

A Study on the Prospect of the Maritime Transport Market Integration in the Northeast Asia

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Abstract : Though the issue on the integration of maritime transport market in Northeast Asia has a long history, there has never been any notable progress. Especially the lack of country-wise analysis on the barriers of market integration appears as a serious problem for more concrete discussion and the design of the roadmap for market integration. This study analyzes the maritime market of each country in the aspect of infrastructure provision, the development of the industry, change of institutions, and network connectivity and compare the competitiveness of 3 countries in the Northeast maritime market. Furthermore this study analyzes the barriers for market integration on the basis of bilateral relation, i.e. Korea-Japan, Korea-China and Japan-Korea. Based on these analyses, this study finds out the fact that the most serious barrier for market integration among 3 countries is the egocentric policies for the protection of industries in each country rather than any other institutional or physical barriers. In conclusion, this study argues that 3 countries should try to find out a third policy alternative which can make 3 countries enjoy the win-win game, such as route integration among 3 countries and joint venture for the liners operated in the region.

Key words : Maritime market, Logistics, Northeast Asia, Market integration

1. Introduction

This paper aims to design a rough roadmap for the integration of the maritime transport market in the Northeast Asian region, especially among China, Japan and Korea. This paper asks the questions stated below to the maritime sector and tries to draw the answers.

What has been done for the market integration among the three countries? Several years have passed since the market integration issue in the maritime sector was raised among the scholars and government officials of the three countries¹⁾. Hence, the evaluation of the accumulated results of the discussions should be the first step for a more concrete discussion.

Is it possible? No one is confident about the possibility of market integration. If we conclude that it is impossible, we should stop the discussion right now lest we waste our time and energy. Hence, an interim review of the possibility of market integration based on the current situation is important for stepping into the next phase. This process has the function of identification the barriers confronting us, as well.

How can it be accomplished? Once we find that market integration is possible and enumerate the barriers for it, the

next step is to seek the optimal path. It may depend upon the characteristics of the barriers. Thus, a scrutinized analysis of the barriers is the major task of this step.

What is to be done? After classifying the barriers by their characteristics and by countries, a stepwise plan to get over the barriers should be established. The executive body for each task, the coordinating body between countries, and rough time limits can be the contents of this plan.

This paper starts with reviewing the results of existing literatures to fulfill the aim of the paper. Major parts of the review are the summary of the discussion in the KOTI-EWC conference. After having raised the issue for the first time in 2000, the conference has carried out a series of research studies, i.e., the identification of the barriers in 2001, the elimination of barriers in 2002, and the building of a regional coordinating institution in 2003. Based on this review, categorization of the issues or barriers raised will be carried out. Infrastructure provision, development of the industry, institutional and legal barriers, and network competitiveness are major categories. An assessment process of whether each issue is crucial for market integration and how it can be overcome will be followed. And, in conclusion, a rough time-sequential roadmap for the market integration will be proposed.

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1) For example, the annual KOTI-EWC conference has dealt with this issue for five consecutive years from 2000. The KOTI-EWC conference is an international seminar held annually supported by the Korean government and the East-west Center of Hawaii University.

2. Recent Development of the Maritime Transport Market in the Region

Major issues in the maritime transport market in Northeast Asia can be summarized as follows:

- Achievement of streamlined cargo transport
- Expansion of routes and increase in frequency
- Cost- and time-effective management of ports
- Cooperation in port operations; and
- Elimination of other institutional barriers in each country.

Of course, the main aim of the maritime market is market integration among China, Japan, and Korea. Hence the issues mentioned above can be translated into the efforts to achieve this ultimate goal.

2.1 Infrastructure Provision

The history of modern port development in China, except Hong Kong, is not long. In particular the construction of container ports only started in the 1980's along the southeast coast. But they were usually for small vessels under 2,000 TEU, which is due to the limitation of the draft.

Discovering the depth limitation of existing ports compared with the progress of the technology of vessel construction and with increasing freight transport demand, the Chinese government has increased container port development from the 1990's: Dalian and Tianjin in the north, Shanghai and Ningbo in the central coastal area, and the Pearl River Delta in the south.

