The Rise of China and the Korean Firms:
Looking for New Divisions of Labor

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Keun Lee* and Mihnsoo Kim**

*Professor of Economics, Seoul National University
e-mail: Kenneth@snu.ac.kr
**Professor of Economics, University of Incheon
e-mail: msakim@incheon.ac.kr

Abstract

The Korean perception about the rise of China has been gradually changing from a threat to a window of opportunity. With the evolution of Korean FDI in China and the recent renewed snowballing of its amount and scales, the Korean manufacturing base has been undergoing the process of hollowing out as more and more factories are relocated to China. While the Koreans wish to strike a new division of labor with Korea specializing in R&D and logistics while holding the basis for intermediate goods, the prospects of this strategy is not certain as seen from the Taiwan experience.

In the meantime, the Korean firms, from smaller ones to big ones like Cheabols, are seeking and trying new diverse forms of business and divisions of labor in China. This paper has identified 4 (potentially) viable model of the Korean business in China, and spelled out what are the necessary ingredients to make a success in each mode. Then, a strategy for the Korean firms, considering entering into China or doing already business in China, should identify which mode they are engaged in and assess whether that form is a right choice for them. Otherwise, they are likely to fail in China.

1. Introduction

The rise of the Chinese economy has become an important variable affecting most countries in the world. East Asian economies as China's closest neighbors should be the one who are most substantially affected, and there have been appearing more and more researches from the region on this issue (Abe 2003; Chen 2003). Korea was not an exception as we coined term, like the "China shocks." The Shock has been perceived in diverse respects such as flooding imports of many consumer and food items (even Kimchees) from China, increasing competition in the US export market, and the rush of Korean firms to China. It is not surprising that Korea has to face China as a major shock because the economic integration between the two countries has been escalating ever since the diplomatic normalization in 1992. In a sense, it was a belated shock since the China experts in Korea have long been warning this, and called for the need for Korea to be prepared for this.

The China shock can be comparable to the Japan shock of the 1965 following the diplomatic normalization of the Korea-Japan relations. The economic nature of the Japan shock has been the ever-increasing dependence of the Korean economy on Japan. That dependence has been symbolized by the persistent trade deficits of Korea in her trade with Japan. The deficits is rooted in the structure of the Korean manufacturing and exports specializing in final goods assembly which had to import capital and intermediate goods from Japan.

Having put forward some comparison with the Japanese shock, we have to ask what is the nature of the China shock. Regarding the impact of the rise of the Chinese economy, the Korean perceptions have been divided. One perception is that the rise of the Chinese economy poses a serious threat to the Korean economy as it not only replaced the Korean products in the export markets which is vital to the Korean economy but also closed many Korean factories in domestic market competition. The opposite perception is that the economically viable China implies a new economic opportunity for Korea as it implies a new market for the Korean products.

As of today, more and more Koreans seem to take the latter view now, namely the opportunity view. There are two reasons for this. First, the Koreans are now realizing that even if we perceive China as our threat, there is nothing much can be done to check the rise of China. One notable example is the "garlic accident" in which the Korean moved to check

the imports of the Chinese garlic, and it resulted in the disgrace of the Koreans as the Chinese backfired by controlling the imports of more expensive items such as mobile phones. Second, the Koreans are now realizing that while China takes away some of the former Korean market, China itself emerges as a much bigger market. This recognition was reinforced especially during the 2001 and 2002 period. During this periods, despite the fact that Korea's two biggest markets, the US and Japan, are in recession, the Korean economy did very well and it has to do with the boom of the Chinese economy. As of fact, with the year of 2002 as the watershed, China surpassed the US as the Korea's no. 1 trading partner and FDI destination country.

For Korea, while it is definitely better to have two big markets (US and China) than to rely on only one big market (US), a long-term problem has to do with the fact that China is different from the US as it commands a very strong sucking power toward factories in the neighboring countries. In other words, the true and serious nature of the China shock to Korea is the possible hollowing-out of the Korean economy.[1]

While the FDI into China is inevitable for survival and/or expansion of the businesses, a difficult part is to find out the suitable mode of entry and business in China. This issue is the focus of this paper. Thus, rather than taking macroeconomic approaches or analyzing trade figures, this paper takes a microeconomic perspective to study the current strategies and obstacles of the Korean firms that are trying to extend their business into China. It focuses on the issues that Korean firms face in order to survive and integrate with the rising China. By conducting in-depth firm level interviews with various Korean firms that have stories of success and failure, this paper will discuss alternative mode of business for the Korean firms in China.

Before doing this in the sections 3 and 4, we will first start in the next section by providing some backgrounds, particularly by reinterpreting the evolution of the trade and FDI relations between China and Korea from the point of the issue of marginalization of the Korean industry. Then, the section 5 provides a typology of the Korean options in their China business, based on the summary of the discussion in the sections, 3 and 4. Section 6 is concluding remarks.

[1] For in-depth analysis on the issue of the hollowing out, please refer to Nam (2004), and ITR (2003) for a recent survey on Korean FDI firms in China.

2. Hollowing-Out and Marginalization of Korea by China?

1) From Inter-Industry to Intra-Industry Trade

One hot issue in the Korea-China economic relations is the persistent trade deficits of China, and the Chinese side has been complaining about this and resorted to several protectionist measures against Korean imports (see table 1). During the early days of the Sino-Korean trade up to the early 1990s, the trade was regarded as very much complimentary, with China exporting primary goods and Korea exporting manufacturing goods. In other words, it was what economics calls inter-industry trade, namely between different industries. However, since then, China became industrialized and substantially increased its manufacturing exports and thus the Sino-Korea trade became more competitive as both countries exports manufacturing goods. This period up to the end of 1990s can be called the second stage in the development of the trade between the two countries.

Table 1: Trends in the Korea Trade with China and Japan (unit: 100million)

	China			Japan		
Year	Exports	Imports	Balance	Exports	Imports	Balance
1990	5.8	22.7	-16.9	126.4	185.7	-59.3
1991	10	34.4	-24.4	123.6	211.2	-87.6
1992	26.5	37.2	-10.7	116	194.6	-78.6
1993	51.5	39.3	12.2	115.6	200.2	-84.6
1994	62	54.6	7.4	135.2	253.9	-118.7
1995	91.4	74	17.4	170.5	326.1	-155.6
1996	113.8	85.4	28.4	157.7	314.5	-156.8
1997	135.7	101.2	34.5	147.7	279.1	-131.4
1998	119.4	64.8	54.6	122.4	168.4	-46
1999	136.8	88.7	48.1	158.6	241.4	-82.8
2000	184.5	128	56.5	204.7	318.3	-113.6

Source: Korea Trade Association (www.kotis.net)

One should note one important underlying pattern in the Sino-Korea trade. During the early 1990s, the Korean trade with China was very unstable, fluctuating between surplus and deficits. A change of this pattern into a more lock-in pattern with the Korean surplus has to do with the emergence of intra-industry trade. While both sides exchange manufacturing

goods, a more important thing is the fact that the trades are happening in the same industries (Lee and Kim 2001). In other words, in an increasing part of the trade, Korea exports intermediate or capital goods while China exports final goods which are made by assembling the imported intermediate goods.

