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A Comparative Analysis of Transplants and Industrial Location of Japanese and Korean Automotive Industries in Europe

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ABSTRACT

This study examines the experience of the Japanese automotive industry in Europe in the 1980s and attempts to compare the Korean automotive industry since the 1990s in search of strategic implications. The underlying assumption is that local production and transplants of Japanese automotive industry in the 1980s are critically related to the protective posture of the EU in the political economic context of the internal market. Based on this, this study argues that repetitive patterns of transition from trade to transplants is related to the contextual circumstance in Europe and this will provide a conforming case for the theory of off-shore manufacturing and important strategic implications for the Korean firms at their emerging status in European markets.

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I. INTRODUCTION

The rapid transplant and successful market entry of Japanese automotive industry in Europe during the 1980s clearly affected the global restructuring of the world car industry. An unequal distribution of production and consumption in three major centers-North America, Western Europe, and Japan-was mainly responsible for the massive trade surplus of the Japanese automotive industry and prompted these firms to establish overseas production plants. The changing mode of market entry by transplant instead of export was allegedly to circumvent existing or expected tariff walls and reduce financial imbalances as the high exchange value of the yen enhanced cost competitiveness of overseas production (Jones and North, 1991).

Compared to the establishment of plants in the USA and Canada, which has been generally welcomed, experience in Western Europe face a controversial dimension. Increased imports of Japanese motorcars and relatively closed market conditions are suggested as factors behind the transplants (Rawlinson and Wells, 1992). Export-led growth of the Japanese automotive industry consequently has caused increasing political unrest among nations in Western Europe who have large but less competitive indigenous automotive industries to protect. Considering this situation, it is considered a sensitive agenda to allow Japanese motorcar manufacturers to increase production capacity within their domestic markets. In particular, political and economic integration in Europe have posed environmental uncertainties for Japanese motorcar manufacturers as well as member states of the EU.

The purpose of this study is to identify the motivations and spatial decisions of the Japanese automotive industry's experience in Europe in the 1980s. Existing literature relating to Japanese transplant of production by means of FDI mainly focus on the transplantation and localization of Japanese management style and practices. Despite the expectation, theoretical and empirical assessments of the motivations and spatial decisions of Japanese transplants in Europe, in particular, are surprisingly limited.

This study also compares the transplant and industrial location of the Korean automotive industry since the 1990s in search of strategic implications. Recent years witnessed the rapid development of the Korean automotive industry in Europe showing similar patterns of trade and transitions to transplant with that of the experience of Japanese motorcar manufacturers in their formative years. Western Europe became the second largest motorcar trading partner after the U.S. Since the mid 1990s, Korean motorcar manufacturers manifested market presence in Europe via transplant by means of joint ventures with local companies and green-field investments. Recently commenced transplants of the Korean automotive manufacturers and their experience from the 1990s are considered comparable to the Japanese automotive industry's experience from the 1980s.

II. LITERATURE REVIEW: TRADE, FDI, INDUSTRIAL LOCATION AND ECONOMIC INTEGRATION

The transplant of Japanese motorcar and parts manufacturers in Europe are allegedly related to the approach of the European internal market (Shimokawa, 1994). The economic integration in Europe in the formative years was viewed as "fortress Europe"

as it formed an exclusive trading block. The Japanese perspective on the abolition of internal barriers was that this liberalization within the community's trade would bring new external barriers to trade (Strange, 1993). Consequently, the perceived threat derived from the trade barriers provoked strategic responses. Rather than confronting the external barriers, many Japanese firms decided to locate their production within the EU and bypass the barriers altogether.

It is suggested that there was little incentive for the transplant of production facilities to Europe until the creation of the single European market evoked the bear of external "fortress" trade relations (Rawlinson and Wells, 1992). The experience of the Japanese transplant therefore implies that FDI decisions were affected by the prospect of trade as a consequence of the economic integration. In this context, it seems necessary to identify if transplant and FDI have substituted trade inflow to the internal market.

Based on the Heckscher-Ohlin theorem, FDI should substitute for trade as capital should be invested in sectors in foreign countries with comparative advantages (Mundell, 1957). However, trade might not be entirely dependent on factor mobility but rather on economies of scale, differences in technology or taxation, and imperfect competition (Markusen, 1983). Countries tend to trade factors first in order to specialize in a production and owners of resources or intermediate products might invest in countries in search of efficiency gains. In this model, trade and FDI would be complements.

Table 1
Trade and FDI effects of economic integration according to the strategic responses.

	1. Intra-regional trade more attractive	2. New configuration of locational advantages	3. Cost reduction and efficiency gains	4. Market expansion, demand growth etc
Strategic Response	Defensive export substituting investment	Re-organization investment	Rationalization Investment	Offensive export substituting investment
Net Trade effect	-	0/+ (if country specialization followed)	0/+ (if country specialization followed)	-/0 (if demand exceeds supply from FDI)
Net FDI effect	+	0 (for the region as a whole)	+	+

Source: UNCTC

UNCTC (1990) posed four types of strategic reactions of firms according to the economic consequences of integration such as (1) trade diversion, (2) locational advantages, (3) efficiency gains, and (4) market expansion. For the explanations of Japanese and Korean automotive FDI, the first and the forth propositions are valid because others are confined to firms within the integrated region. According to this

framework, trade would be substituted by FDI regardless of whether trade diversion or expanded market and demand motivated the FDI.

