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## **Market Access Spillovers: An Empirical Approach to the Flagship Firm Effect**

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### **Abstract**

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This paper intends to contribute to the knowledge on the externalities produced by a foreign industry within the host region of the investment. Particularly, this study focuses on the influence of internationalization strategies implemented by a foreign industry on the local territory when its workers install their own companies or are hired by local companies, and on the effect of imitation strategies within the local environment. This analysis reveals a positive correlation between the territorial strategy of the industry and the permeability of its organization, and also between the maturity of the investment, new market access strategies, and the local impact. On the other hand, the productive linkage established between local and foreign companies and the previous labor relationship of its owner or administrators influence the internationalization process.

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**Key words:** Export spillovers, internationalization, multinational corporations, local economic development, knowledge transfer, skills transfer, flagship firm effect

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## **Introduction**

During the last years, there has been an increase in the interest of the Public Sector for foreign investments. This fact has refreshed the discussion on the capacity of foreign investments for contributing to the host territory development, and particularly on its effect on the local productive framework.

Along the last decades, big industries have changed their attitude towards the host territory of the investment (Vázquez, 1997, 1999; Fosfuri et al., 2001). This is evidenced through the uprising of new production methods based on organizational flexibility and sub-hiring. This new frame of organizational flexibility allows the foreign industry open up towards local environment, which represents its strategic allied (Cubillo, 2002a). Local environment flexibility helps the big enterprise get a dynamic competitive advantage within a global background.

This open context may favor (spatial and productive) interaction between local and foreign industries therefore increasing the possibility of skills transfer from foreign to local companies.

The aim of the present work is to analyse the externalities generated by a foreign industry on the territory in which it settles. In particular, we shall focus our study on the effects on the local productive framework (LPF) of internationalization strategies implemented by a foreign industry. This study will intend to go deeper into those factors determining the existence, intensity, and scope of spillovers.

In view of this, we have analysed the presence of a multinational industry devoted to car projectors manufacture, within a rural background. The period of time studied covers 30 years, from the moment the company began its activity up to the present. The case allows spatially isolate the impact of foreign investments. The local environment analysed is constituted by the settlement of a sole foreign industry within a rural area with no previous industrialization. Consequently, all industrialization effects in this context derive from the influence of foreign direct investment (FDI).

Besides this introduction, the present study is organized into 6 sections. Section 2 reviews up-to-date literature dealing with the capacity of FDI for generating externalities and its determining factors, as well as the composition of the conceptual frame and the hypotheses formulated for this work. Sections 3 and 4 show the methodology and data

used, and section 5 describes the case studied. Sections 6 and 7 present the results of this research work and the main conclusions reached.

## **Literature review**

Literature will be reviewed according to its chronological contribution and scope. We shall begin by those studies revising the effects of international trade and FDI on general economy, then those about the impact of this phenomenon on microeconomic issues, and particularly, the analysis of cases providing data from firm level. Finally, this review will focus on recent publications mainly assessing spillovers generated after export trade.

The pioneer study of Perroux (1955) was the first approach towards the effect of the big industry on the territory, proposing the theory of economic growth poles. This theory considered the capacity of the big industry for leading and favoring economic dynamics in the host region. On the other hand, Vernon (1971) analysed the presence of positive externalities after international trade and FDI. This author also presents a debate about policies selection to be implemented for the development of countries.

An important part of literature on this subject has focused on the analysis of spillovers generated by international trade. The linkage among different levels of productivity existing in different countries set the basis for spillovers analysis. In this sense, we may find publications from several authors such as Coe & Helpman (1995), and Coe, Helpman & Hoffmaister (1997).

Another relevant line of research has proposed a comparative analysis of externalities derived from international trade and those generated after FDI. These reports have contributed to the theory delimitating the importance of both ways in spillovers production. We could cite here the publications of Grosse and Trevino (1996), Pfaffermayr (1996), and Brainard (1997). In the study of Hegazi and Safarian (1999), the authors show that most externalities are the consequence of the effects derived from FDI, confronted to those derived from international trade.

Thus, Caves (1974), Globerman (1979), Blomstrom & Persson (1983), Blomstrom (1986, 1989), Kokko (1992), and Dunning (1993, 1994) demonstrate the existence of an interesting link among some factors influencing sector productivity and the foreign investment proportion in the sector, and find a positive correlation between both

variables. However, some studies using non-added data from firm level have not found any relationship between the presence of FDI and productivity improvement of local companies. The study of Haddad and Harrison (1993) is a good example of this research line.

Most of these investigations analyse FDI impact on national economy but do not evaluate its effects on the local productive framework. This is possibly due to the inherent difficulty in assessing externalities and may explain the lack of relevant literature dealing with effects generated at microeconomic level.

In the same way, most studies focus the analysis on technological and production spillovers. That is, they evaluate how foreign investment may influence productivity within the economy of the host country, considering skills transfer and technology. Examples of this research line are the studies of Behrman & Wallender (1976), Blomstrom & Persson (1983), Blomstrom (1986, 1989), Coe & Helpman (1995), Amin & Tomaney (1997), Aitken & Harrison (1999), Kathuria (2000), Feinber & Majumdar (2001), Fosfuri et al. (2001), and others. From this perspective, the study of Fosfuri et al. (2001) demonstrates how multinational corporations (MNC) can transfer higher technology to the host territory when local workers are hired by local companies.

However, there is a relative lack of publications dealing with spillovers produced as consequence of market access strategies. As Aitken et al. (1994, 1997) report, the identification of market access spillovers is more likely due to chance than to the existence of studies analysing the role of FDI as generator of local export trade.

Nevertheless, there are some studies similar to the one of Aitken et al. (1997) evaluating the effects of internationalization strategies of a foreign plant on the LPF. This work emphasizes the importance of cost decrease in market access as one of the main externalities. Thus, it evidences the correlation between spatial proximity to a foreign plant and export trend increase in local companies.

In this regard, we can cite the studies carried out by Lin (2000) and Bedi & Cieslik (2000). The first of them finds a positive correlation between the decision of one company of exporting its production and export trend of neighbor companies. The second work detects a relation between export concentration of foreign industries and export volumes of local companies.

