapped.

Private Foreign Direct Investments

If North Korea provides a favorable environment for foreign direct investments (FDIs) by enacting the necessary laws and regulations regarding the property rights, profit remittances, accounting and taxes, labor standards, etc., it could attract FDIs as in the cases of China and Vietnam. The country possesses potential attractions for certain projects with labor-intensive assembly and manufacturing components, given the low cost but highly adaptable labor forces there. North Korea has developed a special economic zone (SEZ) in the Rajin-Sonbong area, which has suffered so far from its remoteness to potential market places and poor infrastructure there. Fortunately, there are plans to develop other SEZs in places such as the Haeju District on the western coast just north of Inchon which is a major South Korean port and next to the main airport for the Seoul metropolitan area as well as in the Kaesong City just north of the demilitarized zone with an easy access from South Korea. It is reported that the Hyundai Group would develop the necessary infrastructure and then lease the sites to Korean and other foreign investors. Most initial FDIs would be export oriented, given the negligible local market in North Korea. Furthermore, most FDIs might employ modern project finance methods that are not dependent upon the host entity's credit standing or balance sheet but rather upon the potential cash flows of the project itself. In such cases, some of the modern innovative project financing techniques such as BOT or BOO can be very useful in order to minimize the project risk on the part of foreign investors.

In recent years, many countries have been moving towards the use of limited-recourse financing techniques as a way to avoid the risks involved in major new project developments. The popularity of the techniques lies in the belief that they might prevent losses and reduce the danger of piling up large debts. The trend marks a definite move away from recourse deals financed mainly by conventional credits carrying full sovereign guarantees. Limited recourse financing techniques are part of off-balance-sheet project financing, which also includes various forms of lease as well as the take-or-pay contracts.

In an operating lease the lessor not only keeps the title but also carries out routine upkeeps

such as maintenance and repairs of the leased property. In a financial lease, however, the lessee, who also pays the property tax and insurance premium to protect the leased property, performs these tasks. If the lessee has the right to purchase the leased property at the end of the lease period, such a financial lease is also called a hire purchase. However, some countries do not permit the lease of a hire purchase type. Another type of financial lease is project lease, in which the facility to be leased is financed by conventional bridge financing during its construction period. Only when the construction process is complete, the project lease comes into effect. Similar to the project lease is a sale-and-lease-back, under which a facility that has been in operation is sold to the lessor and leased back

The take-or-pay contract, typical in a large pipeline construction project, is signed for example between a pipeline company (the project entity) and a group of oil or gas companies that will actually utilize the pipeline. Under the contract, the users agree to pay the project entity a fixed sum per annum for an extended period of time regardless of whether the full pipeline capacity is utilized or not. The fixed payment is set at such a level as to be sufficient to service the long-term debt incurred to finance the pipeline construction as well as an adequate return on equity for the project sponsors. The debt financing is on a non-recourse basis, collateralized by the long-term take-or-pay contract.

The limited-recourse financing was first pioneered in the early 1970s for developing the North Sea oil fields. It took some elements of risk off the balance sheets of the oil companies and handed them to the creditor banks. For a number of smaller companies, without the assets to back conventional loans, financing off the back of the future proceeds of their oil was the only way of raising the necessary capital. The concept of limited recourse financing, which relies more on the project's future cash flows than on the creditworthiness of a project entity, has since been applied to other revenue-generating projects, including certain infrastructure projects. As the trend toward privatization has become more fashionable, limited-recourse infrastructure projects have also gained popularity. There are two main categories of limited recourse financing: BOT and BOO.

BOT and BOO Schemes

In both BOT and BOO, the project is designed, built and then operated by a private entity. With BOT the project developer is provided a certain number of years of positive revenues to compensate for his investment, after which the project reverts to the government. An example is the Channel Tunnel, where Eurotunnel -- a private company created for the purpose -- has been granted a 55-year concession on Channel Tunnel traffic before the UK and French governments take it over. In BOO, however, the title to the project does not revert to the government. BOT and BOO have been promoted as a way for LDCs to build infrastructure projects without having to pay out of the government expenditure budget. The World Bank is keen to promote some private-sector initiative and first tried the concept with three BOO power plants in Pakistan, among others. It put up 15-20 percent of the initial equity for two plants built by Saudi Arabia's Xenel Industries and the United Kingdom's Hawker Siddeley Power Engineering. The third was built by the U.S.-Pakistani venture Pyropower-Parkland-Bechtel. When the plants became fully operational, the new companies floated their shares on local stock exchanges.

