

## LEVELS OF ENTREPRENEURIAL ACTIVITY IN INDUSTRIAL CLUSTERS IN BRAZIL

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### ABSTRACT

Carried out by GEM Brazilian Team, this study aimed to evaluate the entrepreneurship dynamics in industrial clusters located in a developed region of Brazil, by using the GEM methodology and its procedures: secondary data research, adult population indexes, and interviews and questionnaires answered by experts. For the purposes of this study, industrial clusters were treated like clusters such as in the model adopted by the Italian industrial districts.

Besides being one of the richest and most industrialized Brazilian regions, the studied region is known for presenting high social capital level – in the meaning given to the term by Robert D. Putnam – due to the strong associative tradition. Thus, the main question was: Does the geographic proximity of producers involved in the same activity and the resultant external economies affect the TEA indexes? This question generated the following hypothesis: the industrial clusters environment enhances the new ventures creation, in other words, the TEA and the indexes derived from it are bigger in industrial clusters consolidated to the level of local productive arrangements.

The first step for the field research accomplishment was the identification of economic regions in the studied place, each one with a local vocation. After that, GEM research tools have been adapted to the special conditions of the study. With the gathered data, it was possible to correlate the central variables of the study, i. e., *entrepreneurship*, measured from TEA and the other GEM indexes, and the consolidation level of the industrial clusters, measured from economic specialization quotient of the selected regions.

It was verified that the more consolidated clusters are the lower the global indexes of entrepreneurship tend to be. On the other hand, the entrepreneurship motivated by opportunity is normally greater than in less consolidated clusters. Several inferences can be pointed out. The competitive advantages derived from the geographic proximity and the inter-institutional interactions characteristic, observed in the related clusters, have the power of consolidating the existing companies, many of which have typically familial administration, restricting the creation of new ventures. The entrepreneurship most developed in the consolidated clusters is the one led by established companies, it involves higher levels of technology and innovation, and generates more jobs. Therefore, such dynamics resembles more closely those of rich countries, like the European ones, than those of emergent countries, like Brazil.

The research made by experts dealt with people who know the local reality and the demands and potentialities of the region. The result was a rich set of concrete and specific proposals aimed to improve the entrepreneurship in each industrial Cluster.

**KEY-WORDS:** ENTREPRENEURSHIP, GEM, INDUSTRIAL CLUSTERS, BRAZIL

## **1 INTRODUCTION**

Year after year, GEM has been showing that the economic development of the nations is increasingly tributary to the entrepreneurship, especially the one motivated by the perception of opportunities, promoting the most expressive levels of managerial and technological innovation. On the other hand, there is a growing tendency that the agglomerations and local productive chains become industrial clusters, as they consolidate by the invigoration of the economical and institutional interactions, either among the firms that are part of it, or between those firms and other key actors, as the public power and the civil society organizations.

The analysis of entrepreneurship in clusters was the starting point of this study, accomplished in the second semester of 2004, whose main objective was to answer the following question: Do the geographical proximity of producers involved in the same activity and the resulting external economies affect the Total Entrepreneurial Activity (TEA)? To answer it, two hypotheses were considered: 1) the environment of the clusters stimulates bigger businesses creation dynamics; 2) the cluster environment favours the consolidation and development of their member firms. The verification of those hypotheses started from the inquiry of the levels and the quality of the entrepreneurship in three groups of industrial clusters located in the south area of Brazil and dedicated to the following activities: automotive, clothing and foods.

This paper is divided in four sections. In the introduction, the object and the objectives of the research are shown. Next, in the Theoretical-methodological Considerations, the GEM methodology is presented, with its correspondent procedures adapted to the present study, and the concept of industrial clusters is discussed. The results of the research are in the third section, where the entrepreneurial dynamics identified in the clusters and the positions of entrepreneurship experts are analyzed. To conclude, there is a comparative balance of the results and proposals to foment the entrepreneurship in the studied places.

## **2 THEORETICAL-METHODOLOGICAL CONSIDERATIONS**

### **2.1 The GEM Conceptual Model and the research**

For GEM, entrepreneurship is: “Any attempt at new business or new venture creation, such as self-employment, a new business organization, or the expansion of an existing business, by an individual, teams of individuals, or established businesses”, constituent definition that includes all and any activity that has the characteristic of self-employment effort and that involves the creation of a resources base. With that, GEM verifies in what measure certain population is entrepreneurial.

In GEM conceptual model, entrepreneurship is the fulcrum of the economic development. The advantage of the model is to consider multiple factors that condition the dynamics of creation of businesses. On one side, it emphasizes the role of major established firms in the diffusion of knowledge and technologies as well as in the presentation of demands, process that generates opportunities for small and medium firms and, consequently, economic growth, jobs and income. On the other hand, the model emphasizes structural factors that constitute the political, cultural and macroeconomic conditions for the entrepreneurship, either related to the existence and perception of opportunities or to the capacity and entrepreneurial motivation.

At first, all the social, economical and cultural dimensions that are part of the GEM model are present and highly articulated in the environment of the clusters, the ones which, therefore, constitute a privileged unit of analysis to the application of the model. So, for the collection of

data, the conceptual model and the instruments of GEM methodology were used, adapted to the specificities of this study. Three procedures were accomplished:

1. Recherche of secondary data: accomplished starting from consultations with several sources (more importantly IBGE<sup>1</sup> and the Ministry of Labour and Employment) with the purpose of characterizing the clusters chosen in this study, starting from population indicators and numbers of jobs and industrial establishments.
2. Researches with adult population: probabilistic sample was used (Table 1). In the interview forms, specific questions to determine the entrepreneur's characteristics in the areas that contain the clusters and in what measure the identified businesses relate with the main activity of each cluster were added to the questions that are part of the GEM methodology. In that sense, questions that explore more deeply the origin of the business were introduced, from the conception of the idea by the entrepreneur, his experience and knowledge, to the position and relationship of the business in the customer-supplier chain.

Table 1 - Levels of entrepreneurial activity in industrial clusters in Brazil - Sample Plan

Clusters	Population 2000	Sample	Error (e)	p	Q
Automotive	870,000	584	2,9%	0.15	0.85
Foods	720,000	915	2,3%	0.15	0.85
Clothing	370,000	317	3,9%	0.15	0.85
<b>Total</b>	<b>1,960,00</b>	<b>1,816</b>	<b>1,6%</b>	<b>0.15</b>	<b>0.85</b>

The size of the samples followed the convenience criterion, using the biggest sample possible with the available resources in each area.

