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## Japanese Manufacturing Investment In Spain: Main Location Determinants And Trade Behave

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**40 th CONGRESS OF THE EUROPEAN REGIONAL SCIENCE ASSOCIATION**  
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**JAPANESE MANUFACTURING INVESTMENT IN SPAIN: MAIN LOCATION  
DETERMINANTS AND TRADE BEHAVE**

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**SUMARY**

This paper tries to provide a descriptive analysis of the Japanese manufacturing direct investment behaviour in Spain, focusing special attention in the commercial aspects and the locational determinants. The first section is an introduction where most common general aspects are described: manufacturing activity concentration, size of firms, way of entering and capital participation. The second section examines trade aspects as the origin of domestic sales, export and import behaviour, and the result of commercial balance. The third section analyses the main locational determinants at two levels, first at country level, and second the analysis focuses the regional factors. The paper finalises with the main concluding remarks.

## **JAPANESE MANUFACTURING INVESTMENT IN SPAIN: MAIN LOCATION DETERMINANTS AND TRADE BEHAVE**

### **GENERAL FEATURES**

The Japanese investment in manufacturing sector is the most important of all Japanese direct investment (JDI) in Spain, representing about the 66 per cent of all JDI during 1986-1995 period. Three aspects seem to be relevant.

1- Sectoral composition: we can observe a big concentration in three industries: chemicals, that represents 25 per cent; electric, electronics and optical, which represents 23 per cent, and transport with the 21 per cent.

The Japanese competitive advantages are basically technological and organisational, that explains why Japanese companies are mainly located in technologically high and medium intensity sectors, sectors that have, as well, the highest foreign capital penetration in Spain, see Iranzo (1991), Myro & Martínez Serrano (1992), Martín & Velázquez (1993) and (1996), Bajo & López Pueyo (1996).

2- Size of firms: Small and medium companies are dominant. The 89 per cent have less than 500 workers, and from this, the 50 per cent, more or less, has less than 100 workers.

3- Way of entrance: The most part of this Japanese firms contact with Spain for the first time through exports or through technological licenses and agreements. When the both enterprises relationship was good a Japanese capital participation took place.

So, the main way of Japanese companies entering in Spain was through share acquisition, in the 70 per cent of the cases. At the beginning the capital participation was in minority, but progressively the Japanese companies increased its participation, first to the 50 per cent Japanese capital, after majority, and finally total Japanese capital ownership, which actually represents the 65 per cent of capital participation cases.

## TRADE BEHAVE

The first question to consider is the market orientation of JDI. As table 1 shows, on average, more than half of the sales go to domestic market, and, more or less, a quarter of the companies say that more than the 75 per cent of sales are in the domestic market.

**TABLE 1**  
**JAPANESE COMPANIES SALES TO DOMESTIC MARKET**

<b>% Sales</b>	<b>Num. Firms</b>	<b>% Firms</b>	<b>Sector</b>	<b>Average</b>
75-100	8	24,2	Textile	41,0
			Chemical	45,0
50-74	12	36,4	Rubber & Plastic	66,0
1-49	13	39,4	Metal Products	25,0
			Machinery Construction	78,0
			Electrical-Electronic	44,7
			Transport Equipment	60,8
			Others	70,0
<b>Total</b>	<b>33</b>	<b>100</b>	<b>Total</b>	<b>52,73</b>

### **% SALES > 50 %**

Japanese

Dutch<sup>1</sup>

Germany

### **% COMPANIES**

61

96

81

<sup>1</sup>manufacturing and non manufacturing

Source: own elaboration for Japanese firms and Molero, Buesa & Casado (1995), for Dutch and Germany companies.

By industries, are important for its domestic orientation machinery and mechanical equipment, non-ferrous metals and rubber and plastic. In a secondary importance place there is transport equipment, which is over the average.

