

The Neo-Marshallian Industrial District
A Study on Italian Contributions to Theory and Evidence

by Deborah Tappi

Max-Planck-Institute for Research into Economic Systems
Evolutionary Economic Unit
Kahlaische Strasse 10, 07745 Jena, Germany

e-mail address: tappi@mpiew-jena.mpg.de

tel.: +49-(0)3641-686835

fax:: +49-(0)3641-686868

Introduction

In the paper an overview of the different approaches in the study of Italian industrial districts, with particular attention to the contribution of G. Bcattini, is given. By putting special emphasis on the issue of the unit of analysis, this paper attempts at providing a critical analysis of the theory of Italian industrial districts (neo-Marshallian industrial districts). In discussing possible reasons for a switch from the ‘traditional’ units of analysis of economics (the individual, the firm, and the state) to an intermediate one the paper analyses how to locate the borders of the industrial district.

The interest in industrial district in the economic Italian literature and in the political debate, starting from the ‘70s, can be ascribed to the unexpected blossoming in the post-war period of a new model of productive system with an unforeseen spatial distribution, the so-called ‘Third Italy’. While all the political and financial efforts were wrapped up by the attempt to stimulate industrialisation in southern Italy¹, public opinion’s attention was captured by the emergence of the so-called ‘industrial districts’ in northern-central-eastern Italy. The peculiarity of these productive systems, compared with the industrial area of the provinces of Milan, Turin and Genoa – the so-called ‘*triangolo industriale*’ –, was the small size of the firms and the complex relationships among them as well as with the local community.

Because of the attention given by Italian scholars to this local system of production together with the ability to extend and develop the concept coined by Marshall in addressing the Italian experience, it is possible to refer to the Italian contributions as the ‘*neo-Marshallian industrial district*’. Different methodological perspectives have been employed in the Italian literature to analyse industrial districts and to explain their emergence and development in Italy.

In the Italian literature the different methodological approaches can be synthesised in two main theoretical definitions of industrial districts:

1. A definition emphasising the economic dimension of the network of firms making up a typical industrial district. This approach focuses on the industrial relationships among firms in industrial districts. The picture that emerges is that of a set of *vertically disintegrated networks* of relatively *small firms*.
2. A socio-economic definition, focusing on the assumption of the *embeddedness* of the network of firms in the local social system and on the necessity to consider the

¹ The strategy of these developmental policies was based on the assumption that localisation, concentration and development can be stimulated by the implementation of certain initial conditions to create the conveniences for firms to place in a backward area. (With reference to the stress given in the literature to the importance of initial conditions to determine the path of a system see P. David 1985). These initial conditions were identified in the possibility for firms to benefit from external economies due to the presence of a public company in an underdeveloped area, to induce, so that to benefit for external economies (see Krugman 1991).

features of the territory in the analysis of the emergence and transformation of industrial districts².

Most Italian economists focus on the first definition, developing and extending the classic economic features of the Marshallian industrial district, like the high degree of division of labour, the advanced productive specialisation of firms, and the creation and diffusion of innovations.

The neo-Marshallian approach based on a socio-economic definition of the industrial district has addressed the question opening the way to interdisciplinary studies. This perspective is grounded on the assumption that the emergence and evolution of industrial districts cannot be explained only with economic factors.

After analysing the different approaches applied in the study of Italian industrial districts, the paper will address the issue of the unit of analysis as it arises in the literature and how to determine its borders. In the paper the hypothesis that only in the last few years the contributions on industrial districts and local development are converging towards a common mapping of the territory in local systems will be put forward.

1 The Marshallian conception of the industrial district

In the ‘Principles of Economics’ Marshall provided the rationale for the shift from the traditional units of analysis of economics (individual, firm) to the intermediate one (industrial districts, local systems of production, and others). The recent Italian literature on industrial districts explicitly refers to the Marshallian concept of industrial district as the inspiring framework. Giacomo Becattini (1992) has provided a detailed re-reading of the Marshallian concept of the industrial district. He associates the idea of “industrial atmosphere” elaborated by Marshall to what he calls “belong feeling” – i.e. the tendency he recognised in the districts’ communities to identify themselves with the district. In other words, the population living in the district’s area seems to feel part of the productive system.

