

THE INTEGRATION OF SPAIN IN THE EUROPEAN UNION: MAIN INDUSTRIAL EFFECTS

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ABSTRACT

The paper evaluates the different effects of European integration on Spanish industry. Up to the present time, foreign industrial trade has increased noticeably, rapidly reaching the level of the other European countries. This has been highly beneficial to the Spanish economy, involving intense trade creation and the absence of significant trade deviation. To confront the external challenge, firms have clearly changed their technical and corporate organization, through a process of technical transformation, mergers and internationalization that have improved the quality of products and raised productivity. Inflows of foreign direct investment have substantially helped this transformation. As a consequence of these developments, Spanish industry has higher levels of growth and quicker increases in exports than any other country in the European Union. Industrial policy has become very similar to that of the other European countries, following a process begun prior to 1986, the date Spain joined the European Union.

INTRODUCTION.

The signing of the Adhesion Treaty of Spain to the European Economic Community in 1985 was one of the main economic moments in recent Spanish economic history. It supposed the beginning of a homologation process in institutions, economic structures and economic management rules with the most developed countries, giving reality to an old desire for integrating into Europe. The signature of the Maastricht Treaty in 1992 was the second step in the same direction, following a more important and definitive third step: the adoption of the Euro as the Spanish currency on 1 January 1999.

During the fifteen years between 1985 and now, the Spanish economy has been living an intensive structural and institutional change. At the moment of the Spanish adhesion, the European Economic Community was living a deep transformation into a Common Market, promoted by the Single European Act in 1986. Through that, the EEC stopped being a Customs Union to be a Common Market in 1993. So Spain had to face up to a complete openness of its borders to the external competition in the short time period of seven years. The peseta incorporation to the Exchange Rate Mechanism (ERM) in 1989 demanded also to accommodate the Spanish monetary policy orientation to the main Member States. Finally, this obligation for harmonizing of monetary policies was intensified by the Maastricht Treaty which established some nominal convergence conditions between countries for the adoption of the Euro.

The net effects of this integration process have been clearly beneficial. To become convinced of it is only necessary consider that, in a speed-up openness to the external competition schedule, the Spanish economy has been, after the Irish one, the European Union economy with the highest growth in the last fifteen years. This faster growth is now compatible with inflation rates at the lowest historical level and with a public expenditure surplus.

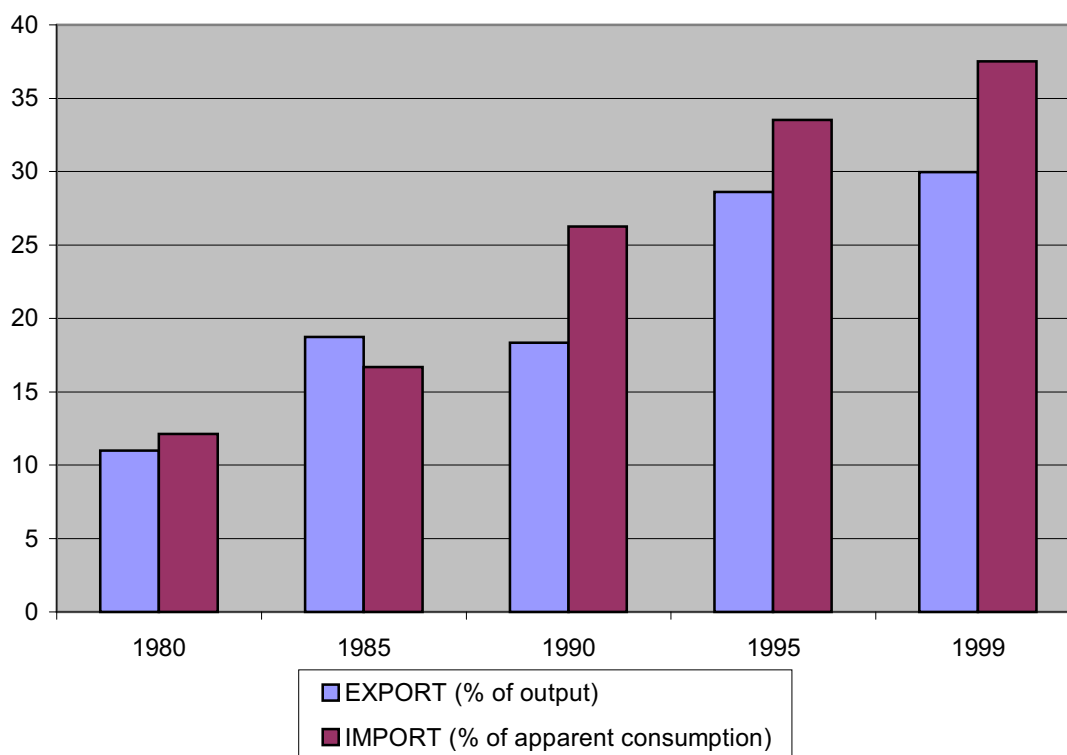
In the following pages we analyze the effects of this integration process on the Spanish industry, that has been the sector most involved in it, as usually is, given its higher share in foreign trade. We start by analyzing the direct effects of the opening to foreign competition. Then, we examine the transformation of the whole industry. Lastly, we consider the final results in terms of industrial growth and trade balance to finish by exploring briefly the role of industrial policy.

1. DIRECT EFFECTS OF THE INTEGRATION

1.1. Trade Creation

The integration of Spain into the EU promoted a radical change in the market environment of Spanish industry, as a direct consequence of the external opening. The percentage of the imports in domestic absorption¹ has multiplied more than twice since 1985, growing from 16 to 37 per cent in 1999 (Chart 1).

CHART 1.- External Trade Openness in Spanish Manufacturing Industry



Source: Ruíz Céspedes (2000) and own calculations.

Thus, at this moment more than 40 per cent of the domestic demand is covered by imports. This percentage reaches up to 70 per cent in the branches of high demand and technological intensity (computers and electric goods), and exceeding 50 per cent in the intermediate manufacturing². The highest value corresponds to the activities in the computer field, where it

¹ Production + Imports - Exports.

² Using the NACE-CLIO classification at two digits level, and mixing the typologies of manufacturing industries provided by the OECD and the European Commission following demand growth and technological intensity, we distinguish three kinds of industries: 1) high demand and technological intensity or *advanced*

reaches 90 per cent. In the most traditional industries, more typical of the domestic firms and less international trade oriented, the level is only 20 per cent, although is now twice the value it was in 1985.

