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The Emergence of Competitiveness in Korea-China Ship Distribution Industry*

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Abstract

Purpose – This paper reviews the changes in the ship export and import structure between Korea and China. It utilizes the comparative advantage trade theory to analyze time-series statistical data from the market share index, revealed comparative advantage index (RCA), and trade specialization index (TSI).

Research design, data, and methodology – Based on their economic phases, both Korea and China have similar country characteristics. The purpose of this research is to understand the two country's trade structures to fortify the Korea-Sino economic relationship including verifying what is working and what is not.

Results – Based on the analysis, bilateral economic activity to achieve a plus trade stimulus environment should be realized in the long run. Both countries should establish guarantee-free trade negotiations and boundaries instead of various non-tariff barriers.

Conclusion – Reviewing the research, a sound competitive relationship can be grown for mutual benefit including export market diversification in the near future. The review of the Korea-Sino ship industry is keenly important and investigative research about it is timely because it is a major industry in each country.

Keywords: Ship Distribution Industry, Market share, Trade Structure, Revealed Comparative Advantage, Trade Specialization.

JEL Classifications: F14, F17, L62, L92.

1. Introduction

There were no official relations between communist China and capitalist South Korea till mid-1900's. The People's Republic of China maintained close relations with North Korea, and South Korea maintained diplomatic relations with the Republic of China on Taiwan. This hindered trade between Seoul and Beijing, because South Korea was unable to protect its citizens and business interests in China without some form of international agreements. Beijing's economic needs involving South Korea were initially eclipsed by those of Moscow. However, because of secondary economic needs and geographic Trade between the two countries continued to increase nonetheless. Furthermore, China has attempted to mediate between DPRK and USA and between DPRK and Japan and also initiated and promoted tripartite talks—among Pyongyang, Seoul, and Washington.

South Korea had long been an ally of the Republic of China. Diplomatic ties between Seoul and Taipei were nevertheless severed in 1992. Formal diplomatic relations were established between Seoul and Beijing on August 24, 1992.

After the KORUS FTA (United States-Korea Free Trade Agreement) was finalized on June 30, 2007, the Chinese government has immediately begun seeking an FTA agreement with South Korea. The FTA between Korea and China are under discussion. South Korea has been running a trade surplus with China, which hit a record US\$ 32.5 billion in 2009.

It was announced on 10 January 2011 that the Ministry of Foreign Affairs established two teams of China experts and language specialists under its department handling Chinese affairs in an effort to strengthen diplomacy. An analytical team will report on political, economic and foreign affairs developments in China, and a monitoring team consisting of seven language specialists will report on public sentiment in China. Major foreign affair and national security bureau (IFANS), a think-tank affiliated to MOFA, also launched a centre dedicated to China affairs, which will act as a hub to collate research on China undertaken in Korea.

The Park-Xi summit in 2013 showed promise of warming relations, but this quickly chilled after China extended their Air

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Defense Identification Zone (East China Sea) over South Korean territory. Despite this, in July 2014, Xi visited South Korea before its traditional ally North Korea, and in their talks, both leaders affirmed their support for a nuclear-free Korean peninsula and the ongoing free trade agreement negotiations. Both leaders also expressed their concerns over Japanese Prime Minister Shinzō Abe's reinterpretation of Article 9 of the Japanese Constitution.

Under the such circumstance, it is important to evaluate one of major industries between 2 countries, especially, ship industry.

This study is assembled as followings; Chapter 2 has previous research with statistic data including empirical analysis. Chapter 3 review structural characteristic of Korea-China ship industry taking advantage of general trade statistics. Chapter 4 explains trade competitiveness through UN COMTRADE statistics together with Market Share, Trade Specification Index and Revealed Comparative Advantage Index. Conclusively, Chapter 5 finalize this research outcomes.

2. Previous study

In order to analyze trade competitiveness, there are a lot of factors that we should identify. Nonetheless, trade itself has huge unidentified factors that is difficult to verify specifically. Therefore, I must examine analysis of trade determinant as a trade structure factor which is this study's key point. Analysis period is from 2000 to 2013. My research is time serial analysis from 2000 to 2013 because recent statistical data are restricted and are not existed or are hard to receive data. Regarding to previous study, analysis research of Lee(2008), Lee(2012), Yu & Han(2012) by trade specialization index and Cho(2010), Oh(2012), Kim & Kim(2011), Oh(2013) by revealed comparative advantage index.

