Economic Interdependence and a Regional Logistics System in the Northeast Asia

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Ⅰ.Introduction

During the last three decades, the East Asian economies (Korea, Japan, China, Taiwan, Hong Kong and the ASEAN) grew more than twice as rapidly as the rest of the world. In the NEA[1] region, economic links have been established through trade and direct investment. Linkages have also expanded as a result of tourism, expansion of contacts by private business and academia, and promotion of cultural and technical interchange. These interrelated factors have stimulated establishment of an institutional entity for Northeast Asian economic cooperation.

Globalization is increasingly visible in terms of trade, investment and finance, while cooperative regional groupings are increasingly predominating the economic scene. As globalization and regionalization continue to develop, growing interest in an economic cooperation among the NEA countries is inevitable. Despite the current setback, NEA remains one of powerful economies in the world. It is regarded as economically one of the most dynamic regions in the world, and is known for their dependency on foreign markets.

In this paper, economic integration in the Northeast Asia (NEA) is elaborated with respect to the points of interdependence and integrated activities among the countries in chapter Ⅱ. Transportation system in the NEA is broadly examined as efficient means for improving economic integration in the region in chapter Ⅲ. Chapter Ⅳ reviews strategies for establishing a common transportation and logistics system in the NEA. Conclusion is dealt with in final chapter.

〔Key Words〕
Economicintegration, Logistics system, Economicinterdependence, Transportation, Northeast

Ⅱ. Economic Interdependence of the Northeast Asian Countries

1. Economic Interdependence

The NEA countries differ in natural resource endowments, population size, per capita income, trade volume, and stages of development. Russia's Far East is endowed with abundant natural resources such as coal, natural gas, non-iron metals, wood and marine resources. Northeastern China is rich in minerals, agricultural products, and cheap labor. North Korea, meanwhile, can offer cheap labor anb some mineral resources. South Korea is at a relatively advanced stage development, and is able to supply technology and intermediate goods as parts of its outward-looking development strate gies. Japan, endowed with capital and advanced technology, requires large amounts of natural resources and intermediate goods from outside sources. As home of a quarter of the world population, the NEA has enormous market potential. The complementarity among the Northeast Asian countries based on the various factor endowments and different stages of industrial development, creates a favorable condition for intra-regional economic cooperation. Intensive economic cooperation based on the mutual economic complementarity could transform the NEA into a new growth center of the world economy.

(1) Trade

NEA's trade matrix over the last decade is shown in Table 1. Within the region, including South and North Korea, Japan, China, Taiwan, Hong Kong and Russia and Mongolia, intra-regional trade grew from 19.5% in 1980 to 33.7% in 1996. The intra-regional trade expansion (774.4%) during the same period was more than three times the world average (250.3%).

Japan, the largest trade partner, accounted for 36.3% of Northeast Asian intra-regional trade, China 21.2%, Hong Kong 22.6%, Taiwan 12.2%, South Korea 12.4%, Russia 2.7% and North Korea 0.2%, respectively.

The share of South Korea's exports within the region increased from 23.3% ($4.1billion) in 1980 to 34.1% ($44.6billion) in 1996. The share of North Korea's exports within the region was 73.3% (0.8billion) in 1980, but decreased to 60.5% (0.7billion) in 1996 due largely to the severe shock following the collapse of the Communist bloc around 1989.