Now we can understand why the Chinese side incurs deficits. As shown in table 2, the share of intra-industry in total trade balance has increased from less than 10% to almost 30%, similar to the level in the Korea-Japan trade. The Sino-Korea trade has become similar to the Korea-Japan trade. For the last three decades the Korean side had to incur trade deficits in her trade with Japan as she had to import more of the Japanese made capital goods whenever Korean production and export of final goods increases. The same pattern has been emerging in the Sino-Korea trade. Increased intra-industry trade between Korea and China does reflect the enhanced degree of economic integration between the two countries as well as the enhanced manufacturing capability of the Chinese firms. In other words, it reflects the success of the Chinese economy. The faster it grows the more it needs to import intermediate goods.

Table 2: Share of different types of trade in trade balance of Korea (%)

	China			Japan		
Year	inter-industry	vertical intra-industry	horizontal intra-industry	inter-industry	vertical intra-industry	horizontal intra-industry
1991	91.5	5.4	3.1	73.6	19.6	6.7
1992	89.7	7.9	2.4	72.2	19.3	8.4
1993	96.7	2.8	0.4	67.7	18.4	13.9
1994	93.5	4.6	1.8	73	15	12
1995	92.4	5.1	2.5	75.8	19	5.2
1996	77	17.6	5.4	74.9	16.2	8.9
1997	77.4	15.1	7.5	70.8	24.5	4.6
1998	84.7	11.7	3.6	58.2	39.1	2.7
1999	81.8	13.6	4.5	68.1	27.5	4.5
2000	72.3	22.4	5.3	64.7	30.1	5.1

Source: Lee and Kim (2001) p. 122, table 6

On top of this, we also have to take into account the enormous amount of the Korean FDI(foreign direct investment), which tend to import lots of intermediate goods from Korea with less exports to Korea, but tend to generate overall surplus to China as they export a lot

to third countries. As a matter of fact, the Korean Traders' Association conducted a survey of 1,280 Korean FDI firms in China in 2003 (Institute for Trade Research of the KTA 2003). This survey reveals an interesting fact that about 38.5 percent (in dollar terms) of their intermediate goods are imported from Korea and 44.3 percent of them are purchased within China. On the other hands, on average only 15.8 percent of its final goods (in dollar terms) are exported to Korea and 40.6 percent of them are sold within China. In other words, these firms are contributing to Korean surplus. In aggregate terms, all the sample firms together invested 4.93 billion US dollars in China and generated a trade surplus of 3.05 billion dollars by buying more of Korean-made intermediate goods (6.38 billion dollars) and selling less to Korea (3.33 billion dollars) (see table 3 for details). If we divide this total amount of surplus by the total amount of their investment, we get how much dollar of surplus each invested dollar generates. That is 0.62 dollar (3.05 divided by 4.93).

2) Evolution of the Korean FDI in China

The preceding discussion points as one of the reasons for the Korean trade surplus; that is, the imports of intermediate goods by the Korean FDI firms in China. This implies that how long Korea will have trade surplus depends upon how soon China will build its own manufacturing basis of capital goods industry as well as how long Korea will be able to keep the capital goods producing firms within its territory. The current and near future trends appears to suggest that it will not be long that Korean-China trade will be balanced. One of the reasons for this has to do with the recent recognition that hollowing out of the Korean economy has been accelerated to include the important capital or intermediate goods industries. To discuss this issue let me start with some review of the evolution of Korean FDI in China (see table 3).

Table 3: Evolution of the Korean FDI in China, 1988-2002

	Year	FDI cases	actual investment (1000 US $)	amount per case (1000 US $)
Stage 1	1988	1	10	10.0
	1989	7	6,360	908.6
	1990	22	15,474	703.4
	1991	63	41,224	654.3
	1992	160	117,326	733.3
	1993	355	251,217	707.7
	1994	703	581,389	827.0
Stage 2	1995	651	713,862	1096.6
	1996	637	713,488	1120.1
	1997	547	493,009	901.3
	1998	223	585,406	2625.1
Stage 3	1999	410	288,013	702.5
	2000	663	460,272	694.2
	2001	887	533,163	601.1
	2002	1,135	777,092	684.7
Total		6464	5577305	

Notes: The number of cases and investment amount include those cases that investments were made actually.

The evolution of Korean FDI in China can be discussed in terms of several stages. The first stage was the period from the late 1980s to 1994 (two years after the diplomatic normalization). During this period, newly opened China emerged as an attractive site for Korean outward FDI substituting Southeast Asia (the so-called investment diversion effects). Mainly small sized Korean firms in labor-intensive sectors relocated their assembly line to China to take advantage of cheap labor. In this stage while there was no trade-replacing effect of FDI, exports from Korea to China rather increased because the FDI imported intermediate goods from Korea. The processed products were re-exported back to Korea or other third countries, which means only a few were targeting the local Chinese market.

The second period is from 1994 to 1998 (peak of the crisis). This period is featured by the large Korean firms, so-called Chaebols, conducting investment in capital-intensive products targeting both local Chinese and overseas markets. With 1994 as the peak in terms of the number of the cases, the Korean FDI in China started to decline while investment amount per projects started to increase (see table 3). At the same time, some of the small Korean FDI firms, who made early success in managing their factories in China, now started

to relocate their intermediate goods production lines.[2] While this move was important and should be taken as a kind of hollowing out, the scales and impacts were small in terms of dollar amounts.

The third and current stage is the recovery period since 1999 up to now. Korean FDI plummeted in 1998 as the financial crisis swept the economy and also the big firms finished the first round of their investment in China. After the recovery of the economy, Korean FDI regained the momentum, and this final stage is featured by the new wave of the Korean firms entering China. They are the SMEs (small and medium sized enterprises) who were partners or subcontracting firms to big Chaebols. As you see from the table, the investment amount per project decreased again compared to the second period led by big firms. The businesses of these SMEs are in relatively higher value-added and relatively capital or technology-intensive, and thus felt less need to go to China. They are different from old labor-intensive firms who had to go to China during the early stages. Despite this, they were called into China by their main customer firms, namely the big corporations, who made their roads into China in earlier periods. These big firms operating in China found out that there are cheaper local suppliers than their old partner firms, and told their long time partner to come to China so that they do not have to switch their order to local firms in China. Or, these big firms wanted to bring their old partner as their China business grows and they realized the Chinese market is very competitive and it is important to reduce whatever costs possible. I would call this a new stage of hollowing-out as the relocation of important capital goods industries started with massive scale.

As you see from table 3, the case of Korean FDI in China accelerated since 1999. It is estimated that about one third of Korean manufacturing firms had invested in foreign countries. As a results, the ratio of the outstanding FDI balance to GDP has reached the level of Japan (5.8%) whose GDP per capita is four times of Korea. The ratio of outward FDI to investment in domestic production facility has reached 10% or so (Bank of Korea). The share of manufacturing in domestic value-added is 29.6% in Korea, which is higher than the USA (14.1%), UK (16.7%), Japan (19.7%) and Germany (22.2%). Thus, we can say that the Korean economy is not yet hollowed-out. But, while it is natural for an advanced country to get hollowing out, Korea seems to be on that road too early, given its low per capita GDP.