Marshall highlighted the presence of the so-called “industrial atmosphere” and mentioned the mutual influence between the social and the economic systems, but he did neither very much elaborate on this idea, nor on its social foundations. The industrial atmosphere mentioned by Marshall is very likely the outcome of coexistence in the same area of an industrial system and of a society grown around and because of the industry. In the Marshallian industrial district the concentration of firms in a geographic area determined the growth of villages of workers within the industrial area.

² The main contributions to this methodological perspective can be identified in the following literature: Becattini 1979, Becattini 1987, Becattini 1991, Becattini-Rullani 1993, Becattini-Vaccà 1994 (ed.), Bellandi 1999, Brusco 1986.

The characteristics of the Marshallian industrial district can be synthesised as follows:

- I. There we assist to the overlapping between the social level and the productive one. The decisions taken by the local community are affected by the presence of the industry and economic relationships are influenced by the social ones (“industrial atmosphere”).
- II. This productive system is characterised by a widespread division of labour between firms engaged in complementary activities and an advanced specialisation.

In Marshall the possibility to benefit from external economies, due to the spatial contiguity, is the main reason that induces firms to locate where other firms are already settled in. Marshallian external economies can be achieved by the spatial concentration of firms belonging to the same industrial sector. With external economies Marshall intended to address those positive effects for the firm related to exogenous phenomena – exogenous with reference to the firm’s productive process. This conception of the externalities referred to those benefits that a firm takes from being located in an industrial district. Marshall put these external economies into three groups:

- effects resulting from specialisation due to the division of labour within the district,
- effects resulting from the creation of infrastructure, information, communication and research and development that single firms can take advantage of,
- effects resulting from the availability of a high specialised labour force.

In the following part the thesis that the two main approaches to the study of industrial districts in Italy can be both considered neo-Marshallian will be put forward on the ground that each approach focuses on one of the two mentioned characteristics of the Marshallian district.

2 *The neo-Marshallian industrial district*

At least two different methodological perspectives to address the particular system of production that spread in the so-called ‘Third Italy’ can be identified. These differences can be related to the definition of key concepts, namely the ‘industrial district’ itself and the ‘local system’ or ‘local social system’.

We consider a system a plurality of elements co-ordinated as to give form to a set of relationships among them. A social system consists of a plurality of individuals (I_1 , I_2 ,

and I_3) and the relationship among them. The adjective ‘local’ stresses the linkage between this system and the ‘territory’.

Starting from the given definition of a local system it is possible to define the local system of production as a group of firms (A, B, C) and the relationships among them. Within every firm a certain number of individuals (I_1, I_2, I_n) are employed. These individuals are also part of the social local system and they interact not only in virtue of economic reasons. Within a system it is possible to single out at least two different kind of interactions and relationships among individuals: exchange and social relationships. Moreover “for any pair of individuals between there is a production (or exchange) relationship there will very likely be a social relationship which frames the production (and exchange) relationship itself and the evolutionary path of the production (and exchange) relationship” (Calafati 1999b).

A first perspective developed in the Italian literature defines the industrial district as *a vertically dis-integrated cluster of relative small firms spatially continuous and linked together by horizontal relationships*. A cluster can be seen as an industrial system in which firms are connected together to allow exchanges of materials, goods or services, information between them. These firms are linked together by input-output (Bellandi, 1995), competitive relationships or externalities. Agents involved in this productive system share the same historical and cultural heritage.

The innovative aspect of this definition, in comparison with the one elaborated by A. Marshall, can be found in the stress on the *relationships* among firms, on their *size*, and on the possibility to divide the productive process (*disintegrated*) into different autonomous phases. In the Marshallian industrial district the fundamental aspect that characterises an industrial district is the spatial proximity among firms. According to the Italian perspective on networks of firms it is possible to define the industrial district as a subsystem of the local one, focusing on the economic relationships among agents.

Another perspective (G. Becattini) emerging from the Italian literature on industrial districts tends to identify the local productive system with the local social system – in virtue of the presence in these local systems of an “industrial atmosphere”. The importance of social relationships in industrial districts has been widely detected by Giacomo Becattini:

“Personal relationship – such as kinship between entrepreneurs – between the principals of firms which operate in different phases, are present in the district. The existence of such personal relationship is indeed an obstacle to the high pliability of socio-economic relations which the district-form requires but, on the other hand, is quite consistent with the existence of deep interactions between the community and the productive process” (Becattini 1990).