<Table 1> Table Matrix for the Northeast Asian Countries

Unit: Million dollars

Exporter \ Importer		South Korea	North Korea	China	Taiwan	Hong Kong	Japan	Russia	Mongolia	NEA	ASEAN	NAFTA	EU	Total	Shares of World Exp
S.Korea	1980			3	216	823	3,039	2	- 4,083					17,050	
	1990			1,533	1,249	3,780	13,638	519	- 19,719					65,016	
	1996			11,486	4,014	11,191	16,002	1,875	- 44,568		20,188	24,168	14,066	130,526	2.48
N.Korea	1980			276	0	26	165	334	801					1,093	
	1990			285	0	26	281	676	- 1,268					1,818	
	1996			62	7	13	265	315	- 662		51	-	102	1,095	0.02
China	1980	3	374		-	4,353	4,032	228	4 8,991					18,139	
	1990	2,268	362		948	27,163	9,210	2,048	28 41,999					64,500	
	1996	7,527	497		2,804	32,904	30,888	1,693	72 776,385		9,710	28,568	19,868	151,093	2.87
Taiwan	1980	267		-	-	1,551	2,173	-	- 3,991					19,811	
	1990	1,213	5	-		8,556	8,338	-	- 18,112					67,214	
	1996	2,662	9	623		26,788	13,659	141	- 43,882		15,396	28,265	16,020	115,942	2.20
Hong Kong	1980	227	62	1,249	225		909	15	- 2,686					19,724	
	1990	1,907	108	20,332	3,462		4,680	113	1 30,603					82,144	
	1996	2,935	41	61,980	4,311		11,829	494	4 81,594		12,259	41,212	26,866	180,526	3.43
Japan	1980	5,393	376	5,109	5,146	4,784		2,796	23,608					130,435	
	1990	17,499	176	6,145	15,461	13,106		2,563	14 54,964					287,678	
	1996	29,369	226	21,827	25,986	25,364		1,022	60 103,854		73,167	121,956	63,136	411,242	7.81
U.S.S.R	1980	9	449	240		33	1,703		- 2,434					31,936	
	1990	333	1,478	2,012	55	90	3,064		- 7,032					50,284	
	1996	659	524	4,670	493	215	2,882		187 9,630		1,957	4,697	26,974	181,438	1.55
Mongolia	1980		0												
	1990	-	0	-	-			-	- -					-	
	1996	-	0	115	-	-	81	76	272		2	30	43	377	0.00
NEA	1980	5,899	1,260	6,877	5,587	11,570	12,021	3,375	8 46,594					238,643	
	1990	23,220	2,129	30,307	21,175	52,721	38,211	5,919	43 193,697					618,654	
	1996	43,152	1,297	100,763	37,615	96,475	75,606	5,616	323 360,847		132,730	248,896	167,075	1,072,239	20.36
ASEAN	1996	11,210	149	9,833	12,239	21,504	50,716	1,170	25 106,846		76,301	67,749	49,357	337,080	6.40
NAFTA	1996	28,746	1	14,083	19,475	15,242	76,370	3,688	4 157,609		45,854	436,805	142,846	919,882	17.45
EU	1996	18,247	210	18,407	12,552	22,067	44,978	23,391	95 139,947		51,507	164,853	1,249.1 (bil.)	2,041.6 (bil.)	38.77
Total		150,370	2,238	138,822	101,276	198,551	349,508	43,318	544 984,627		375,845	1,103,238	1,953.2 (bil.)	5,265.8 (bil.)	

Sources:

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China's growing share of exports within the region from 49.6% ($9.0 billion) in 1980 to 65.1% ($42.0 billion) in 1990 can be attributed trade through Hong Kong. Due to diversification of exports to the US and Europe, however, this figure fell to 50.6% ($76.4 billion) in 1996. The share of Hong Kong's exports in the region grew from 13.6% ($2.7 billion) in 1980 to 37.3% ($30.6 billion) in 1990 and then to 45.2% ($81.6 billion) in 1996 due to the increase in China's exports through Hong Kong. Taiwan's share of exports increased from 20.1% ($4.0 billion) to 37.8% ($43.9 billion) during the same period.

The share of Japan's exports increased from 18.1% ($23.6 billion) to 25.3% ($103.9 billion) during the period of 1980-1996. Russia, with the lowest degree of dependence on Northeast Asia for exports, increased its share from 7.6% ($2.4 billion) in 1980 to 11.8% ($9.6 billion) in 1996.

In 1996, the share of exports within NEA was 33.7% which is higher than the share of ASEAN's intra-regional exports (22.6%), and lower than that of NAFTA (47.5%) and that of EU (61.2%). NEA's lower share of intra-regional trade is partially explained by the presence of isolated North Korea, given the difference in the factor endowments of the Northeast Asian countries.[2] It is expected that once North Korea opens up its economy, NEA's intra-regional trade share will increase considerably over time.

While NEA's exports to the rest of the world increased annually by 6.9% during 1980s, intra-regional trade increased at 10.1% per year during the same period. The NEA's share of the world exports increased from 18.5% in 1990 to 20.4% in 1996, higher than that of NAFTA (17.5%), but lower than that of EU (38.8%).