This study was conducted empirical analysis by taking advantage of statistical data analysis of 2 countries, which are evaluated in view of objective assess. The main data were made based on KCO, KITA and mainly, UN Comtrade.

3. Present status and characteristic for Korea-China Ship industry

Here is actual export volumes and its situations in Korea from 2000 to 2013 as follows;

<Table 1> Top 10 Export Items in 2000

Unit : USD1,000, Ton

Period	Item	HS code	Export weight	Export amount	Trade balance
2000	electricity	85	2,144,176	46,365,814	10,854,729
2000	machinery • computer	84	2,378,653	29,732,191	8,859,068

2000	automobile	87	2,778,477	15,265,527	13,634,266
2000	petroleum • coal	27	40,103,169	9,375,503	-27,701,630
2000	ship	89	7,216,050	8,229,445	8,036,911
2000	plastic	39	6,984,473	7,279,677	4,567,468
2000	steel	72	12,500,325	5,954,688	-35,487
2000	organic compound	29	8,528,903	4,969,520	-1,056
2000	filament fiber	54	1,006,532	4,804,218	4,017,919
2000	knitting	60	364,402	2,522,109	2,426,379

Source: Own

<Table 2> Top 10 Export Item in 2005

Unit : USD1,000, TON

Period	Item	HS code	Export weight	Export amount	Trade balance
2005	electricity	85	2,379,539	80,488,019	31,754,060
2005	machinery • computer	84	3,610,932	38,563,249	10,584,838
2005	automobile	87	5,541,103	37,491,235	33,298,061
2005	coal	89	7,610,949	17,231,478	16,094,094
2005	petroleum • coal	27	35,747,748	15,709,419	-51,747,050
2005	plastic	39	9,499,673	14,262,514	8,861,933
2005	steel	72	15,048,220	12,804,737	-3,555,765
2005	optical instrument	90	165,476	11,911,050	-967,645
2005	organic compound	29	10,905,426	10,539,295	2,062,227
2005	steel product	73	2,483,584	4,425,868	1,872,647

Source: Own

<Table 3> Top 10 Export Item in 2011

Unit : USD1,000, TON

Period	Item	HS Code	Export Weight	Export Amount	Trade Balance
2011	electricity	85	2,492,738	118,542,862	48,794,634
2011	automobile	87	8,011,982	67,096,998	57,947,004
2011	machinery • computer	84	5,965,440	59,658,652	10,330,096
2011	ship	89	16,200,267	54,133,104	51,729,626
2011	petroleum • coal	27	56,597,644	53,088,429	-120,586,577
2011	optical instrument	90	591,264	36,499,242	19,450,445
2011	plastic	39	11,915,748	27,719,360	16,869,288
2011	steel	72	26,801,230	27,581,063	-857,152
2011	organic compound	29	15,332,920	22,468,839	7,604,440
2011	steel product	73	4,645,340	11,690,016	4,315,843

Source: Own

<Table 4> Top 10 Export Item in 2013

Unit : USD1,000, TON

Period	Item	HS Code	Export Weight	Export Amount	Trade Balance
2013	electricity	85	772,794	41,022,310	18,123,810
2013	automobile	87	2,721,168	24,019,422	20,799,425
2013	machinery • computer	84	1,849,268	19,645,287	4,471,673
2013	petroleum • coal	27	19,550,412	18,647,477	-44,836,514
2013	optical instrument	90	175,109	12,203,470	6,643,405
2013	ship	89	4,525,000	11,137,928	10,484,861
2013	plastic	39	4,476,361	10,186,121	6,618,144
2013	organic compound	29	5,784,018	8,707,390	3,706,811
2013	steel	72	8,797,975	7,569,296	375,169
2013	steel product	73	1,667,706	3,542,638	830,446

Source: Own

from 2012. In 2000, Korea trade balance surplus of ship industry has been persistently approximately US\$7million more than China and trade balance surplus is also increasingly increased.

From 2012, China's trade balance surplus of ship industry has been persistently approximately US\$2million more than that of Korea.

The reasons are China has been exporting ship from early 2000's as long-term basis national major industry. Generally, overseas investment goes into financial asset and direct investment. Such a enormous overseas investment is coming into, so called, NICs country. Furthermore, China's cheap labor cost makes China comparative advantage in ship business. These kinds of elements is one of Chinese trade balance improvement effects in the Chinese ship industry.