The World Bank's interest in limited-recourse techniques is also shared by many private financial institutions, which consider BOT and BOO as appropriate for many LDC projects. Although the concept is not new -- many railways throughout the British Empire were built this way, as were the Suez Canal and Hong Kong’s Cross-Harbor Tunnel -- it has yet to gain wide acceptance outside Europe and the United States. The country that has also shown interest in BOT is Turkey. First of five thermal power stations has been awarded to a consortium led by Australia's Sea-Pac Control Services. But the excessively long gestation period for the project has been agonizing and Sea-Pac's bid only won because the State of Queensland matched the Turkish government in taking an equity stake in the project. Part of the deal is a port and coal terminal with an annual capacity of 10 million tons of (Australian) coal, although the power station will only use 3 million tons a year. This does give the impression to many observers that the project is simply a cheap distribution center for Australian coal into Europe.

The stickiness of raising the equity for Sea-Pac's $1.2 billion project brings into question whether BOT or BOO is suitable for larger projects like the proposed $3.2 billion nuclear power station for Indonesia. The project requires a 25 percent equity investment from private developers, but this does raise serious questions as to whether any private-sector investor is

prepared to plough $800 million of equity into Indonesia. Another problem is repatriating funds. Unless BOT or BOO is a natural foreign-exchange producer such as a mining project whose products are destined for exports, a developer will have to convert local-currency earnings into convertible currencies. This is further complicated in infrastructure projects (like roads or bridges) because of socio-political reasons for keeping tolls down and the question of government cross-subsidies.

In Pakistan's projects this problem has been resolved by the World Bank's intervention to secure the private sector's investment. Parts of the power-purchasing agreement guarantee the private developer an adequate return adjusted to foreign exchange fluctuation. There is also an agreement that the central bank will provide foreign exchange to foreign project sponsors in order to repatriate the profits. Many governments in developing countries are using BOT and BOO to get the private sector to rekindle projects the public sector could not make happen due to the projects' inherent weakness in future cash flows.

Application for Northeast Asian Countries

With North Korea’s weak economic and financial position, it may be especially difficult to arrange conventional long-term credits for project financing. Thus, it is important to isolate the project as much as possible from the country risks. If adequately structured for certain infrastructure projects, both BOT and BOO schemes can provide a viable alternative for project financing. Malaysia provided one of the early examples of BOT in a developing country with the L30 million Labuan Water Supply Project. The state water authority awarded a concession to a private consortium (Labuan Water Supply Bhd) for the construction and operation of a water treatment plant and pipeline for the island, which lies off the coast of Sabah. Similarly, in order to upgrade North Korea’s railways as part of TKR, South Korea’s Railways Agency might provide the needed guarantees.

Why are private contractors willing to take on the additional risks that limited-recourse financing in general, and BOT in particular, bring with them? These techniques have several advantages. For many engineering companies, running a project can be a useful diversification away from just construction and engineering work. In what is a cyclical business it enables them

to keep on permanently a higher proportion of their skilled staff, when the construction market is in a down cycle. At the same time it diversifies their income stream. BOT has emerged as developing countries have sought to obtain a longer-term commitment from contractors by imposing equity requirements and technical or operating support on potential projects. Given the competitive environment in Northeast Asia, putting in equity in the company set up to build and operate a project can become increasingly accepted as part of the cost of a project deal to be used by Japanese and South Korean firms.

A similar technique can be used to develop a mining project in North Korea, as in the case of Chile's $1.1 billion Escondida copper mine project. The world's third largest copper vein was discovered in 1981 in Escondida, Chile. But it wasn't until 1986 that the supporting finance package took form, coordinated by the project finance team at NM Rothschild (London), which acted as advisers to the project sponsor, Mineral Escondida. The structure is composed of a debt package worth $680 million and equity making up the shortfall between loans and final costs. Debt financing comprises both import and export financing, with import financing making up the bulk of funds. The operator is Mineral Escondida Limited, a joint venture company comprising Rio Tinto Zinc (RTZ, UK) and BHP Utah International (a subsidiary of Broken Hill Proprietary, Australia) and a Japanese consortium, comprising Mitsubishi Corporation, Mitsubishi Mining, and Nippon Mining. Around $100 million was initially invested in the joint venture, with more to follow. BHP Utah holds 57.5 percent; RTZ holds 30 percent; IFC holds 2.5 percent and the Japanese consortium holds the rest. Mineral Escondida has a 20-year foreign investment agreement with the Chilean government, although the mine has an expected lifespan of over 52 years, with reserve deposits in the region of 2.1 billion tons, while the mine itself is expected only to exploit 660 million tons.