The choice of focusing on the economic relationships and structure in industrial districts or on the social embeddedness by scholars does not imply a negation of the validity of the other perspective. Neither the possibility to study the phenomenon from different perspective means that one can single out different economic paradigms for the study of industrial districts. On the contrary, scholars approaching the study of Italian industrial districts agree on the embeddedness of the economic in the social systems and bonds with the territory, and on the description of the productive structure.

The two different tendencies, recognised in the literature on industrial districts, represent the developments of the two main characteristics one can detect in the Marshallian conceptualisation of the industrial district, i.e. the industrial atmosphere and the division of labour/productive specialisation. From this point of view the focus on the economic characteristics of industrial districts represents an attempt to develop the concept of division of labour and specialisation already highlighted by Marshall as peculiar aspects of industrial districts. On the other hand, the focus on the social and institutional features can be related to an interest in developing the Marshallian concept of 'industrial atmosphere. In this sense one can argue that both the two approaches to the study of the Italian industrial districts qualify for the appellation of neo-Marshallian.

2.1 *The industrial districts as networks of firms*

As already mentioned in the literature on industrial districts a huge number of contributions focusing on the economic aspects of these productive systems³ can be found. The contributions⁴ to the analysis of the characteristics of these networks highlight the presence of a set of *vertically dis-integrated* (Silvestrelli 1982, Calafati 1999a) relatively *small* firms, among which different kinds of productive relationships can be singled out. The firms organised in these networks usually belong to the same industrial sector or to a main industry and to some auxiliary industries. The adjective 'disintegrated' attributed to the network refers to the possibility to divide the productive function into several phases, the outputs of which could exist independently from the entire process. One can observe the presence of several autonomous cycles performed by single firms. The ease of face to face contacts between suppliers and customers – due to spatial proximity and to well-established, lasting relationships – makes it unnecessary to organise the productive process according to vertical integrated phases (Loasby 1999). This phenomenon is also known under the name of *productive decentralisation*. The

³ The fact that these contributions focus on the economic relationships among firms does not imply that they do not take into consideration the presence of a social-institutional structure, which affects the economic performances.

⁴ Antonelli 1986, Bellandi 1995, Belussi 1998, Belussi 1999, Calafati 1999a, Camagni 1991, Camagni 1993, Garofoli 1994, Signorini 1994, Silvestrelli 1982, Sforzi 1990. This (incomplete) list contains theoretical and empirical contribution.

productive decentralisation proceeds at the same rate with a *productive specialisation* of firms, which orients their processes to the production of single parts of the finished product. In some cases the advanced specialisation reached allows the firm to integrate its functions with several others, which require similar skills and capabilities.

In the literature different attempts to explain the disintegrated structure of these networks can be detected. Some contributions (Belussi 1998, Belussi 1999, Becattini 1991) attributed the choice for a decentralised production to the attempt to allow the single firm to reach a high degree of flexibility within its productive function. According to this perspective decentralising some phases of the production makes it easier to adjust the productive function to demand, simply increasing or reducing the recourse to sub-suppliers. Other scholars (Omiccioli and Tamburini 1999) argued that a decentralised organisation of the productive process answers to the need to achieve a high degree of specialisation in each productive phase, more than to an attempt to reach a high flexibility. The high level of specialisation allows - in most cases - to obtain a larger range of products, a higher level of quality, and scale economies.

Among the firms, which determine the structure of the network, it is normally possible to identify two or three different types, which developed different specialisation processes. The different types of firms one can recognise within each industrial district can be defined according to the process they perform (Belussi 1999).

One typology of firms performs “routine activities” that lead in most cases to the production of components of the finite products. These firms are most of the time subcontracted by the final firms. The dimensions of these firms are small or very small, with a number of employees that could even be one or two.

Another type of firms in the district productive structure is that of the final assemblers. The kind of activities these firms perform is radically different from the activities one could observe in the first category. These firms employ their resources in the most innovative activities, like “product design, engineering, marketing, innovation, and new product development”. As the “level of innovation in each industrial district depends greatly” on the level desired by the final assemblers (Belussi 1999), one might infer that the different strategic positions correspond to a relational hierarchy in the network structure. This is in line with Lundvall’s observation that “the change process triggered by innovating actors imposes further change on other agents” (Lundvall 2000). The change in the single phase induced by a change in the final product, however, does not seem to involve a significant shock for the firm. Actually, the firms are linked together in a non-hierarchical net of relationships.

