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The migrations of the industrial activity inside and outside the European Union

Abstract: The report that is hereby introduced tries to put forward new evidence on the process of migration of industrial companies located within the EU., that channel their new manufacturing investment indistinctly within or without the EU. space. With this objective, the report describes an international and regional approach that distinguishes between, on the one hand, shifts of productive localization of the facilities among the EU. and other countries, and, on the other hand, between central and peripheral countries within the EU., according to their income levels. To that end, it has been necessary to put together fresh statistical information that includes more than 150 operations, much more thorough for Spain than for the remaining countries. With this information, the report characterizes the type of companies and activities referred to, their national and regional origin and their chosen destination, the situation in which the old facilities are left, and the productive formulae adopted at their new locations, together with the motives that companies put forward to explain these moves. On the basis of this qualification, some hypothesis have been drawn on the causes and deciding factors, which in many cases coincide with the motives stated by the companies, and the scope that they can reach in the future.

1. Introduction [1]

In the last few years, the ceasing of the productive activities that were taking place in various industrial facilities, with big size at times, located in countries of the European Union and owned by international firms, has aroused the interest of the media and of the public opinion. This special attention is due, in part, to the negative effects to any ceasing of productive activity, but, above all, to the fact that the reason alleged for closing down the facilities has not always been the absence of profits in the activity that was being developed. Instead, the cause for these changes was to find another location in another country, where the company could gain some comparative advantage. The cases of companies such as Hoover (France), Digital (Ireland), Gillette, Tudor, and IBM (Spain) are among the most controversial and well known examples of this process that should be called, strictly, as migration of industrial activity; nevertheless, there are many others, as it will be shown in this paper.

The new locations of these activities -some of them clearly stated, others just pointed out- have offered some clues about this migratory process. These causes, far from being reassuring, have tended to increase the social alarm, specially among the workers affected by the closing down of the plant, but also, among the regional and national authorities, that can not understand these causes and, therefore, can not foresee how this process will develop in the future. The fact that, in the cases mentioned above, the new location of the productive activity was found in another country within the EU, has raised the question of the importance, when choosing locations, of differences in fiscal and labor legislation in the industrial structure or in the level of development among the countries of the EU. On the other hand, the fact that, in other cases, the direction of the move pointed towards developing countries, with completely different economic and social organizations, has raised the old ghost of delocalization, soon linked to a new word, "social dumping", created in the aftermath of the rapid international expansion of the so-called New Industrialized Countries; an expansion that it is

[1] This paper gathers part of a previous investigation, supported by the Committee of the Regions of the European Union and by the Junta de Andalusia. The final paper, whose title is: *Changes in the localization of the industrial activity in the European Union (delocalization and relocation)* was presented in October of 1994, and it was elaborated by professors Rafael Myro (director), Carlos Manuel Fernandez (coordinator), and Antonio Mora (researcher), with the aid of Federico Pablo and Andrew Mold. This paper has been used for the elaboration of the Dictum about the "Delocalization of international firms", Brussels, July 19-20th 1995, CDR 228/95.

seen by some as a threat to the Welfare State in the industrialized countries.

It is remarkable, that this migratory phenomenon has not given way to an appropriate investigation of its extent and motivations, probably because it is too early for it [2]. This paper tries to fill a gap in this field. In doing so, we have tried, above all, to obtain a preliminary picture of the size, dimension, and importance of the migratory process of industrial firms in the EU, by providing a new set of statistical information [3]. We have been able to characterize the firms according to the type of activities, the point of origin and the chosen locations, the situations in which the old facilities are left, and the productive formulas used in the new ones, and finally the declared reasons for these changes. Building upon this characterization, some hypothesis have been established as the real motivations; which in many cases coincide with the declared ones.

With the same objective of knowing of the factors that underlie the changes in the international localization, and assuming that the main focus of this paper is the moves of activities that take place among countries of the EU, special emphasis is placed in two areas: the *Center* of the EU, formed by Germany, Denmark, France, Italy, Belgium, Luxembourg, Netherlands, and the United Kingdom, and the *Periphery* of the EU, with Spain, Ireland, Portugal, and Greece; using the income level as the differentiating criteria.

Finally, a word of warning: this paper is just a first approximation to the analysis of the migratory movements of productive activities, and therefore, it is not intended to be conclusive; nevertheless, we believe that the final result shows

[2] See, among other, Arthuis (1993 a, b), Maillard (1993), Laviolette (1994), Fernández (1995) and OCDE (1995).

[3] Unfortunately, there are no official records about this process. So, in most of the cases, the information comes from specialized media, and therefore, it was not easy to find the cases (most of them in the nineties) sometimes shown as examples of the international expansion of the firms. However, since the exit of Gillette, the news for Spain are very explicit. On the other hand, the information obtained from the unions and the associations of firms was not as complete and clear as we would have liked, probably because of the increasing sensibility that has been created around the migrations. In any case, excluding the smaller, but sufficient, relevance of the traditional non labor intensive sectors -the oldest and most famous activity, and therefore the less important in order to know better the process as a whole- for the rest of the sectors, in particular electronics, chemicals, and food products..., the cases are abundant and expressive of the new migratory tendencies. It is also necessary to insist in the strong national character of the operations, in many cases Spanish, which reduces the efficiency of any global conclusion about the relevance of this phenomenon, as long as the information is not complete. Finally, the quality of the information is not constant; specially with respect to the motivations declared by the firms when changing locations.

a satisfactory view of what is really happening in the European area.

2. Conceptual aspects

The migrations of the industrial activity can be considered as changes in localization of *static character* (reassigning the resources given in two locations, compensating a disinvestment with an investment or with a better occupation of the facilities located in other countries), that constitute only a part, probably the smallest one, of all the changes. Another type of international changes of the industrial activity is the *dynamic* one; a type that, apparently, follows motivations related to the market, cost, availability of factors, and incentive policies. Therefore, limiting the work to the study of the migrations (the static form) would mean taking a very partial point of view. What could be deduced about the motivations of Gillette when it decides to close its plant in Seville, if we do not consider that Spain, and Andalusia inside of it, is a region that attracts flows of industrial direct investments?

