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organisation of the industrial space: the
case of Setúbal Region (Portugal)**

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The automobile sector and the organisation of the industrial space - the case of Setúbal Region (Portugal) ¹

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1. Introduction

This paper is based on a study about the Setúbal region, included in the international project “The Future of Industry in Europe” for the programme FAST-MONITOR of the European Community. There were some information on the project VW/Ford for this region and those that are connected with research networks on industrial sectors (specially, on the automobile industry), and the network on the spatial and regional factors of regional development.

Those studies allowed the scenario development on evolution trends of European industry and, specifically, on the automobile sector, and on the Setúbal region that was studied by the Portuguese team ².

Are taken into account the studies of Andrew Mair on the spatial structure of the automobile industry ³, of Ruigrok, Van Tulder and Baven on the strategies of the

¹ Paper presented in the XIII World Congress of Sociology at Bielefeld in 1994 (Germany), and based on the Project “The Future of Industry in Europe”, Programme FAST-MONITOR (D.G. XII, CEC). It had the support from the R&D projects financed by JNICT on “New Production Models in the Portuguese Industry” (ISEG-UTL/UNINOVA).

² cf. MONIZ, A.B.; KOVÁCS, I.; CERDEIRA, M.C.: 1992; cf. MONIZ, A.B., 1994, pp 165 - 171.

³ cf. MAIR, A.: 1993.

world automobile industry ⁴, and of Reinhard Doleschal about the future of the European automobile industry ⁵.

After this study, other research projects were held, about the Portuguese case (“New production models in the Portuguese industry”, and “Organization of automobile industry in the Setúbal region”, both supported by JNICT), or about international trends (GERPISA network, on the “Emergency of new production models”), related to the automobile manufacturing sector.

In this sense, we can talk about globalization processes in the knowledge development on automobile production models, once a finished study can feed with new hypothesis new research projects evolving other University experts, and these, in turn, must contribute to the development of other research networks that promote the theoretical growth of the trans-national enterprise strategies (TNE) in peripheral economies problematic.

In Portugal, this problematic gained an interesting expression due to the impact of the new project from Ford and VW for Setúbal, that has been a major one compared to the Renault project also in this same region. In this paper one pretends to contribute the perception of such impacts, and for an increased knowledge on the meaning and evolution trend for the automobile industry in Portugal, and particularly in Setúbal.

2. The automobile industry in Portugal

The industrial assembly of automobiles in Portugal had its effective start in the early 60's. More precisely is with the approval of the Act n° 44104 of 20 December 1961 ⁶ that are established the limits and conditions for a limited imports of automobile vehicles in Portugal, when almost 18% of the global imports value belonged to the automobile sector.

Thus, the CBU (Completely Built Up) vehicles became strongly restricted for imports, and is facilitated the import process of un-assembled units, i.e. CKD (Completely Knocked Down) units. Those CKD units should become locally assembled with local workforce and local components.

⁴ cf. RUIGROK, W.; VAN TULDER, R.; BAVEN, G.: 1991, 262 pp.

⁵ cf. DOLESCHAL, Reinhard: 1992

⁶ Known also as “Ferreira Dias Act”, or the “Assembly Act”.

The assembly lines were located outside the major urban centres, and in the first years of the 60's the automobile assembly industry grew very rapidly.

Table 1 - AUTOMOBILE ASSEMBLY INDUSTRY (60'S)

Year	No. of assembled vehicles	Observations
1962	247	Lorries
1963	1131	
1964	21928	Being 77% of light and mixed vehicles

It is understood that since the mid-60 a notable interest from the large international companies to invest in the automobile manufacturing in Portugal is shown. This is the case for General Motors, Ford, Volkswagen, Toyota or Alfa Romeo.

In 1977 new legislative instruments supports the growth of CBU vehicles and the components production ⁷. Were opened the doors for the negotiation for new plants of automobile assembly lines Portugal. Beside Ford, the Renault and the PSA group proposes the development of a large industrial project. Renault won this "race" and represents the major project in the sector.