[2] Of course, there was a continuing flow of small firms who first entered China, during this period, with only assembly line moved.

Another concern is that if the process of outward FDI happens too fast, it will not give enough time for readjustment so that transitional costs will be too high in terms of structural unemployment and so on.

In response to this situation, the Korean "wish" is to keep high value-added industries or segments within Korea while relocating others to China. In other words, there can be two possible division of labor between Korea and China. The one is to keep intermediate and capital goods within Korea and to let final goods assembly line to go to China. The other is for Korea to specialize in R&D and logistics and for China to specialize in manufacturing. While this strategy sounds good, the Taiwan experience suggests that the things will not happen exactly as you wish.

Chen (2003) discussed the rapid hollowing out of the Taiwan economy as the share of manufacturing in GDP was as high as 33.3% in 1999 and plummeted to mere 26.3% in 2000, within two years. He observes that at least until 1999 Taiwan FDI in the main-land China has also brought in more jobs in Taiwan as FDI firms import intermediate goods from Taiwan and relied on R&D and logistical services from Taiwan. But, after 1999 he find that more and more functions are done locally within mainland. Now, it is reported that about 40% of Taiwan DFI firms in China have established local R&D centers in China He argues that on the contrary to Taiwan's plan or wishes, Taiwan has been failing to hold logistics and R&D activities, and thus that FDI-induced trade is unsustainable and is not reliable engine of growth.

In next section let me explore this issue with focus on diverse forms of division of labor between the Korean and Chinese firms.

3. The Korean mode of Business in China: The early Small Landers and the Chaebols

As discussed in the preceding sections, it was the SMEs in Korea who made their way into China during the first stage of FDI from the late 1980s to the early 1990s. Their main objective was to establish export-oriented and low-cost manufacturing centers to sell the labor-intensive products in the third country, not in China. Given their low capabilities, there have been both cases of failures and successes in their operation of the factories in China. For many of them, their motivations were defensive to escape from high wage rates in Korea but to do the same old OEM production for big vendors in the USA and other developed

countries. But this mode was only to extend the life of the already declining competitiveness of their business for a few years. They should use this extra few years to find a new mode of business, like switching to ODM or own brand exporting, based on enhanced technological capabilities. In other words, the emergence of China as a site for factory relocations was both a temporary pain-killer and real opportunity for long term upgrading of the Korean SMEs.

An ex post judgment is that only those who took advantage of this real opportunity is prospering now. A notable example can be found in a typical declining industry, such as toy. Toy used to be a leading export industry of Korea in the 1970s, and there were more than 700 OEM producers in Korea during the 1970s. Then, many of them started to move to China and Southeast Asia to relocate their factories since the late 1980s. But, as of now, only a few of them are still in business because they did not make upgrading transition from a OEM to ODM and eventually OBM (own brand manufacturing), and China replaced Korea as a site for OEM production of toys. As of now, 2003, there is only one Korean toy producer who exports toys with its own brand, "Aurora World." According to this company, there are only a couple of ODM producers in Korea nowadays, and the Aurora World Co. is the only OBM company in Korea.[3]

The success factor of Aurora World is that they, first, invested a lot to raise their design and development capabilities, and, second, went through a long and hard way to establish its own brand. The headquarters in Korea was mainly to specialize in R&D and marketing, while they run factories in Indonesia (since 1990) and China (since 1995).

While the Korean firms used China merely as a production site during the first stage of Korean FDI to China up to the mid 1990s, China's economy grew much faster than expected, and its consumer market also expanded at an astonishing rate. Under these circumstances, Korean firms were forced to change their views on China, starting to recognize it as a strategically important market rather than just a production base. This transition opened the second stage of the Korean FDI in China since the mid 1990s, and was now led by business conglomerates or Chaebols. The Chaebols started to make FDI to build a local market-oriented production network that emphasizes on product standards, rapid innovation and speedy response to the growing market.

Chaebols like Samsung, LG, Hyundai Motors and POSCO are now considered to have made a remarkable success in the Chinese market despite their late entry compared to other

[3] An interview with Aurora World was conducted on January 14, 2004.

MNCs;[4] they entered China only after the normalization since the mid 1990s. Within a very short period of time, the Korean firms, like Samsung and LG, have set up more than 10 FDI firms in China and consolidated their business bases to earn profits with large market shares in consumer electronics.

Let us look at the case of Samsung. According to table 4, as of the end of 2003, Samsung has invested a cumulative amount of 3.1 billion dollars to set up and run 26 manufacturing companies and 14 non-manufacturing or trading companies in China, and earn sales revenues of 11.8 billion dollars with exports of 5.3 billion by hiring a total of 4320,000 employees. A rough calculation of their performance show that their sales per staff and sales per one dollar invested is ever increasing from 112,700 dollars in 1998 to 262,200 dollars in 2003, and 1.5 dollars in 1998 to 3.2 dollars in 2003, respectively (see table 4). The share of China in Samsung's world-wide sales is now 10%, compared to Korea's 20%, and the Samsung-China in China expect that share to reach soon 20%. Given Samsung China's very rapid growth, we have no doubt about. In other words, Samsung is going to replicate another Samsung in China, as equally as big as Samsung-Korea.

Table 4: Presence and Performance of Samsung China

(million $ as of 2004/01, including Hong Kong)

A. Presence in China

1) Affiliates in China	Numbers	Employees	Etaffs from Korea	& share
Manufacturing Co/s	26	40,701	370	0.91%
Non-manuf. co.s	14	2,159	191	8.85%
Branches and etc.	29	318	57	17.92%
Total	69	43178	618	1.43%

2) Localization by Local Procurement : 62% (amount 2.73 billion $ from 600 local co's in 2002)

3) Business areas: electronics, telecommunications, textiles, apparel, ship0-building, steels, insurance, IC chips, software, advertising, chemicals, trading, construction

4) R&D units in China:

Telecommunication in Beijing on TD-SCDMA & W-CDMA, with 110 persons opened on 2000/10

Semi-conductor in Suzho & Hangzhou on solutions, with 40 persons opened on 2003/09.

5) Sales Composition of Samsung as a Whole (rought estimates in interview)

Korea: 20%, USA: 30%, EU: 20%, China: 10% (soon to be 20%)

[4] Comparison of strategy and performances of the MNCs in China from various nations, including those from Korea, can be found in Luo (2001).

B. Performances

(million US $)	1998	1999	2000	2001	2002	2003	2004 (estimate)
Cumulative investment (a)	1600	1900	2100	2500	2700	3100	
Sales revenues (b)	2400	3600	5500	5700	8300	11800	18000
Local Procurements (c)					2290	3130	
% of sales					27.6%	26.5%	
Exports (d)	800	1300	2400	2300	3500	5300	11000
% of sales	33.3%	36.1%	43.6%	40.4%	42.2%	44.9%	61.1%
Employees (e) (1,000 person)	21.3	26	33.6	36.2	42.3	45	
Sales/employee (b/e= 1,000 $)	112.7	138.5	163.7	157.5	196.2	262.2	
Sales/capita l(b /a = $/$)	1.5	1.9	2.6	2.3	3.1	3.8	

Sources: The official Brochure of Samsung China, web site (www.samsung.com.cn), and interview of directors in Samsung China, in January 2004.