In many districts one can find a third typology of firms. These firms are located at an intermediate level in the network performance structure – i.e. between the firms, which performs routine activities and the final assemblers.

2.2 *The industrial district according to a socio-economic definition*

The presence of an intricate net of interrelations between the economic and the social system in industrial districts suggested to Becattini the possibility to include purely social aspects in the definition of these productive systems. The definition of the industrial district according to a “socio-economic notion” determined an overlapping of the two concepts of local social system and local system of production. It is precisely the understanding of this overlapping that represents according to Becattini a *condicio sine qua non* for the study of the internal structure and working of an industrial district.

Becattini defines the industrial district as a “[...] socio-territorial entity which is characterised by the active presence of both a community of people and a population of firms in one naturally and historically bounded area. In the district, unlike in other environments, such as the manufacturing towns, community and firms tend to merge” (Becattini 1992). In this definition, as already stressed, the local social system is an integral part of the industrial district itself. Granovetter defines this approach “the argument of embeddedness” that is “the argument that the behaviour and institutions to be analysed are so constrained by ongoing social relations that to construe them as independent is a grievous misunderstanding” (Granovetter 1985). For a better understanding of this definition it is necessary to go into detail concerning the elements of this local system.

The *local community* is characterised by a “relatively homogeneous system of values”⁵, which is determined by an “ethic of work and activity, of the family, of reciprocity, and of change”. These values represent - together with a set of *institutions* and organisations that maintain and diffuse them - a precondition, a requirement for the growth of an industrial district. Becattini recognises the fundamental organisations and institutions for the support and transmission of values through generations in the market, the firm, the family, the church and the school. He also includes in the list “the local authorities, the local structures of political parties and of unions, and many other public and private, economic and political, cultural and charitable, religious and artistic bodies”. The structure of the society and the institutions, which frame the environment of the economic activity, seem to have had a positive effect on increasing both the “willingness”

⁵ Other scholars refer to the presence of some territorially specified social features - named ‘values’ by Becattini - under the name of ‘culture’, or ‘shared mental model’, or ‘common beliefs’.

and the “opportunity” for the employees in industrial districts to switch to self-employment⁶.

The values, which stem from the mentioned organisations, seem to have increased the “willingness” to become self-employed in the population. In these systems the active population is pervaded by “a wish to work on its own account” (Bagnasco/Trigilia, 1984). According to Becattini (Becattini 1997a) this agent in Prato differs very much from the other entrepreneurs (for example the entrepreneur in the Fordist enterprise). They are ten years younger on average, most of these entrepreneurs come from the same area or region, in which they locate their enterprises, they have poor origins, among them there is a high percentage of professional school degrees.

Within the district human resources are continuously involved in a process of reallocation. This phenomenon of changing from one position to another depends on the large range of possible jobs (opportunity), so that “there is a sort of continuous ranging from home-based work, part-time and waged work, to self-employment and entrepreneurship” (Becattini 1992).

Most of the entrepreneurs of small firms in the Northeast of Italy were artisans or workers previously employed in some firms of the area. They did not hold any capital, but their wish to become self-employers, their families, and the property of their houses serving as a guarantee. An important question to try to answer in studying the determinant of the decisions to give birth to an enterprise concerns the opportunities, which made it possible. If in most cases they could not benefit from particularly favourable economic conditions, what did influence their *opportunity* to start an enterprise? According to Van Praag and Ophem opportunity to switch to self-employment “is defined as the possibility to become self-employed if one wants to” (Van Praag and Ophem 1995) – i.e. if he has the *willingness* to do it. Opportunity can be found in owning a certain amount of starting capital, or in having suitable skills.

An important point highlighted in this approach – focusing on the cultural, historical background – as an important determinant of the willingness to become entrepreneurs and a source of opportunity concerns the agricultural origins of many of these entrepreneurs (at least in central Italy). In many cases these small entrepreneurs had been sharecroppers. According to the literature this common origin implies certain skills and, in most cases, the belonging to a particular kind of institution, namely the ‘enlarged family’. According to Bagnasco (Bagnasco 1977) the experience as sharecroppers taught them to develop an organisational ability within the family structure, together with an extreme flexibility and adaptability in terms of working time and variability of income.