3. Researches with experts: both instruments that compose that stage of the GEM methodology were used: questionnaire with closed questions and semi-structured interview. The experts interviewed, besides having recognized knowledge in entrepreneurship, are directly linked to the economic activities included in the investigated clusters. At this stage some adaptations in the original GEM model were made, in terms of procedures and instruments. As for the procedures, the expert was requested to fill out the questionnaire before the interview, with the intention of bringing to light all the themes considered in Entrepreneurial Framework Conditions and, in that way, to help him to remember those when presenting their positions during the interview.

In the questionnaire, the original subjects of GEM were maintained; however, the interviewee was stimulated to express opinions in national and local levels. Besides, after each topic of the questionnaire, there was an optional open question, so that the interviewee could give his opinion about favourable aspects, limits or propositions relative to the topic in analysis. In the interview, the subjects on limits, possibilities and propositions were driven, besides the national approach, to local visions.

## 2.2 Clusters

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<sup>1</sup> Brazilian Institute of Geography and Statistics

In general, industrial clusters are any organization forms characterized by the concentration of firms belonging to a certain industrial segment (Brusco, 1992 apud Albu, 1997). The organizational structure of the industrial clusters is based mainly on sub-recruiting relationships inside the productive chains vertically disintegrated (Boari, 2001), so that the different firms that are part of them tend to specialize in processes or specific stages of a production or distribution channel, so that such firms develop interrelation nets more or less complex and interdependent (Albu, 1997).

Among the several typologies of clusters, Amin's (1994) can be adopted. Based on the type and in the complexity of the developed activities, it classifies the clusters in three types: 1) traditional industrial activities, manual or handcrafted (e.g. clothing and shoes, furniture, etc); 2) High technology complexes; 3) based on major established firms. Besides, the clusters can present different levels of depth with respect to the interaction of their firms, either amongst themselves, or with public and private institutions (Schmitz, 1995), from the mere agglomeration to the deeply united industrial districts, as the ones in Italy.

The geographical proximity of firms of the same economical segment, as well as of their suppliers and specialized services providers, increases the perception of the entrepreneurs of excellent opportunities of businesses from external economies<sup>2</sup>, originated from the agglomeration, that result in collective efficiency (Schmitz and Nadvi, 1999; Iglioni, 2001). Collective efficiency is a set of competitive advantages of a certain area, generated by a united effort that involves a net of interactions of local social actors, and can be defined as active or passive, depending on its attributions and specificities.

The passive collective efficiency refers to the incidental external economies, originating from the space and sectional agglomeration of the firms, which increase the competitiveness because of their level of specialization. Examples of passive collective efficiency of a productive agglomeration:

- high degree of division of work and specialization of the firms;
- presence of specialized suppliers of raw materials, machines, equipment and replacement pieces;
- presence of specialized mercantile agents (national and/or international);
- supply of specialized services (logistics, technical, financial and accounting consultancy);
- qualified labour force for the specialized activities of the section and training programs according to the local specificities.

The active collective efficiency is the deliberate interaction of the located economic and social agents, just as it happens in the industrial districts of the Third Italy. It is linked, therefore, directly to the planned cooperation actions that the firms accomplish, in narrow relationship with the local institutional environment (public and private technical organs, academic institutions, research centres, etc.), being characterized by:

- cooperation actions among the local producers through associations or consortia (promotion of exportation, purchase centres, technological training, participation in national and international Fairs and Congresses);
- effective interaction with local institutions, public and private;

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<sup>2</sup> External economies or externalities happen when an economic activity affects other activities, resulting in benefits or harms, even though it is not reflected directly in the prices (Polese, 1998).

- effective governance forms which have the capacity of reducing the conflicts and establish a favourable environment for sharing information and for cooperation actions among producers that compete amongst themselves.

The active collective efficiency allows the consolidation of a cluster through two forms of cooperation: among the producers that, sometimes, compete amongst themselves; and among the firms and their representative organizations and the public sector, knowledge centres and workers and their representative instances. From shared strategic decisions actions are implemented. To accomplish that, a predisposition for the united performance is necessary, what demands a relevant degree of cohesion and trust among the involved actors.

At this point there is a question: how to identify exactly how much the external economy originating from an active collective efficiency influence the obtaining of growing returns in the system? For some that study the theme, the verified advantages result from the presence of a more consolidated "social capital", and that specific form of capital is affected by abstract values, as socio-cultural traditions, that establish a bigger or smaller degree of cohesion and trust level among the involved actors.

Robert Putnam<sup>3</sup> was possibly the one who gained more notoriety for the social capital concept. In his study, on the impacts of the administrative decentralization programme and regional decentralization in Italy, the author notices that the big economical success of the measures adopted in the north of that country did not reproduce in the south. That would happen because the bigger associativism in the north, based on trust and cooperation relationships, created an additional advantage which was inexistent in the other area, more individualist, therefore, less aggregated around community objectives.

That can mean that the norms, traditions, rules and conducts that characterize the cultural profile and permeate the interpersonal relationships in a given location, contribute for the entrepreneurial spirit, generating stronger presence of small firms and, consequently, adding value to the economical relationships of the agents and making those absorb positive externalities that would not be found in an environment where the disposition to cooperate and to establish actions and goals were not present (Belussi, 1992). Boari (2001) alerts, however, that the homogeneity of the local culture, added to the congested market and excessive internal competition, can represent a barrier to the creation of new businesses.

Another current of thought, represented by authors as Schmitz (1995) and Boari (2001), based on several empiric studies, without denying the roles of the political economic and of the national and local institutions, defends that the industrial clusters would be more a product of the technology diffusion and knowledge, explicit and tacit, from major established to small and medium firms. The major established firms would be, then, the fundamental stones of a web of heterogeneous relationships, where each one of us is the starting point for the creation of new businesses.

Both visions are complementary. If on one side the arrival of major established firms in an area establishes and consolidates clusters (the arrival of firms as Volvo, Renault and Volkswagen-Audi, in the outskirts of Curitiba, Brazil, is paradigm in that sense), on the other it is not possible to deny the role that the public power and institutions as schools have in the creation of a environment that favours those major established firms and the invigoration of the civil association and the community bonds.

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<sup>3</sup> Robert Putnam (1988) defines social capital as: "Lines of the social life - nets, norms and trust - that facilitate the action and the cooperation in the search of common objectives."

Anyhow, the constitution of agglomerations where the diffusion of technologies and knowledge is characteristic has a considerable competitive advantage in an environment of intransigent competition and complexity, as the current one, where traditional costs, as transport and communication, have less relevant role; and factors as interactive learning, spread of information, new technologies and tacit knowledge stand out.