Notes: Number of employees does not include those in sub-contracting or sales dealers. If including them, a rough total would be 300,000, based on the interview.

One of the success factors for them has to do with the group-style organization, which provides mutual support and jump-start functions in imperfect markets like China. Such capabilities of the business groups have been termed as “project execution capability” by Amsden and Hikino (1994), and, according this resource-based view of the business groups, diversification is a way to utilize this critical capability or resources (Kock and Guillen 2001). Project execution capability refers to the skills required to establish or expand operating and other corporate facilities, including undertaking pre-investment feasibility studies, project management, project engineering, procurement, construction and start-up of operations. According to them, this skill appreciates in value through a deliberate process of learning-by-doing and then ‘remembering-by-doing,’ and the greater the number or frequency of projects the firm undertakes itself, the greater the knowledge acquired about project execution. Then, advantage of the business groups comes from the fact that, other things being equal, the frequency of project execution is greater in diversified business groups than in stand-alone firms. According to this theory, the Korean business groups just have taken advantage of this skill in replicating their empire in China.

Also, these big corporations came to China together with many of their small partner firms or subcontractors, and thereby transplanted their production network to achieve vertical integration in the Chinese soil.[5] Of course, such behavior of inviting their small partner firms is causing the hollowing out of the Korean manufacturing.

Large Korean corporations in IT have recently been observed to have established not only production lines but also R&D centers, although the R&D conducted in China is mainly to modify the existing products to suit the Chinese market. For example, the two representative firms, Samsung and LG, have their R&D center in China (see table 4). While their main function is to develop a product for the Chinese market, they are also considering using their China R&D center to develop products targeting non-China market, including Korea.

4. Diverse Modes of Business by the Smaller Korean Firms in China

Most of Korea's Chaebols such as Samsung, LG and SK have expanded their Chinese business by making massive investment and localizing their operations. This includes positioning their overseas headquarters in China and carrying out the whole extent of operations from R&D to production and marketing at the local level. Such aggressive strategies by the Korean big corporations led them to make a remarkable success in China in a relatively short period of time.[6]

However, this success was rather possible because the Chaebols had the enormous resources and capabilities to start with in carrying out the strategies. It should be regarded as a special case because their strategies may not apply to most of Korean SMEs that are striving to make their way into China with much less resources and capabilities.

Here, it is our interest to pay more attention to these SMEs rather than the big corporations since they are the ones that face tougher and critical choices when responding to the rise of China. The following part will analyze specific cases of such Korean SMEs that are struggling to find a new and sustainable mode of business in China.

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[5] Chen and Ku (2002) also discuss how the Taiwanese companies use the vertical integration to increase their competitive advantages in China.

[6] The competitiveness of Korean mobile handsets, for example, is well acknowledged worldwide. Samsung is currently number 3 and LG number 5 or 6 in the mobile handset market globally. These Korean mobile handset conglomerates are especially effective in high-end and multimedia handset markets such as camera phone.

1) The Korean SMEs producing, and the Chinese Partner doing Marketing

The Case of Manufacturing Mobile Handsets

One common way for the Korean SMEs doing business in China is to form a division of labor with local Chinese companies, such that the Koreans specialize in R&D and production while the Chinese carry out the marketing. In the mobile handset industry, Korean firms started out to supply the mobile phones as an OEM to Chinese companies. There are between 50 and 60 telecommunication companies in Korea; some of them are large conglomerates such as Samsung and LG, but most of them are the mid-sized firms, such as Pantech, Telson Electronics and Sewon Telecom.[7] So, the OEM business became a common way for the Korean SMEs that are technologically capable but lack marketing resources to enter overseas market like China. Especially, when the mobile handset industry had a high technological barrier for entry, Korean firms generally used this model to export their products to China, sparing their efforts on marketing and distribution. This mode of business also benefited the Chinese companies since they could vend the handsets with their own brands in the local market even tough they didn't have the production capability. The market share of these Chinese venders started to rise from 1998, and reached 11.39% in 2000 and up to 51.3% by 2003.[8] Most of today's major Chinese venders such as Ningbo Bird, TCL, Konka were the typical cases that grew up with such OEM alliances with Korean firms. The table 5 illustrates the alliances between the two parties, and it is worth noticing that due to the nature of OEM, they make cross relationships with many companies.

[7] Other smaller-sized R&D companies include those, such as Bellwave Co. and Giga Telecom Co.

[8] Lee, Youngyoon(2003), “Mobile Handsets”, Daishin Economic Research Institute

Table 5: Korean firms in OEM/ODM alliance with Chinese Vendors

Chinese Vendors	Korean Manufacturers/Developers	Products	Taiwan Alliances
Kejian	Samsung Electronics, Ezze Mobile Tech	GSM, CDMA	
TCL	Pantech, Standard Telecom	GSM, CDMA	BenQ
Ningbo Bird	LG, Pantech, Telson Electronics, Sewon Telcom	GSM, CDMA	BenQ, DBTEL
Konka	Telson Electronics, Pantech&Curitel	GSM, CDMA	Compal
Legend	Pantech, LG	GSM, CDMA	Compal
Haier	Sewon Telecom, Standard Telecom	GSM, CDMA	GVC, Compal
Soutec	Pantech, Sewon Telecom, Standard Telecom	GSM, CDMA	
Amoisonic	Bellwave	GSM	
Eastcom	LG, E-Ron Tech, Giga Telecom	GSM, CDMA	Compal
Datang	LG, Standard Telecom	GSM, CDMA	
ZTE	LG, E-Ron Tech, SK Teletech	GSM, CDMA	
Capitel	LG, Pantech&Curitel	GSM, CDMA	
CEC	E-Ron Tech, Standard Telecom	GSM, CDMA	
Chabridge	VK	GSM	
Panda	Sewon Telecom	GSM	

Source: "China's IT industry and Cooperation", Int'l Cooperation Agency for Korea IT, July 2003

The division of labor in the OEM model was quite simple. Korean firms supplied the mobile handsets as a finished product, while Chinese partners used their marketing ability and brand power to vend the products in China. However, this division of labor could not be sustained for long as the technology to produce mobile handsets become generalized. Not only new rivals could enter the OEM market, but also the Chinese venders started to setup their own production lines. Furthermore, as the Chinese market become saturated by over-supply of the handsets, the retail price fell and it made Korean firms more difficult to keep their competitive advantage in manufacturing the products.

So, Korean firms began to emphasize on the innovative designs and advanced technologies for their products, and transformed their business to ODM.[9] This way Korean

[9] An Original Design Manufacturer(ODM) is a company that designs and builds a product based on another company's specification. The purchaser usually specifies some of the major details of the product, and the ODM takes the specification and designs and builds the product. The result is typically a more cooperative/joint effort than in the OEM situation, where the purchaser has little or no control over any of the product specs.

firms could provide handsets that are more flexible and competitive to fit the needs of their customers, and respond quickly to the changing market. In the process of transforming business to ODM, many Korean firms also started to relocate their production lines to China. This was because as the competition in the market escalates, it became essential to reduce the production cost. By relocating the production lines to China, they could use the low-cost labor in producing their products. Also, as the Chinese government starts to restrict the import of mobile handsets, the relocation became an essential factor for penetrating the market.[10] So, the strategy of localization by relocating the production lines became a precondition for the successful business of the Korean firms in China.