⁶ For a wide explanation on the differences between *willingness* and *opportunity*, their sources, and effect see Van Praag and Ophem (1995).

The importance of the enlarged family for the small entrepreneur of the Italian industrial district can be related at least to two different aspects. First it is necessary to refer to the need for a flexible labour force to organise and manage (abilities to be seen as opportunities), and second the possibility for the entrepreneur to reinvest all the incomes in the firm, without having to share it regularly into salaries. The diffusion of the agricultural labour organised and shared in the family-organisation helped create a flexible workforce supply “whose skills and motivations were very well suited to the development of small business” (Trigilia 1992). In fact, the presence of a high number of members of different ages, which developed different skills, provides the entrepreneurs with the labour force and necessary working abilities.

Bagnasco and Trigilia (Bagnasco/Trigilia, 1984) noticed that in Bassano - and apparently in many others industrial districts - the process of ‘emancipation’ of the enterprise from the family’s context normally taking place with the economic growth did not occur. According to some applied researches by Bagnasco and Trigilia the pottery and the furniture sector still show a strong link between enterprise and family (in almost half of the enterprise the ownership is shared by relatives and they participate in the production process. Most of the entrepreneurs (60%) of the sample come from a big family (more than three brothers). A study by Banca d’Italia highlighted that in the furniture district of Pesaro (Marche) the majority (85,3%) of the firms (51) are managed by the owner her/himself or by a relative.

One important local institution identified by Becattini in Italian industrial districts is the ‘local bank’. Taking into consideration the role attributed by Becattini and other scholars to this institution, we may want to re-read it in terms of increasing the opportunities for actors in industrial districts to become entrepreneurs.

One of the disadvantages of small firms in the market can be recognised in the difficult access to credit. The small enterprises typical of the Italian industrial district lack the reputation element in order to be considered reliable by the banking system. The problem of lacking a professional reputation affects the probability of being solvent attributed to the agent by the bank. The importance of local banks becomes evident when referring to the possibility for these small firms to have access to credit (opportunity). Thinking about the role of these banks in local systems of production is important not to underestimate the effect of *social reputation* in replacing the (*professional*) *reputation effect*. Becattini (1992) names this theory “the theory of the local bank”. The linkages among local actors of an industrial district – between local banks and entrepreneurs – determine the possibility to increase knowledge and decrease uncertainty.

The personal acquaintance between two agents (the bank, or the person responsible for the credits grant function, and the customer) can allow the bank to understand the personal attitude and skills of the customer. Moreover the presence of a personal knowledge and of daily interaction can produce trust as well as the professional

reputation. The professional reputation is a quality typical of big firms' entrepreneurs. With *professional reputation* I mean the professional reliability attributed by other agents to an actor according to experienced professional interactions with him/her – i.e. the reputation of being solvent, credible, and punctual.

In most cases these banks belong to the so-called 'co-operative credit'. Milazzo (Milazzo 1998) refers to this phenomenon as a "virtuous circle, constituted by the triad associates-customers-employees" and he attributes to it the merit of reinforcing the banks' 'informal' informative system. Moreover belonging to the same kind of organisation – either the social community itself or even some lobbies – can lead to what we can call *the social reputation effect*. With *social reputation* I mean the reliability attributed to an agent by other (social) agents, according to experienced social interactions with him/her.

The possibility of a social sanction or of losing social reputation can regulate the behaviour in economic interactions. Moreover belonging to a certain community implies the acknowledgement of some behavioural rules and the difficulty for the entrepreneur to profit from asymmetrical information. In other words, in industrial districts social reputation can play the role of professional reputation and "[...] if there is a reputation mechanism, [...] then one may have an idea of someone's opportunism prior to a relation. This is the point of a reputation mechanism. And what is trust other than an assessment of a limited risk of opportunism?" (Nooteboom 1999).

A statistical investigation by Banca d'Italia of the districts in the Marche underlined that in the furniture district in Pesaro 87% of the firms apply to local banks as financial source. In the shoe district of Civitanova Marche each firm recurs to 5 different banks on average and the major creditor is in 80% of the cases a local bank. In the textile district of Ascoli Piceno 65% of the firms recur more often to a local bank.