In both BOT and BOO, the private sector company has the technical expertise to operate the plant, such as a power plant BOT organized by an electric utilities company. If the private investors do not have such technical expertise to operate the plant, as in the case of a power plant BOT invested by a trading company or a bank, the private company may lease the plant for a fixed number of years to the government utilities agency that will operate the plant to generate electricity. After the investment cost as well as the required returns on investments is recovered

through the lease receipts by the private investors, the plant ownership will be transferred to the public utilities agency. Such an arrangement is known as the build, lease and transfer (BLT) contract.

Under a lease, operate and transfer (LOT) contract, a foreign company such as a Japanese or South Korean electric power company leases the prematurely mothballed power plant from a local public utilities agency, which has decided to shut down the power plant prematurely due to the neglected regular maintenance and repairs because of the insufficient recurrent cost budget. In many developing countries, the capital expenditures are often more easily available from public sources, while the recurrent expenditures for timely repairs and maintenance, once the plant is completed and in operation, are not readily available due to tight budgetary situation. As a result, many plants experience frequent shutdowns due to the lack of regular maintenance and become increasingly costly to continue operation. In such a case, the public agency may decide to mothball the whole plant. In such a case, a foreign company can come in and lease the moth-balled plant for a fixed number of years and, after the needed repairs with new parts and other necessary supplies, operate the plant to generate electricity to sell to the public utilities agency or others. After the necessary investment returns are realized during the lease and operation period, the foreign company will return the plant back to the public agency.

If the North Korean government is reluctant to have a foreign private company to own the title to its public infrastructure projects such as power plants and toll roads or railways, they may be interested in the concept of the build, transfer and operate (BTO). In a BTO project for a new port or toll road, private firms will first build the facility at their own costs and immediately transfer the title to the government, while still operating the facility and collecting the revenues for a fixed number of years sufficient enough to recover their investment costs and agreed-upon profits. Some South Korean infrastructure projects have been built on a BTO basis. In North Korea's strict Socialist system of government ownership of all industrial and infrastructure facilities, BTO rather than BOT or BOO might be more relevant.

International Capital Markets

North Korea might some day be able to tap the vast international capital markets by issuing

different types of bonds, initially guaranteed by IFIs as in the case of the first Hungarian Eurobond issue guaranteed by the World Bank. Before tapping the international capital markets, however, North Korea has to resolve its international debt arrears. According to a recent estimate, North Korea owes a total of $12 billion to foreign creditors. A significant portion of these debts is owed to Western creditors such as banks, while the rest is owed mainly to China and the old Soviet Union. These debts are practically in default and the resolution of these foreign debts should first be accomplished through the Paris Club for debts owed to foreign governments and their agencies and the London Club for debts owed to private bank creditors. Most developing countries have resolved their foreign debt problems through such forums and North Korea would not be unique in resorting to these well-known international debt-restructuring mechanisms.

Once North Korea resolves its foreign debt problem and if the country is admitted into such IFIs as the World Bank and ADB, with the support of their financial guarantee programs it might be able to tap international capital markets by issuing international bonds such as Eurobonds and other types of bonds. The size of international financial markets is huge and growing rapidly. In 2000, over $1.1 trillion in new long-term bonds was raised in international capital markets, while the total amount of new syndicated long-term international bank loans was about $1.5 trillion, for a total of $2.6 trillion of long-term funds raised in international financial markets. In addition, about $850 billion was raised in 2000 in the form of short-term international money market instruments such as Euro commercial paper.

Size of International Financial Markets

(in $ billions in new funds raised)

	1999	2000
International bonds	1,215	1,138
Syndicated bank loans	1,026	1,460
Short-term instruments	710	850
Total	2,951	3,448

Source: Bank for International Settlements, *International Banking and Financial*

Market Developments, March 2001.