(2) Foreigh Direct Investment

Foreigh direct investment (FDI) flows from capital-rich countries to capital-poor countries. Literature in the industrial organization indicates that FDI is undertaken by large monopolistic corporations which have a special advantage in technology, management skills or brand names, and receibved by host countries that possess either cheap inputs or large market that is removed from the rest of the world either by high transportation costs or trade barriers. FDI has been growing fast throughout the world, including within NEA. The remarkable growth of FDI inflows has been one of the most important factors leading to rapid economic growth in the region.

Outflow of the world FDI increased by more than four 1985 to 1990.

Considering that world trade increased that world trade increased by only 1.8 times during the same period, FDI had clearly emerged as a dominant factor in international economic activity. After peaking ($240.3 billion) in 1990, world FDI in 1992 fell to only 83% of the peak

level. However, the trend turned around in 1993 and the world FDI reached to $346.8 billion in 1996.

Although the world FDI has fluctuated occasionally, it has increased steadily over the long run. This is because i) FDI regimes have been liberalized by an increasing number of countries in order to attract capital that can bolster their economic growth; ii) countries with appreciated currencies owing to the currency realignment found it difficult to compete in international market and resorted to overseas production; iii) advances in communication technology have facilitated overseas operations; iv) competition on a world-wide scale, so-called global competition, has forced firms to expand their overseas operations.

FDI inflows and outflows in the NEA increased more or less at the same rate as the world FDI from 1985 to 1996. FDI inflow in the NEA grew 5.6 times from $9.1 billion in 1991 to $50.5 billion in 1996, while world FDI increased 2.2 fold. As a result, NEA's share of world FDI inflows increased from 5.7% to 14.5%. Table 4 shows that most of the Northeast Asian countries grew in importance as host countries, with China in particular becoming a very attractive not only to the NEA, but also to rest of the world.

In contrast, from 1991 to 1996, FDI outflows from the NEA increased 1.6 fold, from $38.7 billion in 1991 to $60.3 billion in 1996, while the world FDI increased 1.8 fold. During this period, the NEA's share of the world FDI outflow decreased from 19.5% in 1991 to 17.4% in 1996. Unlike the increasing importance of the NEA as a host country to FDI, its importance as a source of FDI decreased.

Northeast Asian countries have been able to attract FDI by i) liberalizing policies toward FDI over the last two decades; ii) providing well-educated and well-disciplined cheap labor compared to other developing countries, making foreign firms interested in production for export, and iii) offering relatively well developed infrastructure such as transportation and communication facilities, enabling foreign firms to operate efficiently at low cost. However, these favorable conditions have been eroded somewhat by rapid economic growth in the region which resulted in the shortage of labor and infrastructure, as the supply would not meet the increasing demand.

FDI has contributed to the rapid economic growth in the NEA firstly by enabling foreign firms to globally allocate productive resources such as capital and technology and use them more efficiently, and secondly by linking their economies to the rest of the world through channels necessary for marketing, technology transfer, and financing.

<Table 2>FDI Inflows and Outflows by Host Region and Economy (1985-1996)

Inflows

Unit: Million dollars

Host region/ economy	1985-1990 (Annual Average)	1991	1992	1993	1994	1995	1996[1)]
World	141,930	158,936	173,761	218,094	238,738	316,524	349,227
South Korea	705	1,180	727	588	809	1,776	2,308
North Korea	95	-	42	6	7	3	4
China	2,654	4,366	11,156	27,515	33,787	35,849	42,300
Hong Kong	1,597	538	2,051	1,667	2,000	2,100	2,500
Taiwan	897	1,271	879	917	1,375	1,559	1,402
Japan	375	1,730	2,756	210	888	41	220
Russian Federation	-	-	700	700	637	2,017	1,800
Mongolia	-	-	2	8	7	10	5
NEA	6,305	9,085	18,313	31,611	39,510	43,355	50,539
ASEAN	6,017	13,155	11,895	15,201	15,592	20,880	28,699
NAFTA	56,476	30,301	27,795	52,920	68,174	78,597	98,945
E U	52,685	78,777	83,793	81,029	72,3+5	110,884	99,416
Latin America And the Caribbean	8,145	15,536	16,204	18,072	26,974	25,424	38,563