<Table 5> Korea's Import & Export to World Ship Market (Unit : US\$1)

Year	2000	2005	2010	2012
Export	\$8,229,445,107	\$17,231,478,460	\$46,735,317,078	\$37,828,428,936
Import	\$192,534,072	\$1,137,384,950	\$3,358,900,317	\$2,542,704,953
Trade Balance	\$8,036,911,035	\$16,094,093,510	\$43,376,416,761	\$35,285,723,983

Source: Own

<Table 6> China's Import & Export to World ship Market (Unit : US\$1)

Year	2000	2005	2010	2012	2014
Export	\$1,634,535,093	\$4,663,473,886	\$40,296,396,459	\$38,819,903,672	\$25,202,441,503
Import	\$336,437,831	\$482,276,508	\$1,678,195,594	\$1,783,589,974	\$1,317,720,542
Trade Balance	\$1,298,097,262	\$4,181,197,378	\$38,618,200,865	\$37,036,313,698	\$23,884,720,961

Source: Own

Then, let me focus on ship industry to analyze <Table 5> and <Table 6>, it is available to understand overall Korea's ship import & export to world market status during 2000-2014.

We can understand that Korean export major industry's shift. During 60-70's, Korea has been exporting textile, footwear, clothes industry like labor-intensive industry under export drive policy. At that time, Korea as a developing country, we could achieve economic development and growth with export oriented strategy. Then, after Korea endured economic recession, our industry can be changed into high value-added industry from mid-1990's.

That is to say, it is transferred from labor-intensive industry into capital-intensive industry which result in national wealth increase by economic development.

On the other hand, per viewing <Table 6> from 2000 to 2014, China's export volume is higher than that of Korea as approximate US\$2million and trade deficit never happened at all

4. Structural analysis of ship industry between Korea-China

4.1. Empirical study between Korea-China ship industry

Reviewing the competitiveness for Korea-Sino ship industry, It is pretty much prerequisite to use traditional analysis method.

It is market share, trade specialization index and revealed comparative advantage index.

Each competitiveness measuring index could be fragmentary analyzing method which has drawback to examine only unilateral side. Nevertheless, it is excellent solution to evaluate trade structure competitiveness.

Market share indicate oversea market interrelationship by competitiveness analysis indicator to consider coverall export ratio for bilateral or global trade flow. Trade specialization index

has drawback to evaluate exporting and importing countries business itself only instead of examining the world's total trade volumes.

Revealed comparative advantage index indicates export country competitiveness, however, it has problem that import absorbing power like market condition of import country is not considered at all.

Trade is achieved when import country's import demand meets supply power of export country.

But, revealed comparative advantage index has demerit because it has the exporting country's relative export ratio only is considered.

$$\text{TSI} = \frac{X_i - M_i}{X_i + M_i}$$

(Xi : Certain industry's export, Mi : Certain industry's import)

Per Trade specialization index(TSI) is between the highest digit +1 and the lowest digit -1, what if it is bigger which means the competitiveness is strong. What if it is 0, export amount same as import volume that is intra-industry trade. When it approaches into -1, it is import specialization ratio is higher and what if it comes into +1 from 0, it means export specialization degree is high. Additionally, in case TSI is +1, it means perfect export specialization, on the other hand, in case TSI is -1, it means perfect import specialization. Since it is comparative advantage signal in the export, it is one more additional indicator to verify both 2 countries or in the global society for a certain market. We can use TSI to evaluate by product or by country at a designated point with time series review simultaneously which is useful to verify bilateral trade or labor separation system.

RCA is the best convenient index to indicate export competitiveness of a certain item.

In case RCA index is larger than 1, it is this goods has comparative advantage against other goods in this country.

Revealed Comparative Advantage(RCA) index provided by Balassa(1991) can be evaluated with below formular.

$$\text{RCA}_i = \frac{EX_i / WEX_i}{\text{TEX} / \text{TWEX}} \times 100$$

EX_i : i industry's export volume in a certain country.

WEX_i : i industry's export volume to world market.

TEX : a certain country's overall export volume

TWEX : export volume of total goods to world.

If RCA index is not larger than 1, it is this goods has comparative disadvantage against other commodity in this country.

At first, RCA index is provided as optional comparative advantage evaluation method through the realistic condition.

