LOCATIONAL DETERMINANTS OF KOREAN MANUFACTURING INVESTMENTS IN THE EUROPEAN UNION*

Sunghoon Hong

College of Business, Honam University
Gwangju 506-714, Republic of Korea
shhong@honam.ac.kr

and

Sangho Kim

College of Business, Honam University
Gwangju 506-714, Republic of Korea
shkim@honam.ac.kr

Abstract

This paper investigates the location selection decisions of Korean firms that established manufacturing operations in the European Union (EU) during the period 1986-1997. We assume that the major characteristics of each EU country are given and estimate the probability of selecting a particular country using a conditional logit model. The results suggest that Korean firms prefer to select a host country that has a large domestic market, low wage rates, a high level of inward foreign direct investment, a high level of Korean imports, and low interest rates.

I. Introduction

Korean firms recently accelerated their direct investments in the EU. Although foreign direct investment (FDI) by Korean firms began in 1968, annual outflows of Korean FDI remained below US$ 100 million until 1985. In the early 1980s, the government deregulated the requirements for investors and for host countries, eliminated the prior approval system, and allowed outward FDI in a broad range of industries. In the late 1980s, Korean firms began

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accumulating abundant foreign exchange reserves through unprecedented trade surpluses, and began internationalizing through FDI. The Korean government responded actively to the internationalization of Korean firms, and in the late 1980s it further liberalized outward FDI to accommodate the rapid increase and expansion of Korean firms in overseas markets.

With this liberalization, Korean firms were no longer required to get authorization from the government for their overseas investments, and they were able to retain their foreign profits and to purchase foreign real estates. Partly owing to the new government policy, the annual net outflow of FDI increased from US$ 157 million in 1986 to US$ 2,989 million in 1997. Initially, Korean direct investments had been concentrated in East Asia and North America, with Korean manufacturing investment into the EU starting only in 1982, when Samsung Electronics built a TV factory in Portugal. In 1998, however, the EU market grew to about 16% of the total stock of Korean outward FDI, becoming one of the most important FDI destinations for Korean firms, after North America (44%) and East Asia (29%). This trend is expected to continue as the EU market expands and becomes more united.

Since the seminal work of Hymer (1960), most scholars specializing in international business have focused their efforts on the analysis of the monopolistic advantages of multinational enterprises (MNEs) (Kindleberger, 1969; Caves, 1971; Lall, 1980). However, since Dunning (1980) emphasized the importance of locational advantages in his eclectic paradigm, another group of researchers has been trying to investigate the location selection behavior of MNEs. In this paradigm, MNEs are able to increase profits by combining their monopolistic advantages and locational advantages of host countries. In order to maximize the synergy effects of these two types of advantages, MNEs are required to select production locations amenable to their competitive strategies. Since Korean emerging multinationals are neither sufficiently experienced in overseas manufacturing nor sufficiently strong in their monopolistic advantages, it is important for them to select appropriate locations that enhance their existing competencies or compensate for their weaknesses.

In this regard, this study is designed to investigate the location factors considered by Korean firms when they select a European Union host country to establish manufacturing subsidiaries. Thus, this study may be helpful in identifying how the location selection behavior of Korean firms is linked to their EU production and distribution strategies. This paper also provides insight into the potential future course of Korean FDI in the EU, by investigating current patterns and by suggesting how European countries can attract more Korean manufacturing plants.

The EU market is composed of fifteen countries, with disparate economic conditions and institutional settings. As a result, firms require time-consuming feasibility studies when selecting an appropriate host country. However, if we assume that the major characteristics of each EU country are given, we can estimate the probability of selecting a particular country using McFadden's (1974) conditional logit model.

The scope of analysis in this paper is confined to Korean manufacturing firms that established subsidiaries in the EU between 1986 and 1997. According to the Ministry of Finance and Economy, there were a total of 117 Korean manufacturing investment projects in the EU during this period. Among these, forty-six investments were made in the UK; twenty-three in France; twenty in Germany; six in the Netherlands; five in Spain; four each in Italy, Portugal and Ireland; three in Belgium; and one each in Austria and Denmark. However, there were no direct investments in Finland, Greece, Luxembourg, or Sweden.