The important shift in the level of Spanish trade openness in the last two decades is expressing a remarkable trade creation process (Gandoy and Diaz Mora, 2000; Viñals, 1992; Martín, 1997). The trade creation effects have been clearer and more relevant in the manufacturing industry than in the rest of Spanish economy, because the former absorb the main part of external flows. The imports were 12 per cent of industrial domestic demand or industrial absorption in the manufacturing sector in 1980, whereas its value has risen to 30% in 1999. This incredible growth in only twenty years shows the quick trade openness and the trade creation suffered by the Spanish manufacturing industry. Imports from Member States multiplied by three in their proportion to domestic demand, but without taking the place of imports from Third Countries which increased their percentage a bit as well. So, an external trade creation effect has also happened, probably due to the Spanish adoption of the External Common Tariff which involves cutbacks in tariff barriers facing Third Countries (Chart 2)³.

The behaviour shown by the whole of the manufacturing industry becomes general in most industries, so only a few of them show trade diversion. In the advanced and intermediate manufacturing industries the percentage of intra-EU imports in domestic demand has increased by more than 25 points whereas the percentage of extra-EU imports has hardly moved in the three kinds of industries.

But when a higher disintegration level is used, extra-EU imports have reduced their share in the apparent consumption in three manufacturing sectors (products from non-metallic mineral products; agricultural and industrial machinery; paper and printing products). Only in these manufacturing sectors can trade diversion be observed, although of a small dimension.

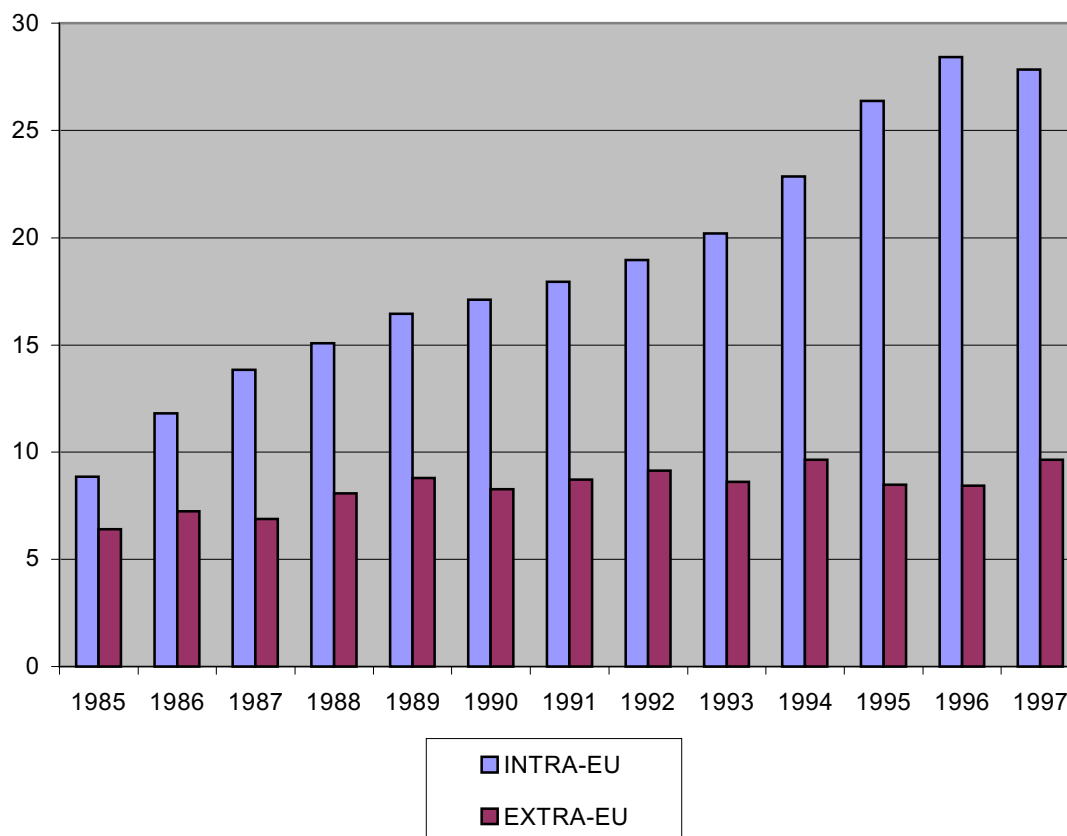
The remaining Member States which are involved in the Single Market Program have also opened their industries to the external trade, showing a creation trade process but less important than the Spanish one. Spain had to remove not only its non-tariff barriers but also

manufacturing (office machines and computers and electrical goods); 2): medium demand and technological intensity or *intermediate manufacturing* (chemical products, agricultural and industrial machinery, rubber and plastics products and transport equipment); and 3) low demand and technological intensity or *traditional manufacturing*, the rest of the activities (metals, products from non metallic minerals, textiles and clothing, wood and others) (Myro and Gandoy, 1999).

³ This is a current prices analysis due to the impossibility to obtain different price indexes for intra-EU and extra-EU flows.

its tariff barriers, unlike most countries. Even if it is compared to Portugal, a country that was added to the EU at the same time as Spain, Spanish trade growth is outstanding. Moreover, Portugal suffers a diversion trade process, although not very important⁴ (Table 1).

**CHART 2.- Evolution of Spanish Import by Origin
(% of domestic demand, 1985-1997)**



Source: Eurostat.

This trade creation effect after Spanish incorporation to the European Union had been expected in some previous studies. These exercises had emphasized how the Spanish industrial structure is similar to the EU's, achieved after the fast growth of the economy and industry in Spain during the 1950's and 1960's (Donges, 1979; Martín et alia, 1979). These same studies showed the greater differences of Portuguese and Greek productive structures, diagnosing possible trade diversion effects which have been carried out in the industry sector in the Portuguese economy, and in the agricultural sector in the Greek economy (Gandoy and Díaz Mora, 2000).

⁴ See Gandoy and Díaz Mora (1998).

TABLE 1: COVERAGE OF THE MANUFACTURING DOMESTIC DEMAND
(Percentages, 1985-1997)

| | Total EU | France | Belgium-Lux. | Netherlands | Germany | Italy | U.K. | Ireland | Denmark | Greece | Portugal | Spain |
|---------------------|----------|--------|--------------|-------------|---------|-------|------|---------|---------|--------|----------|-------|
| By the output | | | | | | | | | | | | |
| 1985 | 71,5 | 73,6 | 23,8 | 38,4 | 74,8 | 79,3 | 73,5 | 43,0 | 51,4 | 65,3 | 72,5 | 84,7 |
| 1997 | 61,4 | 61,3 | 10,7 | 31,8 | 63,1 | 71,3 | 60,7 | 15,3 | 42,3 | 55,3 | 51,9 | 62,5 |
| By intra-EU imports | | | | | | | | | | | | |
| 1985 | 16,5 | 16,9 | 51,2 | 39,2 | 13,0 | 12,1 | 13,5 | 38,7 | 26,4 | 23,0 | 14,8 | 8,9 |
| 1997 | 25,3 | 26,8 | 64,6 | 40,1 | 21,5 | 19,4 | 21,7 | 54,5 | 43,3 | 31,5 | 40,0 | 27,8 |
| By extra-EU imports | | | | | | | | | | | | |
| 1985 | 12 | 9,5 | 25,0 | 22,4 | 12,2 | 8,6 | 13,0 | 18,3 | 22,2 | 11,7 | 12,7 | 6,4 |
| 1997 | 13,3 | 12,0 | 24,7 | 28,1 | 15,4 | 9,4 | 17,6 | 30,2 | 14,4 | 13,2 | 8,1 | 9,6 |

Note: The domestic demand is calculated as apparent consumption, that is, production plus imports minus exports.