If we compare with another studies, for example the cases of Dutch and Germany investment in Spain (Molero, Buesa & Casado, 1995), the number of firms that sell in the domestic market a proportion over the 50 per cent of their sales, represent the 96 per cent of Dutch subsidiaries (including the non manufacturing), and the 80 per cent of the Germany manufacturing companies, in case of Japanese companies is 61 per cent, which means that Japanese subsidiaries have less domestic orientation than other foreign companies, see table 1.

The export activities of Japanese companies appear in table 2. The first relevant aspect is that export probability is over 90 per cent, so almost all Japanese firms have export activity.

To measure the export intensity, we will use export propensity. As table 2 shows, the export propensity average is of 43,5 per cent and near a quarter of the firms export more than the 60 per cent of their sales.

The more exporting companies are first in textile industry, second in electric and electronic industry, and third in transport machinery.

In size terms, table 2 shows that as bigger is the company, higher is the export propensity.

This export propensities are not only over the Dutch and Germany, see table 2, there are superior to the rest of the companies even there are national or with foreign capital participation, (Martín & Velázquez, 93 and 96), and (Encuesta sobre Estrategias Empresariales, 1994)

**TABLE 2**  
**EXPORT ACTIVITY OF JAPANESE FIRMS**

<b>Export Propensity <sup>1</sup></b>			<b>Export Average Propensity <sup>1</sup></b>			
	<b>Num. Firms</b>	<b>(%)</b>	<b>Sector</b>	<b>Aver.</b>	<b>Size</b>	<b>Aver.</b>
0%	4	7,5	Textile	59,0	1 a 99	31
0% - 10%	5	9,4	Chemical	41,3	100-499	51
11% - 30%	10	18,9	Rubber & Plastic	34,0	>500	60
31% - 60%	15	28,3	Metal Products	41,7		
> 61%	13	24,5	Machinery Construction	22,8		
N.A.	6	11,4	Electrical-Electronic	52,4		
			Transport Equipment	48,0		
			Others	28,3		
<b>Total</b>	<b>53</b>	<b>100</b>	<b>Total</b>	<b>43,5</b>		<b>43,5</b>

<sup>1</sup> exports / total sales, in percentage.

**Export Probability**

**Export Average Propensity**

Japanese	92	43.5
Dutch <sup>1</sup>	48	4
Germany	61	25

<sup>1</sup>manufacturing and non manufacturing

Source: own elaboration for Japanese companies and Molero, Buesa & Casado (1995), for Dutch and Germany companies.

So, Japanese firms, compared with other foreign companies, have a very strong export orientation, as a point of view of number of firms that carry out export activities, over the 90 per cent, as from the point of view of average export propensity, over the 40 per cent.

If we look at the geographical export distribution of Japanese companies in Spain, table 3, the main destination is the European Union, the 97 per cent of the companies export to the EU, with an average over 70 per cent of total exports.

Nevertheless the exports to Japan, where the head office is, have no relevance if we consider that more of the 70 per cent of the companies do not export there, table 3.

**TABLE 3**  
**DESTINATION OF THE JAPANESE FIRMS EXPORTS**

<b>Japan</b>		<b>European Union</b>		<b>Others</b>	
<b>% Exports</b>	<b>% Firms</b>	<b>% Exports</b>	<b>% Firms</b>	<b>% Exports</b>	<b>% Firms</b>
0	72,7	0	3,0	0	33,3
1-15	24,2	1-50	18,2	1-25	45,5
> 15	3,0	51-75	24,2	>25	21,2
		76-99	30,3		
		>99	24,2		
<b>Total</b>	<b>100</b>		<b>100</b>		<b>100</b>
<b>Average 1,42</b>		<b>72,67</b>		<b>17,15</b>	

Source: own elaboration over the 33 firms of the sample

As we can see in next section, these results are in consonance with the importance of the market aspects for the Japanese firms in their Spain location determinants.

