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**INTERNATIONALISATION STRATEGIES OF AUTOPARTS INDUSTRY:
THE PORTUGUESE CASE**

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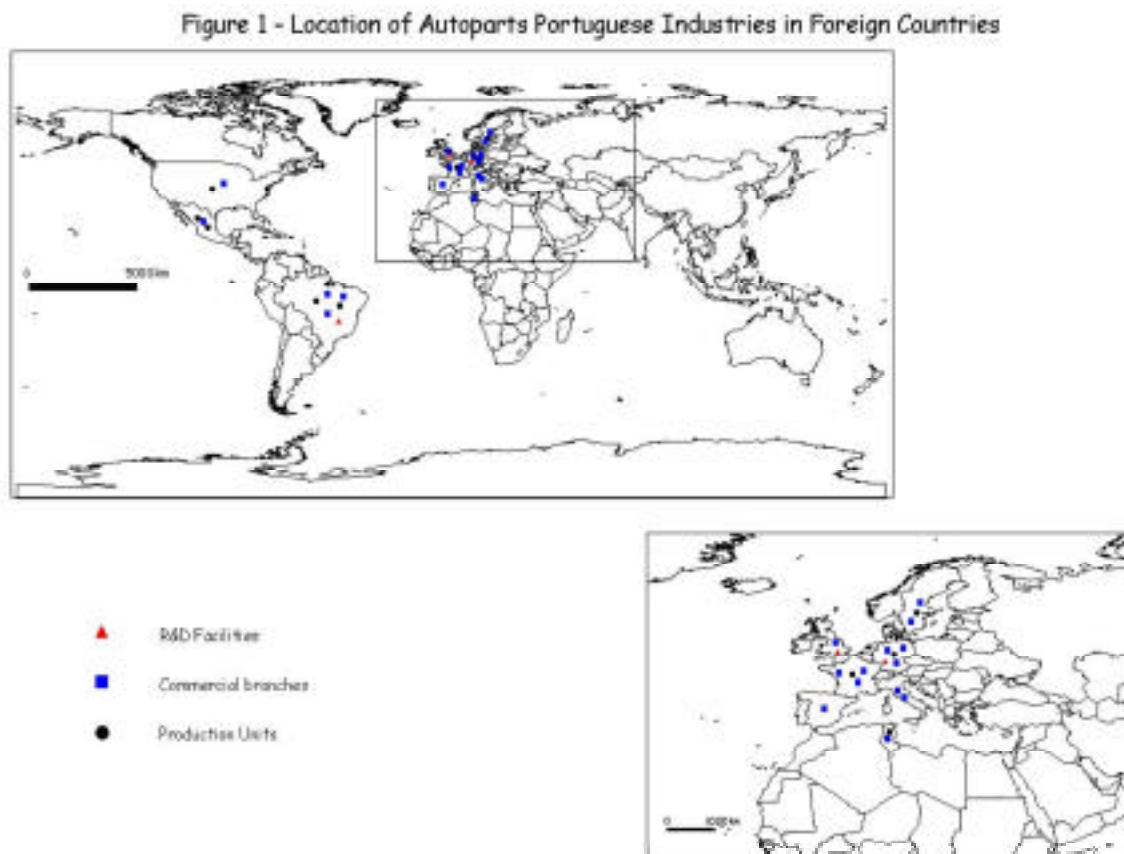
INTRODUCTION

For several decades, Portugal has used a number of policy initiatives to foster the development of the auto industry, through foreign direct investment coupled with a rapid upgrading of national firms. This paper reviews the history and assesses the actual context of the national auto industry. It is organized in three sections. The first section presents a brief history of the development of the auto industry in Portugal, starting in the sixties, when the government used a number of policy initiatives to foster the development of this industry. Section two makes a more detail characterization of the actual conditions in the Portuguese auto components industry. Section three places the Portuguese components automobile industry in an international context, providing some information about a small number of companies that made investments in foreign countries. In this part, we intend to identify the recent Portuguese auto components international strategies. On one hand, studying the modalities of internationalisation, as direct exportation, international *outsourcing* or foreign direct investment, on the other hand identifying factors concerning specific geographical areas of Portuguese investment abroad, like Europe and Brazil.

EVOLUTION OF AUTOMOBILE INDUSTRY IN PORTUGAL

The automobile industry assumed, with some drawbacks, an increasing value in the Portuguese economy, representing about 7% of the GDP and 20% of the exports in 1997¹. The automobile production grew strongly, approaching the 250,000 vehicles in the year 2000, whereas more than 90% were exported to foreign markets (see figure 1).

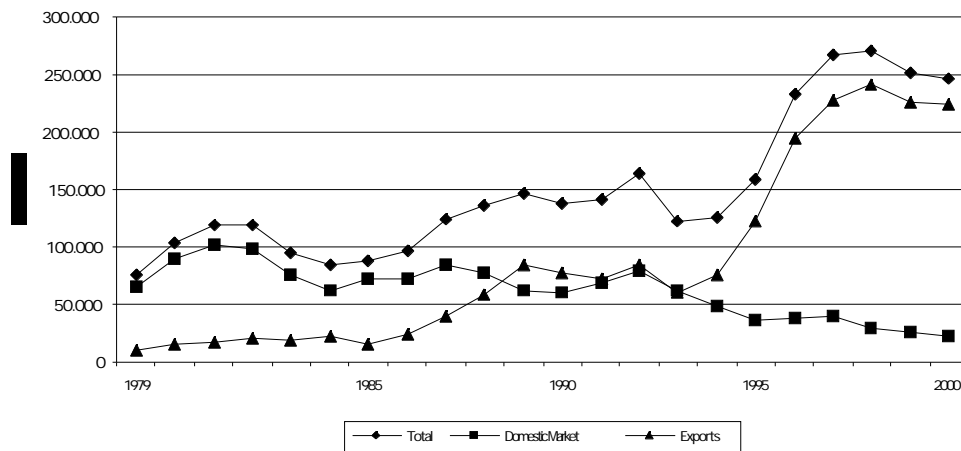
At the present, automobile industry trends can be summarized in the following points: reduction of the number of assembly lines, increasing size of the companies, reduction of the number of platforms, increasing production series, intensification of capital, orientation to the external markets and increasing penetration of inward investment².