### 3 RESULTS

The data collection was accomplished in base cities of clusters of the same economic activity, to avoid biases possibly resulting from the isolated analysis of each city. The cities that compose each group of clusters are located, always, within a range of little more than 100 km, very short distance for the Brazilian patterns, and present high degree of economic centrality in their areas. In the following items, after a short socioeconomic characterization of each cluster, the results obtained with the application of the instruments of the research are shown.

#### 3.1 Automotive industry

The automotive clusters studied include a vast group of products, from machinery and agricultural implements to automobiles, including lorries and buses, and they could be classified within Amin's<sup>4</sup> types 2 and 3. The activities of this sector answer for 60% of the jobs generated in the manufacturing industry and for 25% of the industrial establishments of their cities, transforming the area into one of the major poles of social and economical development of the country. The production of buses and agricultural implements has been happening for decades, but the production of automobiles is recent, since the end of the XX century. Like this, the activity has different consolidation levels, what explains the continuing high incidence of new ventures.

##### 3.1.1 General levels of entrepreneurship

The automotive clusters registered the highest TEA among the interviewees: 9.8%, 54% being family businesses. The majority of the identified businesses were motivated by opportunity, with TEA of 6.5%, index superior to the double of the ones motivated by necessity, of 2.7%. As for the stage of the businesses, there is a balance among nascent and new firms, with slightly advantage for the last ones: TEAs of 4.5% and 5.7%, respectively.

The numbers above require several analyses. Firstly, the general TEA, although inferior to the Brazilian one, is quite expressive, reflecting the already mentioned different levels of consolidation of the activities. Like this, there is still reasonable space for start ups, as the percentile of nascent firms.

The strong prevalence of businesses motivated by opportunity reflects the economic development of those cities, above all in the last years, with the growth or installation of important automotive poles. New market niches appeared, so much in businesses directly related to the clusters as for service providers in the most several areas. It is important to note that, from the point of view of the motivation to venture, the group in analysis presents a profile more similar to the one of the developed countries of the GEM research, than to the one of lower income countries.

##### 3.1.2 The entrepreneurs' profile

**Gender:** There is strong masculine predominance in the entrepreneurship of the automotive clusters, what probably reflects fossilized cultural patterns. The masculine TEA is almost 12%, and the feminine is 7.8%. In proportional terms, women represent 35% of the local

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<sup>4</sup> See section 2.2.

entrepreneurs, inferior percentage to the Brazilian average, which is oscillating near 40% in the last GEM researches in Brazil. In the TEA opportunity, the masculine prevalence grows - 8.3% against 4.9%. However, the feminine TEA necessity (2.9%) is lightly superior to the masculine, 2.5%, portraying the growing tendency of women necessity to open businesses to guarantee the sustenance of their families. The results according to stage and gender are noticeable. The new firms TEA is 7.9% for men and 3.6% for women, however, the nascent firms TEA presents a balanced picture, with slightly advantage for the women: 4% masculine and 4.9%, feminine, numbers that can indicate a change, because the nascent firms can be supposed to be more recent.

**Age group:** Excepting the group between 55 to 64, where the TEA is quite reduced, in the other groups there is a balance, with slight advantage to the entrepreneurs between 35 and 44 (13.8%), following by those within 18 and 24 (10.5%). The picture is practically identical for the opportunity entrepreneurship, but a little different when the motivation to venture is the necessity, when the older groups - between 45 and 64 years are prominent. When the stage of the entrepreneurship is considered, the dynamics is also similar to the one of general TEA, however, it is important to register the high TEA of new firms in the group of 25 to the 34.

**Family income:** The research confirmed the tendency of the entrepreneurship to be stronger in higher income groups. The highest TEA, 21,1%, happens among those with family income higher than 15 minimum wages<sup>5</sup>. As the income groups decrease, there is a significant fall in the TEAs. The scenery is similar for the opportunity entrepreneurship, with the highest TEA, 18,4%, in the group superior to 15 MW, with a difference in the intermediate groups. The group with the second highest TEA (16,3%) includes families with income between 6 and 9 MW. Among the new firms, as higher the income, higher the TEA, reaching a value near 15% among the families that earn more than 15 MW. The nascent firms are concentrated on the intermediate income groups.

**Education:** In the automotive clusters, the highest entrepreneurship indexes are among the most educated groups of the population: 12.6% for the group with 5 and 11 years of formal study, and 10.6% for the group with more than 11 years<sup>6</sup> of formal study. Such tendency increases in the opportunity entrepreneurship, where the highest TEA, 10.6%, happens in the group of higher education. In certain way, the opposite is true for the TEA necessity, 4,3% among those with 1 to 4 years of education. The positive correlation between education and TEA is expressive, also, for the new firms, with indexes higher than 8% in the groups with more than 5 years of study, different from the nascent firms, where the group with 1 to 4 years of study reaches a TEA of 5,3%, the highest among the firms in this stage.

**Entrepreneurial opportunity and capacity:** The local entrepreneurs are optimistic. Sixty percent of them affirmed to believe that there would be good opportunities of businesses in the area in the six months subsequent to the research. Besides, they are quite self-confident as for their entrepreneurial capacity, almost 80% of them said to believe to have the knowledge, the ability and the necessary experience to begin a new venture, what corroborates the experts' statement about the entrepreneurial spirit of the area and the good moment of the Brazilian economy. Sixty percent of the ones that are part of the TEA index know somebody that began a venture in the last 2 years. All those percentiles are quite superior to the registered among the ones that are not part of the TEA index.

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<sup>5</sup> In Brazil, the minimum wage equals, nowadays, about US\$ 100.00.

<sup>6</sup> In Brazil, 11 years of formal study equals secondary school.

**Potential and impact of the automotive clusters businesses:** Most of the identified businesses in those clusters (42%) are expected to generate up to 5 jobs in the next 5 years. Only 11% of the entrepreneurs aim at the creation of more than 11 jobs. Seventy seven percent of the entrepreneurs affirmed not to know the percentile of customers out of the country and 21% answered that this value is inferior to 10%. Only 2% hope to have more than 75% of customers abroad. Three quarters of the entrepreneurs will offer known products or services, against only 11% that believe their products or services are not known. Only 2% say there is no competition. The percentile of entrepreneurs for whom the technology of the product or service is available for less than one year is 2%. For the others, the technology exists for more than one year.

