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Is There an "Industrial District Model"? Footwear Districts in Italy and Mexico Compared

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Summary. — In this paper we present the results of empirical research carried out in two footwear clusters located in Italy, the "land of industrial districts," and two clusters of footwear enterprises in Mexico. The aim of the study is to present a comparison between the ideal-typical industrial district, as it is defined in the literature, and the case studies in Mexico and Italy. Material from a survey of clusters of firms in Italy and Mexico reveals how clusters in both countries differ in some aspects from the "textbook" model. Similarities and differences are investigated in some detail, and attention is given to the intensity and quality of backward and forward linkages, the existence of an "industrial atmosphere" and the nature and extent of institutional support.

1. INTRODUCTION

The aim of this paper is to present a comparison between the ideal-typical industrial district, as it is defined in the literature, two clusters of footwear enterprises located in Italy, the "land" of the model and other two footwear clusters in Mexico.

The enthusiasm generated by the successful experience of industrial districts in some European countries, and particularly in Italy where the phenomenon was first identified,[1] has sometimes induced economists and economic practitioners to believe in the existence of a clear defined model, with very precise characteristics and definite components, which could be reproduced anywhere. The industrial district framework, however, is not an analytical model, but rather a list of stylized facts useful for organizing empirical investigations and to compare it with real-world cases. In this paper, the comparison of the "textbook" model with Italy and Mexico emphasizes the existence of different patterns and trajectories, which may only partially be represented by the framework presented in the literature.

The limitations of the model arise from two sources: first, the existence of some essential elements may be put in doubt even in Italy, as is shown in our analysis of two Italian footwear clusters, and second, even if such elements exist at a given point in time, districts and their components change continuously and this process may not be captured by a static model.

In this paper we mainly concentrate our analysis on the first limitation, comparing the "textbook" model with empirical material drawn from a survey carried out in Italy and Mexico on footwear enterprises, their suppliers, traders and supporting institutions. With regard to the question of change, which has not been addressed by the empirical analysis, some questions important for a future research agenda are put forward.

In the next section the characteristics of the "textbook" model are presented. Section 3 presents background information on the Italian and Mexican footwear industry. In section 4 a comparison is made between the "textbook" model and the Italian and Mexican case studies. The implications of these findings are drawn out in the last section.

2. THE "TEXTBOOK" MODEL

From the ideal type arising from the Italian experience four key factors characterizing industrial districts emerge:

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— clusters of mainly small and medium-sized enterprises spatially concentrated and sectorally specialized;
— a set of forward and backward linkages, based both on market and nonmarket exchanges of goods, information and people;
— a common cultural and social background linking economic agents and creating a behavioral code, sometimes explicit but often implicit;
— a network of public and private local institutions supporting the economic agents acting within the cluster.

The interplay of those elements is supposed to bring about a competitive edge for firms belonging to the district in comparison with isolated firms. To capture these gains, Schmitz (1990) has introduced the concept of collective efficiency defined as the competitive advantage derived from local externalities and joint action. Similarly, Camagni (1991) explains the competitive gain by the generation of the following economic effects:

— external economies in a static and a dynamic perspective. Their static effect is the reduction of costs for local firms with respect to isolated enterprises. From a dynamic point of view, we may refer to the educational and training process and the accumulation of know-how and knowledge, taking place in a spontaneous and socialized way within the district;
— proximity economies, reducing transaction costs and in general the costs of using the market, through easier circulation of information and face-to-face contacts within the district. Examples include easy information exchanges, mainly informal, between customers and suppliers;
— synergy elements, enhancing the local innovation capability through imitation processes, interaction between local agents, private-public partnerships on infrastructure and service centers, interaction between research centers and potential adopters of inventions, and customer supplier cooperation.

Within the district, the production process is characterized by high flexibility and specialization:

— flexibility is obtained through "special" relationships in the labor market: intensive use of homeworkers and availability to work extra hours, allowing fast and easy adaptations of the labor force to be able to react to demand changes;
— specialization is due to the division by phases of the production process, allowing a more efficient exploitation of the different economies of scale and a higher innovation capability than in vertically integrated firms.

The market is organized as a mix of cooperation and competition, where prices and quantities are defined and exchanged as well as information, codes, routines, strategies, ideas and knowledge.

In this environment, relationships among firms are supposed to be noncompetitive, because small enterprises may have to collaborate in order to satisfy large orders. In many cases there are middlemen taking care of the organization of this form of cooperation. Noncompetitive relationships are also supposed to take place between specialized firms in the different phases of the production process and between producers and technology suppliers (Brusco, 1990; Bianchi, 1992).

The role of family is also emphasized in the literature (Bianchi, 1992). It contributes to an easy system of labor force allocation and to a low-cost system of reproduction and circulation of technical and managerial knowledge within the district. Beyond the family, a common social origin and, in some cases, political homogeneity also favor a cooperative environment, characterized by intensive face-to-face contacts, sharing of values, behaviors, codes and languages (Bagnasco, 1988).

Finally, institutions have an important role within the district: in many cases local associations of entrepreneurs and/or local governments create specialized service centers, strengthen infrastructure, and launch initiatives for supporting the industrial sector (Brusco, 1990; Bianchi, 1992).