This does not mean that there are no differences between the static changes in localization, through international movements in the activity of a plant or migrations, and the dynamic changes, through the opening of new plants in alternative locations, without closing the former plants. The closing of a plant is always traumatic and it damages the image of a firm. Also, very frequently, it means losses for the firm due to the existence of sunk-costs. Therefore, the closure of plants only takes place when the firm faces extreme difficulties, usually in response to unavoidable processes of reorganization inside the firm in order to improve its competitiveness. These processes very frequently mean an adjustment of costs, implying the abandonment of certain products or losses in the productive capacity . In this sense, the term migration of the activity might be misleading. The closure of plants shows, most of all, the defensive aspects of the international strategy of the firm. On the other hand, the international expansion through new plants is an example of the offensive aspects.

However, the differences should not be exaggerated. As in other parts of the social and economical evolution, the offensive and defensive aspects of an strategy are frequently linked and it is not easy to differentiate between them. For example, the change in location that take place through migration is not totally an expression of a static reassignment of investments in the space: the plants that apparently replace, in another country, those that were closed, do not represent exactly the same productive and technological characteristics. Instead, they introduce changes and advances that show the new strategies of the firm. Similarly, its international expansion , through new investments located in countries, different from the one where they are established , hide deep reorganizations that alter the production and employment characteristics of the old plants. The differences between the static and dynamic changes in location are less visible if the migration of the industrial activity affects certain products and not the whole production of the plant.

The changes in the international location of the productive activity take place in all directions: between developed countries, between specific areas under a process of economic integration, like the European Union, and between places and areas that are very different from the point of view of their economical, political, and social development. This is an obstacle to learn about their causes. In fact, the economic theory has a long way to go in terms of the foreign direct investment. The dominant explanatory focus, known as the eclectic theory, was done by Dunning (1988); a theory that combines elements of the theory of industrial organization, the theory of the firm, and the theory of location. The eclectic theory is a good starting point, although too general, and therefore, it needs greater precision in terms of the factors that determine the industrial location.

Nonetheless, in order to overcome the deficiencies of the analytic framework with precise characterizations of the facts, special attention will be paid to those changes in the international location of the industrial activity of static character in the form of delocalizations and relocalizations. This requires a precise definition of both terms.

Delocalization (a term created in the sixties in numerous studies, and that in certain occasions is vaguely and wrongly used) means the moving of the industrial activities from industrialized countries to developing countries with a lower level of income per capita (less than half than the first), and therefore, with a lower average wage of the working population. The moving referred to must be carried out by firms from industrialized countries and through foreign direct investment, with or without the closing of the plants in the country of origin (migration). On the other hand, *relocation* means a returning process, of repatriation, of activities initially delocalizated, to the original country or another developed country (Mouhoud, 1989, 1993).

3. Characterization of the migratory firms

The available information about the production moved to other countries, in and out of the EU, includes 154 plants that belong to 140 companies. Most of these companies are multinational firms in high and intermediate technology sectors, where there are higher levels of concentration and international mobility (Myro and Yagüe 1991), channeling an important part of the foreign direct investment. The former does not exclude the participation, in this process, of small and medium size firms. However, their relative presence is always smaller, except in labor intensive sectors, where their presence is proportionally greater. On the other hand, although it was not possible to capture it in this study, this type of firms (specially the small ones) is actively participating in the cross-border migrations, as it has been pointed out in recent studies (Bode et al., 1994).

Another important fact is the majority presence of companies located in Spain (66 % of the total) in relation to other countries of the EU, specially France (15 %). The rest of the cases have very scarce o no at all representation, like Italy, the United Kingdom, and Germany (between 6 and 7 firms) or Belgium, Netherlands, Ireland, and Portugal with only one firm. This distribution shows that some countries can offer more important evidence, and, as it was pointed out, the difficulties to obtain this type of information.

More satisfactory, in terms of its significance, is the results referred to the sectorial origin of the plants moved [4], given that they seem to respond -with a certain level of certainty- to the usual spectrum of the migrations in the EU (table 1). So, we find the presence of the most technologically advanced activities (36 %), with electronics and machinery and electric material in the top positions (33

[4] Following the sectoral classification of the OCDE, according to the technological intensity, the *high intensity* industries include electronics, machinery, and electric material; those of *intermediate intensity* include chemistry, transportation material , and mechanical equipment; and finally, in those of *low intensity* we find iron industry and metallic products, food products, paper and graphic arts, textile, leather and footwear, toys and others.

and 20 operations, respectively) as well as those of intermediate level (15 %), such as chemical products and transport material. A third group of operations, precisely the most abundant in the analysis (49 %) is formed by traditional activities; activities that could be divided between those intensive in labor, the most abundant ones (textile, leather and footwear and toys) and those that belong to an heterogeneous group lead by food industries (18 operations), followed by paper and graphic arts, iron industry and metallic products with very few operations.

Table 1.- Sectoral origin of the plants moved. European Union-12.

Sector	Spain		Others		Total	
	num.	%	num.	%	num.	%
Electronics and computers	18	18,2	15	27,3	33	21,4
Machinery and electric material	12	12,1	8	14,5	20	13,0
Chemistry and pharmaceuticals	5	5,0	7	12,7	12	7,8
Transportation material	7	7,1	1	1,8	8	5,2
Mechanical equipment	2	2,0	-	-	2	1,3
Iron industry and metallic transformation	4	4,0	-	-	4	2,6
Food Industries	14	14,1	4	7,3	18	11,7
Paper and graphic arts	2	2,0	4	7.3	6	3,9
Textile	23	23.1	7	12,7	30	19,5
Leather and footwear	3	3,0	5	9,1	8	5,2
Toys	8	8,1	2	3,6	10	6,5
Others	1	1,0	2	3,6	3	1,9
Total	99	100,0	55	100,0	154	100,0

Source: Own elaboration.

The sectoral panel follows, in fact, the line of other studies that have tried to quantify the magnitude of the production moved. It is also in line with the experts opinions about the sectoral origin of the most relevant migrations of the industrial activity. This panel is not accidental, given that it responds, in part, to particular competitive sectoral circumstances.

Finally, it is appropriate to point out, when referring to the Spanish case, that the facilities moved come, most of them, from regions whose per capita income level is higher than the national average (table 2). It should be added also that when the facilities moved belong to advance and intermediate sectors, the former come much more often from the regions referred to, as it could be expected, taking into account the higher productive specialization in these activities. This conclusion con not be applied to the operations involving traditional industrial activities, obviously much more common in those regions with lower income level, in relative terms. Nevertheless, the number of operations affecting is practically the same for both regions.