## Conceptual Frame and Hypothesis

Externalities are associated with the closeness of the linkage existing between the foreign plant and the LPF. Behrman & Wallender (1976), Blomstrom & Kokko (1998), Lall (1980), Reuber et al. (1973), and Wanatanabe (1983) find a close relationship between production local content of the subsidiary plant and its linkage closeness. Furthermore, the closeness of such linkage seems to be related to the strategy implemented by the multinational plant when settling in the territory. Following its motivation, the FDI may adopt different strategies. According to Dunning (1994), strategies can be classified into four main blocks: *Resource Seeking*, *Market Seeking*, *Efficiency Seeking*, and *Strategic Asset Seeking*.

Resource Seeking strategy assigns investments to either physical or human natural resources development in the host region. Traditionally, the main factor of attraction is the provision of raw materials and/or under-qualified labor at low cost. These companies use to act as isolated economies (Chudnovski & López, 1997, 1999) leaving a short margin for the generation of any form of spillovers.

Market Seeking investments pursue the development of a national market in the host country of the investment and, very frequently, the regional market<sup>1</sup>. Since this kind of strategy is usually related to the existence of high import tax barriers. Consequently, its importance decreases in presence of market deregulation<sup>2</sup>. This strategy is opportunistic and does not intend to establish a strategic linkage with the host market, except when local market shows a significant development. In this case, deregulation implies a risk for the continuation of investments.

This kind of strategy is followed by Efficiency Seeking strategies due to changes produced in competition after market liberalization and the presence of local competitors. These strategies intend to rationalize production and make use of specialization and scope economies. Such investments are developed, have a broad time frame for their settlement, and seek the international expansion of sales. The strategy used will determine the need for a strategic link with the territory, through sub-hiring of different local suppliers strategically organized and coordinated.

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<sup>1</sup> Considering regional market as that conformed by the host country of the investment and neighbor countries.

<sup>2</sup> Market deregulation has brought about asset re-structuring and rationalization of multinational companies, sometimes followed by the plant specialization and/or closure of low-profitable plants.

By means of Strategic Asset Seeking, multinational companies intend to “gain resources and capacity that can help maintain and increase their nuclear competitive advantage within regional or global markets” (Dunning, 1994). Target strategic assets may be of quite different nature.

The first two strategies are based on the main reasons for which a foreign industry settles in a specific territory, and were employed principally during '60 and '70 decades. The last two, in turn, are related to expansion and/or adjustment to market changes of the foreign investments already present in the territory. This allows differentiate the effects on the territory according to the maturity of the investment.

Externalities generated in the territory may be related to the kind of territorial strategy implemented by the foreign industry. Thus, spillover intensity will be subject to the type of organization designed by the company<sup>3</sup>, the intensity of the relationship established with suppliers, and the “*sensitivity for the local environment*” from MNC local managers (Cubillo, 2003). In this regard, we can draw a first hypothesis:

*H1: The change in FDI territorial strategies will make company limits permeable and will favor skills transfer to the environment.*

One of the possible consequences is the development of spin-off processes followed by technological and production spillovers.

The settlement of a foreign industry may benefit the host territory through development, employment, export, and technology<sup>4</sup>. Experience gathered up to now does not provide a basis to reach a conclusion on the actual extent of these externalities (Chudnovski & López, 1997, 1999), though they evidently increase according to local capacity and competition levels (Blomstrom & Kokko, 1998).

Local companies may be favored by the presence of a foreign plant establishing productive links and hiring workers and managers qualified and trained at the subsidiary plant (Fosfuri et al., 2001; Cubillo, 2002a). The main company transfers a set of know-how policies covering every labor category of the plant. This transfer is

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<sup>3</sup> That is, the level of flexibility of the organization designed. The higher the flexibility, the higher the relationship profusion with suppliers.

<sup>4</sup> The main reason leading national governments to attract foreign investments is possibly their intention of counting with modern technology (process, product, and distribution), management and marketing capacity (including international marketing capacity).

followed by continuous on-the-job development or by a formal training combining courses and seminars (Blomstrom & Kokko, 1998).

In the first case, spillover generate when local companies benefit from higher skills of foreign companies on product and process technologies, and on new markets, but without increasing costs (Blomstrom & Kokko, 1998).

According to Lall (1980) foreign companies contribute to improve productivity and efficiency of local suppliers. In this sense, local companies are compelled to improve their management and adopt the techniques used by the main company. They provide technical assistance or information to improve product quality of their suppliers, and to favor innovative production. They also provide training and counseling for the organization and management of the company and help explore different ways of reaching new clients and new markets.

These externalities are classified by Blomstrom & Kokko (1998) as productivity spillovers and market access spillovers. Both cases can be explained as follows.

i) Productivity spillovers generate when local companies increase their productivity by imitating technology used by the foreign plant. When the foreign industry appears, competition increases and local companies are forced to use their own technology and resources more efficiently. There is spillover when the foreign company cannot completely internalize the value of these benefits.

Competitive index increase forces local companies towards innovation and the search for more efficient technologies. Competition intensity resulting from the presence of a foreign company, its access to new markets, and the existence of local suppliers forced to access new markets, can be considered as benefits since they all force local companies to improve, put new technology into action, and seek continuous innovation (Blomstrom & Kokko, 1998; Porter, 1991).

ii) Market access spillovers represent the influence of export activity of the foreign industry on the LPF. Accordingly, the foreign company may act as “flagship” within the local economy (Rugman y D’Cruz, 1997, 2000; Rugman & Verbeke, 2003). It takes the role of LPF leader and its strategic decisions are imitated by local companies.

Internationalization is the most complex strategy for any company (Aitken et al., 1997; Fernández & Nieto, 2002). Export requires not only good manufacture but also a number of skills concerning international marketing, product distribution and service. Kogut & Zander (1993) and Hitt et al. (1997) believe these resources and strategic skills are main elements for the company internationalization. Consequently, information on foreign markets and the way to access them are fundamental resources influencing the start of the export process and its later success (Aitken, Hanson & Harrison, 1997; Eriksson et al., 1997; Fernández & Nieto, 2002).

Small companies are not usually exporters and not always count with the necessary skills and resources to successfully do it. On the contrary, it is multinational companies (MNC) that are the leaders in this activity. MNC nature, their reticulated net of subsidiaries, and the skills gained through experience in foreign markets make them owners of strategic assets that can be transferred to local companies in different ways.

As we have already mentioned, information and experience on international markets may be transferred to the LPF through production links, managers and/or workers hiring, and the implementation of imitation strategies. In the first case, though export does not always imply the use of its own brand, the local company benefits from its access to new markets since it can increase production and reach a scale economy. The foreign company will be the one to assume costs and risks derived from the access to new markets.