Concerning the productive structure of the industrial district described by Becattini, the picture coincides with the one arising from the other perspective mentioned (networks of firms). Usually firms are specialised in one or a few phases of the productive process, so that it is possible to define the industrial district as "an instance of a localised realisation of division of labour" (Becattini 1992). Therefore the localisation of firms within the district area cannot be considered a mere concentration of productive activities induced by a favourable initial condition (Krugman 1991). In most cases these firms belong to the same industrial branch – giving to this term a broad meaning: '*main industry*' and '*auxiliary firms*' in Marshall, or *filières*, or *vertically or disintegrated branches*.

3 *The unit of analysis*

3.1 *The problem of the spatial definition and the focus on the Marshallian industrial district*

The previous chapters of this paper addressed the issue of how the industrial district has been defined within the literature that used it as unit of analysis. This part attempts to investigate the reasons that induced many scholars to choose this system as unit of analysis.

The classic units of economic analysis are individuals and firms at the micro-level and the state at the macro. An important issue to be addressed is the understanding of the reasons for the interest in basing the economic analysis on an intermediate unit⁷. The literature on Italian economic development has until the eighties largely been dominated by a macro perspective, focusing on the North-south dichotomy. Clearly one has to motivate the shift from these objects of analysis to the industrial district. As a matter of fact this question arises in many research programme and in many writings⁸. The question of the relevance of these systems as objects of analysis can be answered in different ways.

The understanding of the relevance of the spatial and temporal dimension of production - due to the neglect of the untenable hypothesis of constant productivity - and the focus on local specialisation induced economists to notice the phenomenon of industrial concentration (Krugman 1991). It has been argued that in order to focus the attention on phenomena like economies of scale, increasing returns, pecuniary externalities, and imperfect competition one has to take into account time and space as economic dimensions (Krugman 1991) - Krugman defines this approach 'new economic geography'. The theory of economies of scale is based on the fundamental assumption that, with the presence of determined prerequisites, the concentration of the production activity makes the output grow more than proportionally – with reference to the use of productive factors. Despite a pronounced interest in and emphasis on the importance of time and space, the concepts of time (or history) that support the so-called 'new economic geography' (Krugman 1991, Arthur 1988) is the initial state that becomes relevant to understand the possible state of the system (P. David 1985).

Moreover this theory is based on a mathematical abstract model rather than on empirical works and evidences. The choice of explaining geographical agglomeration by using pure economic explanations - such the presence of increasing returns, externalities and economies of scale due to spatial concentration – underestimates the role of

⁷ In Italy applied economics mostly delimited the area of analysis according to administrative local borders, such as the regions, the provinces and the communes.

⁸ See Becattini 1979, Becattini 1987a, Bagnasco 1977, Calafati 1999a, Sforzi 1987 and others.

important requisites and forces in influencing the geographical distribution of the productive system⁹.

To motivate his choice Becattini involves into question Marshall and the unit on which he focused his research programme¹⁰. Marshall refers as a unit not to the industry - defined according to the productive technology employed - rather to the industrial area or district. According to Becattini this choice answers to the empirical evidence that the causes and the effects of increasing returns are to be found in such conditions like the density of the population, the infrastructure equipment, the 'industrial atmosphere' - rather than in internal economies of scale or in the introduction of innovations. The presence of a network of external economies and diseconomies, of linkages due to cost's reasons, of socio-cultural heritage that embed inter-firms and inter-personal relationship keep the firms together.

One of the main arguments taken to motivate the choice of industrial districts as units of analysis has been the possibility to isolate these systems from the external environment, focusing on the relationships among agents within them. As a matter of fact, the known existing systems are not characterised by this absolute predominance. On the opposite, systems interact and establish circular interrelations among each other. Moreover describing an industrial district as a closed system means to understand its relationship with the environment as unchanging - or more precisely, to assume the invariance of the system with respect to exogenous forces. This idea leads to the underestimation of the role of these forces for the internal change, i.e. the fact that many changes in the system are produced as a reaction to change in the environment. This assumption clashes with the Italian experience on industrial districts. Within this unit, firms are linked together by a net of external economies, historical and cultural heritage (social local system). However, in virtue of the strength of the internal relationships and cohesion scholars attributed to the structure of industrial districts a certain degree of stability so that the system can be conceptualised an 'intermediate' (*meso*) unit of economic analysis, in which we can hardly distinguish between economic and social relationships.