Table 2.- Regional origin of the plants affected by the migrations according to income level and technological intensity
(Spain = 100)

	Technological intensity			
Income level	High	Intermediate	Low	Total
<100	5	3	26	34
>100	12	10	23	45
Total	17	13	49	79

Source: Own elaboration.

4. The directions of the migratory movements

The spatial orientation of the migratory flows between geographical areas is an essential aspect to achieve a first interpretation of the reasons that determine the flows, given that each area has differentiated location advantages. These advantages have different values depending on the type of manufacturing activity, so that the assumption of different types allows a greater advance in the knowledge of those reasons that determine the migrations. This analysis will be later contrasted with the reasons to move given by the firms, creating in this way a more definitive profile of the determinants.

For the development of this section, we thought it was good to distinguish between the intra-community and the extra-community moves and its sectoral orientation, in order to find the differentiating characteristics and their meaning. Along with this, there is an preliminary analysis of the determinants of the movements in the different areas. Also, it seems useful to include, as a summary, the forecast of two important reports by the Community about the creation of the Single Market and its impact in the sectoral evolution, with the purpose of projecting them on the migratory picture.

4.1. Global picture of the movements

In a first global presentation of the results (table 3) we observe that the destinations of the plants moved outside the EU are almost identical to those inside of it (80 and 75, respectively, excluding all unknown operations). Its breaking down in terms of the technological intensity shows different behaviors. So, industries with high levels of technological intensity seem to prefer, as destinations, countries inside the European Union (two thirds of the total); this can also be said about those with intermediate levels of technological intensity, given the similarity in the results. On the contrary, industries with low levels of technological intensity, considered as traditional, choose more (with an equivalent percentage) destinations outside the EU, almost exclusively developing countries and New Industrialized Countries (NICs).

Table 3.- Destination of the production moved accorded to its technological intensity
(Number of firms)

Sector	Technological intensity							
	High		Intermediate		Low		Total	
	num.	%	num.	%	num.	%	num.	%
European Union	33	58,9	15	60,0	27	29,0	75	43,1
Center	25 (3p)		9 (2p)		18		52	
Periphery	8		6		9		23	
Other OECD countries	2	3,6	1 (p)	4,0			3	1,7
Eastern Europe	4	7,2	2	8,0	3	3,2	9	5,2
Africa			2	8,0	31	33,3	33	19,0
Africa North			2		26		28	
Rest of Africa					5		5	
Asia	11	19,6	1	4,0	14	15,1	26	14,9
China	2				4		6	
Rest of Asia	9 (p.)		1		10		20	
Latin America	1	1,8	1 (p)	4,0	5	5,4	7	4,0
Other NICs countries			1	4,0	1	1,1	2	1,1
No Data	5	8,9	3	12,0	11	11,8	19	10,9
Total	56	100,0	26	100,0	92	100,0	174	100,0

Note: (p) = probably.

Source: Own elaboration.

The most relevant feature of the movements outside the EU is the almost complete concentration of these movements in this last group of countries, in contrast with the three cases whose destinations are countries of the OCDE. By areas, Africa and Asia, with 33 and 26 cases respectively, concentrate three fourths of the total, while Eastern Europe (9 cases) and Latin-America (7 cases) have a smaller presence. Inside Africa, the countries of destination are located in the north (Morocco, particularly), and in a smaller measure Tunisia or the Mauritius Island. On the other hand, in Asia, the destinations are scattered across countries of the southeast and China. In Eastern Europe, according to the information available, there is a small number of cases, with Poland at the top of the list. Finally, in Latin-America, the few cases that have been observed are located in Ecuador and Brazil; a situation that contrasts with the ample use of this zone that other countries, such as the United States or Japan in particular, but also South Korea and Taiwan, have shown.

4.2. Extra-European Union movements

By sectors, as it can be seen in table 3, the traditional activities concentrate a large part of the migrations (65 % of a total of 85 operations), most of them in intensive labor sectors. The second position belongs to the advanced sectors (27 %; 23 operations), particularly electronics. Finally, we find the intermediate sectors (11 %; 8 operations). By geographical areas, the textile sector is mostly oriented (three fourths of the total) towards North Africa than toward other areas, specially Asia (20 %); in leather and footwear, the situation is almost the contrary, with Asia gathering half of the cases, (and 33 % north African countries); while toys - a sector with very little information-, probably, it will concentrated in various areas of Asia, particularly China, according to what the experts say. In food products, the operations are divided in half between Latin-America and Africa.

Among the most advanced sectors, electronics and computers are located in Asia, particularly in the southeast; an area where three out of the six operations in machinery and electric material are found, with the other three in Eastern Europe. On the other hand, intermediate sectors, less significant than the previous ones, are more scattered throughout different areas.

A complementary aspect, like the origin of the operations by countries, reveals that the new location chosen by the firms located in Spain are mostly oriented towards Africa, mainly northern Africa (21 cases), against other areas such as Asia (12), Latin-America (6), and Eastern Europe (5 cases). On the contrary, in the case of French firms, there seems to be a greater dispersion of their new productive locations: Asia, specially the southeast (10 cases), and Africa (8) are at the top of the list.

4.3. Intra-European Union movements

Once the movement of plants towards areas outside the EU has been analyzed, we have to see what happens with those that take place inside of it, as important, quantitatively, as the first ones, but probably less known.

Studying table 3, we observe that the intra-community migrations of industrial firms find a clear destination in those countries considered as central (two thirds), against other destination that could be considered as peripheral. Obviously, this fact needs to be contrasted in the future, given the almost absolute position of Spain by the number of cases; cases, on which, due to an undetermined "news" effect - remember that one of the main sources of information was the media- the number of exits of productive activity was greater than the number of entries. Nonetheless, at this point, there is something that must be mentioned, that is, the tendency observed in the migrations do not coincide with the one reflected by the intra-community flows of foreign direct investment (Myro, Fernández and Mora, 1996), due to the absorbing, by the countries in the periphery, of an increasing percentage of the internal industrial movements; with these countries acting more as recipients than as senders.