**Amounts and sources of resources to venture:** More than 40% of the entrepreneurs in the nascent stage of this cluster did not know how to say what would be the total value invested in their businesses or if this value would originate from their own resources. Among those who had the answers, the absolute majority affirmed that the total invested would be inferior to 10 thousand reals and that personally they would invest values inferior to 5 thousand reals. The total superior investments to 30 thousand reals are present in only 5% of all the nascent businesses. Fifty percent of the entrepreneurs intend to look for resources in banks and financial institutions, and a third of them intend to count on their close family for that. It is noticeable that only 15% of the entrepreneurs have the intention of using the government programs as sources of resources, reality that corresponds to the experts' opinion as for the bureaucratic difficulties of government financing.

**Type of activity and relationship of the businesses with the automotive industry:** Trading is the activity of 46,0% of the entrepreneurs, being 26% retailing. The manufacturing industry stands out with 16%. Note the high percentile (40%) of entrepreneurs motivated by necessity working in this last segment. Though, only 4% of the businesses that are part of the TEA have a direct relationship with the main activity of the automotive cluster, a quarter of them are nascent firms. The technological sophistication and the costs involved in this activity explain this small proportion, above all, when the low volumes invested in the identified businesses are considered. The most recent entrepreneurs do not have, therefore, how to get started in that activity, just taking advantage of the environment of economic general heating activity that it generates. The same does not happen among the established businesses captured by the research, among which about 20% have strong relationship with the automotive activity.

### 3.1.3 The position of the experts

**Programs and policies for the entrepreneurship:** in this topic, the experts of the cluster, in the questionnaires, attributed a mark close to bad: -0.87. The synthesis of the interviews answers can be seen below:

#### *Favourable factors*

- The performance of Sebrae (Brazilian Service of Support to Micro and Small Businesses) is quite positive, so much in training the entrepreneurs as in programs of search of business opportunities.
- In the cities studied, there is a good relationship between the business community and the public power in its three levels - federal, state and municipal, what is generating several quite fruitful partnerships, as the building of several industrial districts which give them support as tax exemptions, facilitated land selling, etc.
- The associativism has been increasing, with the foundation of associations and business unions, which have been looking for uniting forces with other sections of the society.

#### *Limiting factors*



- The legislation imposes a lot of bureaucracy to start a venture, making people as the students, for instance, prefer to work in established firms as employees.
- Besides the difficult access, the programs and policies of the public sector are not linked to each other. There is a lack, therefore, of accessible and integrated programs.
- The institutions related to entrepreneurship - government, firms, universities, technological centres, among others - are distant from each other.
- There is a lot of slowness in the liberation of government budgets for fomentation of the productive sections.
- The capital to venture is expensive and the access to it is very bureaucratic, hindering the installation of new firms as much (mainly the small ones) as their growing.
- The tax burden is high, mainly for the small and medium firms that pay taxes either on the raw material they buy as on its processing.

**Education and culture:** topic evaluated in a neutral way (mark -0.07). In the interviews, however, it gets a favourable connotation:

*Favourable factors*

- The local colonization, with strong European presence, favours an entrepreneurial culture.
- The entrepreneurs are overcoming the tendency to isolation, exchanging experiences, establishing partnerships to improve the labour force qualification and strengthening the institutional bonds.
- Senai (the National Industrial Training Service) has been trying to overcome the deficiencies in labour force qualification offering several technical courses.
- Women venture more and more, although in more traditional activities, as clothing and feeding.
- Although they do not completely fulfil the educational lack, the schools and universities have a good level.

*Limiting factors*

- There is a lack of skilled labour force to work in the industry, due to the inadequacy of technical schools. Besides, the private universities are expensive and inaccessible to most of the population.
- The universities continue forming professionals to be employees, not entrepreneurs.
- The more traditional entrepreneurs are very resistant to the changes that the consolidation of the automotive segment is promoting.
- The local labour force still does not have an industrial culture, due to the local agricultural tradition, having difficulties in following the industry rules in terms of following norms and schedules.
- There is a lot of sexism, so that women are traditionally moved away from activities related to the automotive sector.

**Physical and commercial infrastructure:** topic evaluated in favourable tone in the questionnaires (mark 0.31). In the interviews, the answers were, in synthesis:

*Favourable factors*

- Even with the problems mentioned below, there is a good structure of highways, railroads and communication, electricity, water and sanitation services.

- There is good availability of logistics services and others specific to the segment, as cut, welds, among others.
- The location of the area, in the Mercosul corridor.

#### *Limiting factors*

- The highways, although in enough amount, are not well-preserved in the area.
- In the smaller cities, there is a lack of accounting and managerial consultancy services, and hotels and house rentals are expensive.
- There are flaws in the supply of communication services and energy. The cellular telephony does not work properly, the connections are weak and there are tension oscillations.
- The water resources are not well-preserved.

**Barriers, market opportunity and other factors that affect the entrepreneurship:** topic of neutral appreciation in the questionnaires (mark 0.02), what is reflected in the interviews:

#### *Favourable factors*

- There are several niches to be fulfilled in activities that are necessary but that still do not take place in the chains of the automotive clusters.
- In the specific case of the firms related to production of machines and agricultural implements, a favourable factor is the continuous expansion of the agricultural section in Brazil.

#### *Limiting factors*

- The cost of the raw material, above all the steel, is very high now.
- There is a lack of respect regarding the intellectual property rights and many products are copied freely.
- The area suffers with the shortage of a certification centre and laboratory tests for the products, and better laboratories in the local universities.

### **3.2 Food industry**

The production developed in the cities of the clusters characterized by the alimentary industry is related, above all, to the processing of meat, fish and fruit, and could be classified in Amin's type 3 (2004)<sup>7</sup>. The activity suffers with the competition of imported products, sometimes subsidized, as well as with the lack of modernization of the productive processes. It is an economically depressed area that, though, has been the objective of programs and policies seeking to overcome that situation. The food industry answers for 54% of the jobs, 25% of the establishments of manufacturing industry in those cities.

#### 3.2.1 General levels of entrepreneurship

In the group of clusters of food industries, the TEA is also relatively high - 7,9%. The family businesses total 49%. The TEA opportunity is exactly twice the TEA necessity, with indexes of 5,0% and 2,5%, respectively. Here, though, the nascent firms are majority, with TEA of 4,7%, against 3,3% of the new firms. The general profile of the entrepreneurship practiced in this group does not differ a lot, therefore, of that of the automotive clusters, being able to, in general lines, accomplish similar analyses.

#### 3.2.2 The entrepreneurs' profile

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<sup>7</sup> See section 2.2.