Furthermore, these investments were concentrated mostly in the fabricated metals industry, which includes consumer electronics. Investment in this sector accounted for approximately 53 percent of the total amount of Korean manufacturing investment in the EU.

This paper is organized into sections as follows. The next section, Section II, surveys the literature and sets up the research hypotheses. Section III provides a description of the methodology by briefly explaining the conditional logit model, and Section IV presents the empirical results and their interpretation. The final section sets out the conclusions.

II. *Research Hypotheses*

We reviewed the literature on the location selection patterns of MNEs in the EU prior to establishing the hypotheses of our study. We discovered that only a few studies have tried to investigate the location patterns of non-European firms in the EU, although a large number of studies have focused on foreign firms in the United States. As the first stage of our investigation, it is worth examining studies that are concerned with the behavior of Japanese or American MNEs in Europe.

Thomsen (1992) argues that Japanese manufacturing firms consider the national market size of a host country to be very important in their location decisions, and usually sell two thirds of their output in the local market. He also points out that Japanese firms tend to lower information costs involved in direct investment by investing in markets with which they are already familiar through previous export relationships. Heitger and Stehn (1990) confirm that Japanese direct investments in the EU are concentrated in industries with high effective protection rates. Dunning and Cantwell (1991) show that labor supply, technological and communications infrastructure, and incentives, have been important factors in the investment decisions of Japanese firms in Europe. Balasubramanyam and Greenway (1992) suggest that Japanese components' suppliers have invested more in countries where the governments have imposed local content requirements, because Japanese manufacturers in the EU prefer to procure inputs from their affiliates. Scaperlanda and Balough (1983) confirm that market size significantly influences the direct investment of US firms in Europe. Culem (1988) demonstrates that market size, tariff barriers, and export flows are important factors influencing U. S. direct investments in Europe. In particular, the volume of exports from source to host country has been highly correlated with the inward FDI of European countries, which implies that US multinationals try to undertake direct investment in order to defend their export markets.

Another group of researchers has been interested in explaining the behavior of MNEs from Korea and from other developing countries. Jo (1981) argues that manufacturing firms from newly industrializing countries tend to undertake FDI partly to increase or maintain their present level of exports to industrial countries. However, only a handful of researchers have tried to investigate the characteristics of Korean emerging multinationals. Euh and Min (1986) mention that in the early 1980s, two representative Korean electronics producers had established manufacturing facilities in industrial countries: one in the USA to circumvent anti-dumping suits, and the other in Western Europe to gain access to a large market. McDermott (1992) notes that the sudden growth of Korean direct investment in Europe coincided with either the actual or the threatened imposition of anti-dumping duties on

Korean imports. Lee (1994) reports that Korean FDI in Europe was provoked by market-oriented motives in the electric and electronics sector. He suggests that Korean multinationals tried to defend their shares in local markets by increasing manufacturing facilities in Europe in response to rising regional economic blocs and the resulting protectionism. Jun and Yoon (1995) assert that Korean direct investment in advanced countries (upstream investments) can be regarded as defensive, because they are undertaken in order to defend export markets from trade restrictions or from the competitive pressures of other MNEs from developing countries.

They also mention that the conventional theories of FDI are not relevant in explaining Korean direct investments in advanced regions, as these conventional theories imply that multinational firms should possess some monopolistic advantages in order to compensate for the costs of foreign operations (Hymer, 1960; Kindleberger, 1969; Caves, 1971). However, it is hard to show that Korean firms in Western Europe possess any salient capabilities that exceed those of local competitors. Rather, if Korean firms use local employees in high-wage, advanced countries, they may lose their traditional advantages of producing at lower costs. Taking these characteristics into account, we surmise that Korean multinationals tend to invest in a country that offers locational factors that complement or strengthen their competitive advantages. In this context, the following hypotheses are proposed and tested.