There are a number of debt financing sources available for project financing. Some of these instruments have equity features such as convertible bonds and bonds with warrants. Others are purely debt financing instruments. For example, Euronotes are short-term Euro commercial paper (ECP) backed by long-term Euronote guarantee facilities such as NIF (note issuance facility), RUF (revolving underwriting facility), etc. Suppose North Korea wants to borrow $50 million at a floating interest rate for 7 years to build a cement plant. The country usually has two alternatives: 7-year Eurocredit from an international syndicate of banks at, say, 6-month LIBOR (London inter-bank offered rate for Eurocurrency funds) plus a spread of 3%; and 7-year floating-rate notes (FRNs) at 6-month LIBOR plus a spread of 2-15/16%. FRNs are likely to cost slightly less (in this example, 1/16%) due to the liquidity of FRNs as compared to generally illiquid Eurocredit. However, the borrower has a third alternative: issuing 6-month Euronotes at 6-month LIBOR plus a spread of only 2% backed by 7-year NIF. The spread over LIBOR in this case is 2% because Euronotes are short-term with only a 6-month maturity. Since the borrower needs the money for 7 years, not six months, the 7-year NIF takes care of the maturity mismatch.

In this case, NIF is a guarantee provided by a group of banks to the borrower that, if the borrower cannot sell $50 million 6-month Euronotes at the maximum rate of LIBOR plus 2% during any of the fourteen times that Euronotes are issued, the guarantee banks would purchase any unsold portion of the Euronotes. In this sense, NIF or RUF is a purchase guarantee or back-up credit availability guarantee provided by a group of banks to the borrower. Therefore, even though the Euronotes are short term in a strict legal sense, in fact they are equivalent to long-term borrowings. Unlike a normal revolving credit line, a short-term Euronote issue backed by a long-term guarantee facility should be considered a long-term borrowing due to the iron-clad guarantee facilities such as NIF or RUF. Any saving in the spread over LIBOR due to a positive yield curve between short-term and long-term rates, in the above example the difference between 2% and 3%, would be divided between the borrower and the guarantor banks, which are compensated for their backup guarantee facilities in the form of management fee, facility fee,

utilization fee, etc.

NIF or RUF is different from a revolving credit line in that the latter involves actual credit extension by a bank to its client, on a revolving basis, while the former involves only a provision of contingent credit facility in case the beneficiary of NIF or RUF cannot re-sell or re-issue its short-term Euronotes at a pre-specified rate. In this sense, the banks providing NIF or RUF facility act only as the back-up credit sources, while the primary credit sources are the investors who purchase the short-term Euronotes. Originally, Euronotes were issued with the RUF guarantee, under which the guarantee banks provided the back-up purchase facility, while an investment bank would handle the marketing of Euronotes to potential investors every six months. However, many guarantee banks gradually demanded to be given the role of market makers as well, which is known as NIF. There are other Euronote guarantee facilities, such as multiple options facility (MOF), global note facility (GNF), transferable RUF (TRUF), etc. Under MOF, the borrower is allowed to get financing for the six-month period, when the issuer cannot sell the Euronotes successfully, through any of the many possible ways such as a six-month bank loan, banker's acceptance facility, etc. GNF allows the borrower to switch back and forth between the U.S. and Euro commercial paper market, whichever is more advantageous to the borrower at the time of each issue. Under TRUF, each guarantor bank has the ability, usually subject to the prior approval of the borrower, to transfer all rights and obligations under its underwriting commitment to another bank at any time during the life of the facility.

Since their emergence in mid-1980s, Euro medium-term notes (EMTNs) have now become the predominant way of issuing international debt. The EMTN market has become bigger than its parent, the U.S. MTN market. Originally, the MTN market was established in the early 1970s in the United States as an alternative to short-term financing in the commercial paper market and long-term borrowing in the traditional bond market; thus the name "medium term." In the 1980s, the U.S. MTN market evolved from a relatively obscure niche market dominated by the automobile finance companies into a major source of debt financing for several hundred large corporations. By mid-1980s, the EMTN market also appeared to compete with the U.S. MTN market. Most MTNs are non-callable, unsecured, senior debt securities with fixed coupon rates. They have generally differed from traditional bonds in their primary distribution process. MTNs

have traditionally been sold on a best-effort basis by investment banks and other broker-dealers acting as agents. Hence, EMTNs normally do not have a feature equivalent to a commitment amount. Unlike traditional bond issues, there was no underwriting syndicate for typical MTN issues. Also, unlike corporate bonds, which are typically sold in large, discrete offerings, MTNs are usually sold in relatively small amounts either on a continuous basis or on an intermittent basis.