Source: Own calculations from Eurostat.

Chart 1 permits us to see the other face of the integration process as well. It shows the formidable growth of exports of Spanish firms, mainly to the community partners, as a result either of the reduction of their trade barriers and the increased competition in the Spanish domestic market, that enhanced a transformation process of Spanish industry that will be analyzed in the second part of this paper.

As imports grow so do exports, especially in the advanced and intermediate manufacturing sectors, reflecting a specialization process that does not follow the expectation of some analysts who thought Spanish industry could become more oriented to the traditional sectors than it is now (Neven, 1990; Krugman and Venables, 1990).

1.2. Foreign Direct Investment Creation

The changes in external trade openness and the trade creation process has been accompanied by a foreign direct investment creation effect⁵. After the Spanish adhesion to the European Economic Community, foreign direct investment (FDI) inflows have increased very rapidly, mainly that of FDI from Members States. Spain has attracted more than 12% of total FDI inflows in the EU from 1985 to 1995 and more than 15% of intra-EU FDI. However, from 1990 the proportion of FDI in Spain started to diminish and has hardly reached 5% in the last few years. The lower attraction of FDI inflows in this last few years contrasts with the growing outflows which have risen very quickly. This raise in Spanish FDI in other countries reflects the necessity to strengthen the competitiveness of the Spanish firms in the international context, in response to market integration.

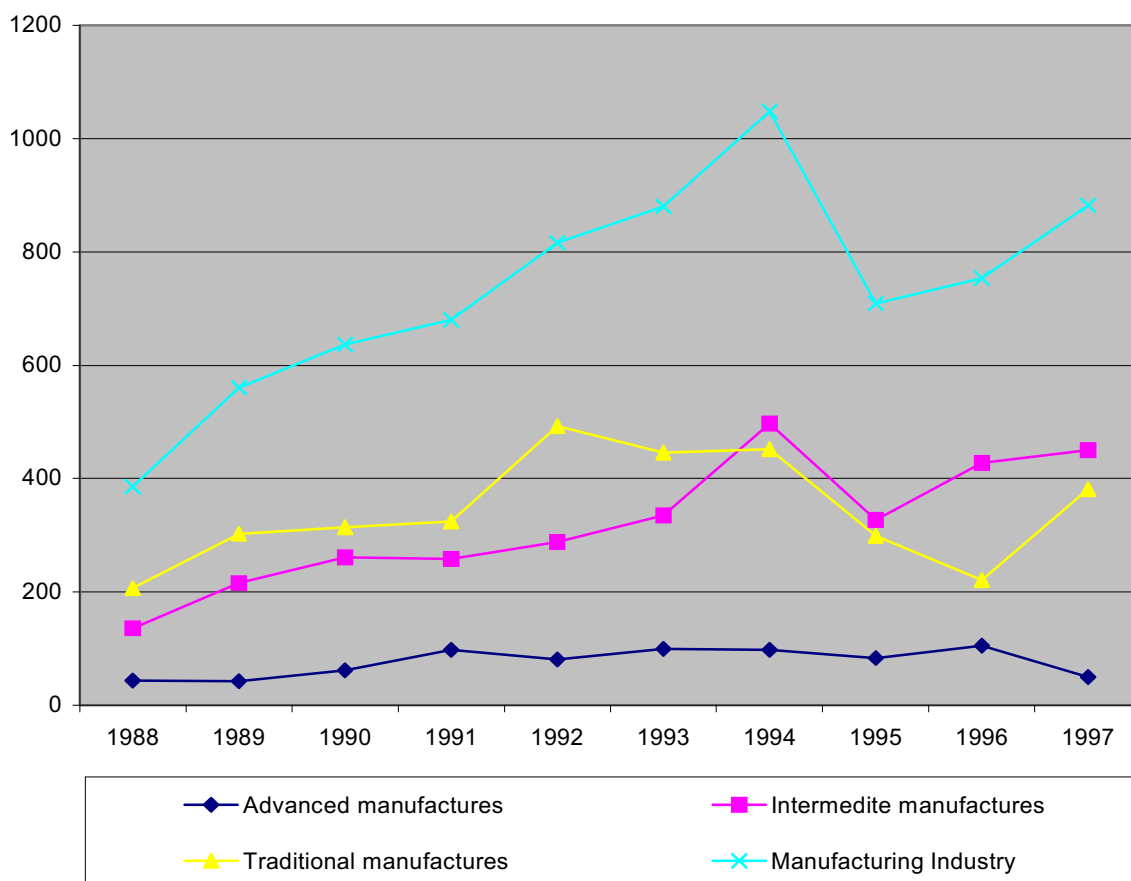
The Spanish market size, its high potential growth and the infrastructure and human capital Spanish endowments would have been the determinants of FDI inflows, according to the results of many studies about FDI in Spain (Bajo and López Pueyo, 1996; Martín and Velázquez, 1996). The lower Spanish wages must also have influenced positively on foreign capital inflows, although the models which have been used haven't been able to show it. In the last analysis, lower wages and potentially higher growth rates are only a sign of the higher capital marginal productivity in Spanish economy.

These foreign capital inflows were attracted by the service sector and manufacturing industry in equal shares in absolute terms. Into the manufacturing sector, about half the flows were

⁵ Foreign direct investment creation means an increase of the difference between inflows and outflows, measured with relation to Production (Baldwin and others, 1996)

received by traditional industries which had a lower foreign capital inflow rate (Chart 3). In this way, these manufacturing industries have received important help for their restructuring.

CHART 3.- FDI in Spanish Manufacturing Industries, 1988-1997
(Pesetas billions. Constant prices)



Source: Own calculations from DGEITE.

The advanced and intermediate industries have collected the other half, raising their already high foreign capital dependence which is now over 60% measured as a percentage of control production. These manufacturing activities thus improve thus their competitiveness which is the basis of the intense export growth.