3. THE ITALIAN FOOTWEAR INDUSTRY

This and the following section present background information on the Italian and Mexican footwear sector, necessary to understand the case studies of industrial districts which are the core of the paper. The recent history of the Italian footwear industry can be divided into two main periods: a first long period of continuous expansion from the beginning of the 1960s until 1985, and a second, continuing period of crisis and restructuring of the sector which started in the second half of the 1980s. At the beginning of the 1960s, the Italian footwear industry ranked fourth in Europe, after France, the United Kingdom and Germany. At that time in Italy the footwear production was mainly directed towards the domestic market and the sector was dominated by small, artisanal enterprises. In the following three decades, the geography of the footwear industry in Europe changed profoundly, owing to a severe reduction of activity in France, the United Kingdom and Germany and an impressive growth of the sector in Italy. The outstanding growth of the Italian footwear industry was export-led: at the beginning of the 1950s exports represented a mere 3.7% of the total production, in 1970 the proportion of exports increased to 63%, in 1985 it was 83% and in 1992 81% (ANCI, 1993). The expansion of the Italian footwear industry continued uninterrupted until 1985 and Italy became the leading exporting country in Europe and the second largest exporter in the world market after Taiwan (ANCI, 1987).

The competitive factors explaining the success of the Italian footwear industry followed a rather typical evolutionary pattern. In the first phase of development, during the 1960s, Italy exploited a labor cost advantage with respect to the other European competitors. This initial element of comparative advantage was crucial in the take-off phase of the industry and it allowed a number of other crucial advantages for the following phases of development of the sector to be built up.

These advantages can be summarized as the high degree of specialization of the Italian footwear system, based on the division of the production cycle among several enterprises specialized in the different phases of production, and on the existence of a very well-developed network of backward-linked firms, producing components and raw materials for the sector. The organization of production among manufacturers and suppliers within a number of specialized areas allowed the Italian industry to become highly flexible and adaptive to market changes. In the international market, the Italian shoe firms started to be considered highly reliable and able to satisfy quickly orders of various sizes. Consequently they could progressively increase their export share.

More recently during the 1980s, other European countries such as Spain, Portugal, some Southeast Asian newly industrializing countries (NICs) such as Taiwan and South Korea and also some developing countries such as Brazil, India and China became very competitive in the international market and greatly increased their export share. In order to face this increasing competition the Italian footwear system strengthened its advantage in terms of image, fashion content and design in order to reduce the price elasticity of demand for its products.

Notwithstanding its attempts to counter this increasing competition through a process of trade-up by upgrading of exports, the Italian footwear sector had to begin to compete in a market where a large increase in the quantity of shoes supplied faced a stable demand. The competition became stronger because all the new producers could exploit a labor cost advantage with respect to Italy. In addition, a change in the consumption habits favored a shift from classical leather shoes, in which Italy had specialized, toward synthetic tennis shoes, in which countries such as Korea, Taiwan and Hong Kong tend to specialize. Moreover, from 1986 the revaluation of the lira against the US dollar increased the difficulties of the Italian firms in exporting to the North American market. Italian exports reached their highest level in 1985, but then decreased continuously in volume terms except for 1990 (Table 1). Moreover, Italy's ranking

Table 1. *The Italian footwear industry, 1970–92*

Year	Employees	Pairs	Production		Exports	Imports
			Value	Index		
		(000's)	(£ mill.*)	1970 = 100	(000's Pairs)	(000's Pairs)
70	132,608	345,898	2974,27	100,0	217,666	3,307
71	141,360	372,878	3243,19	109,0	235,848	3,081
72	135,923	380,834	3346,47	112,5	246,704	5,650
73	130,050	356,967	3299,22	110,9	226,412	7,472
74	135,791	383,601	3530,84	118,7	251,483	7,398
75	130,791	366,306	3685,17	123,9	232,424	6,977
76	130,860	410,581	4462,75	150,0	264,701	9,512
77	120,806	398,129	4551,68	153,0	264,986	13,543
78	127,967	429,344	4740,69	159,4	294,803	20,044
79	142,819	515,388	5548,98	186,6	374,351	27,384
80	132,475	415,743	4899,70	164,7	314,609	36,761
81	139,636	468,692	4654,78	156,5	338,581	42,032
82	142,288	531,300	5048,37	169,7	387,325	38,389
83	135,128	487,718	4645,27	156,2	374,237	54,318
84	134,317	496,198	4838,72	162,7	393,134	53,359
85	133,914	524,509	4994,71	167,9	434,753	56,073
86	128,825	499,285	4799,67	161,4	411,022	63,917
87	122,513	464,581	4526,62	152,2	383,872	89,048
88	115,886	436,162	4086,47	137,4	378,191	100,675
89	114,123	406,935	4338,50	145,9	339,858	92,207
90	113,980	424,916	4330,29	145,6	360,022	73,668
91	111,701	433,424	4258,97	143,2	347,820	104,060
92	108,350	418,827	4065,77	136,7	338,657	127,524

*At 1980 prices.
Source: ANCI (1993).

among footwear exports in volume terms fell from second in 1986 to fifth in 1990, behind China, Hong Kong, Taiwan and South Korea.[2]

The difficulties in the international market were compounded by some difficulties in the domestic market, resulting from a large increase in imports. In fact, shoe imports into Italy have increased steadily from 36.8 million pairs in 1980 to 128 million pairs in 1992 (Table 1).