**Gender:** The situation is, in general, balanced: Masculine TEA of 8.7% and feminine TEA of 7.1%, about 47 women in 100 entrepreneurs. The balance is repeated when the stage of the entrepreneurship is considered. Among the nascent firms, TEA is 5,5% to men and 4,0% for women; and for the new firms, masculine TEA is 3,2% and feminine is 3,4%. Regarding the motivation to venture, there is a small advantage for the men in the TEA opportunity (5,7% against 4,4%) and closer indexes in the necessity entrepreneurship - 2,7% for men and 2,3% for women.

**Age group:** The three groups between 25 and 54 had the highest global TEAs, with values that oscillate between 8.7% and 10.1%. For the motivation, there is a concentration of businesses by opportunity among individuals between 25 and 34 - TEA of 7.1%, with expressive indexes for the groups between 35 and 54. The entrepreneurship by necessity presents very similar values, with TEA around 2.7%, for all the groups, except for the oldest group, where the TEA is inferior to 1%. Such profile, in general lines, repeats itself regarding the stage of the entrepreneurship, with slight concentration in the ages from 25 to 35 and reduced indexes in the superior groups.

**Family income:** The highest TEA, 17.4%, is in the group with income between 9 and 15 minimum wages, followed by the group of more than 15 SM. As for the motivation, although the highest TEA opportunity is in the same group between 9 and 15 minimum wages, the groups from 3 to 9 SM have expressive TEA opportunities, close to 7,0%. Surprisingly, the incidence of entrepreneurship by necessity is in the higher income groups, reaching 6,5% in the group between 9 and 15 MW. Among the new firms, the highest TEA, 6,1%, is registered by the people with family income higher than 15 MW. With 13%, the TEA between 9 and 15 SM is the highest for the nascent firms. Those results suggest that the process of maturation of the businesses increases the family income in the group of clothing clusters.

**Education:** In the clothing industry, the general TEA for education do not follow a coherent pattern, with the highest values in the groups without formal education (9.1%), and 5 to 11 years of formal education (11.6%). Though, when motivation is considered, the relationship follows clearer patterns. The highest TEA opportunity is among the groups of more education: 5 to 11 years and more than 11 years, respectively 8.9% and 6,1%. The TEA necessity is lower as the level of study is higher. As for the stage of the businesses, the most interesting data is the high TEA of new firms among those without formal education, a little above the 9%.

**Opportunity and entrepreneurial capacity:** Almost 60% of the identified entrepreneurs in the food clusters noticed good opportunities to begin a new venture in the six months subsequent to the research. The participants of the TEA that know somebody that began a new venture in the last two years have a similar percentile. Besides, that group also presents strong self-confidence and practically 80% of the referred entrepreneurs declared to have the knowledge, the ability and the necessary experience to begin a venture. Those percentiles represent twice the registered by the interviewees that are not part of the TEA in the area.

**Amounts and sources of resources to venture:** In the food clusters, about 60% of the entrepreneurs that are part of the TEA knew how to estimate the total to be invested in their businesses; 70% of them said this value will be lower than 10 thousand reals, with strong concentration in the group of 1 to 5 thousand reals, more than 40% of the entrepreneurs. The entrepreneurs that intend to invest between 1 and 5 thousand reals of their own resources are also 40%, and there was no registers of businesses with initial investments above 20 thousand reals. In that group of clusters, most of the businesses (40%) will count on close family support, and approximately 30% expect to count on the support of banks and financial institutions. Here, the percentile of entrepreneurs that count on government support (about

13%) is also low, but the one of those that expect to count on co-workers' resources is expressive, a little higher than 16%.

**Potential and impact of the food clusters businesses:** About half of the entrepreneurs expect to generate up to 5 jobs in the next 5 years, and only 10% intend to use more than 11 people. As 90% of the components of TEA did not know the percentile of customers out of the country, the analysis of that indicator is not accurate. More than 76% will supply known products or services and only 4% believe to offer totally unknown goods. Little more than half of the entrepreneurs affirmed to have many competitors, and 4% that they will not have them. All the entrepreneurs answered that the technology used in their business was available for more than one year.

**Activity type and relationship of the businesses with the food industry:** As in the previous clusters group, retailing is the most frequent activity (33%), followed by the manufacturing industry with 22%. As much in the entrepreneurship by opportunity as in the motivated by necessity, the percentile are similar for the same activities. On one hand, the relationship among the businesses that are part of the TEA and the cluster main activity is the lowest among the analyzed areas: only 2%. On the other hand, this relationship among the established firms is the highest: 31%. The reason is the same for the automotive clusters: the high costs involved in the activity in face of the low capital available, added to the emphasis of the cities researched in the section of services and the local entrepreneurs' conservatism, according to the experts heard in the area. Besides, the norms and law for sanity and quality for the sector make it difficult to have more diffusion of outsourcing processes and partnerships with very small firms.

### 3.2.3 The position of the experts

**Programs and policies for the entrepreneurship:** The evaluation of this item was negative in the questionnaires, with a quite low mark (-0.70). In the interviews, the following answers were given:

#### *Favourable factors*

- The federal government has been motivating the exporting segments, with financial and tax incentives and establishing some barriers to subsidized products.
- Recently, the associativism has been reinforced, with a strong influence of class entities in the sense of uniting efforts to increase the competitiveness of the products, besides the establishment of partnerships among governments, universities and firms, mainly for training.
- There are research firms in the area like Embrapa (Brazilian Company of Agropastoral Research) that generates, diffuses and make the technologies available for the producers.

#### *Limiting factors*

- There is not a stable policy for the agropastoral production, base of the food industries of the studied clusters, mainly referring to financing, whose rules change all the time.
- The international trade policy of the country does not protect industrial food products, which suffer the competition of products subsidized by their original country governments.
- The access to official credit is very bureaucratic and the interests are very high. Many entrepreneurs have register difficulties; because they have their names registered in tribute debtors lists and cannot get a loan.
- The labour duties and legislation discourage the entrepreneurship.

- The innovation programs suffer with the political instability and the administrative discontinuity.

**Education and culture:** topic of neutral evaluation, tending to good (mark 0.18). In the interviews, the tradition in the agropastoral production and the quality of the schools were positive and the lack of managerial preparation was negative:

*Favourable factors*

- Food products are very traditional in the area and the labour force has vast knowledge on the productive processes. Besides, there is a strong bond to the land and the traditions, what values the consumption of the local production.
- There are abundance of technical schools and universities that offer several courses in the managerial area.
- Lectures have been given to strengthen the entrepreneurial culture in the area.
- A culture of partnerships among government, entrepreneurs and universities is strengthening.

