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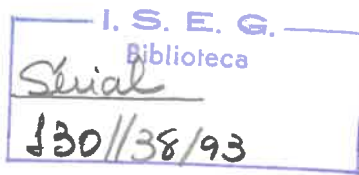
DOCUMENTO DE TRABALHO No 38/93

**THE APELES WAY: PORTUGUESE SHOEMAKERS
ARE STICKING TO THE SHOES**

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I - INTRODUCTION

The story goes that a passing by shoemaker criticized a sandal in a painting by the famous Roman painter Apeles. He promptly changed it accordingly. However when the shoemaker began to criticize the rest of the painting, Apeles cutted short and advised the shoemaker: "ne sutor ultra crepidam", that is: Shoemaker, stick to the shoe.

The overall strategy of the portuguese footwear industry can best be summarized by Apeles advice. Indeed, portuguese shoemakers are sticking to their "nitting" in four different ways:

- First they do not diversify into other industries;
- Second they tend to specialize in a few segments;
- Third they avoid vertical integration; and
- Finally they concentrate in manufacturing, disregarding the marketing function.

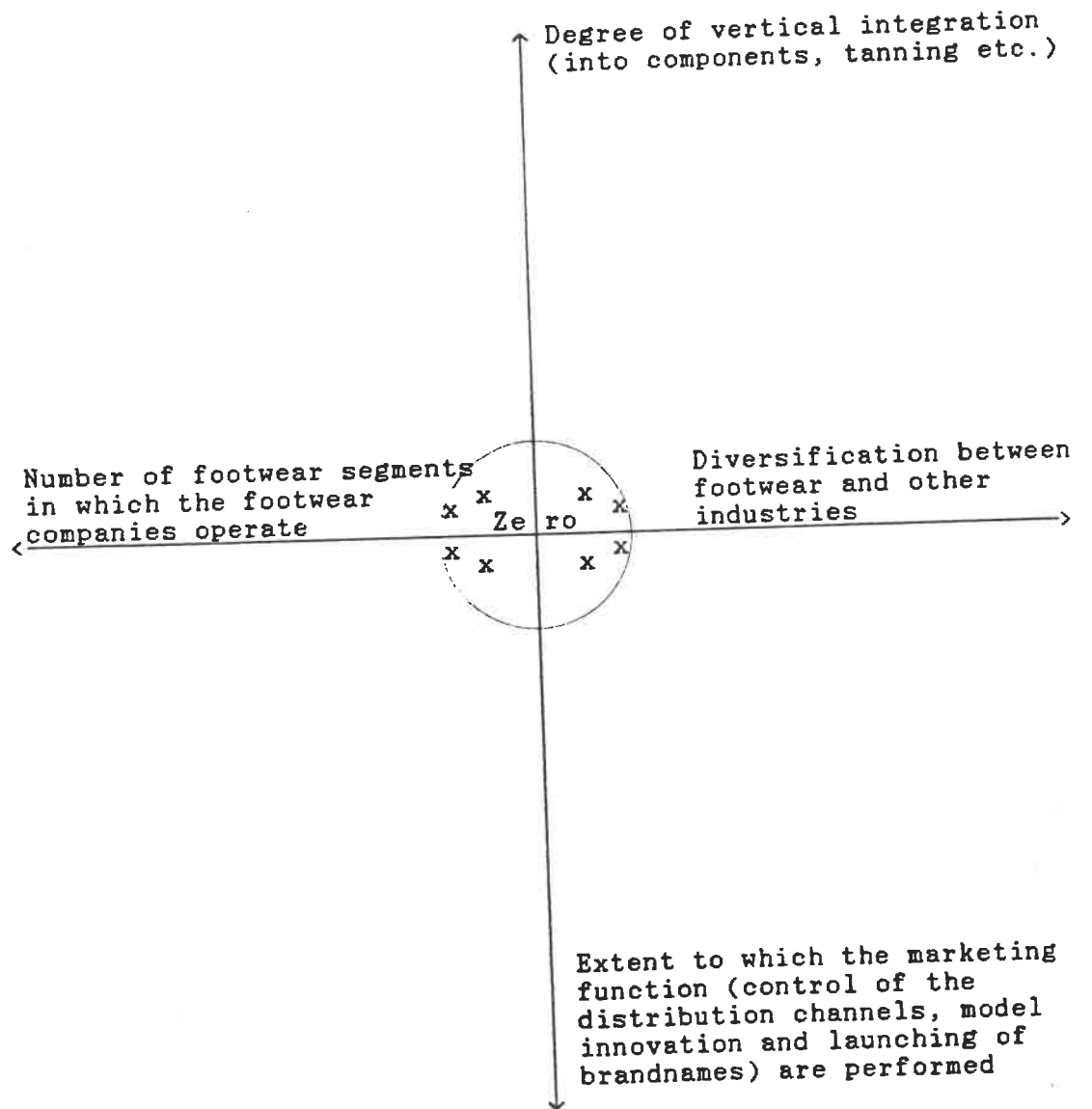
This situation is portraied in Figure One, on which the majority of portuguese footwear companies can easily be placed within a narrow circle centered around the intersection of the axis.

The objectives of this paper are:

- 1st - to present empirical evidence supporting Figure One;
- 2nd - to explain the reason for such a situation; and
- 3rd - to discuss its advantages and dangers.

FIGURE ONE

THE FOUR EDGED SPECIALIZATION OF PORTUGUESE
FOOTWEAR COMPANIES



(x) - Market position of the great majority of portuguese
footwear companies

Those will be the goals of following sections three and four. First, however, the paper will briefly present and discuss the importance of the portuguese footwear the industry in terms of the portuguese economy and within the european context.

II - THE PORTUGUESE FOOTWEAR INDUSTRY

The portuguese footwear industry is concentrated in three main geographical areas: Felgueiras in the North, São João da Madeira near Oporto (the 2nd largest portuguese city) and Bedita in the center of the country. It represents 1,8% of the gross internal product and 1,2% of the employment. [1]

During the last decade it showed great dynamism. Indeed its production jumped from 27.200 thousand pairs in 1980 to 96.010 pairs in 1990 (a two and half times increase in quantitative terms. During that same period the number of firms increased by 45% and that of employees by 27% (see Table Two).