Blomstrom & Kokko (1998) do not agree with the existence of spillovers in the territory because the foreign company may internalize most of the profits of the local companies after skills transfer from the foreign company. However, local companies may use the skills acquired on products, process, and foreign markets conditions in order to start their own export, autonomously, without any contractual relationship with the foreign company (Aitken, Hanson & Harrison, 1997; Blomstrom & Kokko, 1998).

Sometimes, foreign company managers stimulate and encourage local managers to adopt internationalization strategies applicable not only to production (customers diversification) but also to supply (suppliers diversification). This will help improve competitiveness in the foreign plant. The absence of spillovers may cause a sound productivity disparity between non-local and local companies (Kathuria, 2000).



MNC export activity may generate externalities improving export perspectives of local companies (Rhee & Belot, 1990; Bedi & Cieslik, 2000; Lin, 2000; Bernard & Bradford, 2001). In order to learn about foreign markets, companies must analyse the export activity of those plants which have already put into practice an internationalization process successfully (Aitken, Hanson & Harrison, 1997).

In this sense, the imitation strategy takes the foreign company as reference, implementing the same modern management policies (Kathuria, 2000). The benefit reached by local companies in this case is a clear example of market access spillover (Blomstrom & Kokko, 1998).

The first hypothesis was related to the influence of the big company and its territorial strategy. Here, we could present a set of hypotheses related with the induced effects on sales internationalization of local suppliers. In this regard, a second hypothesis can be drawn:

*H2: Success in the accomplishment of market access strategies by the foreign plant drags along local supplier companies, which consequently stimulates it.*

Following the same argument and related to this second working hypothesis, we can present a third hypothesis.

*H3: Information transferred to local suppliers and their implementation of imitation strategies will make internationalization of these companies begin by those markets in which the foreign plant is present.*

Skills transferred to workers during their labor relationship with the foreign plant may be applied to the territory either when they are hired by local companies (Fosfuri et al., 2001) or when they establish their own companies (Cubillo, 2002a). Thus, a spreading effect of organization, management and production skills is observed in the host territory, positively affecting the LPF. According to Katz (1987), local managers in Latin America frequently begin their professional development in subsidiary plants from the multinational company, where they are trained and from which they learn the necessary skills.

In short, foreign plants generate a *stock* of highly qualified human resources. From this pool of qualified personnel, skills are transferred to local companies. This transfer

benefits from labor rotation and/or the implementation of downsizing strategies, which at last represent the reduction of the pattern. Labor rotation is restrained by the differential index observed between salaries paid by the foreign company and the ones expected at local plants.

In this regard, we could propose a fourth and last working hypothesis:

*H4: Skills on management and international marketing techniques, transferred to the local companies through former managers, will make the local companies they have created show a higher export trend than those local companies established by foreign plant ex-workers or local entrepreneurs.*

However, according to Kathuria (2000), spillovers generated are the result of local companies efforts to investigate, learn and innovate rather than a direct consequence from the presence of the foreign company in the territory. So, the capacity of local companies to make use of the skills transferred from the foreign company will depend from the skills they have previously acquired (Cohen & Levinthal, 1990).

Feinberg & Majumdar (2001) believe that local companies must count with a previous basis of skills on a particular field so as to build their own capacity for perceiving the significance of non-local skills transferred to them and to incorporate externalities generated by other companies. This means that local companies are responsible for the use to be made of the spillovers generated. Their lack of capacity may be so harmful for the territory as lack of externalities is.

## **Methodology**

The methodology employed in the present work is a case-study. The case selected corresponds to one of the foreign investments come to Andalusia during the end of the '60 and beginnings of the '70. These foreign plants settled under the protection of public policies implemented to attract FDI, with the purpose of industrializing economically depressed areas.

The time frame of the study covers thirty years, from 1971 when the company first established in the area, up to 2001. The scope of this research points to the LPF developed after the non-local company settlement.

The case allows analyse the settlement of an only multinational company in a rural area with no previous industrialization, the effects related to the presence of the foreign company within the territory, in absence of dispersive factors, and the consequences caused by the different strategies implemented by the company during the three decades of its existence.

The particular features<sup>5</sup> of this case have circumscribed the effects to the local background, without affecting neighbor municipalities. Thus, the case allows geographically isolate effects derived from FDI, as the ideal framework for a detailed study on the territorial consequences caused by the foreign company.

### **Data included**

Data included in this work correspond to results from an *ad-hoc* survey<sup>6</sup> of 156 questions, organized into 8 subject blocks and 7 sub-blocks<sup>7</sup>, carried out in April, 2001. The questionnaire was sent to every productive company of the local area (25) to be answered by the representative manager of each plant. The reply ratio was 84% (21). The sample used for the statistical analysis includes 95% employment from auxiliary companies of the LPF and 98% total billing of this kind of companies, which makes the sample almost equal to population. Non-productive companies were not included in this study.

The analysis was then completed with qualitative information from interviews to managers from the main as well as the subsidiary plants of the foreign company<sup>8</sup>, and 22 managers from local companies. During these interviews, open questions were formulated with the purpose of understanding the phenomenon observed from the perspective of the principal actors. Information obtained was contrasted with that from interviews to public officers and managers from other fields.

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<sup>5</sup> In first place, these features show us that, due to the agreement between local officers of the municipality and the multinational company, the effects caused by the non-local company have only affected the local background; and in second place, that it is a rural area, with no previous industrialization, and no other multinational company established in the territory. All these circumstances allow isolate the territory as for laboratory research, and analyse the effects of its influence and scope.

<sup>6</sup> The survey was carried out as part of the Doctoral Thesis "The big company and its influence on the territory after the application of flexible organization methods. The experience of the multinational company for components manufacture Valeo Lighting, at Martos (Jaen). See Cubillo (2002).

<sup>7</sup> For a detailed reading of the survey, see Cubillo (2002) o send a reprint request to the author.

<sup>8</sup> With current (April 2001) as well as former managers participating in the design of the main strategies of the non-local plant.