A recent literature suggested export platform FDI where investment serves to establish a production base in one country for export to neighbouring countries (Ekholm, Forslid and Markusen, 2003). Another survey examining the empirical model of international trade and FDI from the particular reference of outsourcing drew a similar conclusion to that of the export platform FDI theorem (Bergstrand and Eggar 2004). This perspective seems to provide valid implications on spatial decisions. Table 2 summarises the firms' locational decisions under the different trade regimes. Integration by geographic and economic convergence may induce firms to place limited numbers of plants at the most appropriate locations. Under the free internal market, however, only one plant is sufficient to reach all markets.

Table 2
Production and trade patterns of multinational, multi-product companies under different trade regimes.

Trade regime	Location of production units for each product	Dominant part of firm
Free trade	One plant (usually home base)	Production and export
Protectionism	Numerous plants (one in each major national market)	National companies
Integration	Limited number of plants (at good locations)	Matrix of national and product organizations
Free Internal Market	One plant (optimal location)	International product divisions

Source: Molle (1994), p. 275.

The formation of the EU initiated the optimal allocation of resources through specialization and large scale industrial production (Molle, 1994). It is suggested that the U.S. and Asian firms need a European production base with a great concentration in fewer countries (Yannopoulos, 1990). This industrial transition may promote the globalization process of firms within the European market (Savary, 1993). Several empirical approaches confirm increased industrial concentration within the EU (Brühlhart and Torstensson, 1996; Sapir, 1996; Amiti, 1999).

This study acknowledges that the absolute isolation of the effects of an internal market on transplant is impossible, with other determinants affecting the transplant decisions and industrial location. Therefore this study is not neglecting traditional motivations of FDI-either for the purpose of increasing productive efficiency or for gaining market access (Blonigen, 2005). Recent suggestions extend the "eclectic paradigm" that cost advantage such as tariffs or transportation costs and competitive advantage over local firms are determinants of outward FDI (Athukorala, 2003; Freund and Simeon 2000). Regarding Korean outward FDI, both to move labour-intensive industries to developing countries and to deviate U.S. and European tariff barriers are considered as motivations (Sachward, 2003). Lee (2004) identified the majority of Korean FDI directed to developed countries since the early 1990s and suggested a pursuit of market access.

According to the theoretical considerations within the context of the internal market, propositions relating to the attributes of the Japanese and Korean transplants by FDI and spatial location are suggested. First, the Japanese and Korean automotive transplants may be defined as trade substituting FDI in order to maintain existing market share or to avoid diverted trade flows. Second, the spatial patterns of transplants should show highly concentrated figures in the search for export-platform and offshore manufacturing.

III. OVERVIEW: JAPANESE AND KOREAN AUTOMOTIVE TRANSPLANTS IN EUROPE

There was a substantial increase in Japanese capital outflows to Europe in the 1980s. Japanese FDI in Europe rose from around USD 3.9 billion in 1981 to USD 7.7 billion in 1985, and over USD 13.4 billion in 1987 (CEC, 1988). This seems to be a similar case to the experience of the Japanese motorcar manufacturers in the U.S. market. Following the steady expansion of exports to the U.S. over the 1970s, the Japanese deployed a strategy of FDI for local production.

The transplant of Japanese motorcar manufacturers in Europe by means of FDI may be categorized in two different types. First, it is Greenfield investment for setting up new production facilities. The Nissan plant in Northeast England and the Toyota plant in the Midlands are clear cases of Greenfield investment. Second, entering into collaborative arrangements with EU firms as a way of securing a market presence and local involvement is the other. Honda's alliance with the Rover Group provides an example of a collaborative arrangement. Honda held a 20% stake in Rover for a number of years and the company now produces cars from its own manufacturing facility in the UK. Co-operation continued in body production, and Honda used Rover diesel engines even after Rover was taken over by BMW in 1994 (Dymock, 1995).

Japanese motorcar manufacturers showed a steady increase in terms of both production and sales in the European markets. Due to the increase in levels of local production by Nissan in the UK, the total Japanese cars locally produced recorded over 250,000 units by 1989. In the same year, more than 10% of market share was achieved in Europe (Table 4). However, this high profile of the Japanese automotive industry with its remarkable achievement in a short period by means of export and transplant seemed to be responsible for a series of protectionist reactions.

Table 3
Motor car production by Japanese motorcar manufacturers in Europe between 1985 and 1991 (unit: thousand).

	1985	1986	1987	1988	1989	1990	1991
Nissan	31	46	59	137	168	161	200
Toyota	5	8	13	14	13	15	18
Suzuki	9	18	33	43	40	37	32
Isuzu	3	3	10	19	20	15	17
Honda	0	1	7	5	4	26	36
Others	3	3	6	7	7	7	9
Total	51	79	128	225	252	261	312

Source: Ward's, SMMT, each year.

Table 4
Japanese car sales by company in Europe, 1989.

Company	Volume (,000)	Share of total Japanese sales (%)	Share of total West European market (%)
Nissan	387	26.88	2.88
Toyota	343	23.65	2.56
Mazda	238	16.39	1.77
Mitsubishi	163	11.25	1.21
Honda	137	9.41	1.02
Others	183	12.62	1.36
Total	1,450	100.00	10.80

Source: Pemberton (1991), p.75.