Outflows

Host region/ economy	1985-1990 (Annual Average)	1991	1992	1993	1994	1995	1996[1)]
World	155,578	198,143	201,465	239,090	251,117	338,729	346,824
South Korea	771	1,500	1,208	1,361	2,524	3,529	4,188
North Korea	-	-	-	-	-	-	-
China	697	913	4,000	4,400	2,000	2,000	2,200
Hong Kong	2,062	2,825	8,254	17,713	21,437	25,000	27,000
Taiwan	2,861	1,854	1,869	2,451	2,460	2,678	3,096
Japan	27,812	31,620	17,390	13,830	18,090	22,510	23,440
Russian Federation	-	-	-	-	386	191	406
Mongolia	-	-	-	-	-	-	-
NEA	34,203	38,712	32,721	39,755	46,897	55,908	60,330
ASEAN	969	1,069	2,035	4,309	6,325	8,369	9,140
NAFTA	26,597	39,278	43,343	80,678	59,499	99,287	92,998
E U	80,285	106,362	110,521	96,596	112,836	149,118	160,372
Latin America and the Caribbean	1,354	-453	2,561	2,264	4,171	3,919	3,850

Sources: UNCTAD, *World Investment Report 1998.*, 1998.

s: 1) Estimates

Successful economic performance, as indicator of efficient productivity, attracts FDI. As a result, a virtuous circle composeng of FDI, expanded production capability, and exports, has created self-propelled and successful economic growth in the NEA. As long as economic growth continues and further measures are taken to attract FDI, NEA will continue to draw large amounts of FDI.

2. Economic Integration

Advancements in communication and transportation have promoted globaliztion of business activities. The fundamental driving force behind the new regionalism is the desire to strengthen the collective competitiveness of the member countries on a regional basis to better cope with intensifying global competition. Regional integration is institutional when it is promoted through trade bloc, is natural when it is promoted through market forces, and is physical when it is promoted through infrastructural investments.

Young (1996) pointed out several reasons for the absence of a major regional integration arrangement in NEA. Fundamentally, the high barriers to economic integration make institutional integration ineffective. These barriers, political, cultural or physical, are very low in Europe and North America. Second, the Northeast Asian Economics have been competitive enough against the rest of the world on an individual basis.

However, the emergence of new regionalism poses a threat to the Northeast Asian economies, as the EU-NAFTA economies are more competitive than the Northeast Asian economies. As defensive measures, the NEA promoted i) the multilateral trading system by actively contributing to the establishment of the WTO, and ii) its own version of East Asian regionalism (i.e., open regionalism) which induces trade and investment by facilitating as well as liberalizing trade. Open regionalism, by discouraging discriminatory trade arrangements, aims to liberalize foreign investment; harmonnize competitive standards and policies; coordinate macroeconomic policies; and facilitate dispute settlements. In view of the recent economic recession, the regional integration arrangement in the NEA seems to be even more urgent.

Unfortunately, in the NEA an enormous potential for economic dynamism remains suppressed by one major political barrier-the hostilities in the divided Korean peninsula. Additionally, there are infrastructural bottlenecks brought on by a lack of efficient transportation and communication systems. In order to realize such enormous potential, the Northeast Asian countries must work together to remove the political and in frastructural barriers to the regional integration An important precondition is full integration of the two Koreas into one economy, either through unification or an equivalent process.

The removal of infrastructural barriers will require a systematic approach based on multilateral and international cooperation and coordination in planning and funding. To secure funds for such regional infrastructure development, Northeast Asian Development Bank similar to the European Bank for Reconstruction and Development needs to be established.

Ⅲ. Transportation Systems in the NEA

1. Intra-regional system

1) Maritime transport

The maritime transport system has played critical role in the movement of goods and services among the countries in the NEA. Because of a continually increasing economic cooperation among the Northeast Asian countries, the dependence on maritime transportation for trade will increasingly greater. In particular, if volume of shipping freight remains at a high level, there will be a shift from the existing long haul trade to intra-regional trade. A rise in the volume of intra-regional shipment of cargoes, in turn, might bring about a decrease in the voyage distance of ocean-going merchant fleets, and consequently, reduction of ship tonnage may occur.