The sectoral perspective of the intra-community flows adds new differentiating aspects. So, with respect to other geographical areas, they are more concentrated in high technological intensity industries (44 % out of 75 operations) than in traditional industries (36 %), with the final (20 %) belonging to the intermediate ones. This creates a different situation than the one observed in the movements towards areas outside the Union, that is, intensive labor sectors represent the smallest part of the flows against the rest of the sectors, with a higher technological contents. On the other hand, it is important to mention that the traditional sectors, those less labor intensive (iron industry and metallic products, food products and paper) have, precisely, the greatest weight in the movements.

Going back to the previous analysis by areas, and from the same sectoral perspective, electronics, computers, food products, and transport material are clearly oriented towards the center (more than 80% of all the movements in their respective sectors); and also, although with smaller differences (66% of the operations), machinery and electric material, iron industry and metallic products, and paper and graphic arts. On the contrary, the known cases of movements of traditional intensive labor activities (mainly, textile) and -without expecting it- 6 out of the 8 cases in the chemical sector have chosen the periphery as their destination.

In absence of more complete information, in order to present a clear picture of the process, the results show divergent lines in the directions of the migrations depending on whether the plants moved belong to countries in the center or to countries in the periphery. If their origin is in the center, they distribute, almost equally, their new productive locations between both of them (18 cases in the center and 15 cases in the periphery); a situation that appears in those countries with a significant participation in the movements (France, Germany, and Italy). Meanwhile, if the plants belong to countries in the periphery, the final destination is the economic European center (34 against 7 cases for the periphery).

4.4. A first approach to the determinants of the mobility

Given the orientation of the examined flows and the different sectoral presence in the directions, it is possible to make a first interpretation of the factors that have influenced the mobility, inside and outside the Union. What follows, tries to present those objective factors that have determined the movements, something that, as it was said at the beginning, must be contrasted with the motivations that the firms have declared -a point analyzed later on-. This helps to draw a better profile of the reasons that lie behind the migrations.

First of all, the orientation of the intra and extra-community migrations is related to the technological intensity of the sectors. So that, if we take advanced and intermediate industries, the most common trajectory is the EU area. On the other hand, in the traditional industry, specially those sectors that are labor intensive, the European direction does not present a clear majority over the rest of the areas.

Secondly, the community migratory movements are, almost exclusively, oriented towards less developed areas (New Industrialized Countries and certain developing countries). These areas and countries seem to have certain comparative advantages and certain prerequisites, more or less, for the normal development of the activity: relatively abundant labor, lower labor costs, certain infrastructures (technical, communication and organizational), and sometimes, depending on the sector, the necessary raw materials. It is about delocalization in the strict sense of the word, that is, North-South. It could be added, that there are other elements in the movements, specially in the textile sector, related, in this case, to community institutional aspects, as a consequence of agreements with other countries (Morocco, Algeria, Tunisia and Eastern Europe) to assign quotes for processes of Passive Improvement Circulation (PIT)(OETH, 1993; CCE, 1988, 1993).

Thirdly, those sectors with more complex technology show, also, an increasing presence - with less significance yet- in countries outside the EU with a lower relative level of development (something that can be extended to the analysis of the foreign direct investment flows). A fact that seems to imply a qualitative jump in the phenomenon of delocalization. The attraction capacity of these areas (basically Asia and, in sectors, of electronics and machinery and electric materials) could be found in the mixture of the comparative advantages previously mentioned and other qualitative elements (specialized labor, an increasing endowment of technical infrastructures, raw materials, components, facilities, technology, subcontracting...), and a great potential market.

Fourth, in relation to the intra-community movements, we see that they take place, mostly, in those sectors of high and intermediate levels of technological intensity. On the other hand, those traditional sectors intensive in labor have very small flows. In the case of advanced sectors, the creation of the Single Market and the improvement of the transport and communication conditions could be seen as relevant explanatory factors. This could be the cause of a rationalization process of the productive activity, in certain sectors, destined to obtain economies of scale and other externalities, that were more difficult to achieve in previous processes due to the existence of fragmented national markets [5], and to respond to the increasing, regional and international, competition. All this, along with the emphasis of the tendencies of structural changes in the world economy, on which the mergers, the acquisitions and the strategic alliances have also an extreme importance, together with the fact that some of the sectors that have been

[5] This does not mean that the size and growth of the national markets is no longer a relevant aspect in the location analysis, as the literature about the foreign direct investment shows (a review of this question can be found in Smith and Venables, 1988; UN, 1992; Bajo and Sosvilla, 1992; Molero, Buesa, and Casado, 1995; Myro, Fernández, and Mora, 1996 -forthcoming).

included in the mentioned groups do not have a high growth rate of the demand in Europe, would have produced relevant processes of concentration, specialization and closing of plants [6].

Fifth, beside what has been said, the distribution of operations between the two economic areas considered at the Community level, center and periphery, is clearly asymmetric: those countries in the periphery are senders in the movements to the center, particularly in certain advanced sectors (electronics and computers), not receiving, at the time, significant compensations of the same type (except, maybe, the chemical sector). On the contrary, they are recipients of activities in the traditional sectors, although in small quantity. [7]

5. Situation of the plants moved

Mobility can imply various effects on the plants, be it in those that have been moved or on those that take on the previous production. The objective of this section is to offer a first perspective on the situation of those activities that have changed the location, in order to find some of their repercussions on the national productive systems. Meanwhile, the following section will deal with the other pole of mobility, that is the forms that the production moved adopts.

The various situations found in the investigation allow for the differentiation of the following types of strategies used by the firms, with respect to the plants that have changed their location: i)Closing down of plants, with the abandonment of the productive activity in the country, although the company maintains the marketing net; ii)Closing down of plants, but with other productive centers in operation; iii)Partial closing of plants, that is, the elimination of certain production

[6] According to some authors (Dunning, 1992), some north American multinationals established in Europe would have been the first ones in developing an integration process of their productive activity in Europe during the late sixties, while European firms did not join this process until the mid eighties. However, there are some relevant studies about the strategic reorientation developed by the firms, specially by BSN-Danone and Thomson Consumers Electronic and Saint-Gobain in their productive activities in Italy, during the eighties and the first years of the nineties -analyzed in detail by Savary (1992). Other useful studies would be, (Van de Bulcke and De Lombaerde, 1992), gathered by Cantwell (1992), also an study from this same author (1994) about the reorganization of activities of multinationals in Europe, mostly American multinationals.

[7] About the theoretical aspects of the implications that the processes of integration have on the convergence and divergence of the regions, see the studies by Krugman and Venables (1990); Barro and Sala-i-Martín (1992); and Krugman (1992).

and product lines; and iv)The sale of plants to other companies that maintain the previous productive activity.