*Limiting factors*

- Lack of managerial and entrepreneurial training and the schools and universities have not been supplying that demand.
- In the investigated cities, the service sector is very strong and characterized by entrepreneurs which are contrary to risks, differently of the industry entrepreneur.
- Local labour force is underused.
- Universities do not focus the food segments directly, forming generalist professionals.
- Firms lack a more professional administration that emphasizes the production planning.
- The local entrepreneurs are conservative and do not change the production process. They do not learn with the competition and foreign firms experiences.
- The successful entrepreneur is not valued.
- There are cultural restrictions for women leading businesses.

**Physical and commercial infrastructure:** the evaluation of infrastructure in the questionnaires is good (mark 0.30), similar to the vision in the interviews:

*Favourable factors*

- The area counts with full availability of highways, railroads, airports and ports and the energy and communication supply have been getting better in the last years.
- The weather conditions, topography and relief are excellent for food production.
- The area is close of the other Mercosul countries, facilitating the exports.

*Limiting factors*

- As in the rest of the country, the loads are almost totally concentrated in the modal road transport, very expensive and now in bad conditions, what brings serious logistics limitations. To worsen, the cost of the freights and tolls is high and there are many local highways not paved, an extra difficulty in the case relatively delicate foods, as meat and fruit, for instance.
- The modal rail and port transport are underused considering their potential.
- The energy supply is insufficient and there are tension falls, besides being expensive.
- There are restrictions in the communication structure. The broad band internet access is limited and the cellular telephony does not work properly.

**Barriers, market opportunity and other factors that affect the entrepreneurship:** topic of negative evaluation in the questionnaires (mark -0.27). In the interviews, the item is not referred directly, although in answers about the government's performance, a patent dissatisfaction with the Brazilian foreign trade policies, which does not protect food products, is noticed. As a favourable factor, the only mention was that the depreciation of the Brazilian currency reduces the import and makes the Brazilian product more competitive.

### 3.3 Clothing industry

The clothing industry clusters were studied in cities characterized by the production of meshes and shoes, with strong presence in number of establishments and in the percentile of jobs of the manufacturing industry: 57% and 42%, respectively. Among the investigated clusters, these are the most traditional, classified in Amin's<sup>8</sup> (1994) type 1, what reflects in the strong tendency to consolidation and growth of family firms.

After a difficult period because of the opening process of the Brazilian economy in the beginning of the nineties, the area knew how to recover quickly and learn with the competition, going through a situation of closing and transferring the factories to a context of addition of value and qualitative and quantitative growth of the exports.

#### 3.3.1 General levels of entrepreneurship

The clusters related to the clothing industry obtained the lowest TEA index, 5%, quite inferior to the other groups, and the highest incidence of family businesses: 69%. However, as for the motivation to venture the situation is similar to the other clusters, with the TEA opportunity (3.2%) being twice the TEA necessity (1,6%). The similarity with the other agglomerations is repeated when the entrepreneurship stage is considered, in a balanced way, with TEAs of 2,8% for nascent firms and 2,2% for new. The difference, as seen, is in the global index, quite inferior in the group in subject. Regarding that, it is necessary to stress that those are the most traditional activities among all investigated this study, and the constitution of those clusters is the oldest, remounting, in some cases, to the end of the XIX century.

#### 3.3.2 The entrepreneurs' profile

**Gender:** The predominance is masculine. The TEA among men is 6.5%, and among women 3.7%. The picture is repeated for the motivation of the businesses, with the TEAs opportunity 3.9% for men and 2.4% for women, and the TEAs necessity 2% for men and 1.2% for women. It is curious, however, that the women present a new firm TEA of 3.4% and the men, of 3.2%. The prevalence of the latter is in the nascent firms, where they present a TEA 4.6% against 1.2% for women.

**Age group:** In the studied clusters, the behaviour of TEA according to age group does not follow a harmonic tendency, although there is a concentration in the intermediate groups between 25 and 44, with TEA around 7%. This index is repeated among the oldest. The whole TEA of the group from 55 to 64 is composed by nascent firms, in other words, there is an expressive amount of people with tendency to leave the job market giving the first steps into their venture. It is worth to highlight that most of the TEA in the group is composed by businesses motivated by opportunity, a different picture from the one that is usually revealed in the GEM research.

**Family income:** The highest TEA, 11.4%, is in the intermediate group, with income between 6 and 9 minimum wages. In all the other groups, the TEA oscillates around 4%. As for the motivation to venture, the TEA necessity is higher among those with less than 3 MW (2.5%),

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<sup>8</sup> See Section 2.2.

slightly inferior in the following group (2%) and inexistent in the other groups. The TEA opportunity overcomes the 9,0% between 6 and 9 MW, oscillating around 2% between the groups of lower income and 4%, where the income is higher. The group between 6 and 9 MW also presents the highest indexes among nascent and new firms - respectively 6,9 and 4,5%.

**Education:** In the clusters of clothing industry the TEA of the population without formal education is zero. In the other groups, there is a balance in the numbers, with slight advantage in the groups with more than 5 years of study, where the TEA is about 6%. However, the logic of the TEA opportunity to grow as higher the education level is repeated, reaching 5,7% in the group with more than 11 years of study, and a higher incidence of entrepreneurship by necessity in the less educated groups. As for the stage of the businesses, the highest TEA of nascent firms is also verified in the most educated group, while for the new firms it is in the group from the 5 to 11 years of study.

**Entrepreneurial opportunity and capacity:** In the clothing industries, the percentile of people that noticed good opportunities for new businesses in the six subsequent months to the research is similar to the ones that are not part of the TEA, around 44%, a less optimistic picture than explains the lowest TEA registered in the area. Though, the identified entrepreneurs' faith in their managerial capacities is near 90%, more than twice the registered among the non entrepreneurial. There is a high percentile of entrepreneurs that know somebody that began a new venture in the last two years (69%, against 45% registered among those that are not part of TEA).

**Amounts and sources of resources to venture:** Only a quarter of the entrepreneurs do not know how much will be invested in their businesses. Among the ones that know, there is a balance: 33% of them foresee investments between 10 thousand and 20 thousand reals. Each one of the groups between 0 and 10 thousand reals and above 30 thousand reals includes 17% of the entrepreneurs and there was not registration for the group between 20 thousand and 30 thousand reals. As almost half intends to invest less than 5 thousand reals, that group registers a strong optimism as for the participation of others in the composition of the capital of the start ups, becoming more interesting when it is verified that the whole half of the entrepreneurs intends to receive money from other sources, different from banks, governments, employers, etc, and a quarter expects to count on the support of close relatives.