For this manuscript, a small part of the survey will be used. We shall analyse variables related to the following aspects:

- Former labor relationship of the local company's founder with the foreign company
- Former labor relationship of the local company's managers with the foreign company
- Former labor relationship of the local company's workers with the foreign company
- Motivation for establishing the local company
- Support from the foreign company
- Billing
- Production for other markets
- Export production by geographic area and country of destination
- Motivation for starting internationalization process of sales

### **CASE STUDIED: Valeo, Multinational company at the city of Martos (Jaen)**

#### ***Strategy***

For the establishment of this productive center, founders has implamented a Spanish-market seeking strategy. French assemblers (Renault, Citroën, Peugeot, and Simca) arrival to Spain revealed the need for the supply of spare parts and components. Due to the lack of a national industry able to produce components of the quality required<sup>9</sup>, it became necessary to attract foreign industries.

The regulatory framework current at the time of the study imposed high taxes to components import and favored the settlement of foreign companies through a pattern of mixed investments (joint-ventures). The principal function of the foreign partner was to contribute his know-how skills on production and technology. Factors determining the settlement of this production center were public support provided and tax exemption, and then, labor offer at low cost.

The plant was planned to reach a maximum volume of employment of about 600 workers (see annex I). This is the means currently considered as standard for a Valeo Group center.

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<sup>9</sup> This demand was also related to reasons of cultural preference. French assemblers preferred components from French producers.

At the beginning of the '90, the main headquarters of the group restructured the distribution of contracts among its plants. A great part of the Spanish production was transferred to French subsidiaries and, in order to bridge the gap, non-French assemblers from other markets were hired.

This decision meant a great opportunity for the subsidiary plant as well as for the territory. From that moment on, a strategic management was designed on three main bases, in view of the future development of the subsidiary plant. These bases were: foreign trade, local sub-hiring, and product innovation.

The search for new markets, and in particular the decision of attracting the German market, led to the need for product restructuring. The process of contracting German assemblers required higher quality projectors and segments bigger than the ones under production<sup>10</sup>. The keys were R+D investments<sup>11</sup>, product quality improvement, and production process optimization. The first contracts concerned projectors for low range vehicles. As learning and innovation processes improved, contracts quality and quantity increased.

During the first stage of the process, the group was contracted as world producer of the Opel Corsa projector; six years later, they launched their star product. The Volkswagen Golf projector, A-IV version, changed the sector completely after the production of the transparent crystal light and the complex surface parabola<sup>12</sup>. This equipment was then followed by that produced for Audi A2 and A4, and in 1998 the company was contracted for the design, development and production of the Z8 projector for BMW, symbolizing the excellence of the group within the sector.

Foreign sales reached a 348% billing increase during 1992-1999. Currently, about 73% models are produced for the German market and 64% belong to contracts executed with Volkswagen and General Motors. Eighteen percent out of the total billing corresponds to Golf A-IV model production.

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<sup>10</sup> The Spanish subsidiary was devoted to the production of projectors for vehicles of low and medium range, characterized by a developed technology and cost competition.

<sup>11</sup> Consequently, the most important technological lighting center of Valeo Group was created in the area.

<sup>12</sup> This innovation allowed stylists propose the fusion of projectors, and design more aggressive car bodies, which led to the "orientalization" of front esthetics.

Accordingly, outgrowth became necessary. This means that a great part of the production was outsourced. The company decided to focus on its nuclear activity and to sub-hire anything out of its strategy.

The big dimension of sub-hired pieces and the 2 hours frequency of supply suggested that most part of the production had to be made at the nearest plant. This policy allowed this industry benefit from agglomeration economies.

With this purpose in mind, an entrepreneurship support program was developed for managers and workers not only at the plant<sup>13</sup> but also in the local area. The idea was to establish a local group of advanced suppliers, and a set of supporting guidelines detailed in annex 2.

New suppliers were considered strategic partners, and a mutual trust relationship was gradually established with them, allowing their participation from the very start of the development of any new product.

Currently, sub-hired production reaches 90% pieces. Sixty percent of sub-hired production is performed by 10% of suppliers within the local area.

## **Results**

During the first stages of the period analysed, no significant spillovers were observed in the territory. Along this time, the strategy put into practice by the main company on the territory pursued the access to the Spanish market. For this reason, the host territory was considered an operative basis rather than a strategic basis. The relationship between the foreign plant and the host territory was characterized by the lack of linkage in production, due to its vertical organization and high level of production integration.

However, the third decade of the period assessed, corresponding to the start and development of the process of sales internationalization, is characterized by the profusion of spillovers generated.

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<sup>13</sup> A special surplus system was implemented. The company promised to reassign in a maximum period of three months any worker who, having resigned with the purpose of establishing his own company, was forced to come back after his failure in business.

Regarding new market seeking strategy applied by the foreign plant, spillovers have been observed in the generation of a local productive framework and the internationalization strategy of the companies established. Thus, a spin-off process was observed in the territory, with managers and workers completely trained by the foreign plant. This process caused a significant productivity spillover, due in part to the transfer of technological skills and management capacity to the environment.

The municipal area has become a *city-plant*. The LPF is conformed by 30 companies<sup>14</sup>, with an annual billing of 90,15 million euro<sup>15</sup>, and around 1,400 employees<sup>16</sup>. The LPF is organized around a central nucleus of “injector” plants belonging to the second level of sub-hiring (first for Valeo). These are the most advanced companies, representing 82,7% billing out of the total flow from the sub-sector, and employing 69,3% workers in auxiliary plants.

Sixty percent of companies within the LPF were established by former workers from Valeo; 25% were founded by workers from auxiliary plants established after Valeo settled in the area. That is, personnel was trained by former managers and workers from Valeo, generating a second wave of settlement of plants in the area. The remaining 15% corresponds to companies established by local entrepreneurs.

It is believed that in 75% cases the company establishment was facilitated by the presence of Valeo in the area. However, support from Valeo is not similarly perceived, since only 55,6% entrepreneurs admit having received support from the foreign company for their establishment. Only 11,1% of them declares that support comprised land<sup>17</sup> and facilities surrender, as well as machinery surrender<sup>18</sup>.

Survey results show that work done by the foreign company as developer and tutor, or support given to sales internationalization, hiring of non-local managers, and

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<sup>14</sup> This number does not include the two logistic platforms organizing production transportation.

<sup>15</sup> Including billing of small workshops devoted to complementary related activities. This number does not include billing from either logistic platforms or plants devoted to mechanic maintenance.

<sup>16</sup> This number only includes personnel hired by production suppliers, mechanic maintenance plants and logistic platforms. Thus, it does not include either employment generated from service companies established as direct consequence of the presence of Valeo and its suppliers, nor small workshops employees in unofficial economies, or indirect employment generated from activities related to the production process such as raw materials storage and managerial services, among others.