Manufacturing FDI of the Japanese automotive industry has become more significant as the location of FDI has altered from Asia to the U.S. and Europe (Dicken 1988). In Europe, the majority of Japanese transplants have concentrated in the UK and peripheral locations such as Spain, Portugal, and Turkey. However, Japanese firms have had a wider European presence in terms of R&D, production, training, and marketing (EIU, 1991). For instance, the European R&D centre of Nissan in Brussels and in Cranfield are responsible for designing the original body, suspension, drive axles and trim for models which will be introduced in Europe. Toyota also has had a R&D center in Belgium. Honda invested a total of GBP 420 million at its production facility in Swindon over a 10-year period from 1985. Following the completion of an engine plant in 1989, the basis for European production was established for its Accord and Civic models.

Considerable amounts of locally-produced motor cars have been exported to different member countries. For instance, Nissan exported around 60% of its output in 1991. UK-built Honda cars are sold in 26 different European countries, comprising approximately 75% of export ratio. This high level of export ratio is considered to be a result of the strategic purpose of the transplant to penetrate the EC market (Abo, 1993). Table 5 summarizes the transplant of Japanese motorcar manufacturers to Europe.

The overseas markets have become important in terms of both market diversification and globalization of the Korean automotive industry. Exports have been continuously increased since the early 1990s. By the end of the 1990s, 45% of total Korean car exports headed for Europe. European markets became significant when reduced exports to North America were compensated with growth in Europe during the 1990s. Growth after the crisis stagnated compared to exports to North America, but recent figures show rapid increase. The market share of Korean motorcars in Western Europe reached 3.7% by 2005.

Table 5
An overview of Japanese automotive manufacturers in Europe.

	Company	Location	SOP	Capacity	Employees	Equity
Toyota	TMUK	UK	Dec. 89	285 (2006)	4,170	100
	TMUK (Engine)	UK,Deeside	1992	2,200 (Engine)	710	100
	Toyota Peugeot Citroen Automotive Czech	Czech Republic, Kolin	2005	300	3,000	50
	Toyota Motor Industries Poland Sp. z.o.o.	Poland,Zelcz-Laskowice	Early 2005	180 (Diesel Engine)	1,000	100
	TMMP (Toyota Motor Manufacturing Pland Sp.z.o.o.)	Poland, Walbrzych	Apr. 2002	330 (Engine) 600 (Transmission)	2,020	100
	TMMT (Toyota Motor Manufacturing Turkey)	Turkey, Adapazari	Sep. 1994	170	3,575	100
	TMFF (Toyota Motor Manufacturing France)	France, Valenciennes	Jan. 2001	270 (Yaris)	3,950	100
	Toyota Caetano Portugal S.A.	Portugal	Oct 68	12	325	27
Nissan	NMUK	UK	Apr. 84	210 (1994)	4,250	100
	Nissan Motor Iberica S.A.	Spain	Jan. 80	100 (1994)	6,300	97.3
Honda	HUM	UK	Feb. 85	100 (1994)	2,000	100
Isuzu	IBC Vehicles	UK	Sep. 87	70	2,400	80
Mitsubishi	Netherlands Car B.V.	Netherlands	May 95	20 (1995)	4,400	33.3
Suzuki	Magyar Suzuki	Hungary	Oct. 92	50 (1995)	150	49.9
	Santana Motors SA	Spain	n.a.	17 (1994)	2,500	84
Daihatsu	P & D	Italy	Dec. 92	90 (1995)	5,000	49
	Bertone	Italy	n.a.	n.a.	-	-

Source: JAMA, The Automotive industry of Japan 1995 and company websites

The first surge of Korean transplant was made from the mid 1990s. Daewoo Motors expanded its local production to the CEECs such as Poland, Uzbekistan, Czech. Republic, and Romania. Table 6 shows the European presence of Korean motorcar manufacturers by 1998 at the peak of the first transplant in Europe.

Table 6
Overview of Korean vehicle manufacturers in Europe by 1998.

	Country	Partner	Model	Capacity	SOP	Equity
Hyundai	Netherlands	Greenib Car Automotriz	3.5T Truck	5,000	Jul.95	T/A*
	Turkey	HAOS	Accent, Grace	50,000	Sep.97	50
	Hungary	Cell Motors	2.5T, 3.5T Truck	1,000	n.a.	
	Bulgaria	Skoda	Pick up	n.a.	98	T/A
	Rep. Czech	Skoda	Pick up	2,000	Jun.96	T/A
Kia	Germany	Karmann	Sportage	30,000	Apr.95	
	Turkey	Ihlas	WitIII Pregio	50,000	Jun.99	15
Daewoo	Romania	Automotive Craiova	Cielo, Espero, Nubira, Matiz	200,000	Mar.96	51
	Poland	FSO	Espero, Tico,	400,000	Apr.96	69.9
		DMP	Lanos, Nubira, Cielo, Small Truck	170,000	Nov.95	73.4
	Czech Rep.	AVIA	Small Truck	17,500	Dec.96	50.2
	UK	LDV	2.5-3.5T Van	80,000	Apr.98	50

Note: * T/A - Technical Agreement
Source: KAMA

By 2006, as a result of the economic crisis and the subsequent bankruptcy of car manufacturers, all local production of Daewoo ceased. In 2006, Kia opened a plant with the annual capacity of 200,000 units in Zilina, Slovakia. Compared to 870,000 units of gross production capacity, however, the proportion in Europe is insignificant.