Another important trade aspect is referred to import activity. First it is important to notice that, during the 1995 year, near 80 per cent of the sales of Japanese firms were Spanish manufactured products, so near the 20 per cent left were imported products, mainly from the transport industry. The origin of these imports was, in a 25 per cent from Europe, and in a 22 per cent from Japan.

These imports from the EU are imports between firms from the same group, and between head office and subsidiary when imports come from Japan. These figures show the great importance of globalisation in Japanese firms, in fact, more than half of the firms commercialise products of other subsidiaries.

In table 4 import figures have been calculate. First the import probability, which is the 95 per cent, so we can say that almost all the Japanese firms do import activities. Second, the import propensity, which average is the 40 per cent. In the highest import propensity there are the textile, rubber and plastic and electrical and electronic products. By size, there is not much difference, big and small firms have similar import propensity.

As the same that in export case, if we compare this results with other studies (Martín & Velázquez, 93 & 96) or (Encuesta sobre Estrategias Empresariales, 1994), The Japanese companies show a higher import propensity than the national companies, and higher too than other foreign companies.



**TABLE 4**  
**IMPORT ACTIVITY OF JAPANESE COMPANIES 1994-95**

Import Propensity <sup>1</sup>			Import Average Propensity <sup>1</sup>			
	Num.Firms	(%)	Sector	Aver.	Size	Aver.
0%	2	3,8	Textile	62,5	1 a 99	39,71
0% - 10%	8	15,1	Chemical	41,4	100-499	38,03
11% - 30%	8	15,1	Rubber & Plastic	53,5	>500	58,4
31% - 60%	13	24,5	Metal Products	6,7		
> 61%	12	22,6	Machinery Construction	22,8		
N.A.	10	18,9	Electrical-Electronic	49,3		
			Transport Equipment	35,1		
			Others	50,0		
<b>Total</b>	<b>53</b>	<b>100</b>	<b>Total</b>	<b>40,26</b>		<b>40,26</b>

<sup>1</sup> Imports / total sales, in percentage.

Source: own elaboration

## COUNTRY LOCATION DETERMINANTS

To approach the analysis we have classified the investment motives in four categories depending on the points given by the Japanese firms. So, a motive is considered “determinant” when it has obtained between 8 and 10 points, it is considered “significant” when it has obtained between 5 and 7 points, it is considered of “low incidence” when it has obtained between 1 and 4 points, and finally it has not any incidence, “no incidence”, when it has obtained 0 points.

## 1- Market size determinants.

For the Japanese manufacturing companies in Spain, market size determinants, (Hood & Young, 1979), appear to be the most important factors, with an average punctuation of 6,5 points, so they are the first ones on the motives ranking.

Out of this market motives, it is necessary to distinguish between domestic market and European market, table 5. The proportion of firms that consider European market as a determinant factor is similar to the companies that consider the domestic market a determinant factor too (more or less 60 per cent), but the proportion of companies that consider European market as a significant motive is superior. If we put it on average terms, the export to EU is over (6,94 points) the domestic market (6,53 points), table 5.

However, protectionist barriers seem not having a very strong influence because a 36 per cent of firms not even mention, is a “no incidence” factor. In fact, it has the lower average punctuation among the different market motives. On the contrary, other studies, (Kume & Totsuka, 1991) and (JETRO, 1992), consider an important investment motive the existence of trade barriers, especially in the assembling and processing industry.

In size terms, the big companies give great value to the exports at the E.U. market (around 9 points in average), while the small companies give more value to the possibility of developing the domestic market. By industries, the most interested in E.U. market are metal, electric and electronic companies, while transport, machinery and mechanical equipment seem to be more interested in preserve the domestic market.