The Italian footwear industry is therefore going through a very difficult time, after 30 years of continuous growth: both in the domestic market and in the international market it has to face increasing competition from countries with a clear advantage in terms of labor costs. It is, therefore, very interesting to analyze how the particular form of production organization which has been so successful in a situation characterized by excess demand reacts to this new external situation. The question is therefore if and how these specialized systems are able to adapt and change their internal rules, in order to cope with an international market dominated by an increasing supply facing a stable demand.

4. THE MEXICAN FOOTWEAR INDUSTRY

Mexico was a protected market for a long time, having adopted an import-substitution strategy, which was abandoned in 1988 with the opening up of the economy to foreign competition. For many decades, the Mexican footwear industry produced mainly for the domestic market with a rate of growth strictly linked to the increase in domestic demand (Table 2). The acceleration of the opening up of the Mexican market to international competition, through the elimination of import licensing and tariff reduction, had a big impact on the footwear industry.[3] The market was flooded with imports which increased from US$13.7 million in 1987 to US$148.2 million in 1991.

While the Mexican footwear industry is threatened by increasing international competition, it also has a unique opportunity to enter the US market on a large scale.[4] Following the North American Free Trade Agreement (NAFTA) with the United States and Canada, Mexican shoe producers could become among the world's leading exporters of footwear in a few years if they are able to take advantage of the progressive elimination of duties and of their proximity to the US market. The scenarios facing the Mexican footwear industry are, therefore, extreme: either a progressive reduction in the number of firms, because of increasing competition in the domestic market from imported shoes from countries such as Taiwan, China and Korea, or the acquisition of a leading position as an exporter in the international market.

For many decades the domestic producers took advantage from a market where there was excess demand; to make money in the sector was easy because any kind of product could be sold, no matter what its quality, design and cost. Nowadays, international competition is becoming stronger, and the Mexican footwear enterprises are starting to realize that they must increase their efficiency if they want to survive and grow. Many firms are currently looking for a revitalization strategy to adopt, in order to

Table 2. *The Mexican Footwear Industry, 1970–1991*

Years	Manufacturing Industry GDP (bn pesos*)	Leather & Footwear GDP (bn pesos*)	Number of employees (leather & footwear)	Exports US$ml.	Imports US$ml.
70	539.1	16.1	97555	3.4	15.5
75	718.9	21.8	118292	12.1	20.8
78	847.9	25.5	121670	25.2	19.0
79	934.5	28.9	138155	30.8	17.1
80	988.9	29.6	138909	31.0	62.0
81	1052.7	32.6	152303	24.5	67.3
82	1023.8	32.6	155706	14.9	13.1
83	943.5	27.7	130521	12.1	4.6
84	990.9	29.3	131478	19.3	11.9
85	1051.1	30.2	135390	13.7	15.7
86	995.8	28.6	135666	18.4	9.4
87	1026.1	24.6	128875	53.5	13.7
88	1059.0	24.0	119578	67.1	54.3
89	1135.1	24.9	117529	67.4	75.0
90	1201.2	25.4	114323	80.6	86.0
91	1245.3	24.5	n.d.	104.0	148.2

*At 1980 prices.
Source: Instituto Nacional de Estadistica, Geografía e Informatica.

increase their competitiveness in the international and domestic markets. The "industrial district" way of organizing production, which has been so successful in the case of the Italian footwear industry, is actually one of the models the Mexican shoe entrepreneurs are now analyzing with great attention, considering its potential for application in Mexico (Rabellotti, 1993b).

5. THE CASE STUDIES

Fieldwork was carried out in four clusters of footwear enterprises: two of them located in Italy (Brenta and Marche districts) and two in Mexico (Guadalajara and Leon). In those clusters a sample of firms was randomly chosen from among the members of the local associations of footwear entrepreneurs.[5] The sample included 101 enterprises: 50 of them located in Italy (30 in Marche and 20 in Brenta) and 51 in Mexico (30 in Guadalajara and 21 in Leon). In order to take into account firms of different sizes, the sample is stratified by size, as can be seen in Table 3.

A closed questionnaire was used to interview individuals employed in the sample firms, focused on performance, linkages with suppliers and market, strategies of technological innovation, formal and informal interfirm cooperation and institutional support. The information collected by questionnaire from the sample of firms was complemented with secondary data as well as with open-ended interviews with entrepreneurial associations, sector experts, suppliers, buyers, and representatives of institutions supporting the sector.

The empirical analysis assesses whether the four key elements identified by the "textbook" model, according to the framework presented in section 2, exist and then consider the level of intensity and the quality of the relationships found.

With regard to the first prerequisite, the existence of a critical mass of spatially concentrated and sectorally specialized enterprises, four areas all satisfied this condition as it was a criterion for choosing the research areas:

— in Marche there are 2,410 firms and in Brenta 680, out of a total 8,547 enterprises in the whole of Italy (ANCI, 1993);

— in Leon there are about 1,700 shoe enterprises and in Guadalajara about 1,200 — out of a total of 4,500 firms in the whole of Mexico (CANAICAL, 1991).

Table 3. *The sample, number of firms by size*

Country	<50 employees	51–100 employees	>100 employees	Total firms
Italy	24	15	11	50
Mexico	17	14	20	51

Having satisfied the critical mass condition, in the following sections we assess the adequacy of the industrial district model to represent the Italian and Mexican footwear clusters according to the following elements: a set of backward and forward linkages among the economic agents within the district, a common cultural and social background, and a network of public and private institutions supporting the cluster.