<sup>17</sup> At the beginning, in lack of an equipped industrial area, lands close to Martos plant facilities were surrendered for the establishment of the first workers who decided to found their own company.

<sup>18</sup> The common practice consisted in the surrender of machinery (already redeemed) to be used by local suppliers, as well as the low cost sale of these machines.

diversification of customers, among others, are not considered by local managers as support to their activities.

In the same way, the technological counseling from technical teams for the improvement of production processes is neither considered. In some occasions, this kind of support facilitated 30% to 50% costs reduction, and allowed a significant advance in quality. Currently, LPF shows defective pieces ratios per million varying between 5 and 10 ppm, compared to former ratios of 10,000 and 30,000.

A significant correlation has been observed between the first stages in new market access and the establishment of companies in the territory. The execution of relevant agreements of the foreign plant with other markets has positively influenced the generation of a spin-off process. Similarly, increase in sales internationalization of the non-local company has accelerated the spin-off process and the growth of local companies already established.

Since new companies were established by former managers and workers from the multinational plant, they counted with the significant contribution of skills and experience from the foreign company. This transformed the host territory into a strategic asset for the subsidiary itself.

Thus, we can apply our first hypothesis to the case studied since the change in the FDI strategy caused a change in the attitude towards the territory, strengthened after the LPF setup. During the first two decades of the period analysed (1971-1991), the principal strategy applied by the FDI was local market seeking. During the first part of the third decade, the efficiency seeking strategy was implemented, and towards the end of the period, it was changed to strategic assets seeking in the territory.

The three remaining hypotheses are related with the effects induced on sales internationalization of local suppliers. In this regard, results are not conclusive since sales internationalization is a secondary feature of the LPF and the start of this process is relatively recent.

In terms of billing, a high and continuous commercial dependence from the foreign company is observed. Thus, almost 78% production is sold to customers within the local production area.



Around 47% annual production from auxiliary plants in the territory is required by the multinational plant, and 60% companies admit a dependence higher than 50% of their production. In this sense, the most important company in the LPF and consequently the most consolidated one presents a dependence level of 52,5% from Valeo.

Only developed suppliers<sup>19</sup> of the LPF were able to benefit from the market seeking spillover generated. Except for Inamarsa Group<sup>20</sup>, we cannot point out that local companies have followed the foreign plant model.

Around 56,3% LPF companies are not engaged in export trade. Out of the rest of them, 81% companies declare that sales internationalization involves less than 5% total billing. The average export volume reaches 2,3% out of total sales, showing low internationalization of customers. Only 5% customers belong to other countries.

In global terms, 7,19% production from local companies is exported. This number rises up to 8,72% if we only take into consideration those plants devoted to plastic injection. They show a higher export trend, having already reached an export media aliquot of 6,3% of their total sales. Exported production from these companies represents 97,79% of the total export volume from the LPF.

When analyzing LPF, we cannot refer to a significant stimulus for exporting or to a dragging effect on LPF sales, as the second hypothesis proposes. It is not applicable here. Results correspond to the ones from the study performed by Crombrugghe et al. (2001) where in most cases analysed, effects derived from the implementation of strategic sub-hiring links by foreign companies did not generate export indexes higher than 5-8% of sales, though an increasing trend was clearly observed.

Nevertheless, the second hypothesis may be applicable if we include the following postulate: *“Success in the implementation of new market seeking strategies by the foreign plant will generate a dragging effect over the group of direct and strategic local suppliers, favoring internationalization”*. Obviously, for the case studied, this dragging effect is not evident within the LPF, but it does apply for direct and strategic suppliers of the foreign plant; that is, for more developed local suppliers and companies established by former managers from the foreign plant (see annex III and IV).

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<sup>19</sup> Suppliers of plastic injection, acting as direct suppliers of the non-local plant.

<sup>20</sup> INAMARSA Group was founded by a former manager from Valeo and is conformed by the following companies: Inamarsa, Tean, Talleres San Juan de Dios, ...

The low export trend leads to two possibilities: first, the years passed since LPF establishment<sup>21</sup>, considering that 80% managers have shown interest for new markets access and for decreasing their dependence from the foreign plant, or urged by the pressure they feel, or fearful of the possible closure of the plant. In second place, it makes us think about the influence of other factors. Under-exposure of local companies to non-local competition during a great part of their existence may have exerted a negative influence on them. Thus, low industrial initiative within the territory, and the lack of managerial force among local social values may have played an important role.

Regarding geographic target of local managers exports, 80% injectors are destined to the European Union –mainly Germany, France, and Italy. In second place, 40% local companies export to Mexico<sup>22</sup>. Other exports are sold to the Mercosur<sup>23</sup> and the rest of European countries<sup>24</sup> (20% products exported corresponds to plastic injection companies).

This fact supports the third hypothesis formulated, since local export process begins by those markets where principal customers of the foreign plant are settled. However, most of the export volume from the LPF is destined to other subsidiaries from Valeo Group in France, Argentina, Brazil, or Mexico. In this sense, most externalities are represented by the advantage offered by network economies to the multinational group allowing the start of the internationalization process.

Thus, for this case, local suppliers starting their international expansion have implemented a market access strategy imitating that of the foreign company, and have used information from other markets in which it is present through subsidiaries from the same group. In any case, during the export process, local companies have made use of information from other markets directly or indirectly provided by the foreign plant.

A significant correlation has been observed among the export volume, the place in which the supplier company is situated within the sub-hiring chain, and the former labor relationship of the owner with the foreign company. Thus, a higher export trend has been detected for those companies established by former managers of the foreign

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<sup>21</sup> For companies conforming the LPF media is around 9,9 years. According to CEOE, media for Spanish companies duration is 12 years.

<sup>22</sup> A lighting plant from Valeo Group is settled in Mexico.

<sup>23</sup> Mainly Argentina and Brazil, where Valeo Group has established lighting plants.

<sup>24</sup> Excluding countries conforming the European Union.

plant, compared to those established by former workers of the foreign plant or entrepreneurs. This supports our fourth hypothesis.

Only 37,5% companies conforming the LPF are involved in exportation, and their founder or founders have been former personnel from the foreign company (see annex V). In turn, if we only take into consideration those plants devoted to plastic injection, that is, those belonging to the second category within the sub-hiring chain (first, regarding Valeo Group), this percentage rises up to 66,7% (see annex VI).