Due to the lack of financial ability to fund the required infrastructure, China has sought foreign investment through joint ventures led by municipal governments Table 1. This plan is backed by the "National Economic and Social Development (Ninth Five Year) Plan and 2010 Vision Program," created in 1996.²⁾

Japanese ports, especially Kobe, had been number one in Northeast Asia for cargo throughput until the Kobe disaster in 1995. After then, many routes from or to North America and Europe were reorganized and port calls dropped. Nowadays, cargo throughputs in most major ports are less than port capacity, except in Tokyo Port.

Nevertheless, Japanese central and local governments have tried to expand port facilities, constructing deep-sea ports to cope with increases in vessel size and accommodating the 'modal shift' of domestic cargo to marine transport Table 2.

Table 1 Foreign Investment in Chinese Ports

| Company | Ports | No. Terminal | Length of Berth | Capacity (mil. TEU) | |
|--------------|-----------------------|--------------|-----------------|---------------------|-----|
| AP Moller | Dalian | 1 | 1,461 | 1.5 | |
| Hutchison | Shanghai | 2 | 2,081/900 | 1.7/1.8 | |
| | Yantian | 1 | 2,350 | 3.0 | |
| | Xiamen | 1 | 640 | 0.6 | |
| | Hutchison Delta Ports | | | 2,611 | 1.2 |
| | Ningbo | 1 | 900 | 1.2 | |
| P&O | Qingdao | 1 | 766 | 1.0 | |
| | Shekou | 1 | 650 | 0.8 | |
| PSA | Dalian | 2 | 1,461/555 | 1.5/0.3 | |
| | Fuzhou | 1 | 519 | 0.4 | |
| | Guangzhou | 1 | 1,299 | 1.4 | |
| CSX Terminal | Tianjin | 1 | 640 | 1.0 | |

Source : KMI, Summary Statistics in Maritime, 2004.

Table 2 Japanese Port Expansion Plans Until 2015

| Ports | Port capacity (1000 TEU) | | No. of Berths | | |
|----------|--------------------------|---------|---------------|---------|-------|
| | Existing | Planned | Existing | Planned | Total |
| Tokyo | 2,370 | 3,439 | 13 | 3 | 16 |
| Yokohama | 3,828 | 6,679 | 21 | 8 | 29 |
| Osaka | 2,552 | 3,621 | 14 | 3 | 17 |
| Kobe | 6,745 | 10,308 | 37 | 10 | 47 |

Source: MLIT(Japan), internal data (www.mlit.go.jp/kowan/)

Recently the Japanese government has changed their policy direction from the balanced development of local ports to the construction of a super hub port to lead the competition for a Northeast Asian hub port³⁾.

Korea has tried to increase port capacity as a strategy to be the maritime hub in Northeast Asia as well. Based on the "Two Port System" strategy, New Busan Port and Gwangyang Port are under construction and many other ports along the Yellow Sea coast are trying to expand their capacity to meet the demand from Northern China.

However, as the capacity in Chinese ports is expanded, the demand from China is being weakened. For example, the container throughput of Gwangyang Port, which has finished the 1st phase construction, has not increased as had been expected. Recently, the transshipment rate of

2) Wang(2002)

3) Inamura(2002)

Busan Port has fallen after 10 years' prosperity, which draws a gloomy picture among Korean decision makers.

2.2 Development of the Industry

The Chinese maritime industry is developing quickly along with the average growth rate of the Chinese economy. COSCO, China's number one maritime company, is ranked sixth in the world after only ten years since China's introduction of major container terminals in 1994.

However, the success is partly based on the severe protective policy of the government, such as rate discrimination between domestic and foreign shipping lines and cargo waiver systems. Like air carriers, the Chinese maritime industry is still under the umbrella of a strong protective policy.