Hypothesis 1: Korean firms prefer a host country with a large domestic market
This hypothesis examines the importance of the domestic consumption market, and assumes that large domestic markets provide more stability of demand. The stability of demand in local markets enables Korean subsidiaries to achieve a higher level of economies of scale, which allows them to minimize business failure in the early stages of operation. Furthermore, when Korean firms adopt FDI as an extension to exports, stable host country demand helps them maintain production capacities in the home country's head office. There is another reason why economies of scale are particularly important for manufacturing in Europe. Since Korean firms do not possess salient proprietary advantages compared with their European competitors, they usually adopt a strategy of generating profits by selling a large volume of products on slight margins.[1] Thus, they prefer a host country with a large market size in order to realize economies of scale in production. Studies have shown that market size has a large and significant effect on the location decisions of foreign firms (Kravis and Lipsey, 1982; Swamidass, 1990).

Hypothesis 2: Korean firms prefer a host country with low labor costs
As Korean firms have been competing in overseas markets mainly on the basis of product prices, it is easily conjectured that they would prefer a country with low labor costs. That is, since Korean subsidiaries in the EU usually compete in the range of low to medium-priced products, low labor costs would be extremely important for the successful operation of their European plants. Moreover, as more than 50 percent of Korean products manufactured in the EU are classified as electronics goods, such as TVs, VCRs and microwave ovens, Korean subsidiaries are engaged in the highly labor-intensive activities of product assembly. In this

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[1] Nonetheless, if Korean firms perceive the EU market as a completely integrated and homogenous market, the domestic market size of a host country will not be an important factor.

respect, it seems to be imperative for Korean firms to produce in regions with low wage rates. Many studies have confirmed that high wage rates impose a negative impact on inward FDI (Bartik, 1985; Luger and Shetty, 1985; Coughlin, Terza and Arromdee, 1991).

Hypothesis 3: Korean firms prefer a host country with large inflows of FDI

This hypothesis has been suggested for two major reasons. First, EU countries with large inflows of FDI usually provide a friendly business environment for foreign manufacturers by offering high levels of incentives and government assistance. Korean firms are also likely to respond to the incentives of a host country to reduce the initial financial investment cost. Second, EU countries with large inflows of FDI tend to provide a favorable input market. When Korean firms invest in a country where foreign manufacturing activities are prevalent, they are likely to get easy access to necessary components and parts at reasonable prices. Furthermore, like most multinationals from developing countries, Korean firms tend to use standardized components and procure local inputs that compete on the basis of low prices (Wells, 1983; Kumar 1982). Thus, it is essential for Korean multinationals to procure local inputs at low prices in order to maintain their traditional competitiveness. Both a friendly environment and favorable input markets help Korean firms to reduce the costs of manufacturing in the EU. Wheeler and Mody (1992) found that when U.S. firms undertake direct investment overseas, the total existing level of FDI in a host country has a significant impact on this decision. Their results suggest that manufacturing agglomeration in the host country, proxied by inward FDI, is an important factor in the location choice for U.S. direct investment. Ulgado (1996) also contends that Japanese manufacturers place considerable weight on geographic proximity to suppliers when they choose plant locations in the US.

Hypothesis 4: Korean firms prefer a host country with large Korean imports

This hypothesis suggests that Korean firms undertake FDI in order to defend export markets. Most previous studies have indicated that the investment motives of MNEs from developing countries are highly defensive, as they wish to protect their export markets from trade restrictions imposed by advanced countries. Korean firms, particularly chaebols, strove to utilize their excess production capacity at home through exports, but their massive exports of low-priced products provoked European governments to impose trade regulations on Korean imports. Several cases were found in which Korean electronics companies undertook FDI to circumvent the trade barriers imposed by major European countries (McDermott, 1992; Gray and Hong, 1998).

Hypothesis 5: Korean firms prefer a host country with low financial costs

Korean firms try to reduce financial costs as well as production costs in order to maintain price competitiveness. There are three major financial costs that Korean manufacturing subsidiaries face in the EU market: interest rates, tax burdens, and foreign exchange rate risk. Several studies emphasize that interest rates in host countries are closely related with FDI. For example, Euh and Min (1986) show that Korean manufacturing subsidiaries in foreign countries finance more than 90 percent of their investment locally, which implies that high interest rates in a host country may be a financial burden.[2] Furthermore, when Korean firms

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[2] Korean manufacturing subsidiaries in foreign countries locally financed 13 percent of their equity investment and 93.9 percent of their loan investment.

invest in a country with low interest rates, they are able to finance their projects locally and reduce both capital costs and foreign exchange risk. Thus, we expect this variable to be significant in location decisions.