The best example is Inamarsa, founded by a former manager from Valeo Martos, which exports 19% of its production. However, its level of internationalization opposes to its low level of production and customers diversification; 82,2% production is destined to Valeo Group subsidiaries.

## **Conclusions**

The case studied shows that it is possible for a big company to be able to experience significant organization mutations when strategies are changed in the territory. These mutations may induce the generation of spillovers in the host region and therefore influence its economic development.

The analysis has shown the significance of the type of strategy selected by the investor determining the kind of organization adopted by the subsidiary, and therefore its influence on the increase in the level of competition in the host region, providing benefits of different nature and intensity.

Experience seems to reveal that the impact of the access to new markets may be associated to developed stages of the investments rather than the technological level of the industry (Cubillo, 2002a; Forni & Paba, 2002).

On the other hand, results do not allow determine the exact intensity and nature of externalities derived from the internationalization strategy of the foreign plant. No matter the paternal attitude shown by the local management of the foreign plant, LPF companies have not taken advantage from the whole variety of externalities generated.

Some authors observe that externalities are associated to local capacity and competition. Thus, the capacity to incorporate innovation to the local environment, for

this case, the capacity to imitate and/or implement internationalization strategies, is strongly limited by the social value granted by local population.

When the successful development of an industrial activity is considered as paradigm of richness and social acceptance, spillover intensity will be higher than in the case studied, in which land possession, for example, is the nucleus of social value for the local population. Excessive commercial dependence from the foreign company may also discourage export initiative within the LPF.

At last, a close correlation has been observed among the category in which the local plant is situated within the supply chain, the former labor relationship of its founder or managers with the foreign company, and the volume of production destined to exportation. This indicates that market access spillovers are more intense for companies keeping a close and direct linkage with the foreign plant than for local companies which base their internationalization on imitation strategies from the foreign company.

However, there exist two significant limitations in this study: i) determining the generation of externalities; and ii) separating the effects derived from the market access strategy from those derived from the increase in productivity, since they are actually closely related.

It would be interesting to further study the elements determining the relationship between the foreign company and its direct suppliers and influencing their internationalization of spillovers. It would be also important to analyse those factors limiting the incorporation of externalities by local plants not directly related to the foreign company.

## REFERENCES

- AITKEN, B., HANSON, G.H. y HARRISON, A.E. (1994):** *Spillovers, foreign direct investment and export behavior*. Working Paper N° 4967. Working Papers Series, National Bureau of Economic Research. Cambridge, MA.
- AITKEN, B., HANSON, G. y HARRISON, A.E. (1997):** "Spillovers, foreign direct investment and export behavior". *Journal of International Economics*, Vol. 43, N° 1-2, August.
- AITKEN, B., y HARRISON, A.E. (1999):** "Do domestic firms benefit from direct foreign investment? Evidence from Venezuela". *American Economic Review*, Vol. 89, N° 3, 605-618.
- AMIN, A. Y TOMANEY, J. (1997):** "El potencial de desarrollo regional de las inversiones externas en las regiones menos favorecidas de la Comunidad Europea". In Vázquez Barquero, A. et al.(eds.): *Gran Empresa y Desarrollo Económico*. Ed. Síntesis. Madrid.
- BEDI, A.S. y CIESLIK, A. (2000):** *Foreign direct investment and host country regional export performance: Evidence from Poland*. Paper presented for the MID-West International Economics Meetings FALL 2000. University of Minnesota.
- BEHRMAN, J. y WALLENDER, H. (1976):** *Transfer of manufacturing technology within multinational enterprises*. Cambridge, Mass. Ballinger.
- BERNARD, A.B. y BRADFORD, J. (2001):** *Why some firm export*. National Bureau of Economic Research (NBER), Working Paper N° 8349. Cambridge.
- BLOMSTROM, M. (1986):** "Foreign investment and productive efficiency: The caso of Mexico". *Journal of Industrial Economics*, 25.
- BLOMSTROM, M. (1989):** *Foreign direct investment and spillovers: a study of technology transfer to Mexico*. Routledge. London.
- BLOMSTROM, M. Y KOKKO, A. (1998):** "Multinational corporations and spillovers". *Journal of Economic Surveys*, Vol. 12.
- BLOMSTROM, M. y PERSSON, H. (1983):** "Foreign investment and spillover efficiency in an underdeveloped economy: Evidence from the Mexican manufacturing industry". *World Development*, 11, 493-501.
- BRAINARD, S. (1997):** "An empirical assessment of the proximity concentration trade-off between multinational sales and trade". *American Economic Review*, Vol. 87, N° 4, 520-544.
- CAVES, R. (1974):** "Multinational firms, competition and productivity in host country industries". *Economica*, N° 41, may, 176-193.
- COE, D. y HELPMAN, E. (1995):** "International R&D spillovers". *European Economic Review*, N° 39, 859-887.

**COE, D., HELPMAN, E. y HOFFMAISTER, A. (1997):** "North-South R&D spillovers". *Economic Journal*, Nº 107, 134-149.

**COHEN, W.M. y LEVINTHAL, D.A. (1990):** "Absorptive capacity: A new perspective on learning and innovation". *Administrative Science Quarterly*, 35, 128-152.

**CROMBRUGGHE, A. GARRIGÓS-SOLIVA, D. Y SARRIÓN, E. (2000):** *Practical case studies on industrial subcontracting and partnership*. UNIDO Programme for the promotion of industrial subcontracting and partnership. Small and medium industries branch. Working Paper. UNIDO-UN. Austria.

**CUBILLO PINILLA, J.M. (2002a):** *La gran empresa y su influencia sobre el territorio tras la adopción de modos flexibles de organización. La experiencia de la multinacional de componentes Valeo-Iluminación en Martos (Jaén)*. Doctoral Thesis. Departamento de Estructura Económica y Economía del Desarrollo, Universidad Autónoma de Madrid.

**CUBILLO PINILLA, J.M. (2002b):** "Gestión estratégica de la cadena de suministro y generación de derrame en el territorio. Una aplicación a la industria automotriz de componentes". *Gestión Empresarial*, Vol. 4, Nº 2, July-December, 57-73.

**CUBILLO PINILLA, J.M. (2003):** "Implicaciones territoriales de la inversión extranjera". *Comercio Exterior*, Vol. 53, Nº 3, March.