As a result, it is employed comprehensive comparative advantage indicator by relative price shift caused by technological elements, factor endowments discrepancy because it indicates comparative accomplishments instead of a particular index of comparative advantage containing market share from economic size and trade shift possibility.

By the courtesy of 3 index, I will review Korea-China ship industry's competitiveness at next chapter.

4.2. Empirical analysis result for Korea-China Ship Industry

4.2.1. RCA Index for Korea-China Ship Industry

From now on, let's analyze RCA index for Korea-China Ship Industry as follows:

<Table 8> Korean Ship Export Amount to China

Year	Business type	Standard	Counterpart	HS	Trade Volume
2000	Export	Korea	China	89	\$6,096,420
2005	Export	Korea	China	89	\$36,184,833
2010	Export	Korea	China	89	\$140,164,310
2013	Export	Korea	China	89	\$1,236,143,710

Source: Own

<Table 9> World Total Ship Export Amount

Year	Business type	Standard	Counterpart	HS	Trade Volume
2000	Export	world	world	89	\$39,712,910,900
2005	Export	world	world	89	\$68,456,214,735
2010	Export	world	world	89	\$171,364,230,319
2013	Export	world	world	89	\$141,712,222,135

Source: Own

<Table 10> Korean Total Export Amount to China

Year	Business type	Standard	Counterpart	HS	Trade Volume
2000	Export	Korea	China	Total	\$18,454,539,579
2005	Export	Korea	China	Total	\$61,914,973,037
2010	Export	Korea	China	Total	\$116,837,804,003
2013	Export	Korea	China	Total	\$145,869,498,273

Source: Own

<Table 11> World Total Commodity Export Amount

Year	Business type	Standard	Counterpart	HS	Trade Volume
2000	Export	world	world	total	\$6,276,501,601,670
2005	Export	world	world	total	\$10,149,967,640,408
2010	Export	world	world	total	\$14,891,638,654,667
2013	Export	world	world	total	\$17,940,616,485,603

Source: Own

<Table 12> RCA Index for Korea-China Industry

Year	①Korean Ship Export against China/World Total Ship Export	②Korean Total Export against China/World Total Commodity Export	RCA(= ①/②)
2000	0.000153512	0.002940259	0.052
2005	0.000528584	0.006100017	0.087
2010	0.00081793	0.00784587	0.104
2013	0.00872292	0.00813068	1.073

Source: Own

According to above table, what if a certain industry's RCA index is larger than 1, it is it has comparative advantage against other industries or what if it is smaller than 1, it has demerit against other industries. Therefore, the calculated RCA index of 2000 is 0.052 which means that Korean ship industry has comparative disadvantage against other industries in China. Per the RCA index of 2005 is 0.087 and of 2010 is 0.104 each other, during our evaluation through time serial analysis, Korean ship industry has low comparative disadvantage against that of China more than 10 years since 2000 and we can understand its comparative disadvantage degree is getting lower and eventually, from 2013, Korea ship industry starts to comparative advantage against that of China as RCA degree is 1.073 which means that Korea has competitiveness(comparative advantage) over ship industry from this year(2013) as Korean manufacturing environment are improved and comparative advantage to labor cost doesn't affect ship industry competitiveness anymore.

4.2.2. Trade Specialization Index for Korea-China Ship Industry

Regarding TSI is between highest digit +1 and lowest digit -1, what if this index is larger, it means the competitiveness is strong. What if it is 0, export volume equals to import volume. What if index approaches into -1, it means import specialization degree is not low and in case it approaches into +1, it is export specialization degree is high. Since it is export comparative advantage index, its index analyze bilateral or world market competitiveness. Therefore, per reviewing <Table 13> and <Table 14>, Even though Korean ship export volume against China is US\$2million more, however, on the contrary, China has been increasing more than 3 times export volume than that of

Korea in 2005 and China has superior export volume against Korea for whole period 2010 to 2013. Per <Table 15>, as specialization index 0.142 in 2000, which means it is near to +1 according to standard 0, Korea's ship industry is export specialization instead of import specialization. However, from 2005 to 2010, TSI index are -0.620 and -0.866 respectively which means it is near to -1 according to standard 0, that Korea's ship industry is import specialization. However, it is getting improved from 2013 as TSI is 0.040 which means it gets to export specialization from import specialization from 2013.