The table 6 below shows how three major Korean SMEs in the mobile handset industries are responding to the changing environment for their business in China. The common way to face the growing competition is to expand their production capacity for 'the economy of scale' and to place more production lines in China while shifting from OEM to ODM.

Table 6: Localization Strategies of Korea's 3 Major SMEs in the Mobile Handset Industry

	Pantech Co.	Telson Co.	Sewon. Co.
Products	CDMA & GSM	CDMA / New on GSM	CDMA & GSM
Production	Trying to realize 'Economy of Scale' by increasing annual production capacity to 10 million handsets; Trying to become a global company with localized production networks.		
	- The annual production capacity of Pantech and its subsidiary, Pantech & Curitel, already reached 10 million handsets. - Trying to become one of global top 10 companies by localizing in China	- The current annual production capacity of its domestic factory is 4 million handsets. - Planning to increase the capacity to 10 million handsets before 2005 by localizing in China	- The current annual production capacity of its domestic factory is 5 million handsets. - Planning to increase the capacity by partnering with Chinese local producers

[10] The government also started to restrict the import of SKD and CKD handset kits that are mostly from Taiwan and Korea in order to protect and foster its domestic industry.

China Strategies	See China as a strategic market; Exploit its low-cost labor to reduce cost, and secure local sales & AS network	Differentiated production lines to produce high-end products in Korea, while transferring mass production of low-end products to China	
	- Localizing production and R&D - Planning to build its own brand	- Setting up its own local factory and R&D center in China	- Making production subcontract with Chinese local partner
Current Localization	- Set up a JV with a Chinese partner, Daxian Telecom. - Production capacity: 300,000 in 2003, 3 mil. in 2004, 5 mil. in 2005 and 10 mil.in 2008 - To increase its stake in the JV from 30% to 50% in order to launch its own brand	- Setting up a local factory with production capacity of 6 mil. handset in Yantai. (solely invested by Telson Electronic & operated by Telson Yantai;. Main R&D activities include surveying the market and modifying their products to fit the needs of locals.	- strategic partnership with Haier. - Haier to produce 5 million handsets annually as a subcontractor of Sewon. -Sewon to provide new handset models & key components for Haier. - To use Haier as a production base for the Chinese & export market.
OEM/ODM	Shifting its main business from OEM to ODM, while trying to build its own brand	Chaging its OEM/ODM ratio from 7:3 to 3:7	

Sources: inews24(03.11.12), Digital Times(03.11.13 & 02.11.5), and other news reports

The division of labor in the ODM model led Korean firms to concentrate more on R&D and key components of product that are high value-added, while transferring the labor-intensive manufacturing process to China. However, as the relocation of production lines increases, it raised a concern about hollowing out of the Korean industry, as well as diffusion of the key technologies to Chinese companies. Some Korean firms, such as Telson, even started to set up R&D center in China in order to improve 'Time to Market'. This also raised a concern about the future role of the Korean SMEs in the division of labor with China. Such relocation may result in the removal of the whole value-added operations from Korea and the disintegration of their relationship as they fail to hold the key activities.

Nevertheless, it was necessary because it became extremely difficult for Korean firms to penetrate the market without localizing their operations, due to the growing competition in

the market and the increasing restrictions by the Chinese government. Especially, the Korean SMEs are finding it increasingly difficult to conform with their local partners as they become more self-reliant and competitive by accumulating the managerial and technological skills. Also, 'Market for Technology' strategy by the Chinese government is inducing foreign firms to make more investment and transfer more technologies to China in order to access the market.

Therefore, the ODM model could not be a final and sustainable model for the Korean SMEs in the mobile handset industry. It is essential for the Korean SMEs to redefine the strategies in order to establish a new relationship with their Chinese partners. They should maintain the technological advantage and the key role in the division of labor, as well as improving the cost efficiency and market access. Also, China already became a saturated and buyer-controlled market with over-supply of production.[11] If Korean firms continue to rely only on the local partners for marketing and branding their products, the bargaining power in collaborating with the partners will diminish. So, in the long-run, it is crucial for them to setup a joint venture company, rather than just an OEM/ODM partnership, and build their own brand in order to survive from the competition in the market. The table 7 shows the progressive changes in the division of labor in the handset industry, shifting from OEM to ODM, and to independent brand marketing. This implies the eventual mode of business for the Korean firms should be to build their own brand with a global production network through the process of localization.

Table 7: Progressive Division of Labor for Manufacturing Mobile Handsets

Model	Types	Division of Labor	
		Korea	China
OEM	Strategic alliance	Manufacture	Marketing
ODM	ODM with innovative technologies	R&D, Manufacture	Marketing
	ODM with relocation	R&D, Components	Manufacture, Marketing
	ODM with local R&D	R&D, Components	R&D, Manufacture, Marketing
Independent Brand	Establishing own brand with global production network	R&D	Production Network

[11] The production of mobile handsets in China reached 172 million in 2003, a growth of 42.3% in comparison with the previous year. However, the number of new mobile subscribers reached 63.7 million which is only 3.7% increase in the same period.

A case that illustrated this remarks is Sewon Telecom(SWT).[12] SWT is one of the leading mid-sized manufacturers in the Korean telecommunications manufacturing market and one of the few companies in the world that designs and manufactures both CDMA and GSM handsets. Through a commitment to progressive research, its own technology structure, and garnering customer satisfaction, SWT has been growing steadily since its establishment in 1988. SWT acquired the core technology to develop a variety of CDMA/GSM mobile handsets by making license contracts with Qualcomm and Wavecom. Then, SWT began to make OEM partnership with Chinese vendors to export the handsets as a finished product since the early 2000's.

At that time, the Chinese government started to use a licensing policy to limit the production and sales of mobile handsets in China. Only licensed manufacturers could produce and sell branded mobile phones.[13] Unlicensed firms can only make handsets as an OEM/ODM to the licensed companies, or setup a joint venture with the licensed companies to launch branded products. SWT decided to make OEM or co-brand contracts with Chinese vendors such as Ningbo Bird and Haier as a way of penetrating the market.

However, due to the change of competition and restrictions in the mobile handset market, SWT soon had to shift from OEM to ODM. It also had to provide more SKD/CKD handset kits for the Chinese vendors to carry out the final assembling process. Furthermore, as the market becomes over-supplied and buyer-controlled, SWT had to face more arbitrary demands from the Chinese vendors, such as spontaneously requesting new specifications and functions added to the handsets before delivery. This frequently led to a dispute between the two parties and even a break up of the partnership.