The dynamism of the portuguese footwear industry is best illustrated in comparison with the behavior of the manufacturing sector and the whole portuguese economy.

Between 1980 and 1990, portuguese manufacturing exports increased ninefold, where as footwear exports augmented 23 times, that is, 2,6 times faster (values at current prices - please see Table Three).

Comparing exports with imports, in 1990 the ratio of exports to imports for the whole portuguese economy was 0,68 while that for the footwear industry was 16,7. (see Table Four). That means that the ratio of coverage of imports by exports was 24,6 (!) times higher in the footwear industry than in the portuguese economy as a whole. If one includes hides, bags suitcases and leather goods together with the footwear industry, its participation in the total exports of the manufacturing sector is around 9%.

In brief, the footwear industry is not only significant in terms of the portuguese economy but also in the last decade its importance has grown according to any measure: production

TABLE TWO
 NUMBER OF FIRMS, EMPLOYMENT AND FOOTWEAR PRODUCTION

Years	No. Firms
1980	700
1982	900
1988	1.000
1989	1.015

Years	No. Employees
1980	39.000
1981	40.000
1982	40.000
1983	40.000
1984	42.000
1985	42.500
1986	43.000
1987	44.500
1988	46.500
1989	49.500

Production in number of pairs	
1974	16.700.000
1975	18.000.000
1976	18.500.000
1977	20.000.000
1978	21.500.000
1979	24.000.000
1980	27.200.000
1981	33.000.000
1982	34.200.000
1983	42.000.000
1984	45.815.155
1985	55.945.087
1986	66.200.000
1987	80.000.000
1988	81.000.000
1989	96.010.491

Source: Portuguese Footwear Industry Association

TABLE THREE

EVOLUTION OF PORTUGUESE FOOTWEAR EXPORTS

YEARS	LEATHER FOOTWEAR			ALL TYPES			
	Quantity (Pairs)	Growth Rate	Value (Thousand Esc.)	Quantity (Pairs)	Growth Rate	Value (Thousand Esc.)	Growth Rate
1974	4 163 184	-	584 130	5 784 217	-	647 994	-
1975	4 190 315	0,7%	719 665	5 786 259	0,3%	786 918	21,4%
1976	4 663 573	11,3%	991 982	5 905 190	4,0%	1 058 936	34,6%
1977	6 131 507	31,5%	1 753 789	7 865 343	31,7%	1 877 148	77,3%
1978	7 374 616	20,3%	2 584 464	9 487 377	20,1%	2 788 247	41,3%
1979	11 665 284	58,2%	5 402 057	14 387 806	55,2%	5 775 816	100,5%
1980	13 312 838	14,1%	6 839 307	16 387 151	14,1%	7 312 507	25,6%
1981	13 665 724	2,7%	7 876 874	16 581 513	1,0%	9 266 911	25,7%
1982	14 044 195	2,8%	10 059 281	17 184 885	3,3%	10 605 055	14,4%
1983	18 575 794	32,3%	17 455 719	22 748 239	32,9%	18 274 872	72,3%
1984	27 407 733	47,8%	31 778 570	31 148 220	36,9%	32 967 681	81,4%
1985	34 816 393	26,8%	49 919 954	37 760 828	21,3%	50 915 350	50,4%
1986	44 150 081	27,2%	73 426 546	46 932 182	24,3%	74 865 024	42,0%
1987	52 555 187	17,9%	96 019 533	55 131 995	17,5%	97 033 684	25,6%
1988	53 543 065	0,2%	108 446 684	58 511 926	6,1%	113 859 144	17,3%
1989	62 879 079	17,4%	134 123 284	69 431 239	18,6%	131 807 939	21,5%
1990	70 051 846	11,4%	161 173 402	77 152 104	11,1%	170 655 498	20,3%

Source: Portuguese Footwear Industry Association

in quantity, production in value, exports, coverage ratio of imports by exports, employment and number of firms.

The significance of this industry justifies that it be studied thoroughly in terms of its strategic characteristics. That is the goal of the following section.

III - THE FOUR - EDEGED SPECIALIZATION

In order to study the industry, both quantitative and qualitative data was collected. Quantitative data was based on a sample of 296 firms. This data collection aimed at:

- 1st - identifying the various industry segments (types of products, clients, needs and technology as seen by the owners and top managers of these companies)
- 2nd - addressing the question of which companies were present in each industry segment.

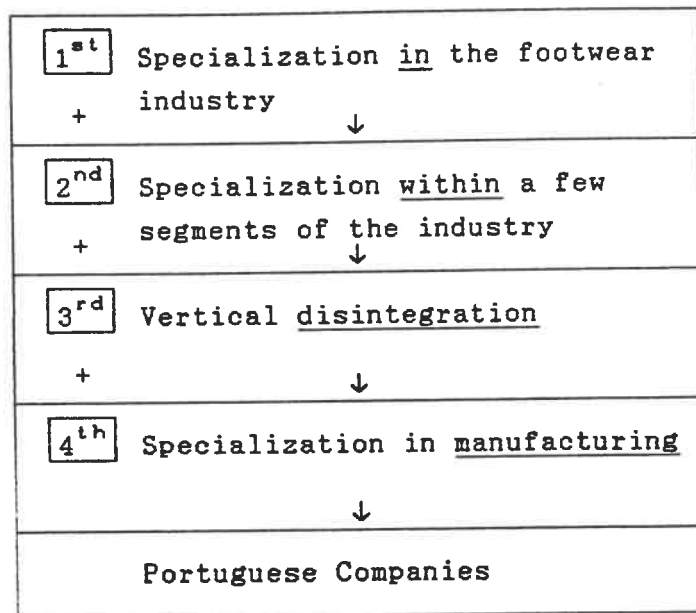
Then a series of in depth interviews [3] were conducted to exploit throughly the indications suggested by the quantitative data. Both the quantitative and qualitative data suggests that industry companies have a general pattern of behavior as described in Figure One. That pattern is one of four dimentional specialization (see Figure One).

The companies start by specializing in the industry (by opposition to diversifying into other industries); then, they specialize in a few segments within the industry (by opposition to having what Porter [4] designates global strategy, that is global coverage of the industry within their segments); the firms opt for subcontracting the purchase function (by opposition to vertical integration into components and tanning); and finally companies conccentrate on manufacturing (by opposition to the marketing) function. The sequence of this four-stage specialization is illustrated by Figure Five.