6. THE ITALIAN DISTRICTS: BRENTA AND MARCHE

(a) *Backward linkages*

The existence of a very well-developed system of suppliers working for the footwear sector represents one of the main assets of the Italian shoe producers. The ability of suppliers to produce a wide variety of products with short delivery times, allows the shoe producers to postpone to the last moment their purchase of inputs. This has several advantages: first, it reduces the stocks required for producing shoes; second, it leads to the progressive shortening of the period between order and delivery which characterizes the sector and finally, it increases the capacity of shoe producers to diversify their products and to satisfy market demand.

This advanced system of production includes tanneries, producers of components and accessories, suppliers of machines, and service firms. From the results of our interviews, as well as from other available studies (Varaldo, 1988; Gaibisso, 1992), it clearly appears that the collaboration between suppliers and shoe producers is a crucial asset for the competitiveness of the sector because they must take fashion trend decisions together. The capability of the footwear sector to satisfy volatile demand is in fact due to the capacity of the backward-linked industries to follow its production rhythms.

In the two areas analyzed, Italian shoe producers may also count on the existence of a wide network of small subcontracting enterprises specialized in one or two phases of the production cycle. According to a survey (Varaldo, 1988), more than 80% of the Italian footwear firms decentralize the production of bottoms to subcontractors, more than 70% decentralize the phases of edging and sewing of uppers and more than 50% externalize the cutting phase.

Results from the sample firms (Table 4) confirm Varaldo's (1988) conclusion that the production of bottoms is the phase most frequently decentralized. This happens because the production of bottoms — soles, insoles and heels — is a distinct phase of the production process, using specialized machines, requiring particular labor skills, and with larger scale economies than shoe production itself. The edging and sewing phases also tend to be decentralized to subcon-

Table 4. *Division of labor in the Italian footwear industry (% of sample firms)*

Phases of production	% of production externalized			
	None	<50%	51%–90%	>90%
Cutting	26	20	20	34
Sewing	6	16	20	58
Bottoms	10	10	2	78
Finishing	96	2	2	0

tractors because they are highly labor intensive. In firms producing top quality products, however, shoe bottom production and edging may be internalized because firms may wish to maintain a greater control over the process.

The cutting phase is important both with respect to quality and cost of the final product, and it depends on the ability of the labor force. For the production of sample sets every firm needs to have its own internal cutting department. This explains why cutting is somewhat less frequently decentralized than the production of bottoms. Finally, fitting and finishing are usually internalized because it is crucial to have strict control over these final phases. Decentralization to subcontractors is often adopted only in case of orders too large for the internal capacity of the firm.

According to enterprises interviewed, the main reasons for decentralization are the reduction of costs (according to 72% of the firms), increased flexibility (54%), the certitude of costs (28%) and increased specialization (26%).

The cost advantages of externally decentralizing part of the production arise partly from greater tax evasion and higher exploitation of labor in small subcontracting enterprises. In addition, subcontracting enterprises, being more specialized, are able to better exploit the different economies of scale in the diverse phases of production, efficiently employing the production capacity available. The result is that they produce better products at lower costs, with a shorter leadtime.

If these are arguments in favor of decentralization, the firms interviewed also emphasized some problems: sometimes they have difficulty controlling quality and obtaining delivery on time. This explains why the enterprises producing for the low segment of the market decentralize a large part of the production cycle to external subcontractors, while firms working for the top market are often more vertically integrated than the average (Varaldo, 1988).

For innovative firms there is also a problem of secrecy, which obliges them to produce their products internally to avoid circulation of information. Some of the firms interviewed declared that they sometimes subcontract externally the production of fake models, just to confuse the market and to circulate false information on their new sample set.

Italian shoe firms tend to decentralize mainly within their area to facilitate their relationships with subcontractors, maintaining stable and continuous linkages with them. In both the Italian districts analyzed most of the decentralization is to firms within the same area. We found only a few firms (four enterprises in Marche) which normally decentralize part of the edging phase to enterprises located in the southern Italy. Moreover, in four firms (three of them located in Brenta) edging is decentralized to Eastern European countries and in one Marche firm to India. Both in the cases of decentralization to southern Italy and abroad, firms have tried to exploit labor cost advantages, however, in several cases they claimed to face many problems of quality control and delivery conditions.

From what has been said so far one may conclude that decentralization is one of the main strategic assets of the Italian footwear industry and its extent depends on three main factors:

— technological factors, because the diverse phases of the production cycle are characterized by different economies of scale;

— structural factors which can be represented as a trade-off between production and transaction costs: decentralization allows limits on the size of the firm and reduces labor costs but increases the costs of using the market;

— strategic factors such as the capability to control quality and to avoid the circulation of confidential information within the market.

(b) *Forward linkages*

The Italian footwear industry led the international market until the mid 1980s and therefore shoe manufacturers faced a market characterized for a long time by excess demand. Many of the entrepreneurs interviewed in Italy emphasized that until a few years ago foreign buyers, mainly from Germany, used to visit their firms regularly, and all they needed to do was to produce shoes. It was not necessary to make any effort to sell them. Therefore, traditionally the Italian shoe manufacturers did not care much about commercialization and marketing. According to the Entrepreneurial Association (ANCI, 1992), most of the entrepreneurs still identify the quality of their product from a purely manufacturing point of view, according to the quality of processing and raw materials. They are rarely aware of the importance of other factors such as the image of their products or their brand name.