These high foreign capital inflows in Spain from 1985 were not an expected certainty. According to the hypothesis of many authors (Krugman, 1991, 1998), when the trade barriers with Spain were removed, the foreign capital enterprises could choose a location near the EU core, close to the largest markets. So, they would reduce their transport costs and they would benefit from external economies for a greater industrial development, a higher technological

innovation and a more skilled labor force. And the advantage from lower labor costs in Spain could have been compensated by those factors. That hypothesis was supported by pointing out that the geographical concentration level of the European industry is lower than in United States, perhaps due to the territorial division of the EU into countries.

At the beginnings of nineties, the emigration of some firms towards the geographical and economic European core caused fear about a relocation of firms into the EU to the detriment of Spain how certain authors have hypothesized. However, only a few multinational firms changed their location because of restructuring reasons in view of an increase of competition on a world scale; or traditional manufacturing firms which moved towards less developed countries looking to reduce their labor costs (Fernandez-Otheo and Myro, 1995). In this and other aspects, it's important to remember that Spain is not now the poor country it was 30 years ago. And one of the characteristics of more developed economies is that they mainly do FDI abroad and hardly receive FDI.

Nevertheless, the expansion of FDI flows coming from Spain has occurred up till now almost exclusively in the service sector. In the manufacturing sector, the expansion has hardly existed, probably due to the high percentage of multinationals with head office in other countries from which they expand internationally. This fact doesn't occur in energy and service sectors, where the leader enterprises have been promoted by the Spanish public authorities.

2. THE TRANSFORMATION OF SPANISH INDUSTRY

2.1 Specialization by industries

The commercial liberalisation due to the Spanish adhesion to the EEC has promoted deep changes in the patterns of industrial specialisation.

According to the conventional models of international trade, trade barriers reductions help to raise imports of those goods which are produced less efficiently inside the country whereas impel exports of those goods which are produced more efficiently relative to other countries. So, a resource re-allocation will be promoted between sectors and countries and it will lead to a deeper inter-industry specialization. However, the empirical evidence has shown an expansion of intra-industry trade flows in the European Union. The new international trade

theories try to explain them. Their main contribution is the introduction of more realistic hypothesis like increasing returns and product differentiation on the supply side and diverse consumer preferences on the demand side. With these assumptions, new trade theory predicts that a fall in trade barriers would promote an intra-industry specialization. Therefore, an empirical estimation of commercial specialization effects of European integration must be done.

The study of trade patterns in Spanish industry show that intermediate and traditional manufacturing account for nearly 90% of total exports (around 50% and 40% in intermediate and traditional branches, respectively). The most important industry in Spanish exports is transport equipment over the considered time period (30% in 1996), followed by food, beverages and tobacco, chemicals, electrical machinery and textiles (Table 2). This export pattern fits the production pattern but only in a partial way, because traditional goods add up to more than 60% of Spanish production. Although by branch, also transport equipment and food, beverages and tobacco are the most relevant ones, concentrating both of them to about 15% of production in 1996 (Álvarez López and García Grande, 1998).

TABLE 2.- Export Pattern in Spanish Manufacturing Industry, 1985-1996

| INDUSTRIES | EXPORT STRUCTURE (%) | | | | SPECIALIZATION | |
|---|----------------------|------|------------------|------|-------------------|------|
| | Total exports | | Intra-EU exports | | RELATIVE TO EU-12 | |
| | 1985 | 1996 | 1985 | 1996 | 1985 | 1996 |
| <u>Advanced manufacturing</u> | 8,1 | 11,7 | 10,1 | 11,3 | 0,56 | 0,63 |
| Office and data processing machines | 3,5 | 3,0 | 5,0 | 2,8 | 0,62 | 0,42 |
| Electrical goods | 4,6 | 8,8 | 5,1 | 8,5 | 0,52 | 0,75 |
| <u>Intermediate manufacturing</u> | 40,1 | 49,3 | 47,7 | 53,5 | 0,92 | 1,08 |
| Chemical products | 11,7 | 9,2 | 10,5 | 8,1 | 0,80 | 0,66 |
| Rubber and plastic products | 3,4 | 3,9 | 4,6 | 4,2 | 1,26 | 1,03 |
| Agricultural and industrial machinery | 5,9 | 6,3 | 3,5 | 5,3 | 0,49 | 0,55 |
| Transport equipment | 19,2 | 29,8 | 29,1 | 35,8 | 1,33 | 1,81 |
| <u>Traditional manufacturing</u> | 51,8 | 38,9 | 42,2 | 35,2 | 1,23 | 1,09 |
| Basic metals | 15,2 | 6,1 | 8,6 | 5,9 | 1,79 | 1,14 |
| Metal products | 4,8 | 4,7 | 3,8 | 4,1 | 0,95 | 0,98 |
| Non-metallic minerals and min. products | 4,5 | 4,4 | 3,5 | 3,5 | 1,70 | 1,86 |
| Food, beverages and tobacco | 9,4 | 9,9 | 8,0 | 9,0 | 0,95 | 1,12 |
| Paper and printing products | 3,6 | 2,9 | 11,4 | 2,7 | 1,31 | 1,03 |
| Textiles and clothing | 11,2 | 8,0 | 3,5 | 7,3 | 1,20 | 1,04 |
| Other manufacturing products | 3,2 | 3,0 | 3,4 | 2,6 | 0,83 | 0,79 |
| Manufacturing industry | 100 | 100 | 100 | 100 | 1,00 | 1,00 |

Note: specialization indexes calculated for the total exports.

Source: Owns calculations from Eurostat.

The trade pattern described has suffered an important change since the Spanish adhesion to the EU due to the different evolution of Spanish manufacturing industries. Advanced and intermediate manufacturing have growth more rapidly than traditional one, increasing their share in the export structure. This superior growth in industries more intensive in technology (a relative scarce resource in Spain) and in industries which require a higher scale of production (according to the bigger Spanish market size) could be surprising. Spain is a labour-abundant country and it is abundant too in certain natural resources. In this way, the external openness could have promoted traditional industries. In fact, the export structure has moved towards advanced and intermediate manufacturing, mainly transport equipment, in particular motor vehicles⁶.

The reason why traditional manufacturing has not been the protagonists of specialization changes is the strong competition with Third Countries which are developing economies with cheaper labour force. Spain is a developed economy in an international context and it only has the advantage of lower wages to face more developed countries.

In any case, these changes have helped notably to reduce the differences in trade structure between Spain and the EU. On the one hand, the Spanish specialization in traditional branches decreases between 1985 and 1996 (in particular in basic metals, paper and printing products and textiles). On the other hand, the proportion of advanced manufacturing in the Spanish trade structure is more similar to the EU, because of the dynamism of electrical goods exports. At the same time, Spain is more and more specialized in transport equipment over the considered time period.