¹ See Reis [2000]

² See Féria [1997]

Figure 1 (suite). –Vehicles Assembled and Market Breakdown in Portugal, 1979-2000



Source: AFIA (*Car Component Manufacturers Association*)

The evolution of the automobile industry in Portugal has been conditioned by industrial and commercial policies, thus we can identify three development phases of this sector since the beginning of the 1960's: imports substitution, promotion of the exports and market opening

Imports Substitution (1963–1972)

The automobile production grew significantly in Portugal in the 1960's, mainly in the segment of passenger automobiles, in result of the implementation of the "Assembly Law". One of the most important objectives was the implementation of an imports substitution strategy. In 1964, 17 enterprises began their activity, manufacturing more than 40 different brands for a market that represented, on that year, about 26,000 vehicles (20,000 passenger vehicles and 6,000 commercial vehicles). Most carmakers gave assembly licenses to the Portuguese importers, or to other companies, although 6 transnational corporations (TNC) subsidiaries of the automobile sector started to produce in Portugal: Ford, GM, Fiat, Renault, Citroën and BMC. Guerra enhances the fact that international oligopoly reproduced locally in a very short period³. By the end of 1960's other 6 assembly lines were established, 5 of those were from Japanese origin, nevertheless framed in a model of production licenses.

³ See Guerra [1990]

The automobile production in Portugal was above all oriented to the domestic market, at least until the end of the 1970's in the segment of light passengers vehicles and until later, almost the end of the 1980's, in the commercial ones. This evolutionary phase of automobile industry finished in the beginning of the 1970's. On the one hand, and unlike what was intended, a profusion of brands and assembly lines was observed that, considering the exiguity of the national market, had difficulty in obtaining significant scale economies⁴. According to AFIA⁵, the problems of the automobile industry in Portugal in the beginning of the 1970's were of 4 types: difficulties in obtaining scale economies; excessive variety in the assembly lines; reduced market size; excessive number of small suppliers with small batch production.

Exports Promotion (1972–1986/88)

Between 1963 and middle seventies, automobile demand grew significantly, reaching in 1974 110,000 vehicles (88,000 passengers automobiles and 21,000 commercial vehicles). The total number of vehicles locally assembled was slightly below the domestic demand. During the decade of the 1960's, the brands with larger penetration in the market were of American and English origins, due to privileged relationships with the United Kingdom, the main automobile manufacturing of EFTA. By the end of the 1960's, Japanese CKD vehicles were increasingly assembled by local companies to the domestic market, even so, the agreements signed with EU came to favour the European and American producers again⁶.

In 1972, the government reviewed the legal framework of the sector, due to the productive inefficacy of the assembly lines and to the international commitments that they intended to execute. The government tried to maintain, at least up to 1979, a strategy of local content in the automobile production.

The reduced size of the domestic market and the production of a large number of car models continued to stop the achievement of scale economies in many assembly lines. So, in 1977, the Portuguese government sought, again, to restructure the automobile industry. For that purpose, an international bidding to attract an international carmaker that in turn would have a guarantee of a domestic market share was launched. Renault was selected and the company established an assembly plant at Setúbal.

Immediately before Renault Project started up, the government reviewed the legal framework for the automobile sector through the Decree Law no. 351/79. This worked as a transition program destined to prepare the national automobile industry for the opening of the market to the members countries of EU, delayed to the end of 1985. The referred Decree Law

⁴ See Schmidt and Almeida [1987]

⁵ Car Component Manufacturers Association [1992]

⁶ See Guerra [1993]

was relatively complex. In its essence, the restrictions to the imports of CBU vehicles were maintained and new import contingents for the brands originating from of EU and EFTA were defined. The Decree Law of the automobile sector ceased its validity on December 31, 1984, when it was replaced by the Decree Law 405/84 that sought to regulate the automobile industry until the effective adhesion of Portugal to EU.

With the beginning of Renault assembly line operation the number of manufactured automobiles vehicles in Portugal grew, though moderately, mainly because some assembly lines ceased economic activity or reconverted its production. The production was oriented above all to the internal market. The membership of Portugal to EU in 1986 would come to bring deep modifications in the automobile national industry, from which the most significant was the domestic market opening to the European competition, with negative reflexes for the assembly lines mainly participated by national capital, but with advantages for TNC on the sector established in Portugal and for the automobile components industry.

Free Market (1986/88...)

With the reopening of the domestic market there was a significant increment of the automobile production in Portugal. Between 1988 and 1993, the passenger automobile exports exceeded slightly the production for the domestic market. Nevertheless, significant differences were observed among the segments of passengers and commercials vehicles. In effect, the production of passenger automobiles was mostly exported, while the commercial vehicles manufactured in Portugal continued to be oriented for the domestic market. In the passengers' segment North American and European carmakers started to serve the national market above all through imports from other EU areas. With the market liberalization, TNC subsidiaries of the sector established in Portugal rationalized its activity electing, in a first moment, a production strategy of inferior segment models destined to the provision of Southern European markets. The automobiles imports liberalization in EU led to a wide movement of restructuring, with disastrous consequences for some countries that had followed a model of imports substitution in relation to Greece and Ireland, whose foreign assembly lines closed⁷. The maintenance of the assembly lines in Portugal was a result of low wages, geographical proximity to the markets of Southern Europe, especially Spain, and on unconditional national authorities support. Portugal definitively became a member of the European automobile production system.

The situation in the commercials' segment was, during some time, radically different. In the years that followed the automobile trade liberalization, the national assembly line companies developed the production of commercial vehicles, mainly as a result of successfully production licenses agreements established with Japanese carmakers, since the importation of CBU vehicles which came from external countries of EU stayed limited,

⁷ *Idem*, [1993]

however the same did not happen with CKD vehicles. Since commercial strategy prevailed, the domestic demand justified the assembly line pace. The years that followed the Portuguese membership to EU were very advantageous to national economy, above all for the amount of EU financial support and the high level of foreign investment. The perspective of the Single Market, the low wages and the privatisation and liberalization process of some sectors of the economy are the main factors that justify the remarkable growth of foreign direct investment in Portugal. Combining a considerable increment in the improvement of consumption levels with the existence of an old automobile park, the domestic market has grown to previously unknown levels. Surely the special credit systems stimulated the domestic demand in this sector⁸.

The evolution of the annual automobile registration kept growing almost until the final of the eighties. The passengers' automobiles demand has grown sophisticated and diversified, this way, the assembly lines installed in Portugal did not manage to supply most of the national market, because of their low segment automobile production strategy, a little similar to the Spanish situation after joining the EU. The manufacturers started to satisfy some segments of the demand with imports. So, not only did the imports grow, but it was also possible to observe an increment of the exports, mainly of vehicles of smaller size in direction to Southern European markets.

In summary, it is possible to conclude that the reorganization of the sector presented two different sources immediately in the period after the reopening of the market: the production of passenger vehicles was transferred to the subsidiaries TNC installed in Portugal, a part of which for the national market and another for the export markets and at the same time distributors and retailers started to import, complementarily or in alternative, vehicles of other countries of the EU and EFTA; the production of commercial vehicles was mostly guided for the domestic market, with great preponderance of Japanese marks manufactured under license in national assembly lines, due to the restrictions to the imports of CBU vehicles of non-EU countries⁹.