FIGURE FIVE

THE PATTERN OF SPECIALIZATION OF PORTUGUESE
FOOTWEAR COMPANIES



3.1. The specialization in the footwear industry (Absence of diversification into other industries).

Based on the data collected, diversification into other industries is practically non-existent. Two reasons contribute to this fact: the high growth rate the industry has experienced and the lack of synergistic potential among footwear and other industries.

3.1.1. Market attractibility

Market attractibility is one of the criteria which should guide companies in their strategic decisions. When experiencing narrowing margins and a decline in the rate of market growth, firms have an incentive to diversify away from their traditional basis of operations, be it mature or declining.

That is not the situation portuguese companies are confronted with. In the last six years, although the internal market has remained basically stable, exports have grown at an average rate of 29,5% and production quantity at a rate of 38,1% (see Table Two). That is a consequence of the competitive advantages of Portugal in the european middle market segments, away from the low quality, low price end of the market where the asean countries dominate due to lower labor costs and away from the upper end of the market which for being marketing and fashion intensive is the natural habitat of french and italian firms. In between Portugal has found a profitable and growing position, based on a few competitive advantages. Relatively to the asean countries, the advantages are four. First and foremost fashion is a very timely phenomena (three to six month) not easy to make compatible with the geographical distances which exist between Paris or Rome and the asean countries. Second the asean tanning industry lags behind the european one in terms of

quality. That constitutes a bounding restriction to up-market movements.

Thirdly, the portuguese factory worker is better than the asean one in several aspects of the know-how required to manufacture quality shoes. Some authors mention even a cultural characteristic which has to do with the care for the detail of the portuguese factory worker. Finally since Portugal belongs to the EEC there is a growing trend of homogenization in the laws, rules, and administrative procedures for doing business, between Portugal and other EEC members, and that makes Portugal, for many european business men, a preferable place for doing business compared to non - EEC countries.

Relative to italians and french companies, the middle market segments are protected by the lower labor costs in Portugal, (The fact that the footwear industry is highly labor intensive and the above mentionned know-how of the portuguese worker).[7]

A second reason why companies tend to remain specialized in the footwear industry is the lack of synergy between footwear and other industries.

In the manufacturing department the machinery, the know-how of the workers and the expertise of the managers are footwear specific and not easily transfered into other industries.

Given the small dimension of most footwear companies, R&D departments are virtually non-existent¹ and therefore they do not constitute a source of innovation which could lead to diversification.

Marketing synergies are also hard to come by. Most firms do not possess their own trademarks or brandnames and

¹ All the R&D is made at the technological center for footwear belonging to IEFP (a public institute) and the Footwear Industry Association.

consequently an image they might use to diversify into related products. New model, introduction, fashion, design, promotion and the channels of distribution are not controlled by the (portuguese) manufacturing companies but by (foreign) commercial firms. That is the reason why it is usually said that portuguese companies do not sell but rather have their products merely bought. Finally the commercial agents and firms which buy footwear are frequently specialized and consequently do not create the possibility of synergies at the level of the distribution channel. It seems therefore that the only possible source of synergy would be the know-how in handling leather which could be useful to diversify into leather clothes, gloves, belts, bags and suitcases, ladies handbags, leather sports articles, leather hunting goods, and other types of leather goods.

In conclusion, the potential for footwear companies to diversify into related industries is small. First because there is a single source of synergy. Second because that source does not exist for all companies, but only for those manufacturing leather footwear. And, finally, in any event it will lead to technological and not marketing based diversification.

3.2. The specialization within the industry

Michael Porter [10] defines four types of strategies a firm can follow in a given industry (see Table Six).

Based on the survey data (see beginning of section III) one may conclude that portuguese firms: do not follow strategies type 3 and 4 in Table Six.

TABLE SIX

THE FOUR TYPES OF STRATEGY A FIRM CAN FOLLOW IN AN INDUSTRY

Competition is based on	Quality/ time of Delivery	¹ Specialization in a few middle and high end market segments	³ Envolvement (Differentiation of the offering for each segment)
	Price	² Specialization in the low end of the market	⁴ Low cost (investment in economies of scale)
		few	many
		Number of segments the firm is in	

TABLE SEVEN

TYPES OF PRODUCTS. CLIENTS, NEEDS AND TECHNOLOGIES

Products	Clients	Needs	Technologies
Training Shoes	Men	Medium	Stitched
California	Women	Medium/High	Moulded
Stitched Down	Children	High	Injection Moulded
Others	Unisex Shoes	Dress Shoes	Vulcanized
Orthopaedic	Boy		
PVC			
Yatching Shoes			
Moccasins			
Leisure			
Sandals			
Boots			
College			
S. Crispinno			
Polyurethane			
Total = 14	Total = 6	Total = 4	Total = 4

3.2.1. The degree of specialization within the industry

The survey asked footwear manufacturers how they saw the industry in terms of market segments. Their answers are presented in Table Seven. Managers distinguished among 14 types of products, 6 types of clients, 4 types of needs and 4 types of technologies, for a total of 1344 (14x6x4x4) industry segments.

Table Eight presents the segmentation. In the vertical axis are the four types of technology and within each, the six types of clients. In the horizontal axis are the four types of needs and within each, the fourteen types of products. Each segment has either a black or a white dot depending upon being a populated or empty segment (having firms in it or not).

As can be seen from figure eight, the part of the matrix which is populated is considerably larger than the part which is empty (85,2% versus 14,8%). Only 199 segments from a total of 1344 have no firms in them.

However more than 4/5 of the industry firms tend to specialize in a few segments.

Indeed, when inquired about the number of industry segments they are in, companies indicate a high degree of specialization (see Table Nine).

Tables Nine and Ten indicate the number and percentage of the 296 companies surveyed which manufacture 1, 2, 3, etc. categories of products. serve 1, 2, etc. types of clients, target categories of needs and use 1, 2, etc. types of technologies and therefore are present in 1, 2, 3, 4 etc. industry segments. It can be concluded from Table Nine that industry firms tend to concentrate in a few segments (to specialize within the industry) by opposition to having a broad industry coverage. That is, most of footwear manufacturers follow strategy types 1 and 2 in Table Six.