As it can be seen in table 4, the closing down of plants, with or without the abandonment of the productive activity in the country, is very relevant, given that it affects to 41% of the operations (out of a total of 135, without counting the unknown cases). The subdivision between the two situations seems to indicate that there are more cases of companies that close certain plants in the community countries but without abandoning the productive activity of other type of goods (41 operations) than those that abandon the activity (19 operations), maintaining their marketing and distribution nets. A second strategy, equally relevant (49%), is the ceasing of specific productions lines, in the same plant; while the productive exit of the companies from a country, without affecting the continuation of the activities in their old plants, because they have been sold to other companies or to the former directors as a Management Buy Out (MBO), has a smaller relevance (9.6%), although this strategy represents the search for new formulas that would assure the future of the plants (Technimagen-Phillips). However, to facilitate these sale strategies (supported, mostly, by regional institutions) is not always easy, because some companies are not interested in the continuation of the productive activity, due to commercial reasons (Ralston-Tudor).

Table 4.- Situation of the firm and plants moved inside country of origin

Sector	Technological intensity							
	High		Intermediate		Low		Total	
	num.	%	num.	%	num.	%	num.	%
· Closing of plants ans abandoning productive activity	8	15,1	5 (2p)	21,7	6	7,7	19	12,3
· Closing of plants but productive activity is maintained	18	34,8	7	30,4	16	10,5	41	26,6
· Closing of production lines	22	41,5	9	39,1	31 (15p)	39,7	62	40,3
· Selling of plants but the productive activity continues	4	7,5	1	4,3	8	10,3	13	8,4
· No data	1	1,9	1	4,3	17	21,8	19	12,3
Total	53	100,0	23	100,0	78	100,0	154	100,0

Note: (p) = probably.
Source: Own elaboration.

From the sectoral point of view, in the most advanced industries the closing down of plants seems to be more habitual than the partial closing of production lines (26 and 22 operations respectively). In the intermediate industries, the situation is very similar. On the contrary, for the most traditional industries, assuming that there are many cases of which their precise situation is unknown, the closing of production lines is more abundant (31 operations). Also, it must be pointed out that the closing of plants seems to be more frequent among the traditional industries that are not labor intensive.

Looking at the results, it could be concluded that the closing of plants, with or without the abandonment of the productive activity in the country, since it is closely related to high and intermediate technological level industries, could be linked to strategical decisions by the firms to restructure the productive activities in a region; particularly in the community area, where the tendencies to move to the center are clearer, exactly where the investments started. This consideration must be extended to the partial closing of plants, given that they show another way of reorganizing the activities.

In contrast to the previous case, and under different circumstances, the most traditional industries, specially the labor intensive ones, that in many cases belong to national capital, seem to prefer the partial closing of plants. This must seen in relation with the productive nature of the sectors, on which labor costs play a central role, but on which the complete closing will not be frequent because firms will rather maintain a certain level of activity in the original location. These peculiarities are more relevant in textile-making and affect, most of all, those sections where designing or quality, its dimension, or the possibility to react to changes in the demand have an important role. This diversification of sources tries to achieve a certain balance between domestic and moved production, creating a mixed price to face the deterioration of the production function. However, to take advantage of the opportunities that the international division of the work offer will not implicate the abandonment of the product, the design or its commercialization control, that will remain in the country of origin. [8]

6. Types of productive activity adopted by the moved production

Once we know the different alternatives adopted by the companies with respect to the continuation of the productive activity or of their old plants, it is

[8] Other studies: CCE (1988, 1993); Scheiffer (1993); Costa and Callejón (1994); and Buesa and Molero (1995).

useful to know the formulae used in other places to replace the closed plants, totally or partially. It is possible to differentiate various types: i) building of new plants; ii) use of existing plants; and iii) supplying of intermediate inputs and/or products through subcontracts in other countries.

At this aspect, it could be said that firms prefer the use of their own existing plants (50 % of the cases) in other regions or countries, over the building of new plants (38 %). Finally, the third type, the subcontract, is not significant so far in this analysis.

As it can be deduced, the strategic option that each firm chooses is closely related with the activity of the firm and with the reasons that caused the change of location. Among those industries with a complex technology, the building of new plants is much less frequent than the use of existing ones (in advanced industries, this strategy represents 70 % of the cases, while in intermediate industries the percentage drops to 61 %); with zero cases of the third type of strategy. This seems to support what was previously said: the restructuring strategies are mostly oriented towards the achievement of a more efficient use of the existing resources. On the other hand, traditional industries show a different picture -the strategies and circumstances that seem to cause the changes in location are also different-. In this case, the building of new plants (44 %) is more frequent than any of the other, followed by the use of the existing ones (29 %) and subcontracts (27 %). These last results can be divided between labor intensive and non labor intensive activities: in the first ones, the strategies chosen are equally divided between new plants and subcontracts, as it seems logical given the sectoral specification, while for the second ones, the strategic answer would be very similar -like the reasons to change locations- to the one obtained for the sectors with a higher technological content, that is, they prefer the use of existing plants to the building of new ones.

In conclusion, the keys to understand each situation are very closely related to the geographical destination, the type of product, and the productive strategy of the firm. Also, the availability of firms, capable of doing the tasks required, will influence the final decision between building a new plant, rationalizing the existing ones or getting rid of any direct responsibility over the production.

7. Factors that determine the migrations, according to the firms

The global picture of those firms that have changed locations, regionally or internationally, is completed here with the analysis of the motivations to move to a different location, but with an special emphasis on those expressed by the firms.

It is not easy to carry this task out in an aggregate way, given the imperfections of the data available, because it comes from different sources (firms, unions, the media...). This reveals that in certain cases, in order to give their own version, they hide or change their true motivations. Also, sometimes the firms expressed a single motivation when there were more than one at the same time. Therefore, it is necessary to point out the presence of subjective elements in the information used. These limitations, although relevant, could be overshadowed by more factual data, such as the direction and sectoral characteristics of the migrations, over which the results obtained could be projected. By establishing this contrast, it is possible to obtain better conclusions on the motivational strategy.

Starting with a global description, the results obtained (table 5) show that most of the operations obey to two motivations: the labor costs and the productive rationalization of the companies, by concentrating and specializing their plants in different countries. The first of them is extremely relevant, with almost half of the answers given by the companies, while the second one is the cause of a third of the changes in the location of the operations.