But the main specialization process promoted by the increasing openness to international trade has not been of inter-industry nature but intra-industry nature, that is, in variety of products so similar that they are included in the same statistical level even at the lowest level of aggregation. This fact is easily illustrated by the increase in intra-industry trade (IIT), that is, the share of trade which is simultaneous export and import of products within the same

⁶ Changes in specialization do not seem to have an answer to the expectation of the European Commission, following the relative weakness calculated for each branch of the industry (Commission des Communautés Européennes, 1990). It was expected to have a very bad performance for transport equipment and electric goods.

industry. The Spanish IIT trade shows a large increase over the period analysed to about 53% of intra-EU flows and 33% of extra-EU flows in 1996 (Table 3).

TABLE 3.- THE NATURE OF INTRA-INDUSTRY TRADE⁽¹⁾ IN SPANISH INDUSTRY, 1985-1996

| | % of Intra-EU trade | | | | | | | | % of Extra-EU trade | | | | | | | |
|---------------------------------------|---------------------|-------------|----------------|-------------|---------------------------|-------------|--------------------------|-------------|---------------------|-------------|----------------|-------------|---------------------------|-------------|--------------------------|-------------|
| | IIT | | Horizontal IIT | | High-quality vertical IIT | | Low-quality vertical IIT | | IIT | | Horizontal IIT | | High-quality vertical IIT | | Low-quality vertical IIT | |
| | 1985 | 1996 | 1985 | 1996 | 1985 | 1996 | 1985 | 1996 | 1985 | 1996 | 1985 | 1996 | 1985 | 1996 | 1985 | 1996 |
| Advanced manufacturing | <u>36,3</u> | <u>47,2</u> | <u>3,5</u> | <u>13,8</u> | <u>22,9</u> | <u>18,5</u> | <u>9,8</u> | <u>14,8</u> | <u>25,7</u> | <u>43,5</u> | <u>6,1</u> | <u>6,0</u> | <u>7,0</u> | <u>16,2</u> | <u>12,7</u> | <u>21,3</u> |
| Office and data processing machines | 31,9 | 40,7 | 2,0 | 18,1 | 25,6 | 15,8 | 4,2 | 6,8 | 24,1 | 50,5 | 8,8 | 3,6 | 9,0 | 26,7 | 6,3 | 20,2 |
| Electrical goods | 41,3 | 50,1 | 5,2 | 11,9 | 19,8 | 19,6 | 16,3 | 18,5 | 27,4 | 39,5 | 3,4 | 7,5 | 5,0 | 10,0 | 19,0 | 21,9 |
| Intermediate manufacturing | <u>35,5</u> | <u>57,9</u> | <u>12,3</u> | <u>30,4</u> | <u>9,5</u> | <u>8,3</u> | <u>13,7</u> | <u>19,2</u> | <u>25,6</u> | <u>42,3</u> | <u>5,0</u> | <u>14,1</u> | <u>6,7</u> | <u>11,0</u> | <u>13,9</u> | <u>17,2</u> |
| Chemical products | 26,3 | 46,2 | 7,2 | 14,2 | 6,2 | 7,9 | 12,9 | 24,1 | 22,4 | 35,6 | 3,0 | 6,9 | 10,0 | 8,9 | 9,4 | 19,8 |
| Rubber and plastic products | 39,0 | 67,5 | 7,7 | 46,8 | 9,6 | 8,3 | 21,7 | 12,4 | 11,9 | 49,4 | 2,9 | 29,5 | 2,1 | 13,5 | 6,9 | 6,4 |
| Agricultural and industrial machinery | 34,2 | 62,3 | 7,5 | 12,0 | 5,5 | 9,3 | 21,2 | 40,9 | 36,8 | 40,4 | 4,6 | 5,4 | 7,2 | 7,9 | 25,0 | 27,1 |
| Transport equipment | 41,7 | 59,9 | 18,1 | 43,7 | 13,1 | 8,1 | 10,4 | 8,1 | 23,9 | 47,0 | 9,3 | 21,2 | 1,9 | 13,7 | 12,7 | 12,1 |
| Traditional manufacturing | <u>18,3</u> | <u>46,6</u> | <u>5,7</u> | <u>16,9</u> | <u>2,7</u> | <u>11,7</u> | <u>9,9</u> | <u>18,0</u> | <u>9,3</u> | <u>22,6</u> | <u>2,0</u> | <u>3,7</u> | <u>2,6</u> | <u>13,0</u> | <u>4,8</u> | <u>6,0</u> |
| Basic metals | 16,2 | 42,5 | 7,7 | 23,3 | 1,0 | 4,1 | 7,5 | 15,1 | 7,3 | 11,5 | 3,3 | 1,9 | 0,3 | 5,4 | 3,7 | 4,3 |
| Metal products | 42,1 | 65,7 | 9,5 | 16,8 | 6,3 | 23,1 | 26,4 | 25,8 | 20,2 | 36,4 | 1,4 | 2,9 | 2,9 | 24,3 | 15,9 | 9,2 |
| Non-metallic min. and min. Products | 21,8 | 43,5 | 5,3 | 14,6 | 3,2 | 11,1 | 13,2 | 17,8 | 6,5 | 21,4 | 0,4 | 2,9 | 1,9 | 6,5 | 4,2 | 12,1 |
| Food, beverages and tobacco | 5,5 | 35,6 | 2,1 | 15,9 | 1,6 | 7,1 | 1,8 | 12,6 | 8,2 | 17,0 | 1,3 | 3,7 | 4,5 | 8,7 | 2,4 | 4,6 |
| Paper and printing products | 33,3 | 47,4 | 13,4 | 11,2 | 3,4 | 5,4 | 16,5 | 30,8 | 17,6 | 22,2 | 2,9 | 4,8 | 4,6 | 2,9 | 10,1 | 14,6 |
| Textiles and clothing | 14,1 | 49,4 | 2,4 | 17,1 | 3,0 | 18,0 | 8,7 | 14,3 | 7,8 | 29,9 | 1,4 | 4,7 | 3,5 | 22,6 | 3,0 | 2,6 |
| Other manufacturing products | 12,8 | 54,5 | 1,8 | 13,5 | 4,8 | 17,5 | 6,2 | 23,5 | 9,9 | 31,4 | 1,0 | 5,7 | 2,8 | 21,0 | 6,0 | 4,7 |
| Manufacturing industry | <u>29,4</u> | <u>52,5</u> | <u>8,6</u> | <u>23,4</u> | <u>9,0</u> | <u>11,0</u> | <u>11,7</u> | <u>18,1</u> | <u>16,4</u> | <u>33,4</u> | <u>3,4</u> | <u>8,0</u> | <u>4,4</u> | <u>12,7</u> | <u>8,6</u> | <u>12,7</u> |

(1) Unadjusted Grubel-Lloyd indices calculated from Nimexe and CN 6-digit statistics from COMEXT database, for manufactured products.