Some studies report that taxes play an important role in determining the plant locations of firms (Newman, 1983; Grubert and Mutti, 1991). The tax burden for foreign firms is mainly comprised of property tax, corporate income tax, and personal income tax, though it is not easy to comprehensively measure and estimate the effects of these taxes. Reasons for this difficulty include the fact that there are many different types of business property, all of which are subject to different tax rates within a country, and corporate income tax rates cover a wide range, depending on the brackets of corporate income. In this study, corporate income tax was treated as representative of the overall tax burden of a foreign firm, and was proxied by the host government's corporate tax revenue as a percentage of GDP.

We also note that Korean subsidiaries in the EU are subject to foreign exchange risk at various stages of operation. When they finance their projects by loans from the home or third countries, their debt payments vary with changes in the exchange rate of the local currency. When they repatriate their profits, their actual profits also fluctuate as exchange rates change. Thus, Korean firms prefer to invest in countries with low exchange rate volatility in order to limit foreign exchange risk. Cushman (1988) points out that FDI inflows in the USA respond to exchange rate variability.

III.   *Methodology*

Our model assumes that a multinational firm that has decided to open a new overseas plant will locate its subsidiary to maximize its expected profits. Each country has a different set of location-specific characteristics, and these characteristics bring unique advantages to each firm by affecting its profit level. The profit function, π_{ij}, of a plant of firm i in country j can be written as

$$\pi_{ij} = C_0 X_{1j}^{\alpha_1} \cdots X_{mj}^{\alpha_m} \varepsilon_{ij}^M, \tag{1}$$

where C_0, M and $\alpha_s (s=1, \ldots, m)$ are unknown constants, $X_{sj} (s=1, \ldots, m)$ are continuous exogenous variables in country j, and ε_{ij} is a location-specific random disturbance term that captures the unique profit advantages to firm i of operating in country j.

Taking logs of equation (1) and dividing by M, we obtain the equation.

$$\ln \pi_{ij}/M = C_1 + \sum_{k=1}^{m} \beta_k \ln X_{kj} + \varepsilon_{ij}, \tag{2}$$

where $\beta_k \equiv \alpha_k/M$ and $C_1 \equiv \ln C_0/M$.

Firm i locates in country j^* provided that profits are highest in country j^*, i.e., $\pi_{ij}^* = \max_j \pi_{ij}$, which requires that the right-hand side of equation (2) for country j^* exceeds that for any other country. Assuming that ε_{ij} has an independent and identical Weibull distribution, the probability of selecting country j can be expressed as

$$P_j = \exp \left(\sum_{k=1}^{m} \beta_k \ln X_{kj} \right) / \sum_{j=1}^{J} \exp \left(\sum_{k=1}^{m} \beta_k \ln X_{kj} \right), \tag{3}$$

where P_j indicates the probability of selecting country j among J countries, β_k indicates

TABLE 1.   DESCRIPTION OF VARIABLES

Independent Variables	Construction	Expected Signs	Data Sources
LGDP	GDP (US$ billion)	+	OECD, NSO
LIMK	Proportion of Korean imports in total imports (US$ million)	+	IMF
LFDI	Amount of inward foreign direct investment (US$ billion)	+	IMD
LWAGE	Earnings per hour in manufacturing (US$)	−	ILO
LINT	Real money market rates (%)	−	IMF
LTAX	Corporate tax revenue as a percentage of GDP (%)	−	OECD
LERV	Annual changes of exchange rate (5-year variance)	−	IMF
DUM	Dummy variable for 1992 market integration	+	

Notes: The variables, the names of which start with 'L', indicate that they have been transformed in natural logarithm. For a detailed explanation of the sources, refer to the references.

parameters to be estimated, and X_{kj} is the kth variable among m independent variables representing the characteristics of country j.