Increasing intra-regional seaborne trade due to growing economic exchanges in the NEA implies a growing significance of short distance seaborne transportation. They will help to overcome the delay in delivery and make punctual deliveries at pre-arranged time, which is essential to modern logistics systems. A modern short-distance seaborne transportation system with improved operational efficiency will be a strong competitor against transport by rail, which has dominated the Northeast Asian transport market.

In spite of a dispersed traffic in short-distance shipping, there remains atendency toward further concentration of long-haul deep-sea container traffic in just afew hubs served by large, fast vessels, as hub port economics proposes.

Two distinct phenomena can be identified in the NEA maritime transport scene: i) the emergence of dynamism among medium-sized ports resulting from the increase in intra-regional trade; and ii) the tendency of superports to exploit economies of size in container ships and economies of scope in container networks in intra-regional trade.

Anticipating an increase in seaborne trade, each of the Northeast Asian countries has developed long term and large-scale development plans to boost handling capacities of their ports. Howvevr, based on present traffic forecasts, even the most successful execution of the current development plans is expected to fall short of the demand for handling capacity. Furthermore, to achieve the required port capacity, it is critical that each country has ability

to finance its projects. Failure to respond to required capacity demands will create a critical bottleneck in the trading prospects of the countries in the region, and ultimately restrain the regional economic development.

In regard to maritime transport, the competition among ports in different countries has inhibited intra-regional trade by sea-land intermodal transport in this region. However, it is clear that the transition from a conventional segmented, i.e., marine-based transportation system to an intermodal transport system will bring major changes to the characteristics of the transportation system in the near future, particularly with respect to the relationship between ports and their hinterlands. Until now, ports in the NEA have kept identifiable natural hinterlands, delineated by political borders and inland transportation networks, which predetermine cargo flow within the respective nations.

However, with the enhanced economic cooperation and the resulting improvement of the intermodal transportation system in the region, the so-called natural hinterlands for ports will disappear, and competition among ports will rise. Shippers everywhere in the region will be able to reach any port, thus enabling them to select ports offering the lowest logistics costs, including transportation costs. Thus, a consequence of the above developments in the NEA would change dynamics of competition among ports at the local, national, and regional levels.

2) Road and Rail Transport

Although Northeast Asian coutries have the advantage of geographical proximity and being connected by land, South Korea has totally depended upon maritime transportation for its trade with China and Russia because of the political and ideological confrontation with the North Korea. However, with the improved economic cooperation that facilitate movement of goods, main transportation mode will shift from the traditional maritime segment to the inland segments of the system, thus promoting growth of intermodal transportation services. Here, it should be reiterated that a prerequisite for the development of intermodal transport is the fast improvement of hinterland connections, because landside movement is vital link in door-to-door cargo movement.

Construction of an efficient transportation network in the NEA, should utilize the advantages and characteristics of each transportation mode. Choice of an appropriate transportation mode besed on the applicable route and distance could maximize transportation efficiency. As the transportation sector becomes maturer, there will be a natural split between rail and road transport. Rail transport is used much more often for mid- and long-distance transportation and for bulk cargoes, whereas road transport has an advantage in

short distance transportation of passengers and freight.

The intra-Northeast Asia transportation network will include cross-border movements of goods, linking the maritime transportation system to the inland transportation system that from a functionally integrated intermodal transport system which facilitates cargo movement from its origin to its destination. It is known that most the road network in the region remains below specified design standards. To ensure efficient and smooth cross-border road traffic in the NEA, certain minimum design standerds should be adopted. In addition, a cross-border road network requires the development of servicing facilities along the network and at border checkpoints.

Rail is the main mode of inland transportation of freight and passengers in the NEA although the density of rail networks in terms of route kilometers per 1,000 square kilometer area varies from 1.2 to 71.5. Despite the marked reduction in share over the last 3 decades, rail transport still accounted for 52 percent of the movement of goods in ton-kilometers in China in 1995. A higher share may be found in the North Korea and in the Russian Far East. The transportation system in the NEA is likely to evolve toward a more balanced modal distribution, reflecting the diverse needs of the economies. However, rail transport is the weakest link at present.

2. Thans-regional system

While improving rail capacity in each country, integrating national railway networks into a trans-Northeast Asian railway network should be given a priority consideration. The trans-Northeast Asian railway network will become one of three intra-regional transport network in the world.