The Japanese shipping industry is stagnant due to the competitive disadvantage caused by high input costs compared with Chinese and Korean shipping lines. Major policies of the Japanese government are concerned with domestic shipping lines rather than international shipping lines.

Korea has two major shipping lines: Hanjin and Hyundai. They were the fourth and eighteenth largest shipping companies in the world in 2002, respectively. Many medium- and small-size shipping lines are operating primarily on the China-Korea, China-Japan, and Japan-Korea routes.

2.3 Institutional/Regulatory Barriers

Most major barriers were eliminated through WTO accession. But, in spite of a free market, the three countries have blocked foreign shipping lines from free operation in the region though bilateral negotiation⁴⁾.

Furthermore, limitations on the domestic logistics market through the licensing system, inconvenient customs clearance, and lack of an integrated EDI system keep foreign lines from freely entering into domestic markets.

China has a barrier to prevent foreign shipping lines from operating in domestic shipping routes. Though the coast line in China is very long, it is legally a domestic route. Hence, the coastal shipping in China is exclusively operated by Chinese shipping lines.

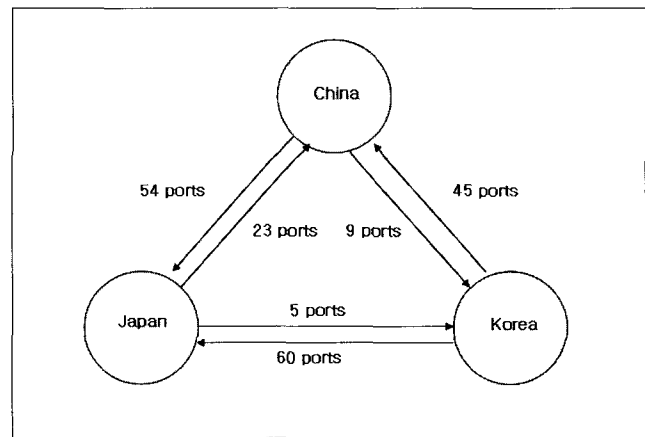
What is more, China still uses the cargo waiver system with some important items even after the accession to the WTO. This prevents foreign companies' free competition even in international routes with China.

The most important barrier in Japan is the "prior

consultation system" by the Japan Harbor Transportation Association. It restricts the operation of foreign lines in Japanese ports without prior permission of the association.

2.4. Network Competitiveness

Korea has a competitive advantage in all maritime transport areas within Northeast Asia over China and Japan, while China has a competitive advantage over Japan in Japan-China routes (Fig. 1 and Table 3).



Source : KITA, Maritime Route Connectivity, 2004

Fig. 1 Network Connectivity among 3 Countries

Actually, China and Korea have agreed to deploy the same number of ships to the Korea-China routes. The difference in market share is due to the difference of the number of ports each liner can call.

Table 3 Market Share in the Three Countries (2002, %)

| | Korea-China | | Korea-Japan | | China-Japan | |
|-------|-------------|-------|-------------|-------|-------------|-------|
| | Korea | China | Korea | Japan | China | Japan |
| Share | 62.2 | 37.8 | 95 | 5 | 95.3 | 4.7 |

Source: MOCT, internal data.

The market share of Japan is very low compared with the two other countries due to the passive attitude of the liners association in Japan.

In regards to total calls per week, Japan has the competitive advantage over China and Korea Table 4. But, if we consider the fact that the port calls to Japanese ports are just to treat Japanese cargo for trade, Busan's connectivity as a hub is stronger than any other ports except Hong Kong. While both Singapore and Hong Kong have higher market shares in total and transshipped cargo,

4) Recently this situation has changed. As the liners has broken through the market, the liners in 3 countries suffer a loss.

Busan exceeds other ports in mainland China, Japan, and the rest of Korea Table 4.

The fact that direct calls to the northern Chinese ports are increasing rapidly is worthy of attention.

As for the rate and the size of the container transshipped, Busan is the leading port in Northeast Asia. But, considering that the number of direct calls and the total container throughput in northern Chinese ports are increasing, the position of Busan as a hub port is very precarious.