This seems unavoidable in some way because it is the consequence of SWT's initial entry strategies to China. When SWT first made entry to the Chinese market, it had clear advantage of the technologies and production, as well as strong bargaining power in the partnership. Nevertheless, the real challenge was to setup a joint venture and build its own

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[12] An interview with Sewon Telecom was conducted on Feb. 10, 2004

[13] So far, the government has handed out 60 licences. 11 Sino-foreign joint ventures and 29 domestic companies have received licences to produce GSM handsets, while CDMA licences were awarded to 4 joint ventures and 16 domestic firms. This policy has provided domestic manufacturers with much-needed time to catch up with their foreign rivals. Also, the licensing system is keeping prices of handsets high, due to the limited number of approved manufacturers, and is blocking the entry of advanced and high technologies into the market. However, with the improvement of domestic companies' R&D capabilities and following the trend of free trade, a gradual easing of the licensing policy shall be expected.

brand in China, and SWT chose to make OEM contracts instead. It didn't feel necessary to take the risk of such decisive investment at that time, but now things have changed dramatically.

So, SWT is redefining its strategies now in order to access and compete in the Chinese market, and it is struggling to setup a joint venture and build its own brand much more efforts and costs than it had to at the earlier time.

The Case of Online Games

The Online game is another example that the Korean firms do the production (of games) while the Chinese do the marketing. The size of China's online game market has been growing at an annual rate of 180%, and reached 2.4 million US dollars in 2003. To establish a leading position in this new emerging market, Korean game developers have been actively publishing their games in China. In the early stage of entry, most of these Korean SMEs exported their games to China by making royalty contracts with Chinese partners. This way Korean firms could avoid the risk of investing in China, while relying on the Chinese partners for marketing and operating their games in the local market.[14] In other words, Korean game developers had strong technological advantage and brand power, but just like most of Korean SMEs in other industries, they lacked the resources to carry out exclusive marketing operations in China.

The division of labor in this royalty model was also simple. Similar to the case of the mobile handset industry, games were designed and developed by Korean firms, while marketed and operated by Chinese partners. This enabled Korean firms to expand their market share up to 70~80% in China within a short period of time. The table 8 shows the current status of online games published in China.

[14] They usually collected 27~30% of the revenues as a running royalty from the commercial service of their games.

Table 8: Top Online Games in China according to Number of Users

Name of Game	Developer	Country Origin	Date of First Service	Number of Simultaneous Users	Type	Service Area
MIR2	Actoz	Korea	Nov. 2001	250,000	2D	Shanghai
MU	Webzen	Korea	Feb. 2003	250,000	3D	Shanghai
MIR3	Wemade	Korea	Beta	100,000	2D	Shanghai
Ragnarok	Gravity	Korea	Beta	60,000	3D	Shanghai
Cross Gate	Enix	Japan	Feb. 2002	50,000	2D	Beijing
Stone Age	JSS	Japan	Mar. 2001	40,000	2D	Beijing
Trojan	Wizgate	Korea	Jul. 2002	25,000	2D	Beijing
Fortress	CCR	Korea	Mar. 2003	25,000	2D	Shanghai
Dragon Raja	ESoftnet	Korea	Jul. 2001	20,000	2D	Shanghai
Ghost Yu	-	Taiwan	Mar. 2002	15,000	2D	Fuzhou
Knight Online	Wizgate	Korea	Beta	15,000	3D	Beijing
Lineage	Ncsoft	Korea	Beta	12,000	2D	Shanghai
Thousand Years	Actoze	Korea	Mar. 2001	10,000	2D	Beijing

Source: “Industry Analysis: Internet & SW”, Daishin Economic Research Institute, Sept. 2003

However, Korean firms had no direct access or control of the market, even though their games became successful. The heavy reliance on Chinese partners for marketing and operating their games in China resulted in such an unfavorable position. Also, they had to face frequent disputes with Chinese partners on the disbursement of royalties, which was promised in the contract.

A typical case of this situation is illustrated by an online game called 'LM'. The game was developed and exported by a Korean game developer, WM, through the royalty contract. It was a big hit on the Chinese market as the simultaneous online users of the game reached a record of 100,000 in 2001 and 700,000 in 2003. Also, the running royalties from the commercial service that goes to the Korean developer reached 9.6 million US dollars in 2002 and 33 million in 2003.[15] However, as the game becomes successful and the disbursement of the royalties increases, disputes with the Chinese partner also incremented. For example, the Chinese partner started to repudiate the disbursement of royalties by blaming the Korean developer for not preventing an emergence of hacker game in the market.

Furthermore, as the Chinese partner accumulates more technologies and know-how

[15] “China’s Online Game Market Report” (2003), Korea IT Industry Promotion Agency

from its successful experience in operating the game, it became capable of developing similar games for its own business purpose Therefore, the division of labor in the royalty model led not only to provoking antipathy of Chinese partners, but also to relying excessively on Chinese partners.

Then, some of Korean firms started to setup a non-equity cooperative enterprise with Chinese partners in order to strengthen their commitment and influence in the market. However, the division of labor in this model remained unchanged because Korean firms were not yet anxious to transfer the labor-intensive development process to China. They only wanted to make short-term profits by preoccupying the market, and preferred immediate cash earnings such as the royalties to a long-term investment.

In the meantime, Chinese companies in the online game industry have been growing fast through the partnership. By providing the commercial games to the local market, they accumulated technologies and know-how to run the business. Especially, their operation ability to accommodate a several hundred thousands of simultaneous online users implies that they have the potential and the infrastructure to lead the market. Also, as their market share increases, they gained more influence and bargaining power in the partnership with Korean firms.

Moreover, the Chinese government is starting to implement a licensing policy that strengthens censorship on the imported games, and thus any foreign firms entering game business have to do it through one of the 8 Chinese firms authorized for business by the government. Also, the Chinese authorities are limiting the number of their publication in the local market, and fostering the growth of the online game industry by acknowledging it as an important part of China's software industry. Especially, the government is providing the local companies with subsides and tax benefits for them to develop their own games. This will lead to cutting down the market share of the imported games in China as well as the royalties that the local companies have to pay. Also, the licensing policy will induce the foreign firms to setup more joint ventures and transfer more technologies to the local companies.

Therefore, it is an important issue for Korean firms in the online game industry to implement a new kind of strategies in order to maintain their position in the market, while strengthening the division of labor with China. They can no long continue their business in China if they keep insisting on the royalty model for the service of their games. So far, more than 50 Korean game companies have entered the Chinese market, but none of them have invested in a joint venture with Chinese partners (table 9).

Table 9: Progressive Division of Labor for Marketing Online Games

Model	Types	Division of Labor	
		Korea	China
Export Agency	Royalty contract with Chinese partner for commercial service in China	Design, Development	Marketing, Operation
Cooperative Enterprise	Setting up a non-equity cooperative enterprise with Chinese partner for commercial service in China	Design, Development	Marketing, Operation
Joint Equity	Setting up a joint venture to develop and operate with combined effort	Joint Development	Joint Operation

As described above, a search for a suitable mode of cooperation between China and Korea has emerged as a critical issue. Game industry is basically labor intensive and most players in this industry are small-sized firms, both Korean and Chinese sides. Not having enough resources to do large-scale business in the Chinese market that has enormous potentials, the Korean firms are concerned about the possibility that the Chinese firms will soon catch-up with them. However, they have been finding that it is not easy to strike a good deal with China.[16] In the early days of cooperation, the Chinese side wanted the Korean side to enter with them in an equity joint venture, but the Korean side usually just wanted to sell technology or games in return for royalties. Because they are small firms, they tend to want immediate cash earnings whereas they do not have much financial resources to make equity investment. Then a possible solution would be to recognize the value of the Korean technology as a share in the JV. But, then the issue is the difficulty in agreeing with the value of the technology. So, a typical pattern is that the two sides meet many times often without reaching agreements.