TABLE EIGHT

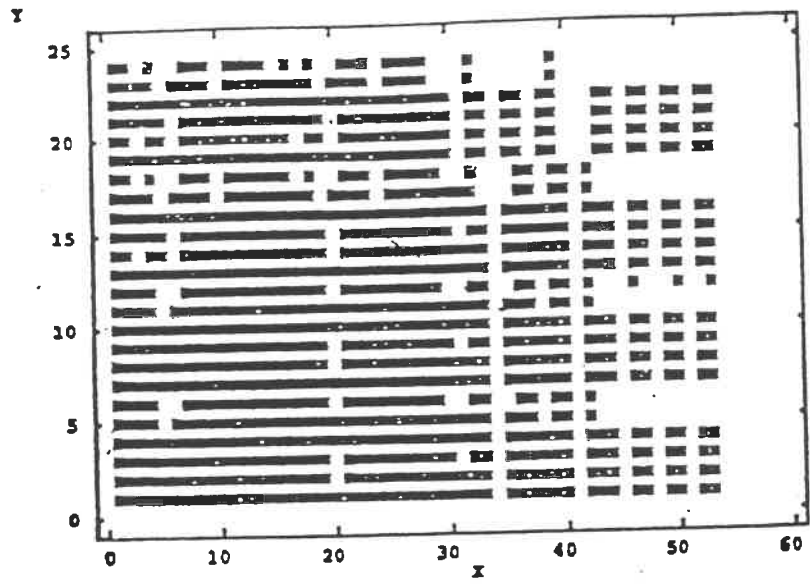


TABLE NINE
DEGREE OF SPECIALIZATION IN THE FOOTWEAR INDUSTRY (continued)

PRODUCTS				
Number of Products	Number of Companies	Percentage	Cumulative Percentage	Distribution (1)
1	187	63,2	63,2	*****
2	31	10,5	73,7	*****
3	32	10,8	84,5	*****
4	15	5,1	89,5	****
5	15	5,1	94,6	****
6	5	1,7	96,3	*
7	5	1,7	98,0	*
8	4	1,4	99,3	*
18	1	0,3	99,7	
104	1	0,3	100	
	<u>296</u>	<u>100,0</u>		

CLIENTS				
Number of Clients	Number of Companies	Percentage	Cumulative Percentage	Distribution (1)
1	128	43,2	43,2	*****
2	43	14,5	57,8	*****
3	60	20,3	78,0	*****
4	25	8,4	86,5	*****
5	8	2,7	89,2	**
6	32	10,8	100,0	*****
	<u>296</u>	<u>100,0</u>		

NEEDS				
Number of Needs	Number of Companies	Percentage	Cumulative Percentage	Distribution (1)
1	182	61,5	61,5	*****
2	103	34,8	96,3	*****
3	9	3,0	99,3	**
4	2	0,7	100,0	*
	<u>296</u>	<u>100,0</u>		

(1) 1 asterisk = 4 companies

TABLE NINE
DEGREE OF SPECIALIZATION IN THE FOOTWEAR INDUSTRY (continued)

TECHNOLOGIES				
Number of Technolo.	Number of Companies	Percentage	Cumulative Percentage	Distribution (1)
1	163	55,1	55,1	*****
2	118	39,9	94,9	*****
3	8	2,7	97,6	**
4	7	2,4	100,0	**
	<u>296</u>	<u>100,0</u>		

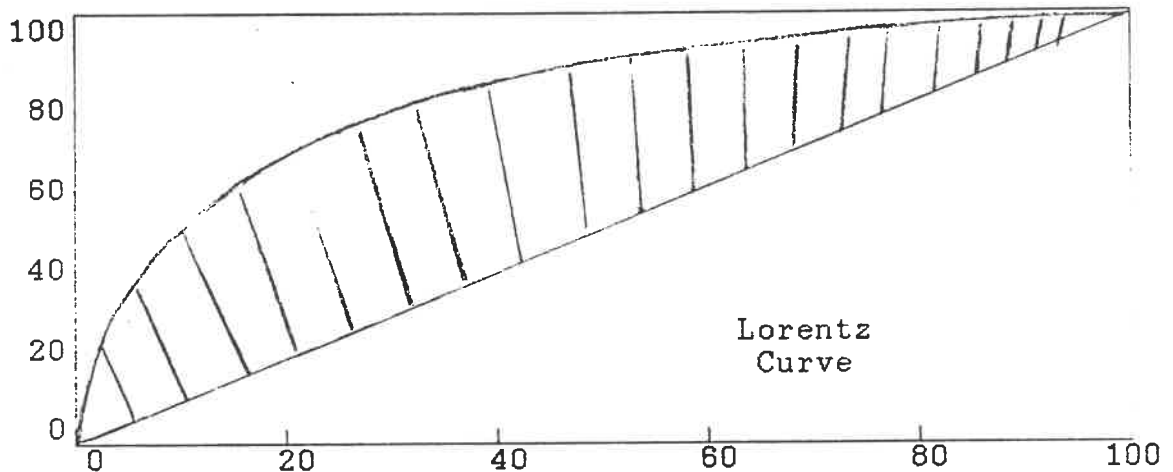
SEGMENTS				
Number of Segments	Number of Companies	Percentage	Percentage Cumulative	Distribution (2)
1.00	57	19,3	19,3	*****
2.00	54	18,2	37,5	*****
3.00	17	5,7	43,2	**
4.00	33	11,1	54,4	****
6.00	25	8,4	62,8	****
8.00	10	3,4	66,2	*
9.00	2	0,7	66,9	
10.00	2	0,7	67,6	
12.00	19	6,4	74,0	**
15.00	2	0,7	74,7	
16.00	9	3,0	77,7	*
18.00	7	2,4	80,1	*
20.00	1	0,3	80,4	
24.00	4	1,4	81,8	
27.00	1	0,3	82,1	
30.00	4	1,4	83,4	
32.00	2	0,7	84,1	
36.00	2	0,7	84,8	
40.00	1	0,3	85,1	
42.00	1	0,3	85,5	
48.00	8	2,7	88,2	
54.00	2	0,7	88,9	*
56.00	1	0,3	89,2	
60.00	9	3,0	92,2	
64.00	1	0,3	92,6	*
72.00	8	2,7	95,3	
80.00	3	1,0	96,3	*
96.00	2	0,7	97,0	
120.00	0	3,0	100,0	*
	<u>296</u>	<u>100,0</u>		