The Portuguese market grew very quickly, and in the 80's the evolution of the automobile assembly industry was the following one according to the different type of vehicles.

Table 2 - Evolution of automobile assembly industry (80's)

Years	Light Pass & Mix		Light Commercial		Heavy Vehicle		Total	
	Units	Δ %	Units	Δ %	Units	Δ %	Units	Δ %
1981	60910		46610		9295		118815	
1982	64841	+6.5	45860	-5.7	6257	-11.2	118958	+0.1
1983	65903	+1.6	25068	-45.3	4060	-50.8	95031	-20.1
1984	61153	-7.2	20197	-19.4	2917	-28.2	84267	-11.3
1985	60975	-0.3	24505	+21.3	2043	-30.0	87523	+3.9
1986	62113	+1.9	30703	+25.3	3190	+56.1	96006	+9.7
1987	70830	+14.0	48529	+58.1	4538	+42.3	123879	+29.1
1988	71088	+0.4	60533	+24.7	4903	8.0	136524	+10.2
1989	73181	+2.9	68283	+12.8	4623	-5.7	146087	+7.0
1990	60221	-17.7	74187	+8.6	3279	-29.1	137687	-5.7

SOURCE: Turbo, September 1991

In the 80's, there have been a specialisation in the light commercial type vehicles, and a notable decrease in the heavy vehicle assembled in Portugal. With 1990 data, we can verify the distribution by label of assembled vehicles.

Table 3 - DISTRIBUTION BY LABEL OF ASSEMBLED VEHICLES (1990)

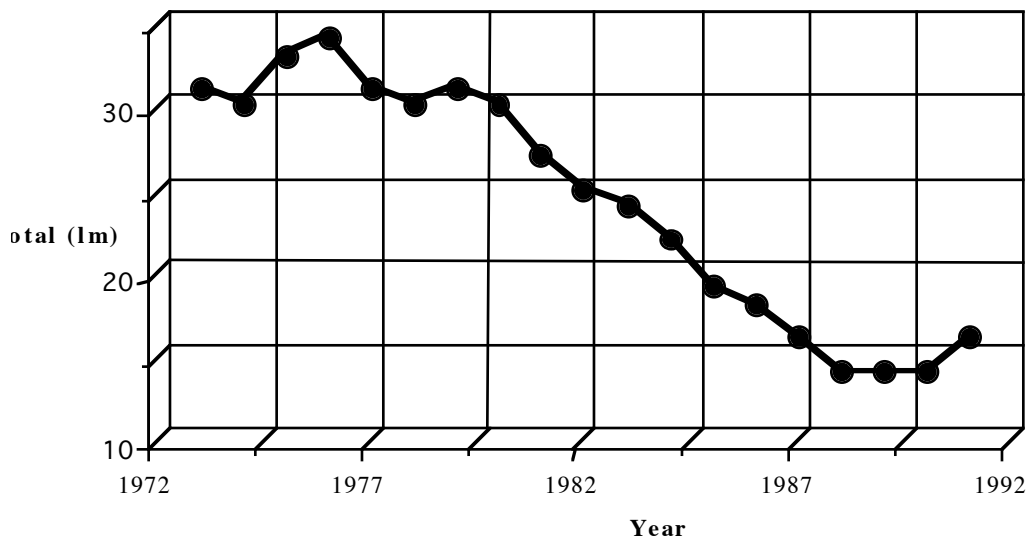
⁷ Portaria 73/77 of 12 Fevereiro and Portaria 712/77 of 17 Dezembro.