**Potential and impact of the clothing clusters businesses:** About 44% of the entrepreneurs expect to generate of up to five jobs in the next five years. The percentage that will generate more than 11 jobs is the highest among the clusters: 12%. Although 80% of the entrepreneurs did not know the percentile of customers out of the country, this reached the 6% in three groups: less than 10%, between 10 and 25%, and between 75 and 90%. Almost 40% affirmed to offer totally new or unknown products or services, again the best mark among the clusters. The competition is high for 56% of the entrepreneurs and all the 94% that answered the question said that the technology of the business was available for more than one year, reflecting the traditionalism of the activity. Therefore, it is possible to notice that there are some differences between the results of the clothing clusters and the others, and it is very interesting in the area with the highest number of relationships of the businesses that are part of the TEA with the main activity of the cluster.

**Type of activity and relationship of the businesses with the clothing industry:** The most common activities among the local entrepreneurs are the construction and manufacturing industry and retailing. In those two activities, the motivation to venture is opposite, being the latter most commonly motivated by opportunities and the other by necessity. The local businesses that are part of the TEA are the most related with the main activity of the clusters. Almost 13% of them have this relationship - same percentile registered among the established firms - and the reasons are opposite to the ones that make this relationship smaller in the other

clusters: here the activities have lower aggregated value, which uses more intensively the traditional local labour force, which has a lot of know how in the production of clothes and shoes. Besides, the verticalization tendency verified is smaller in the other clusters and the outsourcing and other partnerships are much more frequent, strengthening the entrepreneurship by necessity in the area and facilitating the new entrepreneurs' presence in general.

### 3.2.3 The position of the experts

**Programs and policies for the entrepreneurship:** in this cluster, this was the worse topic evaluated (mark -1.18). Here, once again, the favourable factors refer more to program topics, while the limiting are more generic:

#### *Favourable factors*

- The state government is developing incentive programs, as in the constitution of a public fund to support new ventures.
- The city halls help in the acquisition of land and constructions for new firms.
- There is a strong influence of Sebrae in the entrepreneurs' training and in the growing of the productive chains, in partnership with business associations, public power and the university.

#### *Limiting factors*

- The government programs are very slow and the bureaucracy to open and to administer a firm is strong. Besides, the labour duties are very high. That picture makes it advantageous to be in the informality.
- The tax burden on the firms and on the income of the middle class is very high, imposing high prices and inhibiting the consumption of the families.
- Brazilian economy suffers a lot of oscillations; make the planning of the firms difficult.
- The cost of the money, mainly due to the interests, is very high. The banks do not have lines of credit for the entrepreneurs that indeed need the capital and the official financing programs are very difficult to access.

**Education and culture:** the item was well evaluated in the questionnaires (mark 0.18), reflecting the opinions given in the interviews:

#### *Favourable factors*

- The cities count with good schools, centres of technological education and universities, public and private, but the latter are expensive for most of the population. The universities have been investing in research and development.
- The education and cultural levels of the people have been increasing, creating a favourable environment for entrepreneurship.
- The European ethnic origins make the cities have a strong entrepreneurial culture and high quality labour force.
- The creativity of the Brazilians in general.

#### *Limiting factors*

- The area is quite entrepreneurial in what refers to production, but still did not have a culture of knowing to sell its products, mainly to the foreign market, using representatives (trading, for instance).
- The local entrepreneurs are afraid of allying with the competitors.



**Physical and commercial infrastructure:** topic of neutral evaluation (mark -0.07), that corresponds to the answers to the interviews:

*Favourable factors*

- The cities count with a good infrastructure of energy, communication, water and sewer and highways.
- The location is privileged, because the area is near the capital of the state.

*Limiting factors*

- The highways have started to have traffic limitations.
- The costs to transport the production, mainly by air, are very high.
- There are neither enough ships nor enough containers to drain the production by ship.
- There is a shortage of industrial hangars for installation of new firms.
- The firms need to afford investments in energy and communications due to the state investment difficulties.
- The energy is insufficient to support an eventual stronger growth of the economic activity.

**Barriers, market opportunity and other factors that affect the entrepreneurship:** in the questionnaires this group of topics received negative connotation (mark -0.27), although in the interviews there are not specifically unfavourable answers:

*Favourable factors*

- The studied clusters, in spite of the competition with Chinese products starting in the nineties, knew how react and conquer the international market using strategies based on the quality of the products, internationally recognized.
- The area has a high purchasing power compared to other parts of Brazil, what allows the existence of a strong consumption market.

#### 4 FINAL CONSIDERATIONS

The groups of clusters studied of the South of Brazil have similarities and differences among themselves. In all of them, in spite of having a global TEA smaller than the Brazilian (GEM, 2003), there is a strong prevalence of entrepreneurships motivated by the perception of opportunities, totalling twice the ones motivated by the survival necessity, while in Brazil the advantage of those is low.

The entrepreneur of the clusters is more educated. The participation of entrepreneurs that have at least secondary education is 50% larger than registered in the national research in 2003. Besides, the entrepreneurs whose relative income is higher than 6 minimum wages are 40% of the components of the TEA of the clusters (in Brazil, in 2003, this percentile was a little more than half: 23%). As for the age group, the entrepreneurs of the clusters are slightly older: 22% of them are older than 45 (in Brazil, they were 17%). The feminine presence is similar to the Brazilian TEA, representing 44% of the identified entrepreneurs.

In all the clusters the growth potential and the market impact of the businesses are low. |The expectation of generation of jobs is small, and the entrepreneurs will act in niches of high competition. Excepting the clothing sector, the innovation expectation and export of products or services are insignificant, what reflects the already mentioned difficulty of the components of the TEA in entering the clusters activities.

Another important fact is the high dose of the entrepreneurs' self-confidence and the optimism in relation to market opportunities in short period, both indicators registering quite high percentile in all the clusters. The context of the capital available for investment and the sources of resources are, however, similar to Brazil. The entrepreneur in general is forced to use the bank system, his own resources and their relatives' to begin his venture. The access to official programs is small and use of formal modalities of venture capital is practically zero.

The results of the research allow, finally, to affirm that, excepting what refers to the volume of investments and potential and impact of new ventures, the entrepreneurial dynamics in the areas researched resembles more the one of countries that are part of GEM with higher income, than the one of Brazil, where such dynamics is closer to the emerging countries.

In all the researched clusters, the experts highlighted bureaucracy, the tax burden and the little effectiveness of the government programs and policies as the main barriers to entrepreneurship. Though, the specific aspects of the areas were usually underlined as favourable factors, mainly the good quality of labour force and the strong entrepreneurial spirit from the peoples that colonise the area.