Assumptions behind the use of this equation need to be outlined. First, a firm's probability of choosing a potential location depends only on a function of the characteristics of that location. Thus, the model specified above deals only with choice-specific attributes, regardless of firm-specific attributes that may affect the probability of choosing a location. Second, the probability of choosing one location relative to another is constant, even when the number of location choices changes. This "independence of irrelevant alternatives" assumption can be a drawback when some choices are close substitutes.[3]

IV.   *Empirical Results and Interpretation*

Empirical Results

As mentioned earlier, from 1986 to 1997, Korean firms established 117 manufacturing subsidiaries in eleven EU countries. Since the logit model includes only those alternative location choices selected by decision makers, our choice set consists of these eleven countries. The estimation of parameters in the model needs a data set for the host country of each foreign plant. The dependent variable takes the value "1" for the chosen country and "0" for the other ten countries in each of the decisions for host country selection. The independent variables represent the locational characteristics of each of the chosen eleven countries. GDP and earnings per hour in manufacturing are incorporated in the model to measure market size and labor costs, respectively. The value of Korean imports into each EU country is measured by the proportion of Korean imports out of that EU country's total imports. This is in order to take the size effects into account. Interest rates, tax burden, and foreign exchange risk are measured by money market rates corrected for the effects of inflation, corporate tax revenue by government as a percentage of GDP, and the five-year variance of annual changes of a currency's parity to SDR, respectively. Table 1 presents the construction of independent

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[3] This assumption, which indicates that disturbances are independent, is required for the estimation of parameters in the conditional logit model.

TABLE 2.   CORRELATION MATRIX OF EXPLANATORY VARIABLES

	LGDP	LFDI	LWAGE	LINT	LIMK	LTAX	LERV
LGDP	1.000	0.452	0.433	−0.125	0.309	0.092	−0.112
LFDI		1.000	0.098	−0.067	0.107	0.387	−0.086
LWAGE			1.000	−0.314	0.008	−0.064	−0.450
LINT				1.000	0.018	0.038	−0.021
LIMK					1.000	0.150	0.148
LTAX						1.000	−0.029
LERV							1.000

TABLE 3.   REGRESSION RESULTS BY MODELS

Explanatory Variables	(1)	(2)	(3)	(4)	(5)
LGDP	0.82**	0.85**	0.81**	0.85**	0.85**
	(4.60)	(4.66)	(4.55)	(4.62)	(5.02)
LFDI	0.33**	0.31**	0.33**	0.31**	0.29**
	(2.77)	(2.59)	(2.78)	(2.59)	(2.91)
LWAGE	−1.03**	−1.17**	−1.02**	−1.16**	−0.99**
	(3.13)	(3.34)	(3.10)	(3,33)	(3.07)
LINT	−0.40*	−0.38*	−0.39*	−0.37*	−0.44**
	(2.21)	(2.08)	(2.16)	(2.02)	(2.53)
LIMK	0.75**	0.81**	0.74**	0.80**	0.74**
	(2.88)	(3.06)	(2.83)	(3.02)	(2.85)
LTAX	−0.21	−0.14	−0.24	−0.16	—
	(0.63)	(0.40)	(0.70)	(0.45)	
LERV	—	−0.41	—	−0.43	—
		(1.14)		(1.19)	
DUM	—	—	29.26	29.34	—
			(0.00)	(0.00)	
LL	−221.94	−221.30	−220.66	−219.96	−222.15
χ^2	117.20**	118.50**	119.77**	121.17**	116.80**

Notes: Absolute values of *t* statistics are in parentheses. The asterisks such as * and ** indicate significance at the 5% and 1% levels, respectively. LL represents log-likelihood ratio statistics.

variables and their expected signs. Based on the hypotheses, LGDP, LIMK, and LFDI are expected to have positive signs while LWAGE, LINT, LTAX, and LERV are expected to have negative signs. DUM, a dummy variable intended to test the effect of EU market integration in 1992, is also expected to be positive.