Table 4 Network with Other Regions (2001, calls/week)

| | North America | Europe | SE Asia | NE Asia | Round the World | Total |
|-----------|---------------|--------|---------|---------|-----------------|-------|
| Hong Kong | 62 | 59 | 125 | 40 | 4 | 290 |
| Incheon | 0 | 1 | 5 | 5 | 1 | 12 |
| Gwangyang | 12 | 4 | 7 | 8 | 0 | 31 |
| Busan | 41 | 19 | 23 | 110 | 2 | 195 |
| Yokohama | 45 | 21 | 80 | 110 | 3 | 259 |
| Kobe | 37 | 18 | 72 | 112 | 2 | 241 |
| Dalian | 1 | 2 | 3 | 23 | 0 | 28 |
| Qingdao | 7 | 5 | 3 | 24 | 0 | 38 |
| Tianjin | 1 | 1 | 1 | 1 | 0 | 4 |
| Shanghai | 15 | 13 | 7 | 46 | 0 | 80 |

Source : Maersk Sealand, International Transportation Handbook, 2003.

Table 5 Market Share (2001, thousand TEU)

| | Singapore | Hong Kong | Busan | Gwang yang | Tokyo | Shanghai |
|-----------------|-----------|-----------|-------|------------|-------|----------|
| Total | 15,571 | 17,800 | 7,907 | 846 | 2,800 | 6,340 |
| Transshipment | 12,768 | 5,287 | 2,899 | 163 | 280 | 63 |
| Transshipment % | 82.0 | 29.7 | 36.7 | 19.2 | 10.0 | 1.0 |

Source : KMI, Summary Statistics in Maritime, 2004.

3. Possibility of Market Integration

3.1 Assessment of Competitiveness of the Three Countries

The summary of the analysis of competitiveness in Chap. 2 is shown in Table 6. Based on the analysis, the major obstacles for market integration are the difference of

competitiveness of industries in each country and the attitudes of the governments to it.

Japan and Korea have their own unique weak points: Industry competitiveness in Japan and small market size in Korea. The weakness of industry competitiveness in Japan makes the government shrink from the market integration. It is the case of China, too. Though the Chinese liners show competitive advantage over Japan in regional market, their relative weakness in industry competitiveness due to the small size of companies make them reluctant to open the coastal market. China wants to protect its flagships from competition for the time being.

Korea suffers from small domestic market size. However, Korea's industry competitiveness is strong, which drives Korea proactively toward market integration.

This situation is the same as the case of air service. However, the prospects for maritime market integration are far higher than for air service. Under the WTO system, the three countries already agreed to market integration. The only obstacle is that each country tries to protect its domestic lines through bilateral negotiation.

Table 6 Assessment of Maritime Competitiveness of the Three Countries

| | China | Japan | Korea |
|---------------------|--------|--------|--------|
| Infrastructure | Strong | Strong | Strong |
| Industry | Medium | Weak | Strong |
| Network | Strong | Strong | Strong |
| Domestic market | Strong | Strong | Weak |
| Government Attitude | Strong | Medium | Strong |

3.2 Review of Major Issues in Bilateral Negotiations

• *China-Korea*

A major problem is raised from container shipping between the northern ports in China and the western ports in Korea. Korea and China have self-regulated the number of ferry liners and the entry of container shippers in the routes between the northern ports of China and the western ports of Korea through bilateral negotiation. China wants to keep their ferry liners from the proactive marketing of Korean liners and Korea wants to develop Busan Port rather than western ports by limiting the throughput of western ports.

But the demand for container shipping has been increasing tremendously on the routes, which led to the high charges by ferry liners on container shipping. The charges are higher than those for the routes between China's northern

ports and Busan, which are longer than the routes to Korea's western ports. Recently third party line which are not bound by the bilateral negotiation try to participate in the northern China-western Korea routes. Hence it is inevitable for the two countries to let the routes operate under free competition in the near future.