The production reduction of Renault's assembly lines at the Setúbal Peninsula constitutes the main cause for the decrease of the number of vehicles manufactured in the period from 1992 to the beginning of Autoeuropa activity in 1995. The French manufacturer's factory reached a production volume of 73,000 vehicles in 1992, revealing soon after a slow down of the automobile production, reaching a little more than 24,000 vehicles in 1996. The decrease of the cadence of the Renault assembly line in Portugal is mainly due to three reasons: end of the protected market, that allowed Renault an appreciable share of the domestic market; opening of the Eastern European economies, where the potential demand and labour costs are important competitive factors, above all in the designated « transition

⁸ GEP/MIE, [1989]

⁹ See Vale , [1999].

economies » (Czech Republic, Slovakia, Hungary and Poland); end of the *Clio* life cycle with correlative demand decrease at the national and international levels. Renault ended by closing down the assembly line in 1998.

After a long period of conversations between the Portuguese Government, the Commission of the European Communities and the producers Ford and Volkswagen, in July 1991 financial support was approved for the installation of Ford/VW joint venture at Setúbal Peninsula¹⁰. The total investment initially foreseen rounded _ 2,245 millions. The incentives granted to Autoeuropa were distributed by three following types: financial incentives (66,7%), fiscal exemption (6,7%) and training (27,1%), in a total of around _ 445 millions. At the same time, the government invested in infrastructures namely in the improvement of the highway accesses to the industrial site, in the railroad connections, and in the construction of a roll on/roll off terminal in the port of Setúbal. Autoeuropa has a production capacity that allows for 180 thousand vehicles / year, employing around 4,000 people.

The installation of the Autoeuropa automobile production unit has been decisive for the formation of an automobile production system in Portugal¹¹. In effect, after the beginning of production in 1995, the number of manufactured vehicles in Portugal grew strongly, reaching a volume of about 271,000 vehicles in 1998, a figure that is a national record. Autoeuropa produces more than 50% of the total production. Due to the fact that the production of this unit was to be mainly destined to the external market, an accentuated growth was registered in the national automobile production for export markets, particularly in the passengers' segment, category to which the vehicles manufactured by Autoeuropa (Ford *Galaxy*, VW *Sharan* and Seat *Alhambra*) belong.

The impact of Autoeuropa in the Portuguese automobile industry is easily assessed through the following figures: 66% of the total passenger automobile production; 51% of the total production of vehicles (passenger and commercial); 55% of the total number of exported vehicles. No doubt, that the Portuguese automobile industry won another breath with the installation of Autoeuropa, it could even be argued that this project is central for the automobile production system in Portugal and even for the national economy¹²

¹⁰ See Ferrão and Vale, [1995].

¹¹ Currently, Ford abandoned Autoeuropa joint venture and VW assumed full control of the company.

¹² *Idem*, [1995].

PORTUGAL'S AUTOMOTIVE INDUSTRY

Evolutionary synthesis of the Portuguese Components Industry

The beginning of the sixties determined the starting of the industry of car components in Portugal, coinciding with the assembly law enacted at the time. This new regulating framework was meant to promote the regional development beginning with the decentralised establishment of different assembly lines as well as to establish the beginning of the component industry. During many years the exiguity of the internal market did not make possible a remarkable expansion of the automotive manufacturing, bringing a negative reflection on the expansion of the components industry. Moreover, there was also the difficulty of the components industry in adapting to changes in the component production, because of the clients, who manufactured different models in the assembly line, being almost impossible for the enterprises to obtain reasonable profit levels, even with very low tendencies. As Vale¹³ points out, the foreign investment in the component industry did not have a major expression until the beginning of the Renault project.

The main piece, which has impelled the foreign investment in the component industry, was undoubtedly the implementation of the project Renault¹⁴. The implanting of Renault's assembly line also allowed the fixation of some foreign investment in Portugal¹⁵. It allowed as well, the best unities of national capital of components (in plastics and the metallic sectors, of the internal seats and revetment, of the filters, etc) to take their first steps in the export area. Components industry has benefited from the installation of enterprises of automotive setting in our country. On the one hand, those industries were forced to show higher levels of national incorporation, and on the other hand, they brought some associated enterprises. The market of components starts to mark its first steps towards a development more or less sustained by the arriving of a less incipient component industry, which does not manufacture traditional pieces and technology anymore, such as metal pieces, batteries, glasses, tires, stuff and other non-metal pieces. Those components did not allow to achieve a high added value.

The Autoeuropa project is considered to be a second mark in the development of the automotive industry in Portugal. It is even considered to be an important element of the industrialization process of the country. The installation of Autoeuropa at Setúbal has contributed to the change of the Portuguese industrial structure, not only through the displacement to Portugal of nearly twenty production unities of car components, but because it also allowed the national industry to enter a phase of sustained growth due to the internal demand, going however, beyond the direct supply to Autoeuropa, but mainly because it

¹³ *Idem*, [1999]

¹⁴ The Renault project includes three production lines – one for passenger cars, one for engines, gearboxes and water pump and a foundry.

¹⁵ The example of Bertrand Faure.

confers the component companies a renewed confidence in the approach to the external markets represented by other European OEM. Both projects have, however, different characteristics. Whereas the Renault project was based on the advantage of a protected domestic market, the Autoeuropa project is oriented to the exploration of the European market.

Characterization of the Component Industry in Portugal

This sector has shown a strong growth in the past ten years as the evolution in the number employees working for the automotive industry shows, as well as turnover and the direct exportation has shown us. Analysing the evolution of this sector, we verify that the number of jobs connected to the sector has increased from 24.100 in 1991 to 34.500 in 1994 (see table 1). There was a doubling in the number of employees, reaching the highest value in 2001 with 37.500 workers in the establishments connected to the component companies.

Analysing now the component industry in terms of size, we can see that the companies for car components in Portugal are mainly small to medium enterprises. In 2001, 77,9% of the component companies of the automotive sector had less than two hundred and fifty employees, (table 2), however, those have been growing, reinforcing its staff of human resources and its invoicing value.