As a result of converging on productive structure between Spain and the rest of Member States, a deeper intra-industry specialization has occurred. In fact, Spain is the most outstanding country because IIT doubled between 1985 and 1996. Moreover, Spain was at eighth and tenth place in terms of an IIT indicator in 1985 (intra-EU and extra-EU, respectively) and it is at sixth place at present, gaining several ranks⁷. So, due to the movement of Spanish trade structures towards those observed in more developed Member States, Spain is now characterized by an intra-industry specialization within the EU.

By industries, intermediate industries are characterized by the highest share of IIT and also advances manufacturing when extra-EU trade is considered. In any case, traditional manufacturing industries like food, beverages and tobacco or basic metals show the lowest level of IIT in Spain.

But it is important to research the nature of specialization followed by each manufacturing branch, that is, to try to know the type of products obtained. In trade within industries, similar products but with different characteristics are offered and the scale economies can be exploited. The recent developments in IIT trade distinguish between vertical intra-industry specialization and horizontal intra-industry specialization⁸. In the first one, products are differentiated in quality and price; in the second one, products differ in certain characteristics or even in brands because brands are usually associated with specific characteristics.

Unlike more developed European countries, Spain has experienced an increase of IIT in horizontal and vertical intra-industry trade. In fact, those European countries with higher shares of vertical IIT in 1985 (Italy, Portugal and Spain) have shown a greater increase in horizontally differentiated products, while the rest of countries experienced a specialization along ranges of qualities, at least in intra-EU flows. In any case, in 1996 more than half of intra-EU IIT is of a vertical nature and about 75% in extra-EU flows. Due to the strong decline of vertical IIT in industries like transport equipment and plastic and rubber products, these industries are characterized by a horizontal intra-industry specialization in the 1990s.

Because we are more interested in our competitiveness compared to the EU, the analysis is focused in intra-European trade. Within IIT, 40% of Spanish exports were of lower quality than imports in 1985. In particular, only in advanced industries were high-quality products

⁷ See Gandoy and Díaz Mora (2000).

⁸ See Greenaway, Hine and Milner (1994).

predominant in intra-industry flows whereas in three branches (transport equipment, basic metals and food, beverages and tobacco) flows of similar quality are the most important. The rest of the manufacturing sectors show an IIT based in low-quality products.

However, many changes have occurred over the considered time period. On the one hand, the share of high-quality IIT has declined by ten percentage points and the low-quality in five percentage point whereas horizontal IIT has increased from 30% to 45% of IIT. On the other hand, in the middle of the 1990s, the numbers of branches characterized by low-quality products have declined to six and the numbers of branches with similar quality in exports and imports has gone up to eight. This evolution of different IIT types in intra-EU flows and mainly the change towards horizontal IIT reflects the efforts of Spanish industry to upgrade the quality of its exports and try to adapt it to the quality of the EU exports. This is, undoubtedly, the first step to increase the share of high-quality products.

2.2 Firm Size and Concentration

As a result of integration and globalization, in a more general perspective, Spanish industrial firms have been involved in a noticeable process of merger and acquisition that has increased the degree of concentration of the supply in the different markets and consolidated the market structure at a domestic level. Thus, the concentration index CR5⁹ which had stayed invariable from 1970 to 1981 at the level of 15, started to grow from that last year, accelerating its velocity from 1985, and gaining ten percentage points up to 1997 (15 to 25). The advanced and intermediate manufacturing increased the ratio even more, by 20 points (Myro and Ruíz Céspedes, 1999).

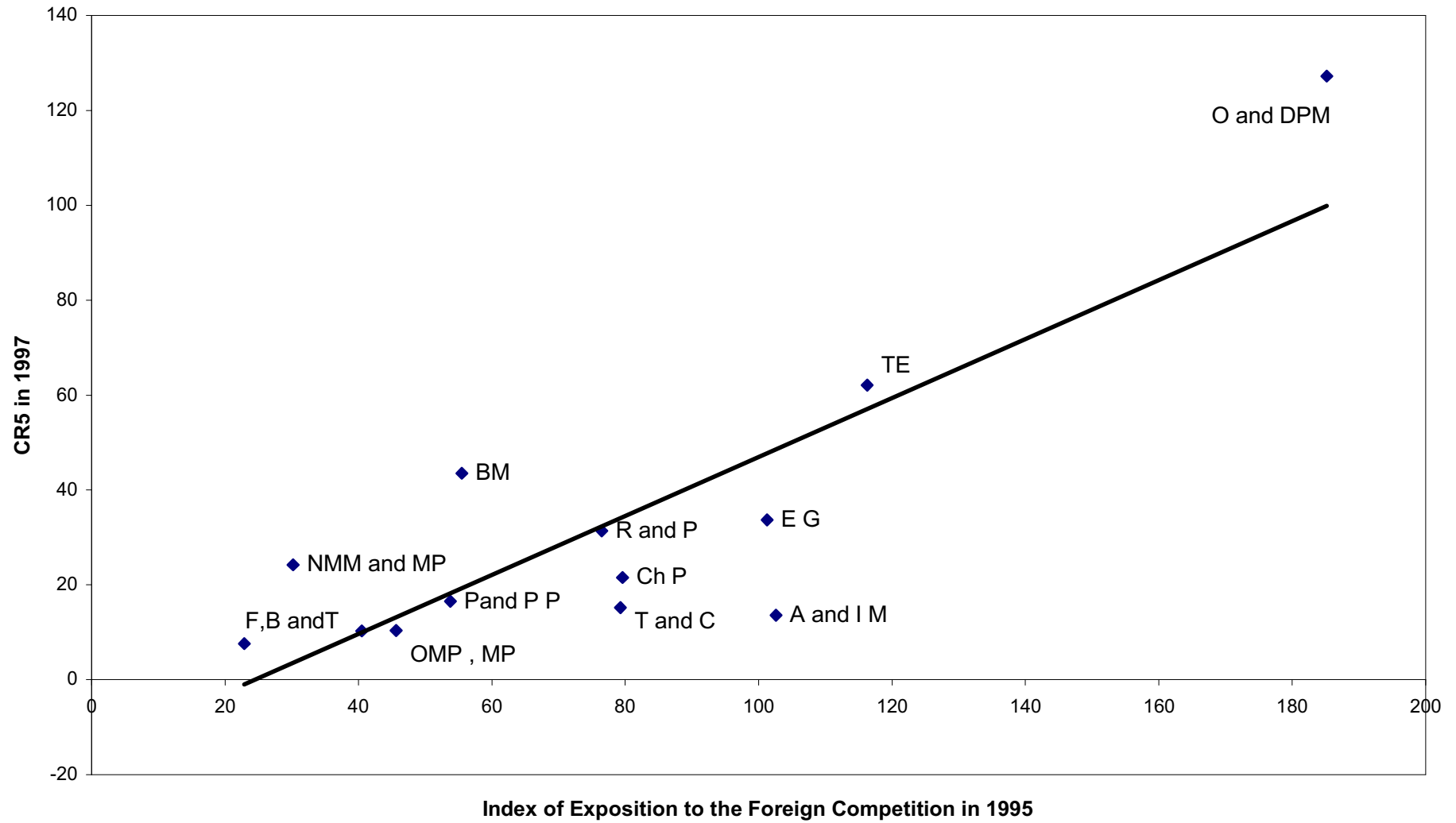
The strong relationship between concentration and opening to the foreign competition can be observed in chart 4. This permits us to consider the increase in the concentration as a consequence of more competition.