On the other hand, Chinese case of per <Table 16>, even though China is import specialization as -0.142 in 2000. From 2005 to 2010, all digits are the plus(+) marks, that is, as TSI index are near to +1, we can understand that china ship industry is export specialization and export specialization degree is high. Eventually, from 2013, China's TSI gets to minus(-) marks which means that China has export specialization instead of import specialization because world ship market gets to saturation point as comparative advantage Chinese ship industry with cheap labor cost including good manufacturing environment approaches to import specialization.

<Table 13> Korean Ship Export Amount to China

Year	Business type	Standard	Counterpart	HS	Trade Volume
2000	Export	Korea	China	89	\$6,096,420
2005	Export	Korea	China	89	\$36,184,833
2010	Export	Korea	China	89	\$140,164,310
2013	Export	Korea	China	89	\$1,236,143,710

Source: Own

<Table 14> Chinese Ship Export Amount to Korea

Year	Business type	Standard	Counterpart	HS	Trade volume
2000	Export	China	Rep.of Korea	89	\$4,578,258
2005	Export	China	Rep.of Korea	89	\$154,101,203
2010	Export	China	Rep.of Korea	89	\$1,944,066,827
2013	Export	China	Rep.of Korea	89	\$1,141,224,773

Source: Own

<Table 15> Korea Specialization Index to China

Year	①Korea Ship Export Amount to China - Chinese Ship Export Amount to Korea	②Korea Ship Export Amount to China + Chinese Ship Export Amount to Korea	TSI(= ①/②)
2000	\$1,518,162	\$10,674,678	0.142
2005	-\$117,916,370	\$190,286,036	-0.620
2010	-\$1,803,902,517	\$2,084,231,137	-0.866
2013	\$94,918,937	\$2,377,368,483	0.040

Source: Own

<Table 16> China Specialization Index to Korea

Year	① Chinese Ship Export Amount to Korea - Korea Ship Export Amount to China	② Chinese Ship Export Amount to Korea + Korea Ship Export Amount to China	TSI (= ①/②)
2000	-\$1,518,162	\$10,674,678	-0.142
2005	\$117,916,370	\$190,286,036	0.620
2010	\$1,803,902,517	\$2,084,231,137	0.866
2013	-\$94,918,937	\$2,377,368,483	-0.040

Source: Own

4.2.3. Comparative Competitiveness for Market share for Ship Industrial Structure between Korean and China

Based on traditional trade theories, it is assumed that international business is done between 2 countries and eventually, geographical and institutional barriers including shipping cost, customs tariff are not taken into consideration. Under these supposition, international business is determined by price differency. Traditional hypothesis provide reason that this price discrepancy is each country's production condition's difference. Nevertheless, realistic life in the a lot of countries has factors(shipping fee, customs tariff) that influence price including non-price factors(cultural homogeneity and historical factors).

Therefore, real life's trade flow is influenced by non-comparative advantage factors. It is market share analysis to indicate trade flow under a lot of countries. Market share analysis has supposition that trade flow is influenced not only by each country's comparative advantage structure but also by non-comparative advantage factor. Hence, trade flow's determining element is indicated by measuring total ex-ante import & export volume including ex-post total import & export volume. Namely, market share analysis is evaluation for 2 country's trade flow by measuring degree between a certain one country and partner in the world market, shift between import product's structure of partner and domestic export product's structure.

Let me start to introduce the concept of Market share.

The competitiveness for market share means that ratio of mentioned country's export to total export of a certain market and it is understood that the higher its ratio, the more comparative advantage of its country.

When we evaluate <Table 20> throughout whole period from 2000 to 2013, Korea has been continuously increasing ship export volume until 2010 except 2013 compared to that of China. That means it indicates Korea has sufficient production capability with competitiveness against Chinese ship industry. However, in 2013, both 2 countries' export volume are decline, which means ship industry approaches saturation point in the world market.

Anyway, Korea has overwhelmingly dominant market share against Chinese ship export to world market.