In terms of the high level of trade surplus and location patterns, the Korean automotive industry is very similar to the Japanese automotive industry in the 1980s. The following section focuses on the protectionist measures of the EU and individual member countries during the transition to the internal market against Japanese car imports and local production. The experience of the Japanese automotive industry in Europe has significant meaning for both Japanese manufacturing firms themselves and the formation of the internal market within the EU. Sadler (1991) suggested that any discussions on the potential gains from the internal market ignoring the impact of Japanese producers rested on a narrow range of economic assumptions. In the following sections, the Korean automotive industry at its formative years in Europe is compared in order to acquire strategic implications for the future development.

IV. MOTIVATIONS OF TRANSPLANT

From the financial perspective, yen appreciation accompanied with the accumulation of a huge capital surplus was identified as motivation for Japanese transplants to Europe and made FDI popular in accordance with the process of globalization (Ozawa, 1992, Hasegawa, 1998). Hence, the transplants in Europe may have provided measures of insurance against the risk of exchange rate fluctuations (Smith and Venables, 1990).

Nevertheless, this study focuses on political economic motivations of the Japanese transplants. Trade frictions in the 1980s which created immense difficulties for Japan seemed to be the most critical reason for the export-substitute transplants to Europe (Smith and Venables, 1990; Jones and North, 1991; Hasegawa, 1998).

The Japanese trade surplus with the European Community rapidly grew in the 1980s. In 1980, the trade surplus was USD 8 billion. The figure started to rise dramatically and recorded USD 19.8 billion in 1989. The market share of Japanese cars in Europe had increased at a substantial rate recording only 1% in 1971 and increasing to 9% by 1980. National quotas imposed in a number of countries in Europe had significantly eroded the scope for Japanese exports. Reciprocity became the critical issue as the quantity of Japanese car exports increased dramatically, while competitors in Europe could not keep abreast.

For the economic development of a nation, the importance of the industry in terms of widespread connections to other industries and employment is known to be significant. For these reasons, the encroachment of Japanese motorcar manufacturers in European markets became a matter of interest to motorcar producers and many countries in Europe. Most of motorcar manufacturers in Europe paid particular attention to keeping the Japanese out of some countries. In particular, the growing strength of Japanese exports and the level of technology in the European market stimulated EU external trade policy to target Japan. As a result, a number of trade-related issues had been raised and this section considers reciprocity and national quotas are suggested.

Firstly, EC bilateral policy toward Japan since the 1970s was based on the premise that a mutual balance of advantages did not exist. Japan was accused of opening its own market insufficiently to European motorcar imports. The EC attempted to incorporate reciprocity provisions into a number of its directives. In particular, a sectoral trade-based interpretation of reciprocity has been called within the EC. It was emphasized that strict reciprocity from the Japanese should be guaranteed together with the strengthening of the position of the European motorcar manufacturers (Agnelli, 1989).

Table 7
Compared car registration by country of origin in Japan and Europe.

	1985	1990
European cars in Japan	48,356	191,268
Japanese cars in Europe	1,319,535 (932,970)*	1,498,668 (1,085,331)

Note: * Total figure includes amount in Eastern Europe. Figures in bracket indicate registration in the EC only. Source: JAMA, 1995

Secondly, the EC automotive industry sector, as a result, sought the application of an EC-wide Voluntary Export Restraint (VER) on Japanese cars until the Japanese market share obtained by EC car companies approached that held by Japanese companies. The efforts of the EC resulted in the Japanese implementing measures to open their motorcar market. In February 1990, the VER arrangement with Japanese exporters and the EC was announced by Japanese officials. Prior to the VER arrangement, over 2,000 national quotas had been imposed on imports from other

countries in execution of Article 115 of the Treaty of Rome, as had a variety of bilateral VERs to protect domestic industries such as automotives, textiles, toys, porcelain and chemicals (CEC, 1991).

The bilateral quantitative restriction was particularly significant in the automotive sector. Apart from the Community's external tariff on cars which was set at a rate of 10.3%, quantitative restrictions imposed by various EC member states implied that the Community was far from having a common external policy.

Table 8 illustrates the market share of the Japanese motorcar manufacturers in 1987. The differing Japanese share of individual European markets reflected distinct national policies on imports from Japan. In particular, some kept rigid protective measures even after they joined the EU. This is because the member states were allowed to maintain the national import restrictions that they had prior to joining. For instance, Spain and Portugal had national quotas, which were in place before joining. Italy had imposed a national quota, since the 1950s, in retaliation for restrictions against the import and sales of Italian cars in Japan (Molle, 1994). France set national quotas, indistinctly, on Japanese imports of three percent of total sales since 1977. The UK had no formal quotas over Japanese imports, but an informal bilateral agreement set up in the mid-1970s was used as the source for import control.

Table 8
Japanese penetration of the European Community automotive market in 1987 (unit: thousand).