⁹ Percentage of 5 top firms in the production of the branch.

Chart 4.- Market Concentration and Openness to the External Competition

$$y = 0,6216x - 15,201$$

$$R^2 = 0,6994$$



At the same time, a consolidation of the leadership position of the 5 top firms has taken place inside each branch. Now, these firms belong to international groups. In half of the branches (the traditional manufacturing ones) the leader is a Spanish holding. That does not mean that the process or merger has finished. Big Spanish firms are small in comparison with the big European firms (Table 4). So, we can hope for further changes and transformations of the industrial structure in the following years.

TABLE 4.- Relative Size of the Spanish Industrial Leaders
(Percentage of the revenues of the first Spanish firm in comparison with the first and the fifth firm in the European Union)

| Industries | In relation to first firm | In relation to fifth firm |
|--|----------------------------------|----------------------------------|
| Basic Metals | 9,1 | 22,5 |
| Metal Products | 4,4 | 13,3 |
| Non-Metallic Minerals and Mineral Products | 8,0 | 25,2 |
| Chemical Products | 3,0 | 6,4 |
| Rubber and Plastic Products | 12,5 | 65,1 |
| Office and Data Processing Machines | 17,2 | 49,2 |
| Agricultural and Industrial Machinery | 2,0 | 8,7 |
| Electrical Goods | 2,0 | 9,0 |
| Transport Equipment | 7,5 | 16,4 |
| Foods, Beverages and Tobacco | 2,9 | 8,9 |
| Paper and Printing Products | 7,0 | 12,4 |
| Textiles and Clothes | 16,6 | 63,8 |
| Other Manufacturing Products | 7,0 | -- |

Source: Eurostat; Myro and Ruiz Céspedes, 1999.

2.3 Productivity and prices

In spite of all these transformations, apparently Spanish industry has not improved noticeably in its labor productivity, in a divergence with the industries of other European countries (Table 5). This is a strange performance, not compatible with the deep transformation we have shown above¹⁰. Nevertheless, some of this must have had a big impact on productivity:

¹⁰ It is suspected that official statistics undervalue the productivity growth, because they underestimate the product growth, mainly in high technology industries, and also because they overestimate the growth employment (Myro and Ruiz Céspedes, 2000). This last aspect can be the result of the emerging of sumerged population.

five top firms had three times the labor productivity of its branch in 1997, a ratio that was only 1,8 in 1985 (Table 6).

TABLE 5.- Relatives Labor Productivity and Unit Labor Costs in Manufacturing Industry (UE-10=100)

| Countries | Labor Productivity | | | Unit Labor Costs | | |
|----------------|--------------------|-------|-------|------------------|-------|-------|
| | 1980 | 1985 | 1996 | 1980 | 1985 | 1996 |
| Germany | 121,9 | 113,9 | 102,0 | 102,1 | 102,8 | 111,5 |
| Belgium | 106,1 | 117,7 | 116,2 | 106,5 | 99,9 | 91,6 |
| Denmark | 115,7 | 103,2 | 91,1 | 103,2 | 99,0 | 87,0 |
| Spain | 83,4 | 82,9 | 78,9 | 85,1 | 79,8 | 95,6 |
| France | 119,7 | 111,9 | 114,8 | 100,1 | 102,4 | 102,1 |
| Netherlands | 119,1 | 120,2 | 124,4 | 106,8 | 98,7 | 79,3 |
| Italy | 94,1 | 98,5 | 108,3 | 87,7 | 91,0 | 86,6 |
| Luxemburg | 101,7 | 119,2 | 132,6 | 97,3 | 79,1 | 101,8 |
| Portugal | 40,5 | 36,4 | 32,6 | 71,4 | 64,9 | 73,2 |
| United Kingdom | 73,9 | 82,4 | 96,1 | 111,1 | 110,1 | 94,3 |
| EU-10 | 100 | 100 | 100 | 100 | 100 | 100 |

Source: Álvarez López and García Grande (1998)

TABLE 6.- Relative Efficiency of the Industrial Leaders in Spain (Revenue per employee on the five top firms with respect to the average of the sector)

| Activities | 1971 | 1980 | 1985 | 1990 | 1997 |
|--|------|------|------|------|------|
| Basic Metals | 0,6 | 0,6 | 0,5 | 0,8 | 1,6 |
| Metal Products | 1,5 | 1,1 | 1,7 | 2,2 | 2,7 |
| Non-Metallic Minerals and Mineral Products | 1,9 | 1,6 | 1,7 | 1,8 | 2,1 |
| Chemical Products | 1,0 | 1,5 | 3,6 | 2,3 | 3,4 |
| Rubber and Plastic Products | 1,1 | 1,2 | 1,1 | 1,3 | 1,7 |
| Office and Data Processing Machines | 1,0 | 1,4 | 1,9 | 2,4 | 6,5 |
| Agricultural and Industrial Machinery | 1,5 | 1,2 | 1,1 | 1,6 | 1,5 |
| Electrical Goods | 1,6 | 1,0 | 1,1 | 2,7 | 3,0 |
| Transport Equipment | 1,2 | 1,4 | 1,9 | 2,4 | 2,9 |
| Food, Beverages and Tobacco | 2,2 | 1,4 | 3,1 | 2,8 | 2,5 |
| Paper and Printing Products | 1,3 | 1,6 | 2,2 | 4,0 | 3,5 |
| Textiles and Clothes | 0,9 | 1,4 | 1,4 | 3,0 | 2,9 |
| Other Manufacturing Products | 3,8 | 2,7 | 4,2 | 5,6 | 7,4 |
| Total Manufacturing | 1,3 | 1,3 | 1,8 | 2,5 | 3,2 |

Source: Fomento de la Producción, MINER and CNE.

However, labor productivity problems are concentrated in traditional manufacturing, because in the other two groups the levels reached are very similar to the other European countries, mainly because these are controlled by foreign capital in a high proportion. That converts the productivity problem into an expression of the competitiveness lacking in Spanish traditional industry, perhaps for that incapacity of balancing its trade.