Our opinion is that despite this difficulties and possible short run losses, the Korean side should push the JV agreement with China with a more long-term perspective. Given the huge potential of the Chinese market, the Korean firms are better to have a stake in the EJV (equity joint venture) than just receiving royalties for a couple of years. One more supporting rationale for this option is that even if the two sides fail to reach an agreement of the value of technology, a still remaining option for the Chinese side is to scout key technicians from the Korean companies and to try to build its own technology base. It is already reported that there are some Koreans working in the Chinese game and software companies. If monthly

[16] What follows is based on the field work in Beijing in October 2003.

salary is about 2,500 $ or above it is not difficult to hire Korean engineers who are willing to work in China, especially after the 1997 crisis.

This reasoning can be applicable to other industries in the bargaining between China and Korea. The Korean SMEs had better capitalize their technology in the form of the JV rather than licensing them, and they have to do this when there is a demand for them as it is the Korean side who are running out of time. It is better than the possible scenario that the Chinese firms rise to dominate the market and the Korean firms have no stake in the business.

2) The Korean SMEs doing one segment (R&D or parts) only with the Chinese or other Korean doing the rest of the job

A Case of Doing R&D or Technology Service for the Chinese Maker

While the preceding case of Korean firms are the leaders in a sense that they are in charge of R&D and production, some smaller firms are providing just technologies to the Chinese side. This is another mode of business, especially the small high-tech venture firms usually in IT industries. An example is found in the mobile handset industry. It emphasizes Korean firms to become a design house for Chinese manufacturers by specializing in the R&D part of the value chain. For example, Bellwave(BW) is a company that specializes in designing innovative mobile products including GSM handsets and CDMA data modules.[17] It doesn't have its own production line because it puts most of its resources on R&D. Since its foundation in 1999, it had a clear goal to become one of the top original design engineering (ODE) companies in the world.

Being an R&D-based designed company, nearly 75% of BW's 390 employees are seasoned engineers with an average of over five years experience in communications technology design and development. This high degree of experience has resulted in the company earning numerous awards for technology and design innovation. The Company also developed the world's thinnest and lightest data communications module and currently dominates more than 45 percent of the module market in Korea.

The BW has created an unique business model. It arranged a division of labor for companies that are specializing in individual part of the value chain to come together and cooperate with each other. This division of labor included companies like a license company to provide the core technologies, a subcontract company to supply the components, and a

[17] An interview with Bellwave was conducted on January 12, 2004

manufacturing company to assemble the final product. The role of BW was to develop the handset designs based on the source codes of GSM chipsets that were provided by the core technology company, Texas Instrument (TI). Then, it licensed its turnkey design solutions to other companies like Chinese handset vendors who manufacture and distribute the products. This way BW made a royalty income for their R&D and designs.

This kind of business model led the Korean firm to become a key player in the division of labor by binding the core technologies and the manufacturing process. Based the core technologies, BW could specialize in the value-added part as a technology provider for the Chinese vendors.[18] Also, unlike most of other Korean SMEs that choose to become a simple ODM, BW drew capital and technological cooperation from the world's top technology companies such as TI. BW's global competitiveness and promising technologies were backed by strong international investors who became its strategic shareholders. For example, the company attracted $2 million from the world's largest financial group Citi Corp. in December 2000, and $4 million from TI in April 2001. In June 2003, the company also succeeded in making an investment deal with Softbank Corp. worth 16 billion won. This constitutes 8%, 16% and 18%, respectively, of BW's total capital stocks.

This model of business by the Korean firm was possible because BW had the unique design and development capabilities to make use of the core technologies, and formed an appropriate division of labor with China. BW concentrated on R&D for new designs, while the Chinese vendors specialized in manufacturing and marketing the products. This can be metaphorically described as a chef; that is BW, who uses the raw material, which signifies the GSM chip sets from TI, in order to develop a good recipe for the Chinese vendors. In other words, this tripartite cooperation can be considered as an example of global production network (GPN) as discussed in Ernst (2002) and Ernst and Kim (2002).

The role of BW as a technology provider seems to fit the characteristics that most of Korean firms have in searching for a suitable mode of business. Their progressiveness, sensitivity to fashions, and speedy response to changes make them relatively appropriate for such designing jobs than inventing the core technology. So, BW tries to strengthen the division of labor with the Chinese vendors in order to maintain its role as a technology

[18] BW has a long history of success in competitive Chinese market including one of the best-selling handset (Model: A8) designs in the history of mobile phones sales in China. Designed and developed for Amoisonic, this sleek, super thin GSM mobile phone was compact, feature rich and affordably priced making it the most popular design in China. Its market share reached 12% in 2003, outselling competing models from industry giants like Motorola, Nokia and Samsung.

provider by offering them more innovative designs and efficient modules.

However, as the Chinese vendors also accumulate technologies and know-how's, they may soon try to develop their own designs by directly cooperating with the core technology company. In this case, BW needs to redefine its strategies of doing business in China. It may invest in an equity joint venture with the Chinese vendors, expand its scope of business from R&D to production and sales, and/or put more efforts to develop the core technology. Either way, the Korean company has to go through a lot of changes as China rises to become a major competitor.

Cases of the Korean firms Supplying Parts to Other Local Firms in China

Probably, the safest mode of entry into China would be as a sub-contractor for Korean Chaebols or other first-tier firm in China, as mentioned earlier. For example, when the Hyundai Motors set up a JV in Beijing to produce Sonata and others, they have brought with them more than 40 part suppliers from Korea (a total of 47 as of February 2004). They, together with 13 local Chinese part suppliers, have contributed to raising the level of localization of this JV higher than 70% in less than two years of the start.

In the case of the Samsung Electronics producing mobile handsets in China, it has invited many Korean part suppliers to China so that they can achieve a vertical integration and form a production network within China. These suppliers include Youil Electronics Co. (keypads for handsets), Intops Co. (containing cases for handsets), P&Tel Communication Co. (containing cases for handsets) and so on.

But, even that mode has some risk since their big vendors might want to switch to other local suppliers. Actually, such cases have already taken place, and that is why these part suppliers are always in a pressure to maintain their price competitiveness and/or to diversify their customer firms within China. Actually, a SME called "Youngwoo communication Co." supply keypads to Chinese handset makers, such as Ningbo Bird Co. from March 2003, and Bodao Co.. Finally it has established a JV with Ningbo Co. called China Ningbo Mobison Ltd. in September 2003. This should be taken a shrewd move.

5. Optimal Modes of the Korean Business in China: A Typology and Summary

Based on the above discussion, let us here try to spell out the optimal modes of the Korean business in China. We can first divide the modes into two major modes. In one mode (let's call it a full mode), the Korean firms are doing everything from R&D, production and marketing, and in the other mode (let's call it a partial mode), the Korean firms are doing only one or a few segment of the value chains, but not all of them. These modes are summarized in table 10.