Companies	Light Pass/Mix	Commercial Light	Commercial Heavy	Total
Renault	38090	14591	-	52681
Opel	9500	15143	-	24643
Ford	-	17605	-	17605
Citroën	12631	1272	-	13903
Toyota	-	9561	967	10528
Nissan	-	5207	152	5359
Mitsubishi	-	3712	1310	5022
Peugeot	-	2469	-	2469
Bedford	-	1939	508	2447
UMM	-	1925	-	1925
Mazda	-	763	170	933
Volvo	-	-	172	172
Total	60221	74187	3279	137687

SOURCE: Turbo, September 1991

With the new conditions for automobile manufacturing due to the European Community integration, it became not compulsory to assemble in Portugal the vehicles that are trade here. Some companies abandon their activity and reconvert themselves into maintenance or component activities (like FIAT and Renault in some plants, GM, Ford and Citroën). The evolution of existent assembly lines in Portugal in the last years can be shown in the following figure:

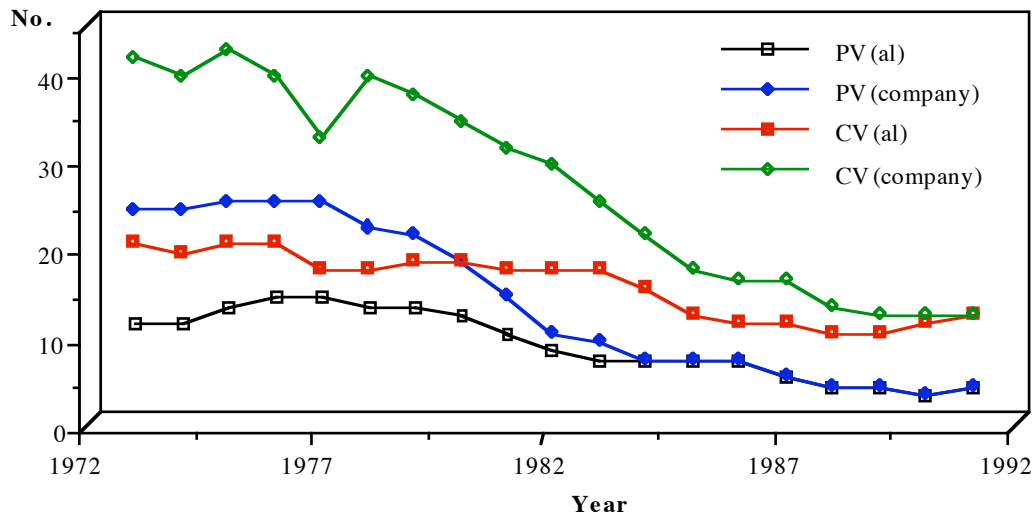
Figure 1 - Evolution of the number of assembly lines in Portugal



SOURCE: based on GUERRA: 1993.

This evolution of the assembly lines (al) and the number of automobile companies trade in the Portuguese market is presented in the next figure, taking into account the difference among passenger vehicles (PV) and commercial vehicles (CV):

Figure 2 - Car assembly and traded company labels (1973-1991)



FONTE: GUERRA: 1993, p. 99

As can be seen, in the last 20 years there is a decrease of assembly lines, and also in the number of car label manufactured in Portugal. This seems to underline a TNE trend of using the Portuguese industrial space as a way for the specialisation of some products. At the same time, there an increase of importance of the Portuguese industrial tissue, mostly related with the component production for the automotive sector. This “sub-sector” applies around 20 thousand jobs in SME located in Setúbal, Braga and Aveiro regions. The competitiveness factors are generally speaking the low labour costs and reasonable productive capacity.

3. The VX-62 vehicle project

The process for the development of the Ford and VW vehicle was initiated in 1990 and the final agreements were held in the mid 1991.

During all this process, a recession in the world car industry reached these two marks, in particular Ford. In 1990, this firm suffered a drop of 77% in its profit, and began a program for cost reduction and productivity increase. This program, oriented to Europe, involves a suppression of 2500 indirect jobs (12% of the actual labour force). Between 1982 and 1989, Ford Europe already had fired about 15 thousand of their workers.