Table 1. – Evolution of the Number of Employees in the Automotive Components Sector, 1983-2001

Years	Nr. Employees
1983	16.600
1986	21.000
1991	24.100
1994	34.500
1998	36.000
2001	37.500

Source: AFIA (*Car Component Manufacturers Association*)

Table 2.– Enterprises of the Automotive Components Sector by Size of Employees, 2001

Nr. Employees	%
0 - 249	77,9
250 - 499	11,8
500 – 3999	9,3
4000	1

Source: AFIA (*Car Component Manufacturers Association*)

Table 3.– Evolution of the Turnover and Market Destination of the Automotive Components Sector, 1986-2001

Years	Turnover	Domestic	Exports
		Market (% Turnover)	(% Turnover)
1986	424	52,8	47,2
1987	499	55,1	44,9
1988	673	59,3	40,7
1989	883	66,1	33,9
1990	1.127	70,8	29,2
1991	1.417	76,0	24,0
1992	1.746	78,6	21,4
1993	2.045	79,3	20,7
1994	2.220	80,5	19,5
1995	2.414	79,3	20,7
1996	3.137	65,8	34,2
1997	3.541	64,8	35,2
1998	3.671	63,2	36,8
1999	3.821	62,8	37,2
2000	3.935	62,7	37,3
2001	4.112	64,3	35,7

Source: AFIA (*Car Component Manufacturers Association*)

The turnover volume has always been increasing from the middle of the 80's and 90's, presenting a faster growth from the beginning of the 90's, reaching the highest values in the first years of the installation of Autoeuropa in Portugal (table 3).

If in 1990 the components enterprises, presented an invoicing of _ 1,127 million, in 2000 this value has reached 3.935 million, exceeding _ 4 thousand million in 2001. Therefore, we may conclude that the component sector in Portugal has been showing an instable growth, showing the fact that the growth in 1998 compared to 1997 was the lowest since 1987. This decreasing tendency continued until 2000, presenting a slight recovery in 2001.

As far as the partition of these values for the export and the national market is concerned, we can see that since the middle of the 80's until today, more than 50% of the production is for the export. Vale¹⁶ refers that the export markets have been; also from 1985 on, more important than the domestic market for the component companies settled in Portugal. However, we are assisting to a slight change of the tendency verified until 1994, that is, if until this year the market share intended for the national market has been lower every year, in detriment of the export, which reached this year a share of 80% of the production, from 1995 on, and with the settlement of Autoeuropa, the turnover value intended for the

¹⁶ *idem*

national market rose, although in a gradual and slow way. In 2001, the exports reached 64,3% of the total invoicing volume (table 3).

The raise of the number of vehicles produced and particularly the installation of the assembly line of Autoeuropa, had a direct impact on the expansion of the internal market of the component sector, whose dimension tripled during the nineties.

It is important to stress the fact that the main market of the component companies is the OEM and not the segment of pieces of replacement. This situation occurs internally, and also in the export sector, where the suppliers of national components supply the OEM abroad. This fact shows the effort of national companies to make themselves first suppliers of the largest constructors, showing the acquisition of a significant level of skills, according to the national parameters. According to Reis¹⁷, the performance of the companies in terms of quality has shown signs of change, because a group of companies is able to present good results as far as the quality level of the best world companies is concerned. However, Veloso *et al.*¹⁸, calls attention to the fact that although there is a core of companies, where we can include most of the multinational and some of the national companies, with a good performance in terms of quality, with indicators compatible to the best, the other national companies are still far away from the expected levels in terms of quality.

**Table 4. – Distribution of the Social Capital of the Firms
of the Automotive Components Sector, 2001**

Type of Capital	Companies
Capital 100% National	49%
Capital 100% Foreign	27%
Mixed Capital	24%

Source: AFIA (*Car Component Manufacturers Association*)

Considering the features of the supplier structure in Portugal it is mainly marked by the presence of foreign investment. According to the data given by AFIA (*Manufacturers Association for Automobile Industry*) for 2001, 27% of the companies of the component sector settled in our country are companies with foreign capital, 24% companies with mixed capital and 49% with national capital (table 4).

Garrinhas (1996) showed that 59% of the companies with foreign capital working in the production of components settled in Portugal after 1986. Of these, more than half started their activity during the nineties, in association with the beginning of the project Autoeuropa.

¹⁷ *idem*

¹⁸ Veloso *et al.*, [2000]

The foreign investment is represented through acquisitions and *joint ventures*, mainly in what concerns the supplies of the first and second tiers. On the other hand, the suppliers of national components are lagging behind in what concerns the different levels of supplying chains of components, representing themselves as *second tiers*. One of the reasons to justify the relative “delay” of the suppliers of Portuguese components is that they do not have the necessary advanced technical and technological capacities to be suppliers of first range. According to the classification of the IMVP (*International Motor Vehicle Program*) the suppliers of Portuguese components can be characterized as “Component Manufacturers”, specialized in a certain process, being their direct clients other suppliers represented in an upper hierarchy, or even, “Fitter Manufacturer”, specialized in a certain process and with a complementary capacity of assembly, being typically indirect suppliers.

The accomplished investment of the component sector has been showing the increase of the external demand, but equally the growing need to adopt improvements in the domain of the technologies, updating and modernization of the industrial park. In terms of investment, the project Autoeuropa also begins a new phase for the industry of components. The importance of the multinationals in the set of the sector, with the eight major companies of foreign capital settled in Portugal representing almost half of the invoicing of the sector. (table 5)

Table 5 – Importance of the Biggest Enterprises of the Automotive Components Sector in Portugal, 1999

Companies	Invoicing Volume (Millions)
Visteon	3,48
Delphi	3,22
Lear	1,87
Johnson Controls	0,71
Continental Mabor	1,91
Yazaki	2,48
Blaupunkt	2,31
Faurecia	1,30
Total	17,28
Total of sector	38,4
Importance in the sector	45%

Source: “*Expresso*” Newspaper

Similar to what happened in the national production of vehicles, a major part of the national production of components has as destination, countries from the European Union. In 2001, Germany had the leading position of 29% of the sales to the exterior, followed by France (25%), Spain (21%) and United Kingdom (8%). The analysis of the markets of destination for the Exports reflects the localization of the main assembly units and the

manufacturer companies in Europe, as well as the origin of the foreign investments in this sector in Portugal. (table. 6)

Table 6. - Exports Destination of the Automotive Components Sector, 2001

Country	%
Germany	29%
France	25%
Spain	21%
United Kingdom	8%
Sweden	4%
Italy	3%
Belgium	2%
Netherlands	1%
USA	1%
Others	6%

Source: AFIA (*Car Component Manufacturers Association*)

Followed by Germany, France and Spain, is the United Kingdom and Sweden. The importance of the English market is essentially due to the exports of companies with Japanese capitals settled in Portugal, intended to supply components for the Japanese transplant located in the United Kingdom. The demand of the Swedish market is explained through the low level of vertical integration presented by the Swedish firms, as well as, through the reduced number of specialized companies in the manufacturing of components.

Analysing the strongest sub sectors, the metal mechanic sub sector must be pointed out, followed by companies of plastic component manufacturing, and of patterns and tools manufacturing. Therefore, the technologies most strongly represented by the Portuguese companies are those related with these sub sectors, emphasizing the printing, foundry and support technologies like cut and welding and plastic or aluminium injection.