(1) 1 asterisk = 4 companies
(2) 1 asterisk = 8 companies

TABLE TEN
DISTRIBUTION OF THE NUMBER OF COMPANIES
IN THE VARIOUS INDUSTRY SEGMENTS

Number of Companies in the Segments	Number of Segments	Percentage	Cumulative Number of Segments	Cumulative Percentage
1.000	469	40,96	469	40,96
2.000	199	17,38	668	58,34
3.000	110	9,61	778	67,95
4.000	75	6,55	853	74,50
5.000	33	2,88	886	77,38
6.000	33	2,88	919	80,26
7.000	16	1,40	935	81,66
8.000	17	1,48	952	83,14
9.000	11	0,96	963	84,10
10.000	9	0,79	972	84,89
11.000	19	1,66	991	86,55
12.000	9	0,79	1000	87,34
13.000	16	1,40	1016	88,73
14.000	10	0,87	1026	89,61
15.000	8	0,70	1034	90,31
16.000	13	1,14	1047	91,44
17.000	9	0,79	1056	92,23
18.000	8	0,70	1064	92,93
19.000	8	0,70	1072	93,62
20.000	13	1,14	1085	94,76
21.000	3	0,26	1088	95,02
22.000	3	0,26	1091	95,28
23.000	5	0,44	1096	95,72
24.000	6	0,52	1102	96,24
25.000	8	0,70	1110	96,94
26.000	1	0,09	1111	97,03
27.000	5	0,44	1116	97,47
28.000	6	0,52	1122	97,99
29.000	4	0,35	1126	98,34
30.000	2	0,17	1128	98,52
31.000	1	0,09	1129	98,60
32.000	2	0,17	1131	98,78
33.000	5	0,44	1136	99,21
34.000	3	0,26	1139	99,48
35.000	1	0,09	1140	99,56
36.000	2	0,17	1142	99,74
38.000	1	0,09	1143	99,83
39.000	1	0,09	1144	99,91
49.000	1	0,09	1145	100,00

Percentage of companies
in up to X segments



Percentage of segments relatively to the total number of segments

Note: The dashed area represents 0,6 of the area of the upper triangle.

3.2.2. The reasons for specialization

The reasons for specialization are two: the existence of economies (of scale, outlay and experience) and the presence of barriers to entry among the segments. [12]

3.2.2.1. Economies of scale, outlay and experience

Table eleven indicates in which departments occur economies of scale, economies of outlay and experience effects. There is considerable evidence regarding their importance.

Regarding economies of scale. Pratten and Dean [13] estimated that in a factory manufacturing molded ladies

footwear as the number of pairs manufactured daily increased from 300 to 4800, the labor and indirect costs per pair decreased by 15% and the input costs in terms of new materials and components decreased by 7%.

In terms of economies of outlay, Banco de Fomento [14] has estimated that as the number of pairs of each model manufactured daily increased from 200 to 600.0, the reduction in cost per pair could be as high as 6%.

Experience benefits occur mostly in the cutting and sewing departments. In both these labor intensive departments there is room for productivity improvements due to specialization of workers in the tasks they have most expertise (division of labor) and learning from doing (learning curve).

In the cutting section, as the experience of workers grows, it implies a decrease on leather and lining waste [15]. That is the reason why workers in this section earn the highest salaries of all factory employees. Since sewing is also labor intensive the flow of work is not paced by machinery as happens in assembling. The repetitive nature of the tasks to be performed creates the conditions for a steep learning curve [16].

3.2.2. Barriers to entry

Literature [17] has indicated the existence of barriers among different geographical areas, among products, technologies and to a lesser degree among needs and among types of clients.

In geographical terms, portuguese firms tend to specialize either in the internal market or in the export market. Between both there are barriers due to different key success factors and types of commercial firms.

In the north of Europe the key success factors are the timing of delivery, durability and comfort; in the portuguese

internal market, price and design are decisive. While the small dimension of the internal market and the large number of commercial firms creates the incentive for small orders (and firms), in exports the average size of orders is considerably larger. Because of that, it is difficult for the small firm to be able to satisfy them.

Barriers among products relate to the technical know how (e.g. between leather and rubber footwear), type of machinery needed (e.g. between tennis shoes and yatching shoes) and cultural/habits of the footwear manufactures (e.g. between california and S. Crispino). In any case barriers are most significant when the difference between segments in terms of quality and price are greatest.

Barriers among clients are clearly less important since necessary machinery, tools, materials and know how are the same in all client segments.

However many firms tend to specialize in a given type of client: man/boy; women/girl; or children. That is namely due to the culture of the organization. Usually a firm starts by serving a given type of client and then the inertia of history takes its toll [18]. Table Twelve indicates the main barriers and its causes and Figures Thirteen and Fourteen present empirical evidence supporting the information contained in Table Twelve.

TABLE TWELVE

BARRIERS TO ENTRY ON THE FOOTWEAR INDUSTRY

Sources	Barriers to Entry Between				
	Geographical Areas		Clients	Products/ Technolog.	Needs
	Portugal/ /Abroad	EEC/Rest of the World			
Key Success Factors	Yes	/	/	/	Yes
Distribution Channels	Yes	/	/	/	Yes
Company Size	Yes	/	/	/	/
Culture/Tradition Management Know-How	/	Yes	Yes	Yes	Yes
Technical Know-How	/	/	/	Yes	Yes
Machinery (type of assembly required)	/	/	/	Yes	/



TABLE THIRTEEN

ANOVA FOR THE 138 COMPANIES IN APPICAPS ANUARY

VARIANCE IN THE NUMBER OF PRODUCTS MANUFACTURED

Variation Source	Sum of Squares	Degrees of Freedom	Average of Squares	F. Ratio	Significance of F.
Main Effect	7128.549	24	297.023	65.086	0.000
Product	3149.914	13	242.301	079.123	0.000
Client	093.906	05	018.781	6.133	0.000
Need	1320.073	3	440.024	143.689	0.000
Technology	2237.805	3	745.935	243.584	0.000
Explained	7128.459	24	297.023	96.992	0.000
Residual	3034.772	991	3.062		
Total	10163.321	1015	10.013		