**CHUDNOVSKY, D. y LOPEZ, A. (1997):** *Las estrategias de las empresas transnacionales en Argentina y Brasil: ¿Qué hay de nuevo en los años noventa?*. Centro de Investigaciones para la Transformación – CENIT, Working Document Nº 23. Buenos Aires.

**CHUDNOVSKY, D. y LOPEZ, A. (1999):** *Globalization and developing countries: Foreign direct investment and growth and sustainable human development*. Paper prepared for the UNCTAD/UNDP Global Programme on "Globalization, Liberalization and Sustainable Development".

**DUNNING, J. (1993):** *Multinational enterprises and the global economy*. Addison-Wesley. New York.

**DUNNING, J. (1994):** "Re-evaluating the benefits of foreign direct investment". *Transnational corporations*. Vol. 3, Nº 1.

**ERIKSSON, K. et al. (1997):** "Experiential knowledge and cost in the internationalization process". *Journal of International Business Studies*, Vol. 28, Nº 2, 337-360.

**FEINBERG, S.E. y MAJUMDAR, S.K. (2001):** "Technology Spillovers from foreign direct investment in the Indian pharmaceutical industry". *Journal of International Business Studies*, Vol. 32, Nº 3, 421-437.

**FERNÁNDEZ, Z. y NIETO, M.J. (2002):** *"International involvement of SMEs: the impact of ownership"*. Working Paper #02-58(21), Business Economics Series. Universidad Carlos III de Madrid.

**FORNI, M. y PABA, S. (2002):** "Spillovers and the growth of local industries". *The Journal of Industrial Economics*, Vol. 50, Nº 2, June, 151-171.

- FOSFURI, A., MOTTA, M. y RONDE, T. (2001):** "Foreign direct investment and spillovers through workers' mobility". *Journal of International Economics*, Vol. 53, 205-222.
- GLOBERMAN, S. (1979):** "Foreign direct investment and spillover efficiency benefits in Canadian manufacturing industries". *Canadian Journal of Economics*, Nº 12, 42-56.
- GROSSE, R. y TREVINO, L. (1996):** "Foreign direct investment in the United States: An analysis by country of origin". *Journal of International Business Studies*, First Quarter.
- HADDAD, M. y HARRISON, A. (1993):** "Are there positive spillovers from foreign direct investment? Evidence from panel data from Morocco". *Journal of Development Economics*, Nº 42, 51-74.
- HEGAZI, W. y SAFARIAN, A.E. (1999):** "Trade, foreign direct investment and R&D spillovers". *Journal of International Business Studies*, Vol. 30, Nº 3, 491-511.
- HITT, M.A., HOSKISSON, R.E. Y KIM, H. (1997):** "International diversification. effects on innovation and firm performance in product-diversified firms". *Academy of Management Journal*, Vol. 40, Nº 4, 767-798.
- KATHURIA, V. (2000):** "Productivity spillovers from technology transfer to Indian manufacturing firms". *Journal of International Development*, Nº 12, 343-369.
- KATZ, J.M. (1987):** *Technology creation in Latin America manufacturing industries*. Ed. St. Martin's Press. New York.
- KOGUT, B. y ZANDER, U. (1993):** "Knowledge of the firm and the evolutionary theory of the multinational corporation". *Journal of International Business Studies*, Vol. 24, Nº4, 625-645.
- KOKKO, A. (1992):** *Foreign direct investment, host country characteristics and spillovers*. The Economic Research Institute. Stockholm School of Economics.
- KOKKO, A. (1994):** "Technology, market characteristics and spillovers". *Journal of Development Economics*, 43, 279-293.
- LALL, S. (1980):** "Vertical interfirm linkages in LDCs: An empirical study". *Oxford Bulletin of Economics and Statistics*, Nº 42.
- LIN, J.C (2000):** *Inter-Firm spillovers and export growth: Evidence from the Taiwanese electronics industry*. Paper presented for the Graduate Student Conference in Economics, Yale University.
- PFAFFERMAYR, M. (1996):** "Foreign outward direct investment and exports in Austrian manufacturing : substitutes or complements ?". *Weltwirtschaftliches Archiv*, Nº 132, 500-522.
- PERROUX, F. (1955):** "Note sur la notion de pôle de croissance". *Économie Appliquée*, Nº 7, pp. 307-20.
- PORTER, M. (1990,1991):** *The competitive advantage of nations*. Cap. II, III y V. The Free Press. A Division of Macmillan Inc. New York.

**REUBER, G.L. et al (1973):** *Private foreign investment in development*. Clarendon Press. Oxford.

**RHEE, Y.W y BELOT, T. (1990):** *Export catalysts in low-income countries*. World Bank Discussion Papers, N° 72.

**RUGMAN, A. M. Y D'CRUZ, J.R. (1997):** "The theory of the flagship firm". *European Management Review*, 15 (4), August, pp. 403-411.

**RUGMAN, A. M. Y D'CRUZ, J.R. (2000):** *Multinationals as flagship firms: regional business networks*. Oxford University Press. Oxford.

**RUGMAN, A. M. y VERBEKE, A. (2003):** "Multinational enterprises and clusters: An organizing framework". *Management International Review*. (to be published).

**VÁZQUEZ BARQUERO, A. (1997):** "La integración de las empresas externas en los sistemas productivos locales". In Vázquez Barquero, A. et al. (eds.): *Gran Empresa y Desarrollo Económico*. Ed. Síntesis. Madrid.

**VÁZQUEZ BARQUERO, A. (1999):** *Desarrollo, redes e innovación*. Ed. Pirámide. Madrid.

**VERNON, R. (1971):** "Foreign trade and foreign investment: Hard choices for developing countries". *Foreign Trade Review*, January-March.

**WATANABE, S. (1983):** "Technological linkages through subcontracting in Mexican industries". In Watanabe, S. (ed.): *Technology Marketing and Industrialization: Linkages between Small and Large Enterprises*. Macmillan.