Accessing the Chinese domestic market is another issue. As mentioned above, Korean lines want to enter into coastal shipping routes in China. But, without joint ventures with Chinese lines, it is not possible for the time being.

• Japan-Korea

As shown in Table 3 above, Japan's market share in the Korea-Japan routes is very low, and Japan continuously has tried to increase its market share of the routes. But, due to the high operational costs of Japanese liners, every effort has failed since 1996.

Instead, Japanese lines have put a shackle on any foreign liners entering into Japanese ports. The prior consultation system does just that. Every foreign liner should employ a designated domestic stevedoring company to operate in Japanese ports. But, as the efficiency of Japanese companies is not so high, it brings about the complaints of foreign lines.

• China-Japan

As many small liners are participating in short-sea shipping, cutthroat competition among shipping lines resulted in a severe operational deficit. Due to high operational costs, Japanese lines cannot survive from the competition, which has caused the Japanese lines to fade away.

4. The Way to Market Integration

Compared with the air transport market, the integration of maritime market seems to be easier. Institutional consensus is already set by the WTO agreement, and the competition among 3 countries for the market is not so serious as that of air market.

But, the obstacle remained, *i.e.* government attitude toward the protection of domestic industry, is still difficult to be dissolved. Hence a time-sequential process should be elaborated. The first step of it is to achieve the efficiency of maritime transport in the region. It can be summarized as the streamlined logistics service⁵⁾. The second step is to achieve reciprocal cooperation based on the profit of private

sector. The promotion of joint venture is one of the most useful ways for it.

4.1 Streamlined Logistics Service

One of the most important tasks remaining is streamlining logistics service. The chemical convergence among the shipping lines of the three countries is yet to be expected. Specialized logistics firms are not fully developed. Much of the logistics functions are carried out by international forwarders or lines, which still take the clothes of their own countries. The result is discontinuation of logistics process.

In particular the discontinuity at international borders aggravates the efficiency of logistics activity among countries. Therefore, development of specialized transnational logistics firms is essential. With this, equal access to domestic markets by shipping lines and logistics firms regardless of their nationality should be guaranteed.

Another problem is the connectivity of transport modes. Due to the differences of development among modes and the lack of proper warehousing facilities, the connectivity among maritime transport and inland transport is not so smooth. Sufficient supply of facilities, introduction of combined EDI systems among countries, and development of inter-modal logistics firms are essential in this sense.

4.2 Promotion of JV on Infrastructure and Industry among the Three Countries

The division of markets by the nationality of logistics firms is a very serious problem and cannot be dissolved by some instrumental policies of a country or negotiation among countries. Alternative solutions on this may be the establishment of joint venture firms among countries. Joint venture lines between China and Korea or between Korea and Japan can be pursued easily and it can increase the national interest of both countries. Joint venture forwarders or 3PL firms can guarantee streamlined logistics service and break the barriers of domestic market access.

Cross investment on facilities can be considered as well. Participation in port construction by raising mutual funds among countries can not only resolve the financial difficulties of infrastructure investment but it can promote international cooperation for the common interest.

5. Conclusion

Several years have passed since the issue of transportation

5) more precise discussion on it can be found in Jun et. al.(2005).

market integration was first raised. Certainly, there has been some progress during that time, but the result is not as satisfactory as was expected. The obstacles are based on real world affairs which were not expected at the table, such as national interests and impacts on a certain sector or industry.

Hence we need more precise policy alternatives and more concrete strategies agreed by each country. Issues on maritime market integration can be resolved more easily based on the WTO standard. But we should settle some problems based on national or sector-specific interests.

In each case, there is a basic principle which should not be changed. It is the 'principle of minimization of opportunity cost'. If China, Japan, and Korea are to enter into a battle of limitless competition exclusively based on national interests, it is impossible to avoid the waste of time and resources. By dividing the role of each country, and by concentrating on investment in facilities and improving the operational efficiency of firms allotted to each country, the three countries can play a 'win-win game'. To achieve it, establishment of a regional body to negotiate overall interests of each country and to draw effective decisions is recommended.

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