VARIANCE IN THE NUMBER OF CLIENTS SERVED

Variation Source	Sum of Squares	Degrees of Freedom	Average of Squares	F. Ratio	Significance of F.
Main Effect	362.992	24	15.125	65.086	0.000
Product	74.437	13	5.726	24.640	0.000
Client	42.356	5	8.471	36.454	0.000
Need	133.705	3	44.568	191.790	0.000
Technology	79.194	3	26.398	113.598	0.000
Explained	363.992	24	15.125	65.086	0.000
Residual	230 290	991	0.232		
Total	593.281	1015	0.585		



VARIANCE IN THE NUMBER OF NEEDS SERVED

Variation Source	Sum of Squares	Degrees of Freedom	Average of Squares	F. Ratio	Significance of F.
Main Effect	158.025	24	6.584	78.001	0.000
Product	89.125	13	6.858	81.240	0.000
Client	2.143	5	.429	5.076	0.000
Need	27.301	3	9.100	107.805	0.000
Technology	42.342	3	14.114	167.199	0.000
Explained	158.025	24	6.584	78.001	0.000
Residual	83.655	991	0.084		
Total	241.680	1015	0.238		

VARIANCE IN THE NUMBER OF TECHNOLOGIES USED

Variation Source	Sum of Squares	Degrees of Freedom	Average of Squares	F. Ratio	Significance of F.
Main Effect	288.410	24	12.016	76.214	0.000
Product	71.725	13	5.517	34.992	0.000
Client	2.203	5	.441	2.795	0.016
Need	29.366	3	9.789	62.081	0.000
Technolog	161.132	3	53.711	340.641	0.000
Explained	288.410	24	12.017	76.214	0.000
Residual	156.256	991	0.158		
Total	444.666	1015	0.438		

VARIANCE IN THE NUMBER OF SEGMENTS COVERED

Variation Source	Sum of Squares	Degrees of Freedom	Average of Squares	F. Ratio	Significance of F.
Main Effect	65806335.290	24	2741930.637	104.497	0.000
Product	31312192.343	13	2408630.180	91.795	0.000
Client	1237450.163	5	247490.033	9.432	0.000
Need	12490123.122	3	4163374.374	158.670	.000
Technology	18646445.144	4	6215481.715	236.877	.000
Explained	65806335.290	24	2741930.637	104.497	0.000
Residual	26003103.265	0991	26239.257		
Total	91809438.555	1015	90452.649		

The F. ratio in the anova tests of Table Thirteen suggests that the degree of specialization (in terms of number of products, clients, technologies and needs) varies significantly from one segment to another. That seems to indicate that barriers to entry vary in importance among the several industry segments. When in a given segment. Where barriers to exit are greater, firms tend to specialize in it. Table Thirteen also indicates that the variability among firms in terms of their degree of specialization (and consequently the variability in the level of barriers) is greater first among the various types of technology, then among needs, thirdly among products and last among clients.

Table Fourteen presents more information compatible with the notion that the level of barriers varies significantly from segment to segment. The top of the table presents the minimum, maximum, range and standard deviation of the percentage of products, clients, needs, technology and segments (with respect to the total number of products, clients, needs, technology and segments) which firms in a given segment have on average. In other words, the top of table fourteen illustrates the differences among segments in terms of their greater or lower union with other segments (the greater the number of segments with which a given segment has unions, the lower the level of barriers).

TABLE FOURTEEN

VARIABILITY IN THE DEGREE OF SPECIALIZATION
OF THE COMPANIES AMONG THE INDUSTRY SEGMENTS

	Minimum	Maximum	Range	Standard Deviation
1. Percentage of Products	7,1%	36,2%	29,1%	15.7
2. Percentage of Clients	23,8%	86. %	62,2%	17,8
3. Percentage of Needs	37,8%	48,5%	10,7%	24.0
4. Percentage of Technologies	31,6%	56,8%	25,2%	23.0
5. Average of Percentages				
1, 2, 3 and 4	25,1%	6,9%	31,8%	15,1
6. Percentage of Segments	0,2%	7,1%	6,9%	12,8

3.3. The lack of vertical integration

In spite of the potential advantages mentioned in the literature [19] vertical integration is basically non-existent in the footwear industry. The prevalent pattern is one of vertical disintegration. Regarding tanning only 5% of the firms report any degree of vertical integration and even so in most cases it goes only as far as the phase of leather finishing. This fact is apparently a paradox since being footwear a fashion product and since the type, quality and color of tanning depends upon fashion, the footwear industry requires constantly a fast and adaptable answer from the tanning industry. This answer has not always been satisfactory for footwear manufacturers.

There are four reasons which explain the absence of vertical integration [29]. First tanning is capital intensive while footwear is labor intensive. Second, the Portuguese tanning industry is mostly composed of family firms in which the know-how is passed from one generation into the next. Third the tanning technology has gone through a rapid pace of evolution in some aspects; and finally Portuguese duties on tanning imports are very low. Regarding footwear components and contrary to what was frequently the case in the seventies - there is also presently almost no vertical integration. The trend nowadays is for Portuguese firms to follow the Italian model, in which components (the soles, the heels, etc.) are bought from other firms. The reasons which contribute to this trend are the low price and easy access of Italian components; the fact that the manufacture of components and footwear require different know-hows; and, finally, economies of outlay of some types of components and footwear are exhausted at different levels.

3.4. The specialization in manufacturing (the absence of the marketing function).

The behavior of almost all portuguese firms has been characterized by a total absence¹ of the marketing function. As a consequence they have been accused of instead of selling their products, having them merely bought and being simple exporters of cheap labor.

The absence of marketing in terms of exports regards three main aspects: the inexistence of well known portuguese brandnames in the international scene, even though some of the most expensive italian and french brandnames are manufactured in Portugal²; the almost total inexistence of a Portuguese tradition of fashion. And, finally the lack of control of the distribution channels by the portuguese firms, since the contacts of the manufacturers are neither with retailers nor with wholesalers or chains of retailers, and sometimes not even with commercial firms, but simply with agents or importers in the various european countries [19].