The existence of linear correlation among the independent variables was examined before model estimation (Table 2). Our correlation analysis revealed no linear relationship between any two explanatory variables with none of the correlation coefficients exceeding 0.50._Thus, these variables can be included simultaneously in a model without worrying about multicollinearity.

Table 3 summarizes the statistical results of the five models. All the models except model (5) included variables such as LGDP, LFDI, LWAGE, LINT, LIMK, and LTAX, which were instrumental in testing the hypotheses of this study. Model (1) represents a basic model that includes these six variables. Model (2) is obtained by adding LERV to model (1) to see whether exchange volatility had an impact on the dependent variable. Model (3) adds DUM

TABLE 4.　ELASTICITIES OF INDEPENDENT VARIABLES

Variable	LGDP	LFDI	LWAGE	LINT	LIMK
Elasticity	0.77	0.26	−0.90	−0.40	0.67

Notes: Elasticities represent the relative change in the average probability of each EU country's accommodation to Korean new plants given one percent change in each of the independent variables.

to model (1) to see whether EU integration in 1992 had any influence on a firm's location decision. Model (4) adds both the LERV and DUM variables into model (1). Model (5) is based on model (1) excluding LTAX, which was insignificant in the other four models. The five models explain the dependent variable equally well, with almost the same overall fitness, as represented by χ^2.[4]　In these models, the four variables of LGDP, LFDI, LWAGE, and LIMK were statistically significant at the 1% level among the eight possible explanatory variables, and LINT was also significant at the 1% level in model (5) and at the 5% level in the other models.

The estimated coefficients of all of these five explanatory variables, LGDP, LFDI, LWAGE, LINT, and LIMK, were stable in all the models examined, and ranged from 0.81 to 0.85, 0.29 to 0.33, −1.17 to −0.99, −0.44 to −0.37, and 0.74 to 0.81, respectively. Note that all these coefficient estimates were highly stable and varied within a very narrow range, implying the consistent influence of these variables on the locational decisions of Korean firms. However, three variables, LTAX, LERV, and DUM, failed to show an acceptable level of statistical significance.

We also estimated the elasticities of the probability with respect to the above five significant independent variables using the following equation, which is derived from equation (3).

$$\partial \ln P_j / \partial \ln X_{kj} = \beta_k (1 - P_j) \qquad (4)$$

As our choice set consists of eleven countries, P_j equals one-eleventh on average, and β_k can be replaced by the estimated coefficient of each variable in model (5). Table 4 shows how much the dependent variable (the probability that a country is selected by Korean firms) tends to change when each of the independent variables (country-specific characteristics) changes by one percent. According to the result, even a marginal change in LWAGE can have a considerable influence on the likelihood that a particular EU country is selected by Korean firms, which suggests that Korean firms are highly sensitive to the wage levels in a host country. It is also noticeable that LGDP and LIMK have higher elasticities than LFDI and LINT.

Interpretation

The empirical results suggest the following. First, the market size of a host country is critical in the location decisions of Korean firms. It is believed that Korean firms wish to achieve stable local demand and take advantage of economies of scale, as most multinationals from developing countries tend to rely on their price competitiveness to survive in foreign

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　[4] χ^2 statistics are calculated as $2 * \{LL - LL(slopes = 0)\}$ and have degrees of freedom equal to the number of independent variables.

markets, and place a high priority on the economies of scale that result from the stable demand of local markets. Another interpretation of this result is that Korean investments in the EU target the domestic market of a host country, rather than using the host country as a bridgehead to serve the entire EU market. This implies that Korean firms still do not perceive the EU market as a completely homogeneous market. One previous study confirms that Korean subsidiaries in the EU aim to sell more than 30 percent of their output in the domestic market of a host country (Hong, 1996). Considering the importance of local market size, Korean firms have concentrated their facilities in the three largest countries. From 1986 to 1997, 89 Korean plants, 76% of the total, were located in the U.K., France, and Germany.

Second, Korean firms take into account the wage rates of a host country when they establish plants in the EU. Several large Korean companies have established assembly plants for consumer electronics in the EU, mainly to avoid anti-dumping duties, and these plants are highly labor-intensive as sophisticated components are typically imported from the Korean-based headquarters rather than being locally produced. Thus, it is reasonable to assume that Korean firms prefer to invest in a country with low labor costs, which is essential to keep their products at reasonable prices.