In this scenario, it is very surprising the marginal signification of another motivation, the proximity to the markets, given the concentration of activities in the central countries of the EU in comparison to those in the periphery, and being a very relevant factor in the analysis of the localization of the production through the foreign direct investment. It should be understood that, given the nature of the information collected, the firms have not mentioned it explicitly, although it is reasonable to think that the proximity to the markets is implicitly present in the final decision of the location (Digital, Gillette, and Nestlé would be cases on which this reason is clearly mentioned). This factor would probably have greater importance in those productive activities with high or medium technological intensity, in which, as it was pointed out, the key element, behind it, is the restructuring of the productive activity in plants next to the central markets -in the community area- with the purpose of obtaining economies of scale and externalities. In other words, the proximity to the markets is not the main motivation, but it counts at the moment of restructuring the productive activity.

Table 5.- Results declared by the firms to abandon or move the production activity
(number of cases)

Sector	Technological intensity							
	High		Intermediate		Low		Total	
	num.	%	num.	%	num.	%	num.	%
· Reorganization	32	56,1	15	50,0	10	12,3	57	33,9
· Production cost	17	29,8	4	13,3	64	79,0	85	50,6
Labor	15		4		61		80	
Others	2				3		5	
· Negative economic results/low returns	2	3,5	4	13,3			6	3,6
· Backwardness of the plants	2	3,5	1	1,33	1	1,2	4	2,4
· Proximity to bigger markets	1	1,7			2	2,4	3	1,8
· Absorption of brands, plants and market share of competitors			2	6,7	1	1,2	3	1,8
· Institutional regulations	1	1,7			2	2,4	3	1,8
· Techno-structural aspects	1	1,7	1	3,3				
· Absorption ob subcontracted production			1	3,3			1	0,6
· Lower environmental requirements			1	3,3			1	0,6
· No data	1	1,7	1	3,3	1	1,2	3	1,8
Total	57	100,0	30	100,0	81	100,0	168	100,0

Note: (p) = probably.
Source: Own elaboration.

If we move to less aggregated perspectives, this picture changes, offering now different profiles. With this, intermediate and advanced industries chose the restructuring of the productive activity of the companies (54 and 57 %, respectively) over other motivations, specially labor costs (27 % for the advanced activities and 11 % for the intermediate ones). The rest of the motivations are evenly distributed: adverse economic results, the backwardness of the plants, global costs of the country...

A different situation is found in the motivations declared by firms of traditional sectors. As it was mentioned earlier, it is necessary to distinguish between those sectors that are labor intensive and those that are not. For the first ones, the restructuring does not appear in the analysis, while for the second ones it becomes very relevant, since it appears in 50 % of the cases. However, the search for lower labor costs -as long as there are other productive conditions present- is the main priority against other type of considerations (proximity to the market, for example), and it is the answer to the increasing competition for the labor intensive sector (appears in 96 % of the motivations). This is also true for the non labor intensive sectors, although the percentage is much smaller (39 %); however it is higher than in the intermediate and advanced sectors.

Once we have established the main motivations and their sectoral connections, it is important to analyze some strategic peculiarities of each group of activities. In the traditional ones, the labor costs -with a greater relative weight, as it was pointed out- do not always determine the changes in location, because they can be compensated with a greater proximity to the markets (with the advantages that can be obtained: lower transportation costs, easy answer to the demand, greater control of the process, quality...), resulting in a mixed productive strategy. It is not rare to see the existence of various plants of the same company established in very different regions, trying to compensate the advantages and disadvantages in costs, or in any other aspect, between one location and the other.

The sectors with medium or high technological contents in the community area, that do not suffer the pressure of labor costs, show other type of problems, such as those derived from their adaptation to the changing circumstances of the environment, mainly the intensification of the process of integration in the EU. Therefore, the motivations declared respond, most of all, to the necessities of restructuring the various productive plants, either by concentrating activities (General Electric Electromedicine, Shionogi, Thomson), or by specializing themselves in certain products (John Deere, Basf, Ebro-Kubota, Bayer), and going beyond the national markets, in order to obtain economies of scale.

Likewise, it is important to mention that the circumstances of the market, due to the reduction in the domestic demand, appear, with a certain frequency, in the machinery sector (electric or not), as a motivation for the companies to move the production from one country to another. This aspect has had a special relevance in the case of Spain, in certain activities linked to the ending or abandonment of big energetic projects (General Electric, Westinghouse, Ingersoll Rand, and Wortington).

8. Final considerations

Once the most significant results of the migrations in the EU have been presented -and, to the extent that it was possible, they have been interpreted- it is important to make a balance about how they have affected the configuration of the productive activity, present and future, in the EU, and particularly in Spain.

Assuming the importance of the migrations, we observe that they seem to respond to two types of situations, very different according to the reasons that lie behind: the movement of the activity from developed countries to others with a lower relative development and the restructuring of the industrial activity in an area, such as the European -in those close to the center of Europe, they take advantages of the existence of externalities and economies of scale-. It is on this double axis, where it seems reasonable to put most of the attention.

The delocalization of the manufacturing production is not entirely new, and the literature has given explanations, more or less convincing, for a long time. The flows of foreign direct investment that have appeared with these processes have corresponded, in most of the cases, to traditional activities, considered as labor intensive and with a low technological level, although this situation is less frequent now. These changes of location in the production, with effects on the employment of the countries acting as senders, would have not had, until recently, a relevant social repercussion, probably because of their easy absorption by other more advanced activities. But now, the situation is quite different: an international production based in the differences in costs and associated to income and employment redistribution, that becomes noticeable given the alarming levels of unemployment in Europe. The preoccupation about the migrations, by the workers and by certain institutions, -and the data presented in this paper seems to confirm it-, it is supported by the directions of the flows, towards countries outside the EU; a destination that, in many cases, is explained by certain disadvantages in the developed countries, making it easy to use of proclamations against the differences in the work and social protection conditions (the so called "social dumping").