The absence of marketing in the internal portuguese market respects mainly to fashion (where portuguese firms have not been innovators and sometimes not even good followers in terms of design) and to a lesser degree to the control of the distribution channels. However, a few well known brandnames can already be found within Portugal.

¹ A few exceptions exist: Gonçaves & Abreu, Pedro Ferreira, Everest, and so on.

² Here, firms such as Sociedade Industrial Carvalhinhos which export under the brandname Portside and Italus constitute exceptions.

IV - THE BALANCE SHEET, INCOME STATEMENT AND THE TURNAROUND STRATEGY FOR THE PORTUGUESE FOOTWEAR INDUSTRY

Figure Fifteen shows the present balance sheet of the industry. Based on the arguments developed in the previous sections, the industry's assets are greater than its liabilities. As a result the industry's net worth is positive. Its firms grow, export and for the most part are profitable [20].

However, if one attends to the dynamic factors which are beneath the industry, the situation is about to change. That perspective is portrayed by the income statement. According to it and based on the discussion above the negative effects (costs) outweigh considerably the positive ones (revenues). The result is a loss, that is the expectation that on the medium term, the situation will deteriorate, decreasing the financial and economic health of the whole industry (the net worth in the balance sheet). That is, beneath the industry's present situation are several critical contingencies which risk to create a situation in the footwear industry similar to the one at present in the portuguese textiles¹.

It seems therefore sensible that both the industry firms and the portuguese government undertake serious actions to implement a turnaround, averting the negative factors underlying the future of the industry.

The turnaround program should have three components. The first requires that the portuguese government help firms

¹ Although somewhat milder because the average footwear company serves a higher quality parcel of the industry than the average textile company. On this matter see the chapter on this book, on the portuguese textile industry: portuguese textiles, the future came earlier.

**FIGURE FIFTEEN
PRESENT SITUATION AND PERSPECTIVES OF THE PORTUGUESE
FOOTWEAR INDUSTRY**

BALANCE SHEET

Assets	Liabilities
1. Labour intensive industry and lower labor salaries than other european countries.	1. Worse tanning industries than that of european countries.
2. Know-how of portuguese workers.	2. Absence of marketing (modeling, brandnames, channels of distribution).
3. Proximity of Portugal from fashion centers.	3. Lack of synergy to diversify into other industries.
4. Better tanning industry than that of a asean countries.	4. Barriers among the industry segments.
5. Portugal is a member of EEC (Administrative, legal and cultural implications).	

POSITIVE NET WORTH

INCOME STATEMENT

Positive effects	Negative effects
1. Experience effects	1. Increase in costs due to valorization of PTE higher interest rates higher inflation higher salary increases
	2. Increase in the simplicity of communications and decrease on the cost of transport from a Asean countries

Deterioration of the situation

Turnaround program: Increase three added values

		MARKET		
		Low	Middle and middle-low	Upper and upper-middle
Functions	Marketing		First added value	
	Manufacturing		Portuguese Footwear Firms Third added value	Second Added value

obtain the added value in marketing that they now forego (see figure 16). That means to help firms change from a situation where their products are merely bought to one where they indeed sell them; to change from being simply manufacturing subcontractors to a situation where firms market their footwear. With this change instead of exporting cheap labor, portuguese firms would export products (with all their marketing aspects such as brandnames, image, design, innovation, packaging and even a certain degree of control over the distribution channels).

That can be achieved by starting an overall national program on marketing training for the managers of footwear companies (which at large have no marketing knowledge what so ever) and the launching of a few portuguese trademarks in the international market well supported by a promotion and distribution campaign.

In practical terms, the ICEP¹, the ministry of industry and/or the Portuguese Footwear Industry Association should develop programs which start by defining very precisely the type of footwear to be marketed abroad and then, invest in creating an image for the product and subcontract 50% of the manufacturing of the volume to be exported to twenty or ten different firms (with the other 90-95% of their products continuing to be sold to their usual clients).

Three or four such programs (each for one brandname) should immediately be launched. Chances of success are greater if the program were to target [1] the average european class with a [2] men's [3] leather shoe, [4] with good durability and providing [5] good comfort, [6] well finished, [7] adapted to the climate and [8] with the shape obeying to the national characteristics of the market and a classical design but close

¹ Portuguese Institute for Foreign Commerce.

to the fashion¹ .

This type of footwear is the most appropriate to form the basis of such a marketing program for two reasons. First in women's shoes finishing details, fashion and image assume greater importance than in men's shoes. It would therefore be easier for portuguese brandnames to enter men's rather than the women's market.