However, presently, the world's interests are in another landbridge that links China with Europe, i.e., the Trans-China Railway(TCR). This railroad begins at the port of Lianyungang, crosses the Dzungarian Gate and connects with the Turkish railroad at Aktogay.

Development of a trans-continental railway is regarded to be the most important development in the intra-regional transportation system, as it may have a considerable impact on transportation costs and timesavings. An examination of the comparative distances, times, and costs from Kobe and Yokohama in Japan, to Rotterdam and Munich in Europe has shown that the Trans-Far East/Europe Railway is superior to all water services.

Competitiveness of the TSR and TCR against the Far East/Europe maritime services, in terms of freight rates and service quality, might dramatically take market share away from the presently dominant all-water services. When the TSR and TCR services compete with one another as the landbridge over Siberia, that competition will stimulate enhancement of

transport capacity between the NEA and Europe.

It is expected that reunification of the two Koreas railways will have a major impact on the trans-Northeast Asian network. Rejoining the old Korean railways, which run through the Korean peninsula from South to North, may realize the so-called Trans-Korean Railway (TKR). The Kyung-Ui (Seoul-Shinuijoo) line along the west coast of the Korean peninsula can easily be returned to operation by reconstructing 12 kilometers track between Munsan and Jangdan and in the case of the Kyung-Won (Seoul-Wonsan) line by reconstructing 16 kilometers track between Sintanri and Woljong. On completion of these two lines the new Korean landbridges starting from the ports of Kwangyang and Pusan will be connected to the trans-continental railways and continue on to Europe or the Middle Eastern countries. An examination of the comparative distances, delivery times, and costs from Kwangyang/Pusan to Rotterdam in Europe shows that TKR is comparable to the new TCR and is superior to the TSR in terms of cost and time.

Ⅳ. Development of a regional transport system and logistics network in the NEA

1. Formation of a unified regional transport system

For the establishment of a unified regional transport system, current bilateral collaboration in transportation systems should be developed into multilateral cooperation and collaboration. That is, to maximize the benefits gained from the progress, the existing bilateral transport systems of the NEA should evolve into a unified regional transport system by integrating the Yellow Sea circle and the Korean East Sea Circle, thus linking all countries in the region.

At present, however, even bilateral links have not been effectively formed where North Korea is geographically involved. Thus, the initial step for the formation of a unified regional transport system in the region is to set up bilateral connections between North Korea and Japan, and between North and South Koreas. The subsequent step will be the formation of two separate multilateral transport network; the Yellow Sea transport system, linking South Korea, Japan, China, and North Korea; and the Korean East Sea transport system, connecting South Korea, Japan, the Russian Far East, and North Korea.

In order for the Northeast Asian transport system to be transformed, inter-governmental agreements should also be switched from the bilateral arrangements now in progress to multilateral arrangements. However, the realization of the objective of the for mation of a unified regional transport system calls for the removal of protective and regulatory barriers that restrain the physical flow of goods and services in the region, following the perspective of the European Common Transport Policy. The main emphasis should be on the formulation of a policy framework within the context of a unified regional transport system.

The key to the formation of a unified regional transport system (or market) in the NEA is the establishment of a committee to promote cooperation and coordination of policies and actions. This committee should be given the responsibility of coordinating transportation policies, activities with respect to detailed schedules of implementation, and the scope and methodology for the establishment of a fully coordinated program of investment and operation. This committee could have subcommittees for specific fields such as shipping, air, road, rail, and intermodal transport.

Effective coordination and implementation of a transport policy are essential to promote liberalization of transportation markets in the region. Due to the complexity of liberalization measures in the transport sector of each country, the abolition of barriers should be introduced on a gradual basis.

2. Coordination in planning and development

The formation of a unified regional transport in the NEA depends on effective coordination in the development and planning of domestic and international transport policy and infrastructure. Missing links, inadequacies, and imbalances of capacities both across and within modes may inevitably cause serious obstacles in the formation of a unified regional transport system. With the removal of trans-border transportation barriers and a growth of economic activities, intermodal transport will have a grater flexibility in meeting the demands of users and operators, particularly provision of appropriate combination of sea-rail, sea-inland waterway, rail-inland waterway, and sea-air services.