For the second type of movements, caused by the restructuring of the productive activities, that take place, most of all, in the EU, because of the substantial advances in the processes of integration, the literature has offered a smaller analysis -but without forgetting the relevance that they were going to achieve-. All this has created very peculiar concentration and specialization movements of the productive activities, joined in many cases by new investments, as the strong importance that the intra-community foreign direct investment has acquired since the mid eighties proves. These movements have been extremely necessary to face an increasing competitive environment, in which the readaptation of the firms strategies takes place, through processes of mergers and acquisitions (without forgetting, the strategic agreements among firms, a previous step to future agreements of greater importance), as part of a change in the structure of the international production that affects the Community area. However, as it was made clear in the data offered, the movements have created certain negative effects, such as: closing of plants, partial or total, and abandonment of the productive activity in a country; and also some neutral effects and, even, some positive ones, when there were substitutions and complementation of functions between plants and companies.

Also, it is worth insisting in the area of the firms strategies -from the double perspective mentioned above- where the necessity to give an answer to the increasing competition, national and international, requires an efficient use of the possibility to produce in various countries at the same time, an specialization of the existing plants or an abandonment of the production in different places. The results obtained show a certain correspondence between the type of activity and the election of the most appropriate location that the international division of the work offers. And so, the relevant factor that supports the migrations seems to determine the productive option in the new location: in the case of traditional sectors, and specially on those where the labor costs are fundamental, the move towards countries with a lower relative development is clear. This movement implies the creation of new plants or the use of subcontracts, when it is possible, while in the country of origin the effects on the quantity of productive activity are represented by the closing of production lines or by lower levels of subcontracting, instead of a complete abandonment of the production. The sense revealed by these strategies finds an efficient support on the necessary reserve of those stages, in the elaboration of the products, with a greater level of added-value or to attend short or special series, on which the control of the quality and the design is fundamental. However, the significant dimension of the flows, that have on this factor their main determinant, does not only cover the typical sectors, textile, footwear, or toys, it also reaches other sectors, much more advanced, with a common level of standardization (consumption electronics and telecommunications). Therefore, the specter of movements increases considerably, when firms find in the destinations (China and southeast Asia, most of all) a favorable conjunction of advantages to attend regional markets as well as markets in more developed countries.

It thus appears the benefit of a mixed strategy, very much related to the reconstruction of a deteriorated production function, that tries to bring together internal and external, own and others' production, according to the nature of the products, of the markets of destination, of the existing capacities on the countries from where they obtained their new supplying, and of the distance between both of them. And all this without overlooking the goals that the companies are willing to assume or their own technological and organizational capacity, because in this process of exterior diversification the success is not guaranteed, as is shown by certain cases -very few of them so far, at least in Spain- of relocation of previously moved activities. Summing up, the delocalization of the productive activity, in relation to labor intensive sectors, does not seem to be a temporary fact, because the facts that supports them are far from disappearing.

The framework offered by those migrations motivated by the reorganization of activities is, up to a certain degree, different, as are equally different the firms involved in the migrations -mainly multinationals-, the destinations of the operations -in most of the cases, inside the EU-, and the technological character -biased towards the most advanced industries-. Again, the search for efficiency arises, although now pursued through the rationalization of the productive activities previously divided between different locations (avoiding the unnecessary duplication of plants), or through the constant search of economies of scale, complemented by other economies of scope, even though the last lowers the tendency towards a greater relevance of the idea of concentration. It is not rare to see, then, that the closing of plants, or even the abandonment of the productive activity by the companies, obtains a greater relative dimension in comparison to the migrations, with a more traditional character, directed to other regions; a process that runs parallel with the reorganization of the production in different plants. It must be understood that those abandonments do not affect the commercial aspect, that in some cases, is even strengthened.

In this scenario, the balance-sheet of the restructuring movements that have occurred or are yet to take place in the Community area (because, in part, it is a temporary phenomenon, while the productive adjustments that have been explicitly determined by the processes of integration take place), without being conclusive, seems to show the existence of asymmetries in the assignation of the new and old locations. In other words, it can be confirmed the existence of a double spatial view: on one hand the companies reorientate their movements more to the economic center than to the periphery, specially in those sectors with a higher technological intensity. On the other hand, those with the lowest technological intensity (less representative than the previous on the intra-Community flows) choose the periphery, and only some of those with an intermediate level, mainly chemicals, follow this path. For the traditional labor intensive sectors the explanation would not be difficult, given the existence of comparative advantages in the periphery, mostly in the area of labor costs, although this does not seem to be sufficient to avoid the great quantity of movements, of this type of activity, towards extra-Community areas with even more advantages. This seems to suggest a decrease in the differences of economic development inside the EU. With respect to the movements of the most advanced sectors, the main reasons for the movement towards the center could be the proximity of the main markets or the axis on which they work. However, there could be other reasons such as the technological characteristics, the size or productivity of the plants that should be considered in order to find more complete explanations. Unfortunately, there is not sufficient information to show their determinants with precision, but there is enough of it to show some evidence about the unfavorable position in which the countries in the periphery face these productive changes. Also, in the distribution of activities that are not directly productive, such as centers of R&D or the centralization of the management units of the companies, the tendency shown above appears once again, so we could talk about a revaluation of the central European area. It can be added, that under the division of activities, the regional disparities are accentuated, not only by the technological backwardness of the periphery, but also by the strength of the center.

Now then, how can be explained, in view of what has been exposed in this paper, that the flows of direct investments show a completely opposite position in the countries in the periphery, with net positive results, specially those of industrial nature? In principle, the presence of this fact reveals the existence of location advantages, traditional or non-traditional, suggesting that the situation is very complex, and therefore, a concrete assignation of the advantages and disadvantages in each location is not easy without collecting other elements for the analysis, such as the firms strategies. From this perspective, that if it is forgotten could lead to an erroneous interpretation of the migrations, it is how the final balance for a country such as Spain, fully involved in an scheme of international production by the multinationals, should be understood. All this should help to set aside the excessively pessimistic positions that very frequently are reflected by the media about its productive capacity, although an ample thought should be given to it.