In Italy, it has been argued that in the footwear districts the efficient way of organizing the production phase is not complemented by an equally efficient system of commercialization (Gaibisso, 1992). In the footwear areas the role of middlemen, who have been

so important in other districts (note the famous case of Prato and its "*impannatori*"), has been very limited.

Commercialization through nonexclusive agents took place in 59% of the sample firms, through direct sales to customers in 17%, through exclusive agents in 12%, through trading companies or in shops owned by the same firm in 6% and in the remaining 6% through consortia with other firms.[6] The relationship with nonexclusive agents often generates discontent among footwear firms because they do not control the activity of their agents and receive very little information about the market from them. Many of the enterprises interviewed realized they would need a more active commercial strategy to be successful in an increasingly competitive market. In marketing, however, economies of scale are important and very few among the Italian firms have the financial capability to invest in advertising or in market research, to set up their own shops or to employ exclusive agents.

A collective solution, rather diffused in the two areas analyzed, is the establishment of export consortia, set up for supporting the export activity of firms with an initial public financial contribution. In the first years of their activity, during the 1980s, these consortia did not play a very active commercial role. In most cases they supplied simple services such as translation or assistance with export procedures. Nowadays, some of them are changing their policy: they try to select their members in order to have firms specialized in complementary products. In addition, they choose a few geographical areas of interest in which to concentrate their activity and in those areas they try to play a more active role of promotion and, in some cases, direct sell the products of their associates.

In both districts studied there is a wide gap between a very efficient, flexible and specialized system of production and a less developed, effective and specialized system of sales. As a result of increasing international competition in the sector, however, it becomes more important to adopt an active commercial strategy. To successfully compete in the international market, the clusters analyzed need to become as efficient in the commercial phase as in the production cycle.

(c) *The "industrial atmosphere" effect*

The concept of "industrial atmosphere" can be very vague. We will use it to capture explicit and implicit forms of collaboration and interaction among local economic agents within the districts, enhancing local production and sometimes innovation capability.

With regard to this, the first aspect we want to emphasize is related to the characteristics of the local labor market in the areas analyzed. The existence of a reservoir of skilled labor is always assumed to be one of the externalities of the organization of production in highly specialized clusters of firms. The Italian industrial districts are described in the literature as areas where specialized jobs are taught from parents to children and where skills are accumulated and transmitted from one generation to the other.

This process of collective learning, of accumulation of knowledge in people, and therefore of circulation of know-how among firms through labor force mobility, enhances local innovation capability. In other words, the innovation process, which usually takes place inside the firm, becomes a collective process in the industrial district, based on common knowledge which accumulates in people rather than firms.

In our study of the Italian case we found a rather low availability of skilled labor: 46% of the sample firms believed availability to be low, 36% good and 18% very good. In Brenta, the labor market has changed in the last 10 years. A majority of the firms (55%) declared that the availability of skilled labor was good during 1980–85, while in the second half of the 1980s, 70% of the firms declared that availability had declined. According to many entrepreneurs interviewed, the increasing lack of skilled labor is due to the tendency of young people to search for alternative jobs in other more attractive sectors, even outside their area of origin. Moreover, a larger share of young people than before stays at school after primary education and subsequently they search for more qualified, nonmanual jobs.

Improved welfare and better education, due to the expansion of the footwear sector in the areas, result in an increasing tendency for local young people, better educated than their parents, to abandon the sector if they can find alternative, mainly nonmanual jobs. The resulting interruption of the accumulation and transmission of skills from parents to children, from one generation to the next, could in the future undermine the collective learning effect which has been so important in determining the competitiveness of the districts.

Besides the circulation of skilled labor, innovation capability in the districts is also enhanced by technological cooperation among firms and with technology suppliers. In our case studies we found intense cooperation between manufacturers of shoes and producers of machines, which had contributed to the take-off of a shoe machinery sector in which Italy is the leading exporter in the world, with exports totalling US$400 million in 1991 (ASSOMAC, 1992). The recent decline of the Italian footwear industry, however, has also affected the performance of the machinery sector: in 1990 orders in the domestic market fell by 11%. The difficulties in the footwear sector also have a negative impact on the tendency to collaborate among technological suppliers and shoe manufacturers, and this is bad for the process of technological development.

Apart from the suppliers of technology, who are the

main source of information for innovation for 66% of the firms interviewed, 46% of the firms declared that other shoe enterprises are an important source. Therefore, it is important to emphasize the role in the diffusion of technological information assumed by relationships with other firms, considered an important source by 39% of small firms, 16% of medium and 33% of large ones. In spite of this, informal cooperation was not so frequent in the districts: only 40% of the sample firms declared to have frequent informal contacts with other firms, 24% of them sometimes have informal relationships and the remaining 28% do not have any contacts at all.

Finally, we analyzed social climate in the two areas selected and we found there is a low degree of labor strife. In Brenta, 95% of the sample firms declared that labor relationships have always been good in the area. In Marche easy relationships with the labor force are one of the main advantages of the location emphasized by the large majority of the entrepreneurs interviewed. Moreover, the flexibility of the labor force, in other words willingness to work extra hours, weekends, etc., is considered high by the vast majority of the firms interviewed, which declared that they usually feel free to ask their employees to work overtime.