Volkswagen, that continues to be one of the main Europe’s manufacturers of the car sector, are building large plants outside Germany, and actually about 1/4 of the total actual production is realised overseas. Another characteristic of this firm in

the global market is that the production offer is the same whenever is a German market, or the exterior ⁸, i.e. e., the models manufactured in Germany are manufactured afterwards also in other plants located at overseas.

The case of the new Setúbal plant contradicts a normal tendency of this trans-national company: contrary to what is happening in other countries that retakes the production of models began in Germany, at Setúbal it will be produced a model that will not be manufactured in Germany. Thus, Volkswagen (and in a certain way Ford) is assuming the European space as a new pole of productive centrality.

The agreement celebrated between the consortium Ford/VW and the Portuguese Government established values for investment, global production and employment, among other figures. The incentives were around 1/4 of the global investment that was fixed at a specific level of 11,7 billion PTE, i.e., 58,5 MECU. In the following table is possible to verify the figures presented when the project was approved.

Table 4

Global Incentives (2,7% of global investment)	11,7 billion PTE
Fiscal Incentives (Portugal and EC)	89,1 billion PTE
Vocational Training (ESF)	30 billion PTE
Global investment	433 billion PTE
Yearly Production Volume	370 billion PTE
Manufacturing capacity	170 thousand vehicles/year
Jobs to be created	Around 5 thousand

Production would attain in 1995 830 units produced per day, which means an average of 170 thousand vehicles per year. Almost the total production from this factory will be sent to the European countries, particularly Germany and United Kingdom, remaining only 2% of the production for the Portuguese market.

As a joint venture between two major trans-national enterprises (TNE) of the word automobile market, AutoEuropa is also a complex combination of interests for competition. This firm is producing basically the same vehicle with three different labels (as the same with new models of the association of PSA and FIAT groups), although its relative position in the world market is quite similar. The issue is that around 4700 jobs are involved in this process, and there is an increasing influence of AutoEuropa (and other TNE and suppliers) in the regional labour market.

⁸ cf. DOMBOIS, Rainer: 1989, p. 64.

Nevertheless, it does not seem to exist a correspondence of the wage structure, the framework of labour bargaining, or job perspectives, in relation to the social actors expectations. Thus, although there exists a strong pressure from the demand side of regional human resources, there will not exist certainly a balance from the offer side, once it emerges polyvalence needs and a technical culture that are not traditional in this region (and in this employment market).

Occupational restructuring and training of advanced level appeared as new needs for those firms that, with some difficulty find response in the region. AutoEuropa founded its own training firm to overcome those difficulties (Formauto) and they are asking support from regional entities like UNINOVA, the Faculty of Science and Technology of Universidade Nova, the Training Centre of IEFEP, and the Polytechnic Institute of Setúbal, to provide those technical training courses.

4. The automobile industry TNE's in Portugal

Portuguese automobile industry started in the 60's, and acknowledged in mid 90's a new phase with the installation of the AutoEuropa green site field from Ford-VW project in Setúbal region. However, the trans-national enterprise strategies of automobile sector are not limited to this case. It is interesting to mention that Volkswagen and Ford had already in Portugal assembly activities either in Setúbal, or in Azambuja (where Ford is assembling its Transit model). One can say that any of these large producers of the automobile industry could profit from some specific knowledge from the existent experience in this sector (or "cluster" as Porter) in main industrialised Portuguese regions (Aveiro and Setúbal, close respectively to Porto and Lisbon).

As recently referred Daniel Vaughan-Whitehead, "the next investment of Ford and Volkswagen in Portugal, as well the active role of Renault places Portugal in the first line of the strategy of globalization of car builders"⁹ in the world automobile industry.

Renault was one of the major automobile European firms to invest in Portugal. In 1979, was signed between the Portuguese State and Régie Nacional des Usines Renault a contract for the installation of competitive factories, either for assembly (Setúbal), or component manufacturing (Aveiro). The protectionist policy continued in Portugal and the market was regulated until 1984. Some authors underline that

⁹ VAUGHAN-WHITEHEAD, Daniel: 1991, p. 85.

was one of the conditions for the entry of Renault in the national market ¹⁰, once was later known the effects of those laws, and Renault admitted to achieve 35% of this market.