**TABLE 5**  
**COUNTRY LOCATION DETERMINANTS<sup>1</sup>**

	<b>No Incidence</b>	<b>Low Incidence</b>	<b>Significant</b>	<b>Determinant</b>	<b>N.A.</b>	<b>Total</b>	<b>Aver.</b>
<b>Preserve Market</b>	18,2	6,1	12,1	60,6	3,0	100	6,5
<b>Develop New Market</b>	21,2	15,2	3,0	57,6		100	6,0
<b>Export E.U.</b>	15,2	3,0	18,2	63,6		100	6,9
<b>Avoid Protectionist Barriers in U.E.</b>	36,4	12,2	21,2	27,3	3,0	100	4,0
<b>Low Labour Cost</b>	27,3	15,2	42,4	12,1	3,0	100	3,9
<b>Supply other Japanese Firms</b>	63,6	6,1	15,2	15,2	3,0	100	2,3
<b>Government Aid</b>	57,6	12,1	18,2	9,1	3,0	100	2,1

Source: Own elaboration over the 33 firms of the sample

## 2- Labour cost related factors

Labour cost have been traditionally considered as a location advantage with influence on the foreign investment geographical destiny, especially if it does not means a lower productivity (Hood & Young, 1979). When technology and product are standard, then priority goes to the cost, and production can be transferred to lower labour cost countries, (Vernon, 1966).

In the case of Japanese manufacturing investment in Spain the survey shows that only for the 12 per cent of the companies, a lower labour cost have been a “determinant” motive, while a 42 per cent have considered this factor as “significant”, table 4.

These results are in consonance with another studies for the foreign direct investment in Spain: Bajo (1991), Bajo & Torres (1992), Bajo & Sosvilla (1992), Egea & López Pueyo (1991a).

Definitively, we could believe that even lower labour cost is not a necessary condition for the foreign investment, between different locations with same conditions, if there is one with lower labour cost, this one will be preferred for foreign companies, but lower labour cost does not guarantee foreign capital.

### 3- Industrial organisational factors.

As is well known, Japanese companies are organised in-groups called “keiretsu”. The Japanese business relations in the vertical keiretsu are mainly between buyer and supplier, a long-term relation with a high degree of co-operation in price, design, and quality and so on...

It has been said, (Graham y Krugman, 1991), that may be Japanese companies try to translate this pattern outside, especially in automobile industry. In our case, Japanese investment in Spain, the 64 percent of the firms surveyed considered that “to supply another Japanese companies in the region” had not any importance as a determinant of entrance, but for a 15 percent this factor had a “determinant” character, table 5. This 15 percent were mainly companies from the machinery equipment industry, rubber and plastic; and there was anyone from transport equipment, electric and electronic industry.

### 4- Government aids.

Generally everybody seems to agree about the low importance of government aids when a firm decides to invest outside. In the case of Japanese investment there is no much difference because a 58 percent of the companies considered that this factor had not any incidence in the location decision. However another survey prepared by the Japanese Embassy in Spain notes that government aids and friendly relations are some factors that companies mention.

Finally, only a 15 percent of the surveyed companies have considered another different motives to enter Spain, the most frequently mentioned were connected with technology factors, using always in this case, a joint venture with a Spanish company.

To conclude, Japanese manufacturing companies in Spain present the next features:

- Japanese companies have invested in Spain, as in the rest of European Union, in the industries in which they have a clear competitive advantage all over the world, integrating Spain in their international strategies.
- The main way of entering Spain it has been through minority share acquisition, which has been changing progressively to majority participation first, and to the total control finally.
- The origin of the sales is mainly, the domestic manufacturing, and the rest comes from other Japanese subsidiaries in Europe primarily, and from the head office in Japan secondly. This shows the high level of intra-firm trade between Japanese subsidiaries.
- In export and import activities, the Japanese companies have a higher probabilities and higher propensity than the national companies, and higher too than other foreign firms.
- At country level, the main determinants of entrance in Spain are market-related factors, domestic market as well as European market, and both with similar importance.
- The labour cost is relevant, but the results are not decisive, as it happens with another studies, at national level as well as international level.
- The Japanese companies do not take into account the rest of factors considered in the survey, as organisational aspects like supply to other Japanese subsidiaries, or official aid, relevant as entrance motives.

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