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Annex: Firms, activity, direction of the flows and reasons declared or apparent for the migrations

NAME	SOURCE	DESTINATION	MOTIVES STATED BY THE FIRMS(*)
Electronics and computers			
Alcatel	France	Taiwan	a
Alcatel (Telettra)	Spain	Countries EU	b
AST Research	United Kingdom	Ireland	a
ATT Net. Syst. España	Spain	nd.	a
Digital Equipment	Ireland	United Kingdom	e
Fujitsu	Spain	nd.	a
Grundig	France	Austria	a
IBM	Spain	France	a
Olivetti	Spain	Mexico	nd.
Philips Electronic	Holanda	United Kingdom	a
Sanyo	Spain	nd.	a
Seleco Ibérica	Spain	Countries EU	a
Sharp	France	Spain	d
Siemens	Germany	United Kingdom	b
Siemens Nixdorf	Spain	Germany	a
Siemens (Tecosa)	Spain	Countries EU	a
Solac Telecom.	Spain	Sud. Asia	b
Thomson	Germany	Italy	b
Thomson	United Kingdom	Sud. Asia	a
Thomson	France	Italy	a
Machinery and electric material			
ABB-Asea Brown	Spain	Countries EU	a
General Electric	Spain	nd.	c
Hoover	France	United Kingdom	b
Ingersol-Ram	Spain	Countries EU	a
Interclisa-Carrier	Spain	Countries EU	a
Osram	Spain/Italy/R.U.	France	a
Philips	France	Spain/Polen	a,b
Philips	Spain	Polen	b
Philips	Italy	Spain/Polen	a,b
Robert Bosch	Spain	Countries EU	a
Robert Bosch	Germany	Spain	a
Valeo	Spain	Countries U.E.	nd.
Westinghouse	Spain	nd.	c
Wortington	Spain	Countries EU	a
Chemistry and pharmaceuticals			
Avon Cosmetics	Spain	Germany	a
Azco	Spain	nd.	a
Basf	Germany	Spain	a
Colgate Palmolive	Spain	Portugal	d
Elf-Atochem	France	Spain	k
Glaxo-Wellcome	Spain	Countries EU	a
Glaxo	Countries EU	Spain	a
Ralston-Tudor	Spain	Japan-Brasil (p)	f
Ralston	Countries EU	nd.	f
Reckitt and Colman	Italy	Spain	a
Transportation material			
Ebro-kubota	Spain	n.d..	c
ITT Automotive	Countries EU	Developing countr.	b
John Deere Ibérica	Spain	Germany/France	a
Mercedes Benz	Spain	Germany	a
Nacional Motor Derbi	Spain	Taiwan	b
Renault	Portugal(p)	Countries EU	c
SEAT	Spain	Countries EU/East	a
SKF Española	Spain	Italy	a
Suzuki-Santana	Spain(p)	nd.	c

Mechanical equipment

Alsthom	Spain	Countries EU	a
Tall. Celso Costa	Spain	Maroc	b

Iron and metallic transformations

Esmalt. S. Ignacio	Spain	Portugal	b
Gillette	Spain	Un. Kingd./Germany	a
Marcial Ucín	Spain	France	b
Roca Radiador.	Spain	Maroc	a

Food industries

Barilla	Spain	Italy	c
BSN-Danone	Spain	France	c
CPC Ltd.	United Kingdom	France/Italy	a
Campofrío	France	Spain	g
Doux Ibérica	Spain	Holand	b
Garavilla	Spain	Ecuador	b
Luis Calvo Sanz	Spain	Namibia	b
Heineken	Spain	Holand	a,b
Ind. Alim. Navarra	Spain	Perú	b,g
Jaime Mtnez. Ubago	Spain	Maroc	b
Nestlé	Spain	Portugal	b,g
Nestlé	Spain	France	a
Nestlé	United Kingdom	France	a
Pescanova	Spain	Namibia	b
Philips Morris	Spain	Holand	a
Philips Morris	Belgium	Holand	a
Unión Marisquera	Spain	Ecuador	b
United Biscuits	Spain	nd.	c

Paper and graphic arts

Bowater P.L.C.	France	United Kingdom	b
Bowater P.L.C.	Italy	United Kingdom	b
Jefferson Smurfit	Spain	Ireland	a
Nestlé	Spain	Countries EU	c
Scott Ibérica	Spain	nd.	nd.

Textile-confection

Abanderado	Spain	Maroc	b
Adolfo Dominguez	Spain	Portugal	b
Algodonera San Antonio	Spain	Maroc	b
Cortefiel	Spain	Portugal/Maroc	b
Don Algodón	Spain	Portugal	b
Generos de punto Ferrys	Spain	Puerto Rico	b
Hijos de Angel Colomer	Spain	Maroc	b
Inditex	Spain	Portugal/S. Korea	b
Induyco	Spain	Maroc	b
Jause	Spain	Maroc	b
Liwe Spain	Spain	Maroc	b
Losan	Spain	China	b
Maestre y Ballbé	Spain	Maroc/Indones.	b
Marzotto	Italy	Countries Maghreb	b
Miroglio	Italy	Countries Maghreb	b
M.P.H. Diffusion	France	Mauritius Islands	b
Peyton	Spain	nd.	b
Pulligan	Spain	Maroc	b
Rok Sport	Spain	Maroc	b
Sara Lee	Spain	Túnez	b
Sallurtegui	Spain	Maroc	b
Saez Merino	Spain	Mexico/Maroc./ Hong-Kong	b
Sans Sur	Spain	Maroc	b
Soc. Albert	France	China	b
Triumph	Spain	nd.	b
Weil Besançon	France	Tunisia	b

Leather and footwear

Adidas	France/Germany	Marruec./East Eur. South Asia	b
André	France	South Asia	b
Cobra	France	Mauritius Islands	b
Hayber	Spain	South Asia	b
Kelme	Spain	Rusia/China	b
Riveres	Spain	Maroc	b
Toys			
Famosa	Spain	nd.	b
Ideal Loisirs	France	nd.	b
Juguetes Gozan	Spain	nd..	b
Juguetes Vir	Spain	China	b
Lego	Spain	nd.	b
Majorette	France	ThailPortugal/Brasil	b
Mattel España	Spain	nd.	b
MB Spain	Spain	nd.	b
Tico Toys España	Spain	nd.	b
Vtech Electronics	Spain	nd.	b
Others			
Indo Internacional	Spain	Maroc	b
IMI P.L.C.	Germany	United Kingdom	b
Lafuma	France	Tunizia/Hungary/ Hong-Kong	b

Notes (*): (a) Reorganization. (b) Production cost. (c) Negative economic results. (d) Backwardness of the plants. (e) Proximity to bigger markets. (f) Absorption of brands, plant and market shares of the competitors. (g) Institutional regulations. (h) Techno-structural aspects. (i) Absorption of subcontracted production. (j) Lower environmental requirements. (k) No data.