Borrowers with MTN programs have great flexibility in the types of securities they may issue. As the market for MTNs has evolved, issuers have taken advantage of this flexibility by issuing MTNs with less conventional features. Many MTNs are now issued with floating interest rates or with rates that are computed according to unusual formulas tied to equity or commodity prices. Also, many include calls, puts, and other options. Furthermore, maturities are not necessarily "medium term"--they have ranged from nine months to thirty years and longer. Moreover, like corporate bonds, MTNs are now often sold on an underwritten basis, and offering amounts are as large as those of bonds. Indeed, rather than denoting a narrow security with an intermediate maturity, an MTN is more accurately defined as a highly flexible debt instrument that can easily be designed to respond to market opportunities and investor preferences.

A convertible bond is a fixed rate bond, which may, at the option of the bondholder, be converted into the equity of the borrower or its parent. The price at which the bond is convertible into shares, known as the conversion price, is set at the time of issue and will be at a premium to the market price of the equity at the time of issue. The conversion option on the bond may be exercised at one specified future date or within a range of dates, known as the window period. The conversion right cannot be separated from the debt. The instrument allows an investor to participate in the appreciation of the underlying share value while limiting the entire equity holder risk. A convertible bond will generally pay a coupon rate higher than the dividend rate of the underlying equity at the time of issue but lower than the rate of a comparable bond without a conversion option.

An exchangeable bond is similar to a convertible bond, except that the bond will be convertible into the shares of not the issuer but a third party. Such bonds are often issued by a government agency, which cannot sell their own shares but can promise to exchange the bonds

for some of the shares of a state-owned enterprise held by the government agency. Exchangeable bonds are used as part of privatization of state-owned enterprises. For example, early this year the Government of Pakistan floated a large dollar-denominated Eurobond issue, whose bonds are exchangeable into the government-held shares of a state-owned enterprise that Pakistan wants to privatize any way. The issue was hugely successful, leading Pakistan to raise the amount of the Eurobond issue.

Equity warrant bonds are debt securities which incorporate warrants that give the holder the option to purchase equity in the issuer, its parent company or another company during a pre-determined period or on one particular date. The warrants are detachable and may be traded separately from the debt security. The exercise of the equity warrant will normally increase the total capital funds of the issuer because the debt is not replaced by equity but remains outstanding until the date of its redemption. The warrant on the bond has a fixed strike price. The issue of equity warrant bonds reduces the funding costs for borrowers because the investor will generally accept a lower yield in anticipation of the future profit to be gained from exercising the warrant.

The international capital markets have been a fertile ground for financial innovations during the past couple of decades. In addition to the market instruments described in the previous sections, there are standard, more traditional debt instruments utilized by the borrowers around the world. **Eurobonds** were first issued in 1963, perhaps the oldest and first international bonds created in the post World War period. They are different from foreign bonds in that they are issued without being subject to any country's securities laws or regulations, and generally underwritten by international syndicates of banks without being registered with any national securities regulators. However, in order to attract institutional investors which may be limited to investing in only listed securities, they are often listed on London or Luxembourg stock exchanges, even though secondary market trading takes place over the counter. In contrast, **foreign bonds** are issued in a domestic capital market by non-resident issuers and they are subject to the market country's securities regulations and registration requirements. There are many types of Eurobonds: convertible, zero-coupon, indexed, dual-currency, and step-up put Eurobonds, etc. The last one includes a put option given to the investors who can exercise the options at the end of the first period; otherwise, the bonds become due at the end of the second

maturity period at a higher coupon rate.

Global bonds are a combination of foreign bonds and Eurobonds, launched simultaneously in the United States, European and Asian markets. Trading takes place in and between all three markets, and transactions can be settled through both domestic and international clearing systems. Global bonds are an attractive financing source for issuers wishing to access a wide investor base. The first global bonds were issued mostly by multinational corporations from developed countries and supranational issuers. In recent years, however, a number of sovereign issuers from developing countries such as Argentina, Mexico and China have utilized them. Global bonds may be issued in any currency but, since the first global bond issue in 1989, they have been denominated in only five currencies: U.S. dollar, Japanese yen, Canadian dollar, German mark, and Australian dollar. Investors have been predominantly institutional investors rather than retail investors, with a minimum trading size of $1 million and up.