To conclude in the two areas analyzed we found a favorable social climate and noticed a diffused sense of belonging to an old established community which, according to most of the interviewed entrepreneurs, are very important characteristics of the districts, making easier exchanges and relationships with other firms.

(d) *The role of institutions*

The importance of institutional support in the growth process of Italian industrial districts is much emphasized in the literature. This has fed the myth of an efficient local government able to intervene for supporting the need of local industries, creating public or semi-public centers for real services, for technological development, for commercial promotion and so on (Brusco, 1989 and 1992). Schmitz and Musyck (1993), in a careful investigation of the available literature on industrial districts in Europe, emphasize that knowledge of institutional intervention remains patchy and that there are few evaluations of the services supplied from the users' point of view.

From our own investigation in the footwear industry, it was clear that local government was of little importance. Both in Marche and Brenta the main institutional actors were the local entrepreneurial associations, supplying a number of services to the members and playing an important role of promotion of initiatives to support the sector. In Brenta, the local association was established more than 30 years ago and since then it has supported several initiatives such as a large export consortium and a center for technological assistance and training. Among the activities of this center is the Technical School for Modelists, established in 1923 which organizes specialized courses. In Marche, the association supplies services to the members and recently launched a new initiative: a specialized center supplying technological assistance, training, fashion information and promotional activities. An interesting project of the center is a trade fair taking place regularly every month, where local producers exhibit and sell their products, outside the traditional seasonal appointments of the main national and international trade fairs.

In our interviews the activity of Marche and Brenta Entrepreneurial Associations was in general positively assessed by the entrepreneurs, who take part in them quite actively. In Brenta, however, the tradition of institutional intervention is more established than in Marche and this is confirmed by the well-organized activities of the specialized centers. In Marche, according to many among the entrepreneurs interviewed, there is no tradition of collaboration and institutional intervention and this is confirmed by the only recent establishment of a service center in an area of specialization which is the most important in Italy. The need for greater institutional intervention is also confirmed by a diffused opinion among the entrepreneurs, who very often quote the Brenta case as a good example of how institutions can help the sector.

7. THE MEXICAN DISTRICTS: GUADALAJARA AND LEON

(a) *Backward linkages*

In Mexico the relationships between suppliers and shoe producers are less collaborative than in Italy and are based mainly on a pure market mechanism. Among the sample firms, many complain about the low quality of components and raw materials, the scarce attention to fashion changes and the bad service provided by their input suppliers. In their turn, suppliers do not accept responsibility for their low development and accuse shoe entrepreneurs of having adopted a strategy more focused on price than quality. Suppliers complain of unstable demand, of small order sizes, of continuously changing products, and of delays in payments. The suppliers of components and the manufacturers blame each other and the main deficiencies are of communication and collaboration between the two linked sectors.

Both footwear enterprises and suppliers are now starting to realize the importance of a systemic view of the production process: only collaboration among them will in fact make it possible to produce an internationally competitive product. In Leon the associations of suppliers and footwear firms are starting to

work together on fashion content and standardization of the measurement system. There are also cases of continuous and productive collaboration among some shoe firms and some tanneries: a stable demand allows a stable level of quality of the leather supplied. Some wholesalers are also working in this direction, organizing the purchases of components of all their clients and therefore guaranteeing large and stable orders to the suppliers. Moreover, both in Leon and Guadalajara local credit unions of shoe entrepreneurs recently launched a program for common purchasing.

These are a few examples of initiatives to foster the systemic approach, showing a real effort toward building up a system of production in some way inspired by the "industrial district" model. In Mexico, we have found a relatively high number of linkages between suppliers and manufacturers within the districts, however, in many cases these linkages need to be redefined because they are based only on a price factor, disregarding important aspects such as fashion and design, quality of materials, and delivery time.

Subcontracting of phases of the production cycle, in Mexico, according to several recent surveys (Boston Consulting Group, 1988; Concalzado, 1991; Dominguez-Villabos and Grossman, 1992) and according to the results of our own survey, the level of the division of labor is generally low (Table 5) and certainly much lower than in Italy (see Table 4).

This low level of the division of labor can be explained by two main factors:

— backward-linked industries have remained at a low level of development with regard to design, fashion quality of components and service because the former protection of the domestic market has limited competition and, therefore, the incentive to innovate. We know from Adam Smith that the division of labor is limited by the extent of the market and this seems to apply to our Mexican cases;

— the sector lacks a standard technical language and a common, universally accepted, measurement system and this strongly increases the transaction costs and the costs of using the market.

Therefore, the poor level of development and the difficulties of communication with backward-linked industries induce many shoe firms to internalize as many phases of the production cycle as possible in order to reduce their dependency on an unstable, low quality supply. Vertical integration means different phases of production are carried out inside the firm, with a lot of problems of organization of the production cycle, because the different phases are characterized by very different economies of scale, different degrees of labor intensity and different processing times. This production structure is even common among very small enterprises. For instance, one of the firms interviewed and visited was very recently established, with about 25 employees, where every phase of production, from leather cutting to sole production, to finishing, was internalized. The manager of this firm was very proud of its capability to produce everything internally, without depending on external suppliers.