Table 10 : The Four Korean Modes of Business in China

A. Korean firms doing all the value segments	
A-1. SMEs in export-processing or category killer	
Market/ customer group:	Third country/world
Role of Chinese/local firms:	None
Strategy for long term success:	Upgrading into OBM or high tier manufacturer
Examples:	Aurola world, Weneed
A-2. Chaebols targeting Chinese markets	
Market/ customer group:	Chinese consumers
Role of Chinese/local firms:	None
Strategy for long term success:	Vertical integration, ownership advantage
Examples:	Samsung, LG, Hyundai Motors, Posco
B. Korean firms doing one or two value segments	
B-1. Korean firms doing 2 (R&D and production)	
Market/ customer group:	Local Chinese firms
Role of Chinese/local firms:	Vendor and marketing
strategy for long term success:	Forming a JV, upgrading into a OBM, market diversification, upgrading into source technology provider
Examples:	Telson, Sewon, Online game firms
B-2. Korean firms doing 1 (R&D or Parts)	
Market/ customer group:	Other (Chinese/Korean) firms in China
Role of Chinese/local firms:	Vendors , in charge of final goods production and marketing
Strategy for long term success:	Forming a JV, upgrading into source technology, diversification of vendor groups
Examples:	Bellwave, Youil, sub-contractors for Hyundai Motors.

Source: authors based on the discussion in the main text.

The first, or full, mode can be used by either the SMEs or big conglomerates like chaebols. First, the SMEs can utilize China as a production site targeting world export market, usually in traditional industries or category killer items. Examples are toys (Aurura World co.), condoms (Weneed Co.), hats (Yong-an Co.) and so on. In this model of business, critical factors for success are having high technological capability and market networks enabling OBM or at least ODM in narrowly focused or niche markets. Second, the Chaebols can set up another corporate empire in China doing everything from R&D to production and marketing, and even to social donation and public service activities to enhance corporate images among the Chinese public. In this full mode, critical elements for success would be quick and decisive jump start with big resource commitments, vertical integration with affiliates and sub-contractors, and, of course, unique ownership advantages (Dunning 1988, 1995), such as technology, brand names and so on.

The second, or partial, mode are usually adopted by small or medium-sized firms lacking some capabilities so that they cannot do everything, and can thus have two or more variations. In one possible variation, the Korean firms do both R&D and production, but leaves marketing to the Chinese firms. This was the case of the mid-sized Korean firms in mobile phone manufacturing as well as in online game. Currently they, handset producer in particular, are mostly doing the ODM arrangements with the Chinese partners. As this mode is not fully sustainable, they had better move into a JV and/or upgrade themselves into an OBM. Pantech is leading way into the OBM path, while others are trying to find a way out either in a JV or more own brand manufacturing and marketing.

In another variation, the Korean firms are not really doing marketing as they are not directly dealing Chinese consumers but only with Chinese or other Korean firms in China as they supply only specific technology, know-how, or parts to Chinese assembly companies or full-mode Korean firms operating within China. Since these firms are in the middle of the three-tier structure in the global production network, with the super star at the top and the local manufacturer at the bottom, a critical ingredient for their long-term survival is to continuously maintain and upgrade their technological attractiveness and/or cost advantages. Otherwise their tier will disappear and there will be no place for them.

In the above we have identified 4 (potentially) viable model of the Korean business in China and spelled out what are the necessary ingredient to make a success in each mode. Then, a strategy for the Korean firms, considering entering into China or doing already

business in China, should identify which mode they are engaged in and assess whether that form is a right choice for them. Otherwise, they are likely to fail in China.

For example, if a SME in high-tech or competitive industry without niche market is trying a full mode, namely doing everything by stretching their scare resource in too many value-chains, they are highly likely to fail. Also, in the case of a OEM-based SME in labor intensive business using China as a production site for export processing, it should be able to continuously upgrade into ODM or OBM or redefine their main line of business by utilizing accumulated cash reserves earned before and during the initial years of operation in China. Otherwise, they will soon be out-spaced by the Chinese manufacturers who have acquired manufacturing skills to be competitive enough to foreign firms. Of course, the safest mode of entry into China would be as a sub-contractor for Korean Chaebols or other first-tier firms in China. But, even that mode has some risk since their big vendors might want to switch to other local suppliers. Whatever SMEs without some ownership advantages in technology or production capability had better not enter China in an isolated manner without pre-arrangements with upper tier buyer firms.

6. Concluding Remarks

The Korean perception about the rise of China has been gradually changing from a threat to a window of opportunity. In trades, the bilateral trade started with inter-industry trade with more complementary, but the recent situation is that while both countries are increasingly competing with manufacturing goods, economic integration between them is deepening with the rising share of intra-industry trade. Rising share of intra-industry trade between Korea and China implies that the Chinese final goods assembly are importing more and more of Korean-made intermediate goods as well as the fact that the Korean FDI firms in China import more from Korea and export less to Korea than to third countries, like the US. On the hand, the Korean manufacturing base has been undergoing the process of hollowing out as more and more factories are relocated to China. The Korean response to this trend is the new division of labor with Korea specializing in R&D and logistics while holding the basis for intermediate goods. The prospects of this strategy is not certain as seen from the Taiwan experience, and depends on how successfully Korea become more open and knowledge-and business-friendly environment so that it can hold and attract knowledge

intensive activities and human resources within its territory.

In the meantime, the Korean firms, from smaller ones to big ones like Cheabols, are seeking and trying new diverse forms of business and divisions of labor in China. This paper has identified 4 (potentially) viable model of the Korean business in China and spelled out what are the necessary ingredients to make a success in each mode. Then, a strategy for the Korean firms, considering entering into China or doing already business in China, should identify which mode they are engaged in and assess whether that form is a right choice for them. Otherwise, they are likely to fail in China.

First, the early landers from Korea, like SMEs in labor intensive export-processing, used China simply as a site for factory, but only those with sustainable technological capabilities and/or brand names, seems to be still prospering while many others are not successful in guaranteeing long term survival in China. Second, with the rise of China as a site for market, big Korean Chaebols entered China, used the strategy of doing everything, R&D, production, and marketing, quickly, and made a remarkable success.

The third group of the Korean firms is facing more tough choices in China given their limited technological, marketing, financial or other capabilities. The paper divide them into two sub-groups, one doing R&D and production only and leaving marketing to the Chinese side, and the other just doing R&D or parts with the Chinese/local side doing the rest of the job. Since they do not have financial capability to do everything from production to marketing in China, they find the alliance with Chinese firms more suitable. These smaller but technically very capable Korean firms emerged as the major channels for technology transfer to Chinese firms. In these collaborations between Chinese and Korean firms, it is often observed that the Chinese side commands more bargaining power and tend to get good deals. The major sources of its bargaining power is the huge size of market and the fact that China looks at Korea (or any other country) only as one of the many possible sources of technology. This is what is called “trading market for technology (shichang huan jishu) strategy, as analyzed in Mu and Lee (2003). Despite this factor, the Korean SMEs had better capitalize their technology in the form of the JV rather than licensing them, and they have to do this when there is a demand for them as it is the Korean side who are running out of time. It is better than the possible scenario that the Chinese firms rise to dominate the market and the Korean firms have no stake in the business.

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