Brady bonds, named after the former U.S. Treasury secretary, are issued in exchange for commercial bank loans (and in some cases, unpaid interest) of developing countries in order to reduce their debt service burden. First issued by Mexico in early 1990, Brady bonds provide a mechanism by which debtor countries could repackage their existing commercial bank loans into marketable bonds in a debt-for-bond swap. They are dollar-denominated and issued in the Euromarkets in exchange for bank loans. The principal of the bond is usually (but not always) collateralized by specially issued U.S. 30-year zero-coupon Treasury bonds purchased by the debtor country with funds provided from the IMF and World Bank loans and their own foreign exchange reserves. Interest payments on Brady bonds, in some cases, are partially guaranteed by securities of high credit quality held with the Federal Reserve Bank of New York to cover interest payments of about one to two years. There are several different types of Brady bonds. Par bonds are issued to the same value as the original bank loan but the coupon on the par bonds is below market rate. Discount bonds are issued to the discount to the original bank loan but the coupon is at market rate. Debt conversion bonds are issued to the same value as the original loan but on the condition that "new" money is provided in the form of new money bonds. Front loaded interest reduction bonds are issued with low initial low fixed-rate coupons, which step up

after the first few years. Other Brady bonds are past due interest bonds, interest due and unpaid bonds, and interest arrears bonds, etc.

International Bank Loans

North Korea might in the future access the international banking community the way it did in the 1960s and early 1970s until it started to default on foreign bank loans from the mid 1970s. Of course, it has to resolve the outstanding foreign bank debt arrears through the London Club as mentioned earlier. These days, the most prevalent way for developing countries to tap the international banking market is through the syndicated bank loans at floating interest rates, known as Eurocredits. Many of these syndicated loans could be coupled with project financing in which a credible foreign company acts as the project sponsor. Syndicated loans are generally medium to long term in maturity and they can raise a large sum relatively quickly because many international banks join together in the loan syndicate, thus spreading each bank's credit risk to a manageable level. Syndication has been, and will continue to be, a central tool that banks use to meet their customers' needs for large-scale funds. Through syndication, banks can offer a customer the total service that would be beyond any one institution's capacity (no matter how large) to provide. Even where syndication can only meet part of a total need, it can represent important incremental business beyond what any one financial institution could do.

It is important that the syndicating entity has the ability to market syndication participation to other financial institutions, and that it performs the necessary prior task of structuring and pricing. To accomplish this, it is often necessary that the syndicating entity be backed up by a far-flung geographical banking network, which can seize potential syndication opportunities and do the necessary credit and sovereign risk analyses for a borrowing country such as North Korea that are an integral part of the loan itself. To be maximally effective, this process should be completely interactive.

The syndicated loan must be satisfactory to both the borrower and to its creditor banks. As a result, the importance of proper technical work cannot be over-stressed. A manager's technical reputation is a major element in his ability to sell loans to other participating banks. Also, the lawyer used in the transaction is an important part of the syndication effort. The bulk

of a syndicate agreement is not usually different in concept from a normal loan agreement. Outlined below are several aspects, which are worth highlighting:

The Commitment: It should be clear that the commitment is several, and not joint, among the participating banks and that the drawdowns are pro rata among all lenders. This means that there is a certain risk that the borrower such as North Korea will not get all of his money, and that when selecting lenders the manager must pick those capable of meeting their obligation, especially when there will be a long drawdown period for a large infrastructure project. Although there is no legal obligation for the manager to do so, there would be a great deal of pressure on the manager bank to cover defaulting lenders.

Drawdowns: Syndicate lenders prefer a few, large drawdowns, as these are operationally simpler and less costly to administer. The drawdown multiple should be such as to generate round amounts for the syndicate participants, as such amounts can be funded more easily; and the amount should be at least $100,000. The borrower might prefer smaller drawdowns, so that they do not need to borrow in advance of their actual need. In some instances, lenders may also want this in order to avoid the risk of diversion of the funds. Occasionally, the manager, or principal lender, might make interim advances to bridge funding gaps on an on-going large project such as infrastructure.

Pricing: Eurodollar loans are priced over LIBOR (London Interbank Offered Rate), SIBOR (Singapore Interbank Offered Rate) or other short-term Eurocurrency interbank rate. Rather than using the LIBOR or SIBOR of only one bank, it is customary to use the average LIBOR or SIBOR of two, three, or more "reference banks." This average is rounded up to an even multiple of 1/16% or 1/8% and is an aspect of negotiation that should not be ignored. Traditionally, the reference banks have been the major lenders in the transaction. They are normally major banks that have the best cost of funds. This practice can be detrimental to lesser lenders, who cannot borrow funds in the Eurocurrency interbank market on terms as good as the major lenders, and therefore cannot get the full interest spread.