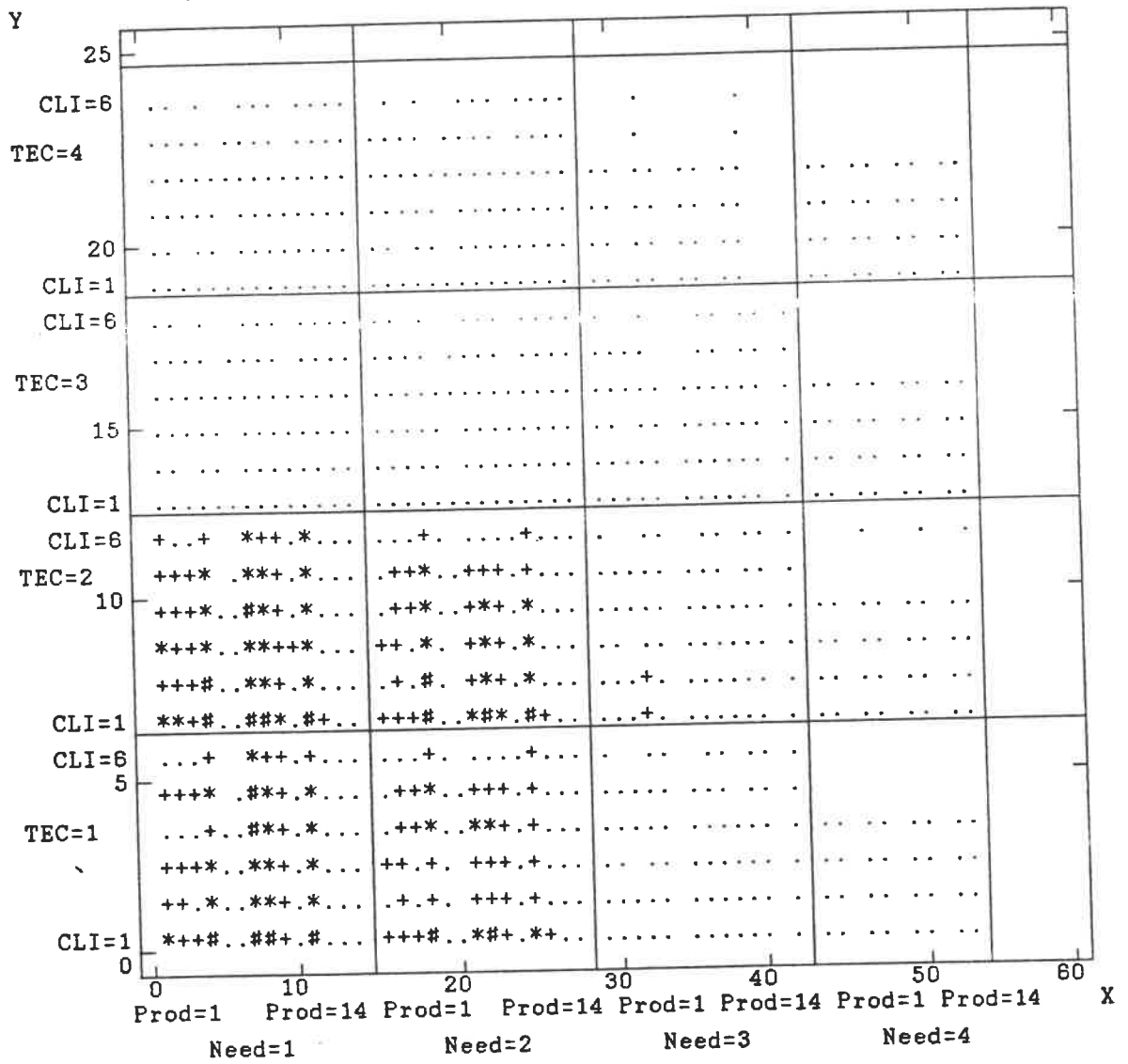
Second, portuguese industry has considerable experience in manufacturing that type of shoes, as is illustrated in Figure Sixteen.

The achievement of the second added value mentioned in Figure Fifteen depends upon moving up market, in shifting from a situation where a firm's total sales is based on a few sizeable orders, where the key success factor is cost (price) into a situation where sales depend on a larger number of orders, each with lower volume and where the key success factors are quality, (design, fashion, comfort, durability, shape, finishing, etc.) and the timing of delivery. That up market move requires an intensive training program for plant floor workers, first echelon supervisors and technicians.

Finally in order to overcome the squeeze represented by the increase in costs (interest rates, inflation, and salary increases higher than those of most european countries and the PTE valorization regarding other european currencies), a joint venture should be made between the portuguese ministry of industry and a few international consulting firms specialized in productivity improvement, in order to first train managers in their productivity improvement programs and then to intervene in the firms when so required. The cost of the first

¹ High quality shoes exported to northern europe use PVC soles which are better for cold and humid climates. In some countries larger shapes are more used, in other countries longer shafes are more frequent; and so on.

TABLE SIXTEEN
 AMOUNT OF SPECIALIZATION IN THE FOOTWEAR INDUSTRY



Contour Map:

No. of companies in the segment:

- 1 < . < 10
- 10 < + < 20
- 20 < * < 30
- 30 < # < 40
- 40 < x

type of actions (training) would be supported by the government and the second type by the industry companies.

The contour map presented in Figure Sixteen shows that the distribution of companies by the various segments is not homogeneous. There are indeed large differences between segments in terms of the number of companies that populate them.

On the vertical axis of figure Sixteen come the four types of technology used, and within each type come the six types of client served. On the horizontal axis come the four types of need served and within each the fourteen types of products. The total number of cells (segments) is therefore 1344. In each cell is a symbol that indicates the number of companies operating in the corresponding segment. If the number of companies is between 1 and 9 a . (dot) is placed, if between 10 and 19 a + (plus), if between 20 and 29 an * (asterisk), if between 30 and 39 an # (nash) and if greater or equal to 40 an x (times).

From this figure you can conclude that the most populated segments are those with technologies "stitched" and "moulded" and service "medium" and "medium-high" needs (by oposition to "injection moulded" and "vulcanized" technologies and "high" and "dree-shoes" needs). These segments are located near the left lower corner of the map. Within the "stitched" and "moulded" technologies and the "medium" and "medium-high", the less produced products are special shoes like the orthopaedics, the sandals, S. Crispino and polyuretane or those that require "injection moulding" technologies or "vulcanization" like the PVC shoes.

In terms of clients, companies focus more on male, unisex and child footwear than in women's footwear when the need served is "medium-high" and not just "medium". This has to do with the need to incorporate the fashion component in women's footwear, what most portuguese companies are not prepared to do.

Analysing the 10 most populated segments we conclude that they share the following characteristics:

In terms of product: yatching shoes, moccasins and boots.

In terms of client: men and to a lesser degree children.

In terms of need: Medium and Medium-high.

In terms of Technology: Stiteched and to a lesser degree moulded.



V - CONCLUSION

The objective of this paper was to summarize the present situation of the footwear industry in Portugal and how its dynamism contrasts to the important threats which are beneath it. Below a surface of economic and financial health, there are several factors which may in the short term alter the present situation.

Since experience is the worst teacher (it gives the test first and only afterwards the lesson), one should as much as possible learn from the other (industries) experience. In this sense the portuguese footwear industry has much to learn from what is happening today in the portuguese textile industry (see chapter on portuguese textiles).

That is the crisis scenario. Sheer inertia (by firms and the government) will lead to it (although perhaps in a milder version than what is happening in textiles). The other scenario is one of turnaround, which means an inversion of the present trends as described in section IV (figure 16). It is only a question of which will come first: the required actions or the forecomming future.

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