	Total Sales	Japanese Sales	%
Ireland	54	24	44
Greece	51	18	35
Denmark	124	40	33
Netherlands	556	144	26
Belgium	406	84	21
West Germany	2916	441	15
Luxembourg	30	5	15
UK	2,014	225	11
Portugal	129	9	7
France	2,106	63	3
Italy	1,977	14	1
Spain	852	2	-
Total	11,213	1,069	10

Source: ACEA

Lastly, the scope of restrictions expanded beyond quantitative measures. For instance, there were no legitimate clauses for restriction in France. Instead, in the 1970s, technical standards differences were deployed as a method to hinder the sales of Japanese cars in France. Common European vehicle specifications had been agreed on 41 headings in the 1970s. Nevertheless, the sanction of technical harmonization was vetoed by France who insisted that Japanese imports should be controlled. It took approximately twenty years before a full agreement on technical harmonization came into effect. According to the Whole Vehicle Type Approval (WVTA), all vehicles which

have been sold since January 1996 could be freely circulated within the European market. However, it took a long time to agree to all the specifications of motor vehicles. Technical barriers are recognized as the most prevalent impediment to trade (CEC, 1996). This point is also raised in the Cecchini Report, which suggests administrative barriers and national standards and regulations are the first and second greatest trade barriers (Cecchini et al., 1988). In particular, emissions controls under strict EU rules are considered to be a critical barrier for external entrants when used deliberately. In fact, Korean motorcar manufacturers are required to reduce the emission levels of those Korean cars imported by the European markets in the agreement reached with the EU in 2000 on the reduction of CO^2 emissions from passenger cars to achieve 140g/km by 2009 (2000/303/EC). This compulsory technical clause may be employed as a significant barrier to Korean motorcar imports unless the objective is met. This was a clear case of internal measures having external consequences.

Similar to the case of Japanese in the 1980s, FDI and transplant as a defensive strategic reaction seems to be related to trade prospects in the near future for Korean motorcar manufacturers (Jeong, 1997). Survey results indicate decreased trade flows of Korean automotives are to be followed by FDI to avoid barriers and to maintain existing market share (Hyun and Park, 2007). However, considering that actual impositions of any protectionist measures are not actualized, prospects and actual investment decisions may be differentiated from the experience of Japanese automotive industry.

Host country Non-tariff Barrier (NTB) is identified as a critical factor in making FDI decisions relating to the motivation of those Korean firms investing in industrialized countries (Jeon, 1992). It is worth noting that Lee (1991) identified that Korean FDI in Europe is considered as a means of evading the potentially protectionist measures of single market directives. In order to sustain the rate of market share despite suppressed trade and diverted trade flows, a strategic reaction is expected to be incorporated likely as a pre-emptive investment to defuse future protectionist measures in the EU (Hyun and Park 2007). Therefore, the case of the Korean automotive industry attempting to reduce or defuse expected potential trade impediments may be characterized as a framework of a *quid pro quo* FDI (Bhagwati, 1987). This view helps in understanding the intrinsic motivation of the Korean automotive manufacturers' investments as well as their strategic directions.

V. THE PATTERNS OF INDUSTRIAL LOCATION

It is worth noting that the penetration rate of Japanese motorcar manufacturers was high in countries where there were no indigenous competitors. According to Table 9, the Japanese market share in European Free Trade Association (EFTA) countries in 1989 reached 30.3%. This implies that there have been reactions against Japanese car imports in countries having indigenous motorcar manufacturers.

The sensitive reaction of many countries in Europe to the expansion of the Japanese automotive industry seemed to stem from the structural weaknesses of the European automotive industry and the importance of the industry to a nation's economic development. The competitiveness of indigenous manufacturers is known to be weak compared to established non-European manufacturers because many European motorcar manufacturers rely too heavily upon their domestic markets.

Table 9
Japanese penetration in Western Europe, 1989.

	Japanese volume	Total volume	Japanese share
EC	1,106	12,288	9.00
EFTA	344	1,135	30.30
Western Europe	1,450	13.423	10.80
Non-manufacturing and free market countries	347	1,068	32.49

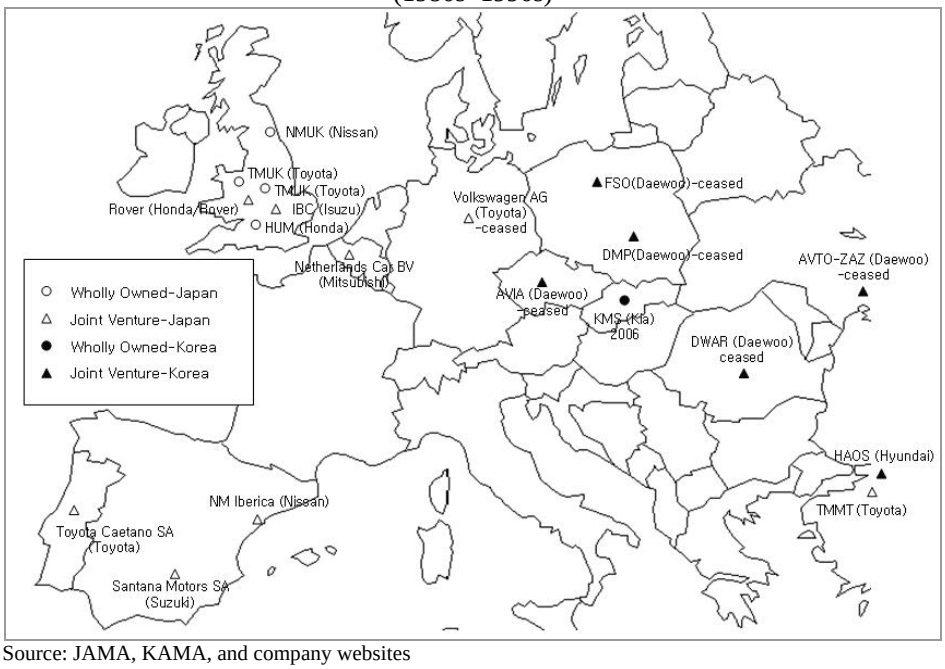
Source: ACEA

The automotive industry in countries where indigenous makers preside was proved to be relatively lenient to the intrusion of Japanese motorcar manufacturers in Europe. These were discounted as manufacturers and component suppliers who would not be able to achieve any considerable market intervention in Japan (EIU, 1991). In fact, national champions in each European country dominated their own domestic markets. For instance, the specific context of the UK where there are weak manufacturers and a relatively large market was preferred as an investment location with the prospect of an open Europe (Thomsen and Nicolaides, 1991).