<Table 17> Korea Ship Export Amount to World

Year	Business type	Standard	Counterpart	HS	Trade Volume
2000	Export	Korea	World	89	\$8,229,445,107
2005	Export	Korea	World	89	\$17,231,478,460
2010	Export	Korea	World	89	\$46,735,317,078
2013	Export	Korea	World	89	\$35,869,753,601

Source: Own

<Table 18> China Ship Export Amount to World

Year	Business type	Standard	Counterpart	HS	Trade Volume
2000	Export	China	World	89	\$1,634,535,093
2005	Export	China	World	89	\$4,663,473,886
2010	Export	China	World	89	\$40,296,396,459
2013	Export	China	World	89	\$28,681,231,715

Source: Own

<Table 19> World Total Ship Export Amount

Year	Business type	Standard	Counterpart	HS	Trade Volume
2000	Export	world	world	89	\$39,712,910,900
2005	Export	world	world	89	\$68,456,214,735
2010	Export	world	world	89	\$171,364,230,319
2013	Export	world	world	89	\$141,712,222,135

Source: Own

<Table 20> Market Share for 2 country's Ship Industry (%)

Year	Business type	Korea	China	Competitiveness based on market share
		(Korea Ship Export Amount to World/World Total Ship Export Amount)	(China Ship Export Amount to World/World Total Ship Export Amount)	
2000	Export	0.207	0.041	Korea
2005	Export	0.252	0.068	Korea
2010	Export	0.273	0.235	Korea
2013	Export	0.253	0.202	Korea

Source: Own

5. Conclusions

This study empirically analyze how Korea-China trade dependency is moved over 10 years(2000, 2005, 2010, 2013) through market share, trade specialization index and revealed comparative advantage index. Per reviewing this, we can understand import & export structural factor of 2 countries. Let me categorize empirical analysis results as following;

First, what if a one industry's RCA digit is larger than 1, it is comparative advantage against other industries or what if it is less than 1, it is disadvantage against other industries. Therefore, the calculated RCA index of 2000 is 0.052 which means that Korean ship industry has comparative disadvantage against other industries in China. While the calculated RCA index of 2005 is 0.087 and of 2010 is 0.104 each through time serial analysis, Korean ship industry has low comparative disadvantage against that of China over 10 years since 2000. Furthermore, we can understand its comparative disadvantage ratio is getting lower and eventually, from 2013, Korea ship industry starts to comparative advantage against that of China as RCA degree is 1.073 which means that Korea has competitiveness(comparative advantage) over ship industry from this year(2013) as Korean manufacturing environment are improved and comparative advantage to labor cost doesn't affect ship industry competitiveness anymore.

Second, Per TSI reviewing <Table 13> and <Table 14>, Even though Korean ship export volume against China is US\$2million more, however, on the contrary, China has been increasing more than 3 times export volume than that of Korea in 2005 and China has superior export volume against Korea for whole period 2010 to 2013. Per <Table 15>, as specialization index 0.142 in 2000, which means it is near to +1 according to standard 0, Korea's ship industry is export specialization instead of import specialization. However, from 2005 to 2010, TSI index are -0.620 and -0.866 respectively which means it is near to -1 according to standard 0, that Korea's ship industry is import specialization. However, it is getting improved from 2013 as TSI is 0.040 which means it gets to export specialization from import specialization from 2013.

On the other hand, Chinese case of per <Table 16>, even though China is import specialization as -0.142 in 2000. From 2005 to 2010, all the digits are the plus(+) marks, that is, as TSI index are closer to +1, we can understand that china ship industry is export specialization and export specialization degree is high. Eventually, from 2013, China's TSI gets to minus(-) marks which means that China has export specialization instead of export specialization because world ship market gets to saturation point as comparative advantage Chinese ship industry with cheap labor cost including good manufacturing environment approaches to import specialization.

Third, The competitiveness for market share means that ratio of mentioned country's export to total export of a certain market and it is understood that the higher its ratio, the more comparative advantage of its country.

When we evaluate <Table 20> throughout whole period from 2000 to 2013, Korea has been continuously increasing ship export volume until 2010 except 2013 compared to that of China. That means it indicates Korea has sufficient production capability with competitiveness against Chinese ship industry. However, in 2013, both 2 countries' export volume are decline, which means ship industry approaches saturation point in the world market.

Anyway, Korea has overwhelmingly dominant market share against Chinese ship export to world market.

Conclusively, the competitiveness of ship industry between Korea and China is not market share, not labor cost.

It is comparative advantage through ship industry specialization.

Additionally, this research limitation is as follows;

If Korean ship building companies go to China and set up another ship manufacturing companies and they have lots of production lines and export them to Korea contrarily, these export volumes will be regards Chinese export volumes instead of Korean export volumes even though they are produced Korean ship building companies. This is major limitation of this research to overcome because no other Korean ship building companies disclose their export volumes as they are business sales strategic secret.

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