In that sense, it would just lack a culture of innovation and change, what, in fact, is thoroughly proven by the research results. The crescent spirit of cooperation between the political-economical actors and the specific programs that have been successful in the fomentation to activities of the clusters were also emphasized.

Concerning the infrastructure, there is a general agreement amongst the experts that there is availability of highways and other means of transportation and communication services, water, sanitation and energy supply. However, the quality should be better facing the necessities of the activities, mainly in a moment of retaking of the economic growth. There were not a lot of mentions to the commercial infrastructure, although it was highlighted the lack of accounting and consultancy services in smaller towns.

Some differences among the analyzed groups are outstanding. The behaviour of the indicators shows that in more complex clusters, the barriers to the entrance of new and small businesses are more significant. Like this, although they have registered the highest TEAs, the new and nascent firms in the areas of the automotive and food clusters have smaller relationship with the main activity of each one of those clusters. Amongst established firms this relationship is very strong, being present in more than a third of the firms in this stage.

The clothing clusters have other specificities; they present expressive higher proportion of family businesses and higher potential of job generation. The TEA is the smallest among the groups considered, however, in its composition, the participation of businesses related to the clothing activity is significantly higher, in a percentile similar to the one found among the established firms of the same clusters. What explains those results is this activity to be less intensive in capital and more sophisticated technologies, demanding, because of that, more labour force with tradition in the business in very small firms, as factions that work at the entrepreneurs' houses, for instance. An indicator attests that reality: in this area the percentile of establishments of the manufacturing industry overcomes 42%, in the others it is 25%, although the proportion of generated jobs is similar in all the clusters.

In short, our first hypothesis is not confirmed. In the clusters, the entrepreneurship indexes are not naturally higher. In the three groups of researched clusters, as larger the relationship among established businesses with the main activity of each cluster, smaller is this relationship with businesses that are part of the TEA, what suggests a strong barrier to new ventures as an activity grows, aggregates more value and demotivates the entrance of competitors, as many of the discussed theoreticians say in our theoretical chapter.

On one hand, if the new ventures have difficulties to develop activities of the sectors of the clusters, on the other, the existence of those agglomerations brings advantages. In first place, an institutional growing of the environment of businesses, proven by the survival of the existent firms. Besides, there is a reduction of the entrepreneurship motivated by necessity, probably resulting from the highest generation of jobs and income, with the consolidation and focalization of the firms that the cluster promotes, data that confirms our second work hypothesis. The results also suggest that the existence of the cluster is responsible not just for the increment of businesses directly related to its activity, but also of a strong section of services necessary to its operation: restaurants, hotels, consultancies, schools, etc.

In synthesis, the entrepreneurship practiced in the clusters differs substantially concerning its motivations, but it suffers with some typical limitations that come across the Brazilian entrepreneurs in general, especially the lack of capital and specific programs, what makes the very small businesses little innovative and with short horizons.

Starting from the results of the research and the suggestions collected in the meetings with the experts, who showed a better condition of proposing concrete measures for their areas, we built the following group of proposals. Some are generic and repeat what has been stressed during all the years that the GEM research was accomplished in Brazil, mainly those that involve the public power. There are, however, several propositions specific to the realities of the clusters.

- To accomplish wide tax reform to reduce and simplify the collection of tributes.
- To reduce the bureaucracy for opening, operation and closing of firms.
- To increase the number of vacancies in schools of technical labour force training and to improve the managerial qualification in the universities.
- To facilitate the access to credit, eliminating bureaucratic procedures and reducing the interest rates.
- To increase the organization level and the dialogue amongst the actors involved in the entrepreneurship and in the main activities of the industrial clusters, through entities and forums of the productive section.
- To integrate the necessary information to venture in centralized agencies, to facilitate and accelerate the opening of new ventures.
- To promote - through lines of credit and specific programs - the articulation of the activities of the clusters with the potential entrepreneurs, so that they focus more their businesses in the referred activities.
- To improve the intellectual property rights protection through the constitution of local offices with this purpose.
- To foment the creation of incubators in universities.
- To create laboratories for testing and certification of materials near the clusters.
- To qualify the entrepreneur to venture starting from well formulated business plans, with more accurate focus.
- To foment the outsourcing culture and participation of small firms in the productive activities in the clusters in whatever is possible (for instance, clothing and food industry).
- To foment the outsourcing culture and participation of small firms in the productive activities in the clusters in whatever is possible (for instance, clothing and food industry).
- To motivate R&D specifically in the activities dedicated to the clusters.

- To diversify the production and create brands to identify the products as original of the areas that produced them.

## REFERENCES

ALBU, M. (1997) “Technological Learning and Innovation in Industrial Clusters in the South”. **Electronic Working Papers Series**. Paper No 7. Falmer, Brighton, Science Policy Research Unit University of Sussex. Sep. 1997.

AMIN, A. (1994) “The Potential for Turning Informal Economies into Marshallian Industrial Districts”, In: UNCTAD (ed), **Technological Dynamism in Industrial Districts**, Geneva: UN

BELUSSI, F. (1992) **Industrial Innovation and Firm Development in Italy: The Veneto Case**, Brighton: D.Phil thesis at SPRU, Univ. of Sussex.

BOARI, C. (2001) **Industrial Clusters, Focal Firms, and Economic Dynamism: A Perspective from Italy**. Washington, D.C. The World Bank.

BRUSCO, S. (1992) “Small firms and the provision of real services”, in F. Pyke & W. Sengenberger (eds), **Industrial Districts and Local Economic Regeneration**, Geneva: International Institute for Labour Studies

GLOBAL ENTREPRENEURSHIP MONITOR. (2004) **Empreendedorismo no Brasil – 2003**: relatório nacional. Curitiba: IBQP.

GLOBAL ENTREPRENEURSHIP MONITOR. (2004) **GEM 2003 – Global Report**. London.

IGLIORI, D. C. (2001) **Economia dos clusters industriais e desenvolvimento**. São Paulo: FAPESP.

NADVI, K.; SCHMITZ, M. (1999) “Clustering and industrialization: introduction”. **World Development**, Oxford, v.27, n. 9, p.1503-1514.

POLESE, M. (1998) **Economia urbana e regional**. Coimbra: Edições APDR.

PUTNAM, R. (1998). **Comunidade e democracia**: a experiência da Itália moderna. Rio de Janeiro: Ed. FGV.

SCHMITZ, H. (1995). “Small Shoemakers and Fordist Giants: Tales of Supercluster.” **World Development**. 23(1):9–28.