Political Guidance

According to the “Plano Nacional de Desenvolvimento Económico e Social 2000-2006” (*National Plan of Economic and Social Development 2000-2006*), the consolidation of the “Macro-Cluster” Automotive/Transport Material, besides the consolidation and eventual enlargement of the activities of the pole set up by Autoeuropa, one may be able to see the “establishment – in a date still difficult to define – of another automotive constructor; possible exploring a new segment of the “city cars” with a conventional motorization or, alternatively, the installation of a unit of partial manufacturing of new vehicles, like “city car” but with non-conventional motorization, followed by the development of the production components for

those vehicles. According to Palma Féria¹⁹, “the need for a second Autoeuropa did not begin now, it has been felt for a long time by the sector (...) an attractive car cluster cannot live with only one or two companies (...) the existence of another unity of the same dimension as Autoeuropa would therefore be a dynamo of an internal accelerated market, naturally structuring of a diversified and more rational organization of the productive structure.”²⁰

The “Plano Nacional de Desenvolvimento Económico e Social 2000-2006” also appeals to the need of enrichment and diversity of the industrial production of components for the car sector, evolving to the supply of some specialized sub sets, as well as the manufacturing of patterns and foundry products.

Portugal will therefore be, an export platform for some of those subsystems and components, whether to Europe, or to the international networks of construction supply, mainly in the Atlantic basin allowing Portugal to become an international pole of conception and manufacturing of components.

Despite the good performance and dynamic of the sub sector of components for the car industry in Portugal, there are still some weak points, which are mainly due to the profound variations that occurred between the client and the supplier in the car sector. After having accomplished a conceptual analysis and construction of the various types of relations, Palma Féria identifies essential vectors of a strategy, which will permit to minimize some weaknesses on the productive and organizational structure in Portugal. The main vectors of this strategy are the establishment of an environment of competence, which will constitute a stimulus for the cooperation; an increase of the value added and after, a necessary evolution of the complexity of the product and finally an improvement of Portugal’s image in terms of our potential for conception and engineering of the product and to the integration of complex sets and modules, erasing the prior image, and rapidly projecting the image of integrated producers of complex modules for the car industry.

We will conclude this chapter with some considerations rather about the future than about the past, choosing a development scenario, that may represent a moment of change in the evolution of the car industry in Portugal. There is a growing need for the consolidation of competences and capacities developed in the former stages based on the quality, cost and time limit, and developing new competences and engineering capacities, development of the product and R&D according to a logic of cooperation, choosing the international levels of competitiveness of the companies.

¹⁹ See, Féria [1998]

²⁰ *idem*, [1998]

Diagnosis of the Present Situation

According to Garrinhas²¹, the policies developed and the traditional factors of competitiveness in which the growth of the car industry in Portugal has laid its foundations, confer to the national industry of components potentialities and simultaneously weaknesses related to the major challenges of this sector. “Due to technological difficulties, because the automotive industry is extremely rigorous about the quality of pieces and components, some of the national enterprises had to associate themselves to strategic partners, with *know how* and previous experience in this activity.”²²

Bearing in mind this perspective of change, it is important to stress the strong and weak points of the car component industries in Portugal. Portugal has comparative advantages arising from the low wages (*low cost-effectiveness of the Portuguese labour force*). This used to be a strong point, which should be replaced by other attractive incentives. The competitive advantages which the Portuguese companies today have, can be cancelled, due to the emerge of Eastern European countries as receivers of foreign investment and consequent opening of those countries to the external trade, eliminating therefore the main source of competitiveness of the Portuguese national industry. We can consider the existence of a high level of excellency in the production engineering in sectors like the revetment, plastics and metal pieces, being this factor an attraction to the manufacturers who would like to invest in Portugal. We can not leave behind the positive image of the Portuguese companies, mainly the component companies near the major European construction companies that have been loyal clients, which has functioned as a reflex of the Portuguese economy. Portugal’s image has largely benefited from the establishment of the project Autoeuropa, now with a 100% Volkswagen unit. Logistics has been essential in this type of industries, although reduced, the component companies, which work in Portugal as “first and second tiers” of components and pieces for car companies have been using logistic solutions considered to be exemplary, which eliminate the national periphery. As a weak point, the critical mass of the national industry of components is insufficient, due to the industrial structure, which is composed by SME (small and medium enterprises) as well as the absence of implant of well dimensioned construction companies, with the exception from Autoeuropa. The number of first and second suppliers is so reduced that the activity of conception and development of components is almost non-existent. Moreover, the lack of technical and technological capacity of the component companies results in their eschew from the stage of product design (study and development of pieces) keeping them away from the possibility of turning themselves into suppliers of first equipment (Original Manufacturers Equipments), being a threat to the maintenance and improvement of the performances of the components sub sector. Another weak point is the use of technologies. Portugal is at the tail of Europe, a situation that should consider the selection of suppliers of components, at an international level, is based on the technological development that the enterprises’ engineering departments represent. Finally,

²¹ See Garrinhas [1997]

²² *idem, ibidem*

the cooperation factor, whose competitiveness and capacity of working in partnership may be for the manufacturer of Portuguese components an advantages as it motivates the building up of functions, sub sets and modules.

According to Felizardo, Videira and Selada, the level of component sales for the internal market, is going to rise according to the present rate until the beginning of the production of a new production unit, moment after which the national incorporation level will have risen in a similar way to the one which occurred when the project Autoeuropa began in 1995. The authors refer that the level of components export the present stabilization will continue until the decision of investment of a new assembly unit, and the present stagnation can be explained by the exhaustion of the capacities of the Portuguese enterprises to win market share abroad with low added value traditional products. “Therefore, only with an inversion of the type of products allowing the entry and acquisition of share in new markets – of products of a higher added value – will it be possible to recover the level of growth of export seen in the former decade.”²³

THE PORTUGUESE COMPANIES INTERNATIONALIZATION

Internationalization Processes

The free market and the entrance into the “single market” allowed the internationalization of the car components industry in the Portuguese case.

The Portuguese internationalization is intrinsically linked to the components and finished parts of the automobile industry. This occurs because of growing scale economies in the production and also by the advantages obtained from location, or rather, the concentration in the same place of all production activities allows to reach better coordination.

Many experts on auto and components industry sector in Portugal agree with the tendency of sector stability. According to their opinion the growth of Portuguese companies depends of the internationalization level.

The reduced size of car components sector in Portugal does not allow the companies to make transference or to expand important parts of his value chain abroad. However, we can not forget to analyse a group of companies that did important investments abroad. Table 7 shows some companies that have productive and commercial units abroad as well as a small number of development units in different parts of the world.