## ANNEX I: Characterization of Valeo Lighting

Characterization of Valeo Lighting	
Name: Country of Origin: Sector: Activity: Spanish market aliquot: Plants:	Valeo Lighting France Automotive components Projector and pilot manufacture 85% Martos (Jaen) and Sant Esteve Sesrovires (Barcelona)
Martos Plant	
Year founded: Personnel: Billing: Features of the center:	1971 1,325 workers <sup>25,26</sup> 270,5 million EURO (80% Spanish division billing) <ul style="list-style-type: none"> <li>• 1<sup>st</sup> production center of the group in number of employees</li> <li>• 3 times larger than the standard center of the group<sup>27</sup></li> <li>• 5 times larger than Sant Esteve Sesrovires plant in number of employees</li> <li>• Hires a population of more than 50% workers from the group in Latin America<sup>28</sup></li> <li>• Hires a population of near 40% workers from the group in Asia<sup>29</sup></li> </ul>
Production sections: Production lines: Sub-hired production: Production local content:	2 (Projectors and pilots) 11 90% 60%

Source: This author from Valeo's data.

<sup>25</sup> Data registered on April 2001.

<sup>26</sup> Andalusia plant hires 1,76% workers out of the total Valeo personnel; 23,5% workers out of the Spanish group; 17% workers in the field (lighting); and 83% workers from the "lighting" division in Spain.

<sup>27</sup> The average plant of this Group hires approximately 450 workers per center. This average number decreases to 340 workers/plant when compared with total Spanish production centers of the Group (including all divisions) –this last value does not include roll from companies of recent incorporation in Spain, as Sylea Labauto, Cablinal and Cablauto.

<sup>28</sup> The number of employees at Valeo Group in Latin America reaches 2,400 people.

<sup>29</sup> Valeo hires a total of 3,400 people in Asia.

## ANNEX II: Valeo support to local supplier companies

<i>Support</i>	<i>Type of Support</i>
<b>Technical and Technological Support</b>	<ul style="list-style-type: none"><li>• Technical training</li><li>• Advisors and tutors for the productive process</li><li>• Advisors for productivity increase:<ul style="list-style-type: none"><li>◆ Improvement of the productive process</li><li>◆ Improvement of cost structure</li><li>◆ Improvement of management</li></ul></li></ul>
<b>Access to Equipment / Technology</b>	<ul style="list-style-type: none"><li>• Equipment surrender</li><li>• Low cost sale of equipment</li></ul>
<b>Guaranty for Production</b>	<ul style="list-style-type: none"><li>• Sub-hiring agreement and securing of the productive activity</li></ul>
<b>Financial Support</b>	<ul style="list-style-type: none"><li>• Equipment surrender</li><li>• Low cost sale of equipment</li><li>• Acquisition of raw materials and surrender</li><li>• Group price negotiations with raw materials suppliers</li></ul>
<b>Training</b>	<ul style="list-style-type: none"><li>• Management tutors</li><li>• Training in managerial and industrial skills</li><li>• Training courses</li><li>• In-service technical learning</li></ul>
<b>Market Access</b>	<ul style="list-style-type: none"><li>• Encouragement of customers diversification to eliminate industrial risks</li><li>• Encouragement of sales internationalization</li><li>• Linkage with foreign customers</li><li>• Linkage with qualified managers</li></ul>

Source: This author.

### ANNEX III: Supply chain applied to Valeo Martos example

<i>Production Chain</i>			<i>Companies</i>
<b>Assemblers</b>			Volkswagen, Audi, BMW, Seat, Opel, Renault, Peugeot, Citroën
<b>Suppliers Chain</b>	First Level	HSC*	Valeo
		Injection	Teknia (Intersur), Tean
	Second Level	Injection	Inamarsa, Tean, Teknia, Proinsur, Raal 2000
		Mold and Matrix	Utiplax 1, Moldesur, Talleres FB, Estampaciones Lara, M.C. López Acebrón, Tecolsa (Francisco Martínez Piedras)
	Third Level		Ditramon, Moldesur, Talleres FB, Talleres San Juan de Dios, Estampaciones Lara, M.C. López Acebrón, Montajes San Amador, Reciclados Checa, Reciclados Tuccitanos, Tilsur

1. Note.- See Figure 6.2

2. \* HSC: Highly Specialized Component

Source: This author.

**ANNEX IV: Main exporting companies from the LPF**

<b>COMPANY</b>	<b>PRINCIPAL ACTIVITY</b>	<b>BILLING 1996</b>	<b>BILLING 2000</b>	<b>EMPLOYEES 2001</b>	<b>CATEGORY WITHIN SUB-HIRING CHAIN</b>	<b>LEVEL OF DEPENDENCE FROM FOREIGN PLANT (%)</b>
<b>INAMARSA</b>	Injection	20,96	23,44	181	2	52,50
<b>TEKNIA</b>	Injection	8,04	16,08	97	1,2	92,00
<b>RAAL 2000</b>	Injection	nd	7,81	130	2	55,00
<b>PROINSUR</b>	Injection	1,50	2,40	70	2	50,00
<b>UTIPLAX 1</b>	Molds and Matrixes	1,15	1,65	38	2	60,00

## ANNEXO V

**Table of contingencies: Export activity and former labor relationship of founder/s with foreign plant for the whole LPF**

			EXPORT ACTIVITY		TOTAL
			NO	YES	
FORMER LABOR RELATIONSHIP OF FOUNDER WITH FOREIGN PLANT	NO	Count	4	4	8
		Frequency expected	4,5	3,5	8,0
		Labor relationship	50,0	50,0	100,0
		Export activity (%)	44,4	57,1	50,0
	YES	Count	5	3	8
		Frequency expected	4,5	3,5	8,0
		Labor relationship	62,5	37,5	100,0
		Export activity (%)	55,6	42,9	50,0
TOTAL		Count	9	7	16
		Frequency expected	9,0	7,0	16,0
		Labor relationship	56,3	43,8	100,0
		Export activity (%)	100,0	100,0	100,0

Source: This author.

## ANNEX VI

**Table of contingencies: Export activity and former labor relationship of founder/s with foreign plant for the whole of injector companies**

			EXPORT ACTIVITY		TOTAL
			NO	YES	
FORMER LABOR RELATIONSHIP OF FOUNDER WITH FOREIGN PLANT	NO	Count	0	2	2
		Frequency expected	0,4	1,6	2,0
		Labor relationship	0,0	100,0	100,0
		Export activity (%)	0,0	50,0	40,0
	YES	Count	1	2	3
		Frequency expected	0,6	2,4	3,0
		Labor relationship	33,3	66,7	100,0
		Export activity (%)	100,0	50,0	60,0
TOTAL		Count	1	4	5
		Frequency expected	1,0	4,0	5,0
		Labor relationship	20,0	80,0	100,0
		Export activity (%)	100,0	100,0	100,0

Source: This author.