Although its relative labor productivity has been decreasing, Spanish industry still has an advantage of labor costs that support its development, but this is not sufficient, because some of the low quality products really compete with products from emerging countries with very low wages. Spanish industry only has a wage advantage in comparison with the other European industries, but always in products of the same quality.

3. FINAL RESULTS

3.1 Growth

Despite the evolution of the labor productivity, the production of Spanish industry has grown at a high rate, supported mainly by a strong expansion of the domestic demand.

As a result of the integration consumer demand grew rapidly, to materialize the increase in the real income derived from the lower prices and to benefit from the wider variety of goods. Besides the recovery of the European economies from 1983 pushing Spanish exports, which were helped by the reduction of the trade barriers.

Confronted with the external challenge, firms increased their investments, helped by foreign capital, restructuring their technical processes and improving the quality of their products (Myro and González Romero, 1989). The government contributed to that through facilities for a quick amortization of new capital stocks on the books, with a reduction in declared profits and in corporate taxes.

Expanded demand enhanced industrial production that grew more than in any other European country (Table 7). Better than any other indicator, growth reveals the high competitiveness of

Spanish industry. Although growth has been different in every branch (higher in the advanced ones), the shares of all the three groups of industries in the EU has risen¹¹.

TABLE 7.- Importance of the Spanish Industry in the European Union

| Countries | Share in EU Industrial GAV (1990 Prices) | | | Share in EU Industrial Employment | | |
|----------------|---|------|------|-----------------------------------|------|------|
| | 1980 | 1985 | 1996 | 1980 | 1985 | 1996 |
| Germany | 31,9 | 32,0 | 29,1 | 26,2 | 28,1 | 28,6 |
| Belgium | 2,7 | 3,1 | 3,0 | 2,6 | 2,6 | 2,6 |
| Denmark | 1,7 | 1,8 | 1,7 | 1,5 | 1,8 | 1,9 |
| Spain | 6,9 | 6,9 | 7,9 | 8,3 | 8,4 | 9,9 |
| France | 19,0 | 18,0 | 17,8 | 15,9 | 16,1 | 15,5 |
| Netherland | 3,5 | 3,7 | 4,1 | 2,9 | 3,1 | 3,3 |
| Italy | 16,6 | 17,0 | 19,1 | 17,7 | 17,3 | 17,6 |
| Luxemburg | 0,1 | 0,2 | 0,2 | 0,1 | 0,1 | 0,1 |
| Portugal | 1,1 | 1,1 | 1,3 | 2,7 | 2,9 | 4,0 |
| United Kingdom | 16,3 | 16,2 | 15,9 | 22,1 | 19,7 | 16,5 |
| EU-10 | 100 | 100 | 100 | 100 | 100 | 100 |

Source: Álvarez López and García Grande (1998)

In spite of this evolution, Spanish industry has a lower share in the EU than it should have, according to the importance of its relative population, what it is an expression of its weaknesses.

In parallel with production, exports have increased, so quickly that its share in the EU exports has doubled, going from 3.2 per cent in 1980 to 4 in 1985 and 5.5 in 1997. This is the best expression of the improvement in the efficiency of the allocation of the resources. However, as in production, Spain should have more export share in the E U (Myro and Gandoy, 1999).

Not all the Spanish Communities have received the same beneficial effects of the European Integration. More competitive territories are supposed to be more capable of taking a bigger benefit of an integration process. This seems to have happened in Spain: European integration has not changed the Spanish territorial map of growth. Industry has grown quickly in Madrid, Catalonia, Navarre, La Rioja and Aragon (most industrial regions if we except the Basque

¹¹ The underestimating of productivity growth by official statistics is, in part, based on the existence of a close relationship between the relative production growth and the labor productivity growth (Myro, 1995; Wolf, 1999).

Country). Less industrialized regions, such as Andalusia, Cantabria, Extremadura and Castille-Leon have seen its relative situation worsen (Myro, 1997).

But this doesn't mean that industries from those regions had grown less than before the integration process. It is a fact that it is difficult to establish because the period prior to Spanish adhesion to the EU was a deep industrial crisis time.

3.2 External deficit

Growth in demand and opening to foreign competition led to an increased trade deficit in the initial period of the European Integration, 1985-1990. Demand and opening are equally responsible for this deficit, following the available estimations (Martín, 1997). Nevertheless, foreign direct investment contributed also, pushing up the exchange rate, afterwards supported by the government, as a consequence of its commitment to the EU, after the incorporation of the peseta to the ERM in 1989. After the devaluation of the peseta in 1992 and 1993, external deficit has been reduced to a more moderate level. However, the three kinds of industries we have considered have got a external deficit. This can be interpreted as a consequence of the transition, from a traditional manufacturing industry to another more advanced. But probably it is more the expression of the higher competitiveness of tourist sector that pushes the peseta to a high level. In fact, deficit is concentrated in the advanced industries. The traditional ones are near their equilibrium.

4. THE ROLE OF INDUSTRIAL POLICY

Economic crises of the 70's, democratic transition process and bigger Government deficit interrupted the encouraging industrial policy of the 60's, characterized by industrial plan and strong public support to the industrial development.

In exchange, a defensive industrial policy was settled, increasing the public enterprise sector with private firms in bad economic situation and promoting a restructuring of basic sectors (basic metal, textile, shipbuilding, coal mining), with excess of installed capacity and excess of payroll, and where public firms dominated. Apart from this, export was subsidized.

The rise of the Socialist Party to power, in 1982, stopped the expansion of public firms and introduced some more efficiency in the restructuring plan, through the creation of unemployment funds, where the excess of payroll in the basic sectors was placed.

But the main aim of the industrial policy changed to be the promotion of the competition through the European Integration. Any other industrial policy was considered secondary and assigned to the Territorial Governments. To the point that the estimates of the European Commission about the government support to industry in the different European countries show Spanish industry among the least helped by public powers. No more than 2 per cent of Gross Add Value was spent in subsidies to the firms. Most of this amount was used to restructure basic sectors and in a regional policy. But research and innovation did not have relevant presence.

Such change can be criticized, because the integration required at least more information to the small firms, the great majority, and an increased effort in research and innovation. But since then, Spanish governments have accepted the technological dependence of the industry from international firms.

In spite of everything, the positive paper of wide tax deductions given for equipment goods purchases must be emphasized, because they encouraged the firms equipment renovation. In the same way, the positive work of some regional governments, mainly Valencia's but also Catalonia and the Basque Country's, which did active industrial policies creating technological and enterprises centres. Also these industrial policies promoted the consolidation and structuring of territorials clusters, offering an important informative base for the design and orchestration of industrial policy.

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