Table 5. *Division of labor in the Mexican footwear industry (% of sample firms)*

	% of production externalized			
Phases of production	None	<50%	51%–90%	>90%
Cutting	94	6	0	0
Sewing	80	20	0	0
Bottoms	59	4	4	33
Finishing	100	0	0	0

There is a clear relation between decentralization and profits performance: 47% of the decentralizing firms obtained an average profit, 21% a very good profit, while 24% earned no profit or operated at a loss (the remaining 8% did not answer the question). For firms which did not decentralize, the percentages were, respectively: 33%, 17%, 50%. With regard to profit trends the results are very similar: in the last five years 37% of the decentralizing firms have obtained an increase in their profits, 29% stable profits, 26% decreasing profits and 8% have not answered (for firms which do not decentralize the percentages are: 33%, 17% and again 33%, while the remaining 17% did not answer).

Decentralization, even if it is still scarcely practiced, seems therefore to have a positive effect on performance, flexibility and specialization and from that we could conclude firms should be encouraged to decentralize. A system of production based, however, on a strong division of labor, such as the Italian one, necessarily requires a very well-developed network of suppliers, which has not yet developed in Mexico.

(b) *Forward linkages*

As shown above, the Mexican domestic market was closed to international competition for a long time which allowed the domestic manufacturers to produce shoes which were easily sold in the closed market, regardless of the quality, design, fashion content. For this reason the footwear industry long neglected commercialization and marketing. In this respect, it is similar to the Italian case.

In the Mexican sample, 73% of the products are sold by nonexclusive agents, 51% by wholesalers and finally 16% by trading companies or shops owned by the firms. According to some estimates reported in a study by the Boston Consulting Group (1988), the structure of distribution is the following: independent retailers have around 41% of the market, chains have 20%, supermarkets have 19% and the remaining 20% are distributed by wholesalers.

Generally speaking, the Mexican footwear firms suffer from problems similar to the Italian enterprises: they have limited control over their market, little knowledge of it, depend on nonexclusive agents and they are not accustomed to developing active commercial strategies to sell their products in a competitive market. Recently, however, a few wholesalers have adopted a new strategy, aimed at selling a quality product. They have, therefore, selected a group of shoe firms with whom to develop a stable and constructive relationship. Technical staff employed by the wholesalers visit the shoe enterprises regularly, monitoring quality and giving advice on technological and organizational matters; moreover, the wholesalers have organized a system of common purchases of some key components or raw materials such as leather, in order to guarantee a stable level of quality, better conditions of price and good service. Among the firms interviewed, the ones linked through such a relationship with wholesalers were generally very satisfied, not only with the sales realized, but above all with the complementary services, such as technological and organizational assistance, they receive. Many of them have been able to introduce important improvements in the organization of the production process and in the quality of their products thanks to the collaboration with these wholesalers.

From what has been said so far, we can conclude that commercialization is one of the weakest points of the Mexican footwear industry. Nevertheless, investments in marketing and commercialization are generally too costly for most of the small and medium-sized footwear firms, therefore a more active strategy of commercialization may require collaboration among firms and emphasis on the role of middlemen and wholesalers.

(c) *The "industrial atmosphere" effect*

In Mexico, according to 73% of the interviewed firms, there is no surplus of skilled labor. Skilled workers are heavily sought after and frequently "pirated" from one firm to the other. The high circulation of skilled workers among firms favor the process of collective learning.

With regard to cooperation with technological suppliers, in Mexico there are only three local producers and therefore most machines are bought from local retailers or sometimes directly abroad, mainly from Italy and Brazil. In most cases, technological cooperation takes place between firms linked by family ties, who exchange technological information on a regular basis and sometimes even exchange machines. Some interesting cases, however, of technological cooperation among firms and wholesalers supplying technological assistance and among firms to adapt technology and reorganize the production process were found in the survey.

Within the clusters analyzed there is also an intense network of informal relationships among firms, exchanging information about technology or market, machines and workers, subcontracting orders in case of excess demand, jointly selling their products, jointly purchasing their inputs and jointly recovering their credits. Rather surprisingly, we have found that informal cooperation is more common in Mexico than in Italy: in 80% of the Mexican interviewed firms informal contacts are very frequent, compared with 40% in Italy. As in Italy, entrepreneurial associations play the most important role in inducing informal cooperation among firms in Mexico. Moreover, Mexican enterprises emphasize the importance of family ties and social events in favoring informal contacts.

Finally, the "industrial atmosphere" and in general the existence of an intense network of relationships among the economic agents is supposed to be favored by the dominant social climate within the clusters. Moreover, in Mexico we found a strong attachment of the footwear entrepreneurs to their social community, and there is a good social climate between entrepreneurs and workers.

According to a field survey carried out by Morris and Lowder (1992), many firms in Leon provide services to workers, such as factory canteens with low-priced meals, free provision of medical attention, incentives of various kinds for punctuality and productivity and other social facilities such as football teams and excursions, all aimed at creating a social favorable climate. Moreover, the usually good relationships between workers and entrepreneurs, in many cases strengthened by family ties, allow a high flexibility of labor use. Labor is usually available, when needed, to work overtime or at weekends.

From what we have said so far it is possible to conclude that in Mexico, as in Italy, we found a social environment, characterized by strong family ties, proximity of economic agents and existence of a sense of community among entrepreneurs and between entrepreneurs and workers which favor exchanges of information and help firms to share their problems and to find common solutions.