The Japanese automotive FDI in Europe mainly concentrated in the UK. The total UK car production capacity of Nissan, Honda, and Toyota in 1989 was approximately 1.8 million units. The first major Greenfield FDI was that of Nissan which began production at Sunderland in 1986. Honda subsequently invested at Swindon and Toyota followed at Burnaston, near to Derby. Honda also made a joint venture investment with the partnership of Rover at Longbridge. Suzuki established IBC with GM manufacturing light commercial vehicles. Compared to the UK, the Japanese automotive FDI in other European countries showed considerable disparity. Most of the investment types are joint venture on a much smaller scale. The exceptions are Nissan Iberica and Suzuki in Spain, but they are confined to joint ventures producing a small number of light commercial vehicles and 4WDs. By the end of the 1980s, there had been no Greenfield transplant investment in the rest of Europe.

In the case of Korean automotive FDI, accumulated FDI of the automotive sector in Europe and its departmental distribution of locational pattern clearly show defensive, yet pre-emptive motivations for Korean automotive FDI in Europe. Figure 1 illustrates the industrial location of Korean FDI in Europe in the 1990s, implying production facilities located outside Western Europe, namely in the Central and Eastern European Countries (CEECs), notwithstanding that Western European countries have always been target markets. Notably, most of the locations for production became the part of the EU since 2004. In fact, the first shipment of Korean motor cars manufactured in Poland to Italy as tariff-free exports was made in 1999. This indicated that the establishment of production facilities in Poland included strategic implications towards the EU. Similar to the CEECs, Turkey has been recognized as a strategically important gateway to the EU. A Korean automotive manufacturing plant in Turkey aims to tackle not only domestic markets but also European and Middle East markets. This may be supported by the fact that the EU and Turkey made an agreement on tax exemption for mutual trade in January 1996. This seems to have influenced the spatial decision of the Korean automotive industry. The Toyota plant in Turkey has been alleged to be affected by this agreement.

Figure 1
The Spatial Patterns of Japanese and Korean Automotive Transplants in Europe (1980s~1990s)



Source: JAMA, KAMA, and company websites

The local production of Japanese motor vehicles was initially intended as a way of avoiding EC trade barriers. However, it merely resulted in new conflicts when indigenous firms and EC countries sought to exclude Japanese vehicles produced in Europe from being deemed as European productions. At the heart of the debate about Japanese motor vehicles produced in the UK was the question of "local content". Japanese vehicles produced in the UK were said to be not European in origin because the rate of local content was far less than it should be.

During the negotiations between Nissan and the UK government concerning an aid package, the UK government asked Nissan to achieve 60% local content and this figure was eventually to rise to 80% if Nissan wished to label the cars as European. This standard was adopted for all other cases that followed. Since 1988, Nissan has started to export from the UK to the markets of other European countries. It was announced that the model exported to France had 70% local content, but France and Italy objected and claimed that it should be over 80% local content to be recognized as a European product. Thus, they argued that the Japanese model produced in the UK should not be circulated freely within the market and should be controlled as if it were an imported car.

The method of how to measure the percentage of local content became the centre of the argument. The standard set by the UK government was on the basis of "ex-works price". Because this method could include indirect production costs such as administration, marketing, depreciation cost and profit margin, the proportion of direct

cost in the total cost could be minimized. This means that there were possibilities for the Japanese producers to import a crucial part from Japan as long as they maintained a 70% local content rate (Trade and Industry Committee, 1987). These defects in the ex-works formula raised critical debates in Italy and France who declined to accept it as appropriate. The worse was that there were no international standards by which local content could be precisely measured. In 1988, the motor vehicles produced by Nissan in the UK were claimed to be maintaining the 60% of local content standard. Nevertheless, this was discredited by the Italian producer, Fiat, who totally dismantled a Nissan "Bluebird" model and argued that the European content of the car was, in fact, only 21% (Sadler, 1991). This argument was based on another definition of local content. Fiat approached this issue by using a different method of assessing local content. This was designed to only evaluate costs directly connected to production. Indirect costs, profit margin, costs of plant construction and machinery purchase may comprise around 42.5% of the vehicle price. This case was seen as further proof of "fortress Europe" as it went to the Commission for judgment (Egan and McKiernan, 1994). Major local content commitments by Japanese firms in the EU are therefore far higher than corresponding amounts in the USA. For instance, in the production of television sets in the U.S., Japanese firms source only 28% of their components locally while this figure reaches 70% in Europe.

The degree of the localization of production between Japan and Korea in Europe seems to show different conditions. After the local content dispute, Japanese motorcar manufacturers shifted parts procurements sources to local suppliers. Local content has been off the agenda in the latter half of the 1980s. The level of the localization of the Korean automotive industry in Europe seems very low. The production of motorcars relies mainly on complete knock down (CKD) and semi knock down (SKD) assembly. In particular, SKD is the prevailing production method of the Korean manufacturers. SKD is distinguished from CKD in a particular manner: while CKD production is carried out at local plants with separate components imported from home country, most of the production activities of SKD are finished in home country plants. The transplant in the CEECs initially diverted the local content dispute but, since the tariff-free exports from the CEECs to the EU have started, this production method could become an actual problem. In addition, the most remarkable consequences of this production method are likely to stem from the Screwdriver Regulation and the Rules of Origin, which were developed from anti-dumping legislation in 1987 (Reg. No. 1761/87, Article 13).