Third, Korean investors prefer countries that accommodate more FDI. This has two implications with regards to the entry strategies of Korean firms. First, they wish to benefit from the effects of manufacturing agglomeration, since a country favored by other foreign firms provides an excellent input market with readily available components and parts. Second, a country where a large number of foreign firms prevail is more likely to provide a business environment favorable to foreign investors, including investment incentives and other FDI-related policies.[5] Thus, this type of environment is appealing to Korean firms.

Fourth, Korean firms prefer to invest in countries that usually have a high proportion of Korean imports, suggesting that Korean firms have undertaken direct investments in the EU in order to defend their export markets. It is well known that major Korean electronics companies set up assembly plants in order to circumvent anti-dumping suits imposed by the EU in the late 1980s and early 1990s. They selected the UK, France, and Germany for plant locations, because these countries had previously been major importers of their products and, as a result, were familiar to Korean companies. The high significance of LIMK indicates that the strategies of Korean firms in the EU are highly defensive and sequential.[6]

Fifth, interest rates had a considerable effect on the location patterns of Korean firms in the EU. This result suggests that Korean subsidiaries in the EU wanted to rely more on local financing and less on internal funds from their parent firms. This might have been largely motivated by a desire to avoid higher interest rates at home. As another implication, Korean firms did not seem to perceive the financial markets of the EU countries as homogenous,

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[5] To confirm that Korean firms prefer a country where other foreign firms have already invested, Korean FDI in each country was regressed by lagged value of that country's total FDI inflows, using the fixed effect model. The estimation results showed positive and significant effects of total FDI inflows on Korean FDI.

[6] As an anonymous referee indicated, the defensive strategy of Korean investments can be incorporated into the model by using trade frictions between Korea and EU countries. After substituting this variable for LIMK, the estimation did not generate any robust results by weakening the significance of other variables and failing to show its own significance. This result derives from the fact that trade frictions are not varied across the countries because trade barriers are generally applied to all EU member countries simultaneously under the common EU trade policy.

despite the activities of the European Monetary System. The importance of host-country interest rates is expected to diminish when EU countries further integrate their financial markets through the use of a single currency.

Lastly, the coefficients of tax burden and foreign exchange risk were not statistically significant in the models, despite having the correct signs. These results imply that Korean firms do not find any significant difference in tax rates and exchange rate volatility among EU countries, which contrasts with the fact that they do find a significant difference in interest rates. The insignificance of exchange rate variation might result from the fixed exchange rate system adopted by EU countries, which restricts exchange rate variation in the EU. The insignificant effect of integration might result from the fact that integration was heralded before 1992 and any investment adjustment had already been made by 1992.

V . *Conclusions*

This paper employed the conditional logit model to analyze the location selection decisions of Korean multinationals that established manufacturing plants in the EU. The empirical results suggest that Korean firms prefer to invest in host countries that have a large domestic market, more inward FDI, low wage rates, low interest rates, and large Korean imports. This implies that Korean multinationals in the EU are highly conscious of production costs, and consider the importance of labor costs and economies of scale. Their strategies are characterized as defensive, because they have been anxious to protect their export markets. They have also tried to minimize the risk of business failure in the unfamiliar EU market by concentrating their facilities in countries where foreign firms have had successfully settled. In summary, Korean firms in the EU show strategies that are cost-conscious, market-defensive, geographically concentrated, and risk-averse, probably because their investments in the EU are at early stages that are heavily associated with labor-intensive activities.

The empirical results imply that Korean firms pursued location-selection strategies suitable to producing standardized products at low costs. Our empirical results also suggest that EU countries can attract direct investment from Korea by providing industrial areas where Korean firms can obtain a ready supply of labor, standardized components, and agglomeration economies.

Further studies will be needed to investigate whether or not these locational strategies can be similarly applicable to Korean FDI outside the EU market. This will help us to isolate the unique characteristics of the EU market from general locational strategies of Korean MNEs.

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