²³ See Felizardo, Videira and Selada [2002]

Table 7.- Portuguese Automotive Components Firms with Foreign Operations, 2001

Companies	Production Units	Commercial Branches	R&D Facilities	Companies Capital	Exports
Acumuladores Autosil, S.A	France	Spain, Italy, Germany	-	100% National	19%
Aníbal H. Abrantes S.A	Mexico	Sweden, Germany	-	100% National	-
Cabelauto, Cabos para Automóveis S.A	Brazil	-	-	Mixed	-
Diehl, Fapobol Borracha, Lda	Germany	-	Germany	Mixed	52%
EuroSim, Componentes de Segurança, Lda	Germany, France, USA	Germany, France, USA	Germany, France, USA	100% Foreign	100%
FPS, Fábrica Portuguesa de Segmentos, Lda	USA	USA	-	100% National	88%
Gametal	Ireland, Germany, Poland	Mexico, Brazil	-	100% Foreign	18%
Gestamp, Portugal Lda	Spain	Spain	Spain	100% Foreign	100%
Iber-Olef, Componentes Técnicos de Plásticos S.A	Tunisia, Brazil, Sweden, Mexico, Germany	Tunisia, Brazil, Sweden, Mexico, Germany, United Kingdom	United Kingdom, Germany	Mixed	63%
Inapal Metal, S.A	Brazil	Brazil, Germany	Brazil	100% National	30%
Indústrias Metálicas Veneporte, S.A	-	Italy	-	100% National	64%
João de Deus & Filhos S.A	Italy	-	-	Mixed	87%
Simoldes Plásticos	France	France	-	100% National	80%
Socem ED	-	Brazil	-	100% National	90%
Sunviato	-	France	-	100% National	91%
Tenneco	Spain, Denmark, United Kingdom, Finland	Spain, Denmark	Spain, Denmark	100% Foreign	5%

Source: Data handling from the sample of companies of components supplied by AFIA

Answers pointed by the industry to the new challenges, support that national suppliers need to be close to their customers, being able to supply components in different regions keeping a high answer level related to delivery time limit, fulfilling requirements of quality and cost levels. They also support that companies should stress product improvement and manufacture process.

If until very recently the Portuguese auto components industry focused their internationalization strategies on the access to outside markets through export, nowadays the

worldwide auto production industry is starting to demand much more from their suppliers. Location change or activity expansion for foreign markets, namely in productive, commercial and development product areas appears now as the basis for companies' internationalization. Only with a physical presence of Portuguese companies on the sector will guarantee their first level position in the supplies chain. Another important factor is the participation within decision centres where the supplier companies take a closer part in the product development, which is relevant to establish a proximity relation with the OEMs development centres.

The internationalization process can assume different forms. One of them is related with the exchange of goods between independent economic agents, on international trade (where it's formed by exports/imports). Most component companies in Portugal assume this way of internationalisation, that is by exports. There are few companies that have already entered in to a transnationalization phase²⁴. There are not only two internationalization forms: trade (more frequently by exportation) or investment. There are other distinct forms as international outsourcing, patent licensing and other kinds of international agreements.

Many authors stress the idea that direct investment is not only a capital flow. It is always influenced by other factors like technology, management and marketing capacity. For that, the few Portuguese components companies that invested abroad have reached a certain technology development level.

Investments made by Portuguese components industry in countries like Brazil and Mexico, (locating of production units) results from the fact that companies understand the unequal development of different world regions.

Although, we can say that the Portuguese foreign direct investment, related to the auto components industry is still incipient, we can't forget to emphasise that these companies are starting to be a reflex of the changes occurred in the sector at a national level. If Portugal hasn't yet reached a strong technological level, it has been able to develop its own innovation capacities through a process of assimilation, adaptation and transformation of the initial imported technology.

We can follow the model presented by Dicken²⁵ to understand the phases of the international involvement of the Portuguese auto components companies. We identify a first phase that brings together a significant number of companies. This phase consists on the exportation of products for international markets through independent channels (import and export agents). Dicken considers that this strategy of internationalization has an active way of management. One of the explanations that justifies this type of strategy, considering that the

²⁴ The transnationalization process is understood as the dislocation of any economic agent capacity from its origin country to another, with the purpose to benefit from specific advantages proceeding from the existence of differentiated realities and chances (see Feio, 1994).

²⁵ See Dicken (1986).

main countries of destination for the Portuguese exportations components are EU members, is based on the Portuguese specialisation on Europe low added value products, that are exported as it is not required a physical presence²⁶. This first phase involves a network distribution of the respective products in the external markets.

The second phase, that reduces drastically the number of companies, consists on the installation of commercial branch offices in the international markets. This fact is marked all over by the attempt of the constructors in entering in the network of international components distribution.

Finally, the third phase embraces a small number of companies that installed productive units in foreign countries. These companies have larger technological and financial capabilities. The geographical proximity with large automobile carmakers and with other large components suppliers allows for a closer participation in the product development. This strategy of internationalization is considered an active strategy.

At international level, we can say that the internationalization process started by the end of the 80's / beginning of the 90's, following a parallel process in the automobile construction, where the major component producers stopped being dependent of national markets. This was and still is a quite slow process concerning Portuguese situation. We can say that this slow advance is influenced by the spirit of the Portuguese investor. It is also a fact that it is necessary to conciliate a set of estimated elements (enterprise nature, politics, territorial...), so that the investment can be a synonymous of success.

In regard to the receptor countries of the Portuguese foreign direct investment, the pattern reflects the industrial structure of the main automobile producer countries in Europe. These companies locate their commercial, production and R&D units in Germany, France and United Kingdom and for reasons of geographical and cultural proximity in Spain (the process of active internationalization started with the widening of its activities to the neighbouring country). In regard to the location of production units in countries like Brazil and Mexico, we can identify a different strategy of internationalization form. The companies with good financial and some technological capabilities decided to locate production facilities in the considered expansion markets, as it is not viable to select the exportation strategy considering the high costs of transport. This strategy is associated also with protectionist barriers. Such as Michalet²⁷ states, the protectionist barriers - tariffs (customs tariffs, taxes on rights) - occupy a central place in the explanation of the commercial swaps substitution mechanism by the relocation of production.

²⁶ As we have seen in the previous point, in the year 2001, 75% of the Portuguese manufactured components exportations had as destination Germany, France and Spain.

²⁷ *Idem*, [1985]

There is a type of strategy that assumes a mixed character. It happens when companies look to associate some advantages resulting from the need to reduce costs of production, with a market widening perspective for its products. In these cases, it is the technological capacity and organization that plays an important role in the productive unit installation in countries with different levels of development (countries like Germany, France, Spain and Eastern European countries).