VI. DISCUSSION: IMPLICATIONS FOR KOREAN FIRMS

The Japanese automotive industry faced a number of obstacles in terms of trade and local production in Europe during the 1980s. These protectionist measures against market intervention by the Japanese show the fear of the European business community that this invasion would disrupt European markets, causing a loss of jobs as domestic firms fall victim to Japanese competition (Egan and McKienan, 1994). Consequently, Japanese automotive manufacturing firms were cautious about discriminatory practices, despite recognizing the market opportunities that followed economic integration and the completion of the internal market.

The situation of the Korean automotive industry in the EU seems to be similar to that of the Japanese case in the 1980s, reviewed above. The similarity of the situation

and stage of development is threefold. First, the development stage in Europe of both cases is at the emerging level in terms of local production. Market share and export both dramatically increased in the European market after they diversified target markets from North America to Europe. Second, intensive domestic competition played a role as an incentive for overseas operations. A highly saturated domestic market with strong competition obliges a firm to seek low costs and comparatively lower competition in overseas markets. Third, this study mainly focused on this aspect relating to the formation of the internal market in Europe that both cases had a defensive motivation of FDI in Europe to avoid barriers to their trade. However, the Western European countries were found to have always been main target markets. This aspect also comprises some of the differences between both cases. It is interesting that the characteristic of Korean FDI is defensive when there were no actual barriers imposed. As briefly reviewed in the theoretical considerations, Korean FDI seems to be rather preventive to avoid possible future barriers which will affect trade.

Table 10
A comparison between the Japanese automotive industry in the 1980s and the Korean automotive industry in the 1990s.

	Japanese automotive manufacturers (1980s)	Korean automotive manufacturers (1990s)
The Industry		
- Economic Status of Country	Developed	Newly industrialized economy
- Status of Industry	Established	Emerging
- Number of Manufacturers	11	7 (reduced to 5)
- Domestic Competition	Intensive	Intensive
- Main Type of Market Intervention	Export	Export
- Major Markets in Europe	Germany, UK, France, Italy	Poland, Germany, UK, Italy
FDI and Transplant in Europe		
- Motivation of FDI	Defensive (Barrier Circumvention)	Defensive (a *quid pro quo*) Involuntary
- Trade Barriers	National Quota/ VER	No
- Other Restrictions	Local Contents	Emission control
- Local Production in Europe	Emerging stage	Emerging stage
- Entry Mode	Greenfield investment and Strategic alliance	JV(KD)
- Location for production	Mainly UK and other peripheral regions in the EU	The CEECs
- Production Style (Localization)	Local procurement	Partial local procurement, SKD
- Number of Production Facilities	10	6
- Market Share	11 %	3 %

Source: Various sources

Despite contextual similarities, contrary aspects are also found between the Korean and Japanese automotive industries in Europe. First, the patterns of market penetration and industrial location are different. In the case of Nissan, Toyota and Honda, most of the major FDIs were carried out as these companies established production facilities within the EC markets. Compared to this, most of the FDI made from the early 1990s by Korean automotive manufacturers in Europe has been concentrated in the CEECs by means of joint ventures. Second, low financial commitment and the specific method of production in Europe may result in the local content dispute relating to the level of localization and may leave the industry vulnerable to the screwdriver law since tariff-free exports to the EU have started. Other descriptive similarities and differences are presented in the following table.

Based on the similarities and differences stated above, a few implications for the Korean automotive industry in Europe may be suggested. First, increased imports of Japanese cars and the encroachment of Japanese automotive manufacturers triggered discriminatory practices at a national level in the early 1980s. The Korean automotive industry in Europe seems to have arrived at this stage of development in terms of trade. Dramatically increased exports, since the beginning of the 1990s, eventually recorded 35% of all total exports directed to the European markets in 2004. According to the experience of Japanese car producers, it is to be expected that protectionist measures on Korean car imports in various forms will be imposed. Anti-dumping rules, national quotas, and emission controls on imported cars are considered to be probable practices on which the strategic future of Korean motorcar manufacturers might be critically dependent. Considering the importance of European markets and needs for market diversification by the Korean automotive industry, Korean motorcar manufacturers will have to deploy corporate strategies to continue their market presence in Europe.

Second, most major Japanese motorcar manufacturers developed European strategies, which included building or acquiring European manufacturing facilities, or chose strategic alliances with local partners to hedge the risk of protectionist measures. Korean motorcar manufacturers who have already invested heavily to increase capacity during the last decade will continue to maintain existing or even higher levels of production to maintain the efficient use of facilities. Under the condition that direct export would not be a feasible strategic choice, Knock Down (KD) export using local production facilities may become an important alternative to absorb increased production capacity. A number of instances of transplants in the 1990s which are unfortunately ceased after the Korean economic crisis and recent FDI in Slovakia may be interpreted within this context. This strategic alternative seems to be critical for a transitional period before the full extent of local production starts.