(d) *The role of institutions*

In Mexico, entrepreneurial associations are active both in Guadalajara and in Leon, providing services such as fiscal and labor consultancy, commercial assistance, managerial training, and organization of trade fairs. Moreover, in both districts centers for technological assistance and training and credit unions existed. According to the results of our interviews, we generally found a more positive assessment of the activities of the association in Guadalajara than in Leon. In the first case the activity seems to be more

oriented toward the need of small and medium-sized firms, while in the second case the association is more dominated by the interests of a few very large firms.

With regard to local government support, the only significant initiative we came across is a project in Leon for building an industrial park for tanneries, equipped with adequate infrastructure to solve the pollution problems of the sector. Apart from this project, the local governments do not seem to play a really active role in industrial policy. To conclude, we believe it is important to emphasize the existence of an institutional network of support to the footwear industry, which is a very important condition in the perspective of future policy interventions to foster a systemic approach.

8. IS THERE AN INDUSTRIAL DISTRICT MODEL?

The aim of this paper was to assess the adequacy of the "industrial district" model in representing different footwear clusters. We believe the comparison allowed us to identify several similarities between clusters located in very different realities, but also a number of differences between them and between the real world and the "textbook" model. In this last section we review the main empirical results to emphasize the most important controversies that arose with the essential elements of the "model" described in section 2. In addition, some considerations on the importance of moving on toward a dynamic perspective of clusters are discussed at the end.

Both in Italy and in Mexico forward linkages are very weak. Italian and Mexican enterprises did not develop their commercial side and small and medium-sized firms are now struggling with investments too costly for their size in marketing and commercialization.

The role of institutions, much emphasized in the "model," did not appear in our empirical analysis as a crucial element in the process of development of Italian and Mexican footwear clusters. In the four areas analyzed there are supporting institutions to the sector but we find very little evidence about their importance.

Contrary to what we expected, informal relationships appeared to be more frequent within the Mexican clusters than the Italian districts. These informal relationships might be interpreted as solidarity networks helping enterprises to survive beyond what market forces would sustain. They therefore assume a greater importance in the Mexican context, which we may suppose is characterized by higher uncertainty than Italian districts. This interpretation is confirmed by the results of a correspondence analysis we carried out on the data set from our enquiry, where informal relationships assume a relevant role mainly in the strategy of survival of small, poorly performing firms, both in Italy and in Mexico (Rabellotti, 1993a).

The discussion about the role of informal relationships in the development process of the clusters analyzed emphasizes the importance of the quality of linkages. In our survey we found an intense network of linkages taking place within the clusters both in Italy and in Mexico. A substantial difference, however, in terms of quality of those linkages was clearly identified. In the Mexican footwear industry the relationships between suppliers and manufacturers are mainly market linkages, simply based on a factor of price; while in Italy we found a network of relationships closer to the ideal typology of cooperative linkages, based on a common effort of suppliers and shoe producers to maintain stable and continuous relations.

The issue of quality of linkages assumes a particular relevance in a dynamic perspective when we remember that Mexican firms have recently tried to change and improve their relationships with suppliers on a more collaborative base as a response to increasing competition. A similar process of change of the quality of relationships was stressed in a study on the footwear industry in the Sinos Valley in Brazil (Schmitz, in this issue).

The question of the innovative capacity of clusters to react to changes transforming their internal organization is central. The static "industrial district" model does not take into account the possibility that an external radical change, such as the change in the competitive position in the cases analyzed, may represent a sign of rupture in the evolutionary path of the districts and eventually result in a new organizational form, distinct from the original one, and possibly remote from the tradition and the archetype of the model.

In another paper (Camagni and Rabellotti, 1993) we tried to identify some typologies of changes and trajectories of evolution of the Italian industrial districts, based on the recent experience of the footwear sector. We found signs of a trend toward a new organizational form, showing a capacity of these systems to respond to radical changes. In two of the three cases analyzed,[7] we found a tendency toward the emergence of hierarchies of firms in the district. Some leading firms were networking with external actors and organizing networks of local subcontractors. This phenomenon generates profound ruptures in the original model of organization, developing a different system based on new spatial linkages.

In a dynamic competitive environment the assessment of the capacity of the districts to structurally evolve in reaction to radical change is a crucial issue particularly if industrial districts are to be recommended as one of the possible approaches to industrial organization in developing countries. To understand how institutions may intervene to manage, to address and to stimulate this evolutionary process is a priority issue for further research.

NOTES

1. Among the first studies in which the phenomenon was identified we referred to Bagnasco (1977), Becattini (1979), Brusco (1982), Goglio (1982) and Fuà (1983).

2. According to SATRA (1992) in value terms China and Hong Kong would fall behind Italy among the leading exporters, because of their low unit values.

3. For the footwear industry the tariff was almost halved from 35% to 17% of import value and all import licenses were eliminated (CANAICAL, 1991).

4. In 1989 the United States consumed 1,393 millions of pairs of shoes and 82% were imported (ILO, 1992).

5. The choice to include only members of the associations is justified by the focus of our inquiry on the different forms of explicit and implicit cooperation among firms. We assume that firms taking part in the associations are more likely than others to entertain relationships with other firms; to become member of the associations may in fact be interpreted as a sign of interest in getting in touch with other firms.

6. Multiple responses were allowed for this question.

7. The three cases are Brenta, Marche and a third footwear district, Montebelluna, specialized in the production of ski boots.

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