Another particular internationalisation modality type of automotive components' firms is based on the alliances with foreign companies. However, in the case of the Portuguese components industries, this type is rather exceptional. It can be explained according to Veloso²⁸, by the small size of the national companies. Consequently, the Portuguese companies make use of limited resources and have a reduced bargain power when they negotiate with other automobile constructors or even with other supplying multinationals.

A Vision on the Portuguese Automotive Components' Firms with Foreign Operations

A more rigorous vision on the Portuguese foreign direct investment means an analysis centred in the universe of all the companies present in other countries, even if the number of Portuguese companies is reduced.

Some of its features, expressed in table 8, show the predominance of small companies (SME), the majority with less than 250 workers. Generally, these companies are more than twenty years old and their capital is mostly national or they are part of national or foreign economic groups. The size and the experience of companies or the economic group where they are inserted seems to be an important factor for an expansion abroad. Competitive advantages in the domain of technology and of external markets knowledge can be added to management and organization capacity. The value of the investment carried out in R&D, considering the turnover of the Portuguese companies, demonstrates the lack of funds for the participation in development projects.

The analysis of the investment in R&D allows us to conclude that of all the component companies that made investment in this domain, 84,2% spent 1% to 2% of the turnover, presenting higher values in the case of companies who carry out direct investment abroad.

An analysis of the type of branch offices of Portuguese auto component companies located abroad allows us to obtain some information about the strategies followed by these companies.

²⁸ See Veloso [2000]

Thus, one can observe that some companies as Aníbal H. Abrantes and Inapal Metal look for Brazil or Mexico as destination countries for their investments (developing countries) and for the installation of their productive activities. The Inapal Metal Company has not only installed a productive unit but also a unit of product development in Brazil.

This company has large customers like the assembly plants of Opel, VW, Ford, Seat and Mitsubishi Trucks Europe, thus demonstrating that the success of Portuguese components companies also follows the large automobile carmakers dislocation. The installation of production and development units, by the Portuguese companies of components in countries like Brazil and Mexico, results from the perception that the different development levels in different world regions can be adjusted to the international division of labour. This leads to the reallocation of the capital and the process of work at an international scale aiming to gain the maximum benefit of these inequalities. These regions get the paths of auto industry industrialization after the crisis lived in the Mexico and Brazil, through its markets opening to the exterior. In the case of Mexico, the Government was obliged to promote processing exportation areas (to face the debt) that allied with the low cost of the labour force takes a speed up growth of the assigned industrial *maquiladoras*²⁹.

The Portuguese direct investment in countries like Spain, Germany and France not only reveals investments in the commercial area, but also in the area of production and development. Some of the companies with major international success will now be pointed out. The Iber-Oleff is a joint venture between Portuguese and German companies that having started the production in 1995, became an Autoeuropa first tier supplier. Currently, 63% of the turnover volume carried for this company comes from the exportation, based on the quality and the development of innovative processes (present in production units and commercial delegations, be it in the new industrialized countries as Mexico and Brazil, or in countries with a strong concentration of the automobile industry production, as Germany and United-Kingdom). We can consider Iber-Oleff as the most transnational of all the national automotive components' firms, although 66% of the capital is foreign.

²⁹ Tereza Fleury and Alfonso Fleury say that the proximity to the American economy of countries like Mexico and Brazil, to the politics of commercial aperture and exchange overvaluation (since 1988) had led to a brutal increment of the national industry importation coefficient. Carrillo (Tereza Fleury and Afonso Fleury) calls the attention for the fact that a new group of *maquiladoras* companies with strong internationalization of research, development and engineering activities start to emerge in Mexico.

**Table 8. – Some Characteristics of the Portuguese Automotive Components’
Companies with Foreign Operations**

Companies	Number of Employees	Turnover Volume (%)	Date of the Constitution	Legal Relations with other Companies	R&D Investments (% Turnover)
Acumuladores Autosil, S.A.	259	83 707 000	-	Integrated in national group	1,8%
Aníbal H. Abrantes, S.A.	131	5 853 765	1946	Integrated in national group	3%
Cabelauto, S.A.	134	30 000 000	-	Integrated in foreign group	-
Diehl Fapobol Borracha, Lda	89	5 317 000	1995	Integrated in foreign group	-
Eurosim, Lda	42	3 632 509	1991	Integrated in foreign group	0,6%
FPS, Lda	169	3 615 691	1971	Integrated in foreign group	-
Gametal, Lda	291	18 218 379	1963	Integrated in foreign group	-
Gestamp Portugal, Lda	117	10 408 440	1997	Integrated in foreign group	-
Iber-Oleff, S.A.,	145	14 443 780	1995	Integrated in foreign group	16%
Inapal Metal, S.A	161	-	1972	Independent	5%
João de Deus & Filhos, S.A	298	16 943 640	-	Integrated in foreign group	-
Indústrias Metálicas Veneporte, S.A	136	6 595 855	1966	Independent	3%-
Simoldes Plásticos S.A	518	77 577 890	1980	Integrated in national group	5%
Socem E.D	37	3 396 265	-	Independent	4%
Sunviauto, S.A	809	39 400 000	1969	Integrated in national group	-
Tenneco Automotive Portugal, Lda	68	32 214 140	-	Foreign	-

Source: Data handling from the sample of companies of components supplied by AFIA

Autosil accumulators is part of the Autosil group, being one of the biggest European manufacturers of lead accumulators. Autosil has two plants in France, one in Portugal and distribution companies in Germany, Spain, France, Italy and Portugal. This group is an important partner of the leading auto producers (Autoeuropa, Citroën, Renault and PSA) and also autoparts suppliers.

Despite having initiated its activity in the eighties, Simoldes (plastic parts) has grown substantially in a market of growing demand, and in 2000 presented a turnover volume of more than _ 77 million, producing almost exclusively for the auto industry (99%) and exporting 80% of its production. This success is connected with its ability to answer demand changes, which is supported by suitable lead-times and mainly by the performance of one highly qualified and competent organization to dominate and to implement the successive technological developments. Simoldes is a direct supplier of several OEM in some regions of the globe, and has production facilities in countries like France and Brazil.

The internationalization examples can be summarized into a small universe when we look for the reality of other countries of the EU. However, we believe that the representation of Portuguese companies in the auto world has grown, and tends to follow, in a slow and gradual form, the world transformations in the auto industry.