Third, some spatial implications can be identified from this strategy. Peripheral regions are to be considered for the production sites as there are possibilities to access the EU markets. Considering the fact that most of the peripheral areas in Europe are included in the EU since 2004, spatial patterns of the Korean automotive FDI seems to be appropriate to serve an entire region. For the next step forward, there might be residual problems even after local production by means of transplant. As was distinctive in the case of the Japanese automotive industry in the 1980s, local content rules may hinder the penetration of Korean car producers as these prevent “screw driver plants” within the EU. Invisible barriers against serving the internal market such as local content and country of origin could become issues even though production sites are

located in peripheral areas outside the EU.

Fourth, it may be argued that the rapid expansion of the Korean automotive industry in Europe for both export and local production is in the process of involuntary internationalization. This is mainly the consequence of the internal economic and industrial status of the Korean automotive industry. Particular status may include domestic competition accompanied by market saturation, over-capacity followed by massive FDI in production facilities in the 1980s, the pressure of militant labor unions, and the need for market diversification. These intrinsic factors inevitably provoked the process of the globalization of the industry. Thus, the recent transplants to the U.S. and Europe partially include an involuntary motivation. Transplants for involuntary reasons are likely to result in a more desperate situation when the discriminatory practices are imposed on imports as well as local production. The Korean automotive manufacturers might have less capacity to handle the situation in terms of flexibility in diverting overseas markets.

Fifth, it is worth noting that there are positive dimensions relating to the completion of the internal market in Europe. National restrictions on imports and bilateral agreements were criticized as contrary to the basic direction of the internal market and erosion of the concept of the single market. Further, they created an additional cost for customers in terms of overall welfare. It was estimated that the cost to consumers of EC restrictions on Japanese imports amounted to ECU 2.8 billion annually. By the time when an informal agreement concerning inflows of Japanese car imports, namely VER was established, it was noted that this agreement regarding quotas on Japanese car imports was merely temporary and transitional measures. The commission recognized that a market that limits the volume of trade and intentionally excludes products is not a free market. Eventually trade restraints on motorcar imports from Japan were lifted by all member states and the free internal market for cars was established by 1999. In line with the establishment of WTO, the global trade environment has been toward multilateralism. Hence, protectionism is likely to have become a less viable option for the EU in maintaining external policy and increasing the competitiveness of European firms. This has been the basis for the positive prospects of the Korean motorcar manufacturers in future trade relations with the EU.

Last but not least, while these were involuntary reasons for the transplant, there were also other factors that instigated local production. Japanese firms realized that advantages offered by the internal market could be exploited within the European markets (O'Cleireacain, 1991). By establishing local production facilities, Japanese firms were able to attain the scope to exploit their advantages such as closeness to the market, better local market information, stimulating demand, brand image and local identity, and access to public procurement. These are often referred to as presence effects in foreign investment (Welford and Prescott, 1992). In particular, competitive advantages stemming from the efficient production system of the Japanese manufacturing firms increased the scope to exploit those advantages.

For the Korean automotive industry in Europe, it is necessary to alter the strategic alignment to a more positive dimension derived from the completion of the internal market. Since the end of the 1980s, the movement toward economic integration has been accelerated. Together with the removal of barriers, fiscal convergence, and common industrial and competition policy, the degree of competition in the European market are considered to be higher than ever before (Hyun, 2006). The automotive

industry in the 1990s, cost efficiency and price competitiveness became more decisive factors because the level of production technology and the quality of mid-price passenger cars have been more equalized among global automotive manufacturers. Based on this contextual environment, the price competitiveness became important in the European markets as well as elsewhere in the global markets. This aspect seems to be a beneficial change for the Korean automotive industry because they have a competitive advantage in pricing. However, this aspect is likely to be advantageous for the Korean motorcar manufacturers only temporally because cost effective competitors from China and other developing countries are rapidly growing. By the time competitors equipped with low-price products enter the markets against Korean motorcar manufacturers, the equalization of production and product quality would be rather harmful factors for Korean motorcar manufacturers.

VII. CONCLUSION

Trade and FDI relations of non- European firms or countries by the EU in the context of "fortress Europe" are clearly visible in the case of the Japanese automotive industry in Europe in the 1980s. The implications for the Korean automotive industry seem to be as significant as the case of the Japanese automotive industry in the 1980s. Both are found to coincide with the result of the propositions of this study relating to the protectionist measures in Europe. The Korean and Japanese automotive industry generally shared the defensive motivation of transplants by means of trade substituting investment and export platform as well as offshore manufacturing aimed at western European markets. Nevertheless, a *quid pro quo* FDI and particular spatial patterns are likely factors differentiating Korean automotive transplant from that of Japanese.

In the context of an increasingly competitive global automotive industry, it is a prevailing trend that major motorcar manufacturers expand their global activities by increasing overseas production. It is also evidently clear that regional economic integration will redefine the global political economic environments. Based on the considerations of this study, a strategic shift toward overseas production in Europe seems to be imperative requirement for Korean motorcar manufacturers to enhance global competitiveness and to avoid possible protectionist measures in the foreseeable future.

The limitation of this study stems from the lack of data and instances of Korean manufacturing firms in Europe. As a consequence of the Korean economic crisis, most of the transplants executed in the 1990s had to cease local production. For recent transplants, instances are globally scattered and cases in Europe seem to be insufficient either for fully supporting the argument of this study or for comparison to the experience of the Japanese automotive industry in the 1980s. The more detailed study should be followed after further expansion of Korean automotive firms is realized.

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