Since the quality and efficiency of intermodal transport is greatly affected by the weakest and most inefficient link in the chain, each segment of the intermodal transport in the NEA should be made efficient to achieve the appropriate degree of connection between the links, Unfortunately, emphasis has been placed exclusively on the development of one particular mode rather than on adequate interconnection between modes. Moreover, in every country, the transport network was designed from a national viewpoint, and consequently, the need for international coordination has not been effectively incorporated into the planning process. This fragmentation and lack of coordination in network planning and development both on the intermodal level and on the international level did not help to address the problems of the trans boarder transportation, inefficient intermodal distribution of traffic, and high costs associated with such planning and development.

Therefore, efforts should be made to coordinate and integrate transportion planning and development. Also regional networking should be sought to avoid unnecessary waste and share the benefits of coordinated regional transportation system.

3. Implications of intra-regional network

By understanding the transport developments in the NEA, we can expect important structural changes with respect to the flow of goods and services, which will have a direct impact on transport patterns. The restructuring of the transportation systems in the NEA and the development of new transportation linkages will completely change the existing geographical pattern which has been a major factor in the planning and development of transportation infrastructure.

Maritime transport in this region is expected to evolve into a practice in which small-and medium-sized vessels call directly at local ports where local traffic demands exist. This will reduce the capacity demand for large ports as well as their inland transportation networks. Additionally, this will expand international exchange between the Northeast Asian port cities at the local port level, thus strengthening the viability of the local economy. Consequently, a more balanced distribution of socio-economic activities throughout the Northeast Asian countries will be achieved.

The improvement of highways and railways will help to resolve ineffective and incomplete linkages between production and consumption centers by reducing the high transportation costs of overcoming geographic isolation. The well functioning highway and railway networks will speed up the development of remote and outlying human settlements.

A major implication drawn from the above is that improvements in transportation systems, will contribute significantly to even distribution of human settlements and location of industries, by providing peripheral areas of the region with easier access to seaports, airports, and road and rail networks. The anticipated dispersion of economic activities resulting from the enhanced transportation system will replace the existing spatial patterns for regional development by local systems that enhance the internationalization of small-and medium-sized cities.

V. Conclusion

Although the regionalization has been intensified in NEA in recent years, the causal factors behind regionalization in NEA differ from those in North America and Europe. Regionalization in North America and Europe was defined by formal preferential regional economic integrations, giving special benefits to the members and discriminating against non-members. In the NEA, however, market forces and environment were the major factors behind the intensified regionalization.

Indeed, NEA has successfully promoted economic growth by liberalizing trade and FDI.

While institutional regional integration has matured under ASEAN, NAFTA, and the EU, there remains a concern over closed regionalization in NEA. Although the intra-regional trade is substantial in NEA, it had no significant effects in trade creation and diversion.

Northeast Asian countries should liberalize their trade and FDI not only for their own benefits but also contribution to the world economy. This is particularly important as the new regionalism is on the rise.

Efficient transportation and logistics system are essential for the NEA to develop international and intra-regional trades. After reunification of the South and North Koreas, it will be possible to build an efficient logistics system in the Northeast Asian region. The basic component of the logistics system is seaborne transportation system whereby cargoes from other regions may converge into the hub ports in Korea and Japan being relayed to the regional ports in China, North Korea and Far Eastern Russia, and then distributed to final inland destinations.

In summary, this study recommends the followings: Firstly, transportation infrastructure including port facilities, connecting roads and railroads of major subregion should be developed and improved. Second, logistics facilities should be developed at major regional ports and inland points. Third, coordination and cooperation among the related facilities should be improved in order to build up logistics centers in the NEA. Finally, a comprehensive regional transport network should be developed through linking and integrating transport networks of the countries in the region.

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〈Note〉

1) The Northeast Asia is defined to include the economies of South and North Korea, China, Hong Kong, Japan, Taiwan, Mongolia, and Russia. NEA extends its common links to the Eastern Europe and the rest of the Pacific basin, and can become a catalyst of dynamic trade between the two economic poles of North America and European Union.

2) From the Conventional wisdom, much of the regional concentration can be explained by geographic proximity, different factor endowments, different stages of development and so on (DeRosa 1995: 28 and Frankel and Wei 1996: 3).