Initially were more than 1500 workers when Renault started the assembly line in 1980 to produce around 80 thousand vehicles per year. The Renault project for Setúbal is now in a recessive phase, also because it was based on Fordist strategy of mass production. Its restructuring is rather difficult, not only because of its production model, but also by the strong standardization of tasks, strong hierarchy, weak organizational flexibility, etc.

Beside Renault, a Japanese firm (Mitsubishi) invested in an old Portuguese factory MDF-Metalurgia Duarte Ferreira, reorganized it and installed other firms in the same region (Abrantes). Were factories for the production of Berliet trucks, and Portaro 4wheel drive with Daihatsu motors. Now is assembling commercial vehicles and light trucks

General Motors was one of the first TNE to be installed in Portugal, for the assembly of automobile vehicles. The GM network is integrating the electronic sector (cables, ignitions and sensors), and rubber accessories. Firms like Cablesa, Delco Remy or Inlan are the most known cases from the point of view of intersection points of regional subcontracting networks.

The GM Portugal has an assembly line in Azambuja (started in the 60's), with about 600 workers, where are produced Opel Astra, Opel Kadett Combo and Bedford Brava. Since 1993 there is a specialization on two Opel Corsa models: the Van and the Combo. Almost 96% of this production is exported.

Other firms, like Toyota (that are established since the early 70's) in Porto, Mazda in Ovar, Citroën in Mangualde, are firms that still continue to be active in the automobile industry. Others like FIAT or UMM-União Metal-Mecânica stopped their assembly activities recently.

7. Conclusions

As in other automobile sector firms, the industrial spaces where this firms (TNE) are established; no longer are national reference points. Actually, to manufacture or assembly in Hungary, Scheck Republic, Portugal or in Italy can be

¹⁰ cf. GUERRA, A.C.: 1993, p. 97.

more advantageous than to assemble in Germany or in France. The question where to locate to production sites do not lie on labour costs or technical competencies. The so-called comparative advantages can show up from the type of available infrastructures, on the location, social environment or even on the political and fiscal advantages.

Those were precisely some of the reasons that took Ford and VW to choose Portugal, and particularly, Setúbal, to build up a new factory were they could manufacture its new MPV project.

Thus, its effects are remarkable: it is not only one of the major direct foreign investment of the last years, but the industrial development axes in the Setúbal region achieved strong change. If from early 50s this region was strongly industrially developed from the axe Almada-Montijo-Barreiro (cases of shipbuilding, steel industry and chemicals), in this last decade this axe moved to Palmela-Setúbal (automotive industry and electronics).

This TNC installs in a region where the labour market is still able to supply qualified and experienced workforce that mainly comes from the construction and shipbuilding sectors and from the chemical industry. These sectors have been recently totally dismantled issuing unbalanced situations in the regional labour market. Anyway, this region have still a strong industrial tradition which enables to present a group of infra-structures that are able to attract new investments that require buildings, communication ways, harbours and airports, and sub-contracted companies located in the same regional space.

Strategies that apply the workgroup concepts can be used in this type of company. Those are the cases where (like AutoEuropa) the main production is for export. And in this case one can find a different of strategy based on a single way of technology or organisation investment: if the product is mostly for the inner market (national or regional), the comparative advantage must lay in the low wage cost, and in less technological and organisational investments (as the cases of Renault-Setúbal, or Volkswagen-internal markets in Croatia or Mexico); if, on the contrary, the majority of production made is mostly for external markets, it exists a huge difference in terms of investment modes in technology and work organisation (cases of AutoEuropa-Palmela, of SEAT-Martorell or of Volkswagen-Mexico-external market-Puebla).

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