Considering the Motor International Vehicle Program typology of automobile world regions, we can say that Portugal is currently in almost all the great areas of world-wide auto production.³⁰ Portugal is present in large existing market areas, more specifically in the United States with commercial and production units, and in Western Europe in countries like Germany, France, Spain, United Kingdom, Italy, Sweden and Denmark, where we find also some development units. Portugal only lacks a presence in Japan. Besides the LEMAs, the Portuguese component companies also invested in the periphery of large existing market areas, locating commercial and production units in Mexico. Despite the fact that Portuguese component companies are presently not carrying out direct investment in Eastern European countries, these are already a destination for the Portuguese exportations. Finally, the location of production units, commercial branches and development units in Brazil, is considered by the International Motor Vehicle Program as a part of large emerging markets. A new phase for the Portuguese auto components industry would be the entry of Portugal in Asian countries like Japan, South Korea and China.

³⁰ See Figure1 “Location of Autoparts Portuguese Industries in Foreign Countries”

CONCLUSION

The Portuguese automobile industry, as well as the components industry, are currently undergoing a structural change.

For many years, Portugal has used a number of policy initiatives to promote the development of the automobile industry. The Renault plants were the first large integrated automotive projects with positive reflexes on the national auto components industry. The Autoeuropa was established in early nineties and gave the second boost to the industry. This plant not only doubled the national assembly capacity, but it also induced foreign investments in the components sector in Portugal through a local content agreement between government and the joint venture.

A group of more progressive firms is investing in research and development as well as internationalising operations to be able to respond to the demand of the assemblers and retain their first tier status. In general, Portuguese component firms are mostly small with limited resources. SME tend to use export strategies with only moderate foreign operations. The majority of the national production of vehicles and components is targeted to the EU countries. OEMs are the major destination of this sector, which shows the huge effort of the national made by automobile components' firms in order to achieve significant quality levels to meet the most rigorous international standards and rules.

With limited resources, smaller companies face challenges in gaining foreign market access, understanding foreign market needs, and providing after-sale support. The domestic economic conditions play an important role in internationalisation. Expansion decisions need to be informed by the tradeoffs between manufacturing costs, logistics costs and trade policy.

The investment abroad of the Portuguese automobile components' firms is still incipient. However, we must point out the fact that these companies are starting to be more and more active at international level as a consequence of structural changes in the automobile industry in Portugal. Even if Portugal has not yet reached one strong technological level, we can say that it has been having a good success in developing its innovation capacities through an absorption and adaptation process of the technology initially imported. The appeal for direct investments abroad by some Portuguese companies is presented as a form to guarantee conditions of competitiveness in the national market or in a more widened scale.

The internationalisation is, undoubtedly, a complex process that requires a widened seek of features, as well as a clear definition of a strategy and the Portuguese automobile components industry still has a long road to run.

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REFERENCES

- Carrillo, Jorge. “Flexible production in the auto sector: industrial reorganization at Ford – México”, *World Development*, v.23, n.1, p.87-102, Jan., 1995
- Dicken, Peter, *Global Shift – Industrial Change in a Turbulent World*, Harper and Row, Londres, 1986
- Dunning, John H., *International Production and Multinational Enterprise*, George Allen & Unwin, Londres, 1981
- Feio, Paulo, *Território e internacionalização das empresas portuguesas: um estudo de caso no sector da cerâmica*, Faculdade de Letras da Universidade de Lisboa, 1994
- Féria, Luís Palma, *A História do sector Automóvel em Portugal (1895-1995)*, Lisboa, GEPE – Gabinete de Estudos e Prospectiva Económica do Ministério da Economia, 1999
- Féria, Luís. Palma, “Da Competitividade dos Produtos à Competitividade dos Sistemas: O Caso dos Componentes para a Indústria Automóvel, A Competitividade e as PME’s”, *Economia & Prospectiva*, ME, 1998
- Ferrão, João; Vale, Mário, “Multi-purpose vehicles, a new opportunity for the periphery? Lessons from the Ford/VW project (Portugal)”, in Hudson, R., Schamo, E. (dir), *Towards a New Map of Automobile Manufacturing in Europe. New production Concepts and Spatial Restructuring*, Springer, Berlim, 1995, p. 195-217.
- Fleury, Maria Tereza;Carvalho, Ruy Qyadros;Fleury, Afonso. *The role of japanese foreign direct investment in developing countries: the case of Brazil*. Institute of Developing Economies, 1995
- Garrinhas, João, *A Industria de Componentes Automóveis: Dos ajustamentos estruturais a nível global aos processos locais de desenvolvimento industrial*, dissertação de mestrado em Geografia Humana e Planeamento Regional e Local, Faculdade de Letras, U.L, 1997
- Guerra, A., *Globalização e Competitividade - O Posicionamento das Regiões Periféricas*, Gabinete de Estudos e Prospectiva Económica, DT 12, Ministério da Economia, Lisboa, 1998.
- Lima, Marinús Pires; Pires, Maria Leonor; Alves, Paulo, “Transformações das relações laborais em três sectores: os casos das indústrias automóvel, siderúrgica e naval”, *Análise Social*, vol. XXX (134), 1995
- Michalet, C.A., *Le Capitalisme mondiale*, Presses Universitaires de France, Paris, 1985
- MIT , *WPI - The Automotive Industry - Global Context, Estudo As Estratégias Globais para o Desenvolvimento da Indústria Automóvel em Portugal*, 1999

- Moniz, António, "Novos modelos de produção na indústria automóvel – Análise de uma fábrica de motores", *APSIOT Formação, Trabalho e Tecnologia – Para uma nova cultura organizacional*, Celta editora, Oeiras, 1997
- Moniz, Brandão; Kovács, Ilona, *Condições de cooperação inter-empresas no conceito de Empresa Virtual – o caso do sector automóvel em Portugal*, GERPISA, 2000
- Mucchielli, Jean-Louis, "Lés firmes multinationales: mutations et nouvelles perspectives", *Económica*, 1985
- Pike, Andrew; Vale, Mário, "Greenfield's' and 'Brownfields': Automotive Industrial Development in the UK and in Portugal", *Finisterra XXXI*, 62, 1996
- Selada, Catarina; Felizardo, R.J; Féria, P.L, *A integração das Infra-estruturas Tecnológicas na Rede de Excelência para o Desenvolvimento da Indústria Automóvel em Portugal: Uma Metodologia de Avaliação*, GEPE – Gabinete de Estudos e Prospectiva Económica do Ministério da Economia, Lisboa, 1999
- Vale, Mário, "Imbricação de Empresas Transnacionais: uma análise do cluster automóvel em Portugal", *Finisterra*, XXXV, 70, 2000
- Vale, Mário, *Geografia da Indústria Automóvel num contexto de Globalização – imbricação Espacial de Globalização*, Lisboa, Faculdade de Letras U.L, 1999
- Veloso, Francisco; Henry C; Roth, R; *Global Strategies for the Development of the Portuguese Autoparts Industry*, IAPMEI, Lisboa, 2000