The selection of interest periods has some importance. Even though the entire loan maturity is long term such as 6 or 7 or even more years, interest periods are usually for six months, although a three-month option is not onerous, and gives the borrower the best opportunity to manage his funding position. Longer, or odd periods can be difficult for some lenders to fund. In actuality, the interest period can be for any period agreed upon by all parties.

In syndicated loans with many drawdowns, as a matter of operational convenience it is important that advances are consolidated early on, so that there are not too many small rollover amounts. Rollover dates are made to coincide with predictable repayment dates. However, where loans are relatively large, the case may be made for consolidating the advances in two or more tranches. A syndicated loan is like any other product; it must be designed with reference to the customer's needs and a project's specific requirements, and in line with current prevailing market demands. The primary job of the international banker is the disciplined process of perceiving the changing requirements and adapting to them. Since the requirements are always changing, there are really no fixed rules, although there are relationships between manager banks and larger financial institutions that may endure over multiple transactions.

Syndicated loans can be used in infrastructure projects as limited recourse or non-recourse financing sources, if sufficient safeguards can be erected to ensure that lenders have a secure prior access to the project cash flows through such mechanism as an escrow account. For example, foreign shippers using the Trans-Korea Railway (TKR) may be required to pay their railroad tariffs in foreign exchange directly into an escrow account maintained at a Western bank in Hong Kong or Tokyo, from which the debt service payments can be made first to creditor banks and then only the residual may be returned to the operators of the TKR. Thus, the creditor banks will be paid only from the railways revenues generated from foreign shippers in foreign exchange, and not from the other domestic operating revenues of TKR generated in local currency.

International banks can be helpful not only in medium to long term syndicated loans but also in providing short-term working capital loans for new infrastructure and other projects in North Korea, especially for those projects which would generate streams of foreign currency cash flows through exports of their products. Imports of needed capital goods or raw materials into

North Korea can be arranged through traditional trade financing methods utilizing letters of credits and banker's acceptances for short term financing, and long-term trade financing can be accomplished through forfaiting, a technique originally developed in the 1960s to finance international trade between Western European exporters and Eastern European importers.

Conclusion

Even though Northeast Asia as an economic bloc accounts for one-fifth of the world economy and 40 percent of the world's foreign exchange reserves, there has been a surprising lack of regional cooperation comparable to other regional blocs such as NAFTA, the European Union and Mercosur. However, there have been some encouraging developments in recent years towards closer regional coordination among the three Northeast Asian countries. Also, one can detect some early signs that North Korea might be interested in broadening its relationship with international community. If a closer cooperation among Northeast Asian countries can be achieved in the spirit of a win-win strategy, the region's economies will be able to benefit significantly in terms of lower production and transport costs and greater opportunities for regionwide trade and investments. One of the main problems in realizing the full potential of such a regional economic cooperation is the lack of modern infrastructure in North Korea. Infrastructure is essential to any economy. Infrastructure services, including power, transport, telecommunications, provision of water and sanitation, and safe disposal of wastes, are central to economic development and environmental health. One of the priority areas for closer economic cooperation in Northeast Asia is to upgrade North Korea's infrastructure, which can in turn contribute to enhanced competitiveness of all Northeast Asian economies.

There are a number of potential international financing sources for North Korea's infrastructure development. They range from various lending instruments available from IFIs to international trust funds, innovative project financing techniques for promising FDIs, a number of fixed income securities that can be issued in international capital markets, and international bank loans. In recent years, there has been a significant increase in private sector participation in infrastructure projects both as their financers and their operators. Such participation has been based on creative financing techniques such as BOT, BTO, BOO and others. These techniques

require active public-private partnership in the financing of new infrastructure projects.

Access to all these financing sources requires a careful strategy on the part of policymakers of Northeast Asian countries in general and of North Korea in particular in terms of proper sequencing and preparation. Such international financing skills are woefully inadequate or almost non-existent in North Korea. Perhaps one of the first technical assistance programs that the IMF and the World Bank can embark upon could be to provide such expertise to the relevant North Korean authorities so that they can develop a systemic approach to accessing international funding sources for their infrastructure projects.

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