The definition of the borders of a unit of analysis always answers to a certain criterion that cannot be considered objective and which should be subject to continuous modifications. The search for a stationary system can induce the definition of these systems of production as closed systems, assuming the borders fixed and unchangeable. Theoretically it is possible to distinguish between closed and open systems, calling 'closed' those systems, which are characterised by the absolute prevalence of internal cohesion forces - which relate the elements of the system - on those forces that link the system to the external environment.

⁹ See Martin 1999.

¹⁰ See Becattini 1987a.

The attempt to address the question of the borders in industrial and regional economics led to the search for a definition of industry, or sector or branch, so that to classify and distinguish economic processes, according to different criteria. A criterion to define and delimit a portion of the productive system is to cluster industries according to the raw materials involved in the productive process. Another criterion to cluster production units is to group together all these processes, which contribute with their goods or services to the satisfaction of a consumption need. The most widespread - in economic analysis - method of classifying productive processes is to cluster them according to the technology employed, irrespective of the final output and its use.

Giving a first economic definition of the productive system - as “an organised set of activities that lead to the production of a limited group of similar goods and that are linked together by input-output relationships” (Bellandi 1995, p. 34) -, according to the perspective adopted by Becattini, we need to introduce a sociological criterion of defining, but also of bordering the territory under observation. The institutional framework - which can be considered a part of the system itself - contributes to the definition of the kind of system. The determination of the borders of the system depends on the extension and diffusion of the organisational-institutional consistency. The difficulty to estimate this consistency induced most economists to focus on other more objective characters.

According to G. Becattini, the problem of the choice of the unit of analysis emerges in relation to the difficulty in defining the borders of the investigated economic phenomenon. The shift of interest from the firm (or the entire productive system) to an intermediate unit of analysis - characterised by a certain “reasonable level of stability” (Becattini 1987a) - ensues from the need to concentrate on a portion of the entire productive system. In this way one should be able to focus on the internal forces and relationship. With reasonable level of stability Becattini means the possibility for the scientist to delimit the research field borders in order to be able to locate the characters of the economic system.

In Becattini’s view, this methodology would be the most suitable to analyse a steady state productive system. To conceptualise the system under consideration as a stationary one means to deny its possibility to evolve. Even if we take into consideration a very simple system of production (and consumption) in economics such Robinson Crusoe’s one, its productive process - and particularly its technology - is subject to change because of learning by doing processes. With regard to the productive systems we are dealing with - more complex ones in terms of interrelations and exchanges they establish within their structure and outside it - defining them as stationary system would mean to distort their nature and to obstruct the understanding of their working. The rapid changes in the production technology make also necessary for the scientist to bring continuously the classification into question. In Becattini’s view the fact that the

Marshallian industrial district represents a “localised thickening of inter-firms relationships” gives to this unit of analysis a “reasonable level of stability”.

Becattini chooses to border the industrial district according to a sociological definition of the structure of the productive system. This conception is based on the assumption of the relevance for the emergence of these local systems of production – together with the pure economic relationships – of specific cultural, social, psychological and historical factors. Becattini recognises in a few sociological and historical elements the aggregation factors according to which one can delimit the extension of the industrial districts. It represents an attempt to incorporate to the economic level of analysis of the industrial district the awareness of the complexity of social forces within these productive systems. According to this perspective the sociological definition can better “capture the feeling of the local community to be part of the productive system”. The “belong feeling” is not a pre-existing requirement for the emergence of this production system, it rather can be defined as a “factor of unification”, and represent, together with competition, emulation, imitation and other economic and non-economic features, the intricate frame of human local relationships. According to Becattini, a bordering of a productive system that leaves apart the relevance of social relationships to contribute determining the shape of the system is a very unrealistic picture. Becattini’s picture can be very easily associated with Marshall’s concept of “industrial atmosphere”.

If we look at the Italian experience the methodological shift should be related to the spatial polarisation observed in the economic development, whose distribution cannot be captured by the traditional North/South explanation. A first step towards the re-conceptualisation of the space in the study of the Italian industrialisation was made in the late seventies by adding a third category - ‘North-east’ or ‘Third Italy’ - to the existing North and South (Bagnasco 1977). As previously mentioned in the paper, the organisational feature of ‘share-cropping’ was pointed at as an important source of small firms’ entrepreneurial reservoir (Bagnasco 1977). Since the ordinary census data refer to administrative local units, the borders of these areas were located according to the administrative region borders in order to be able to rely on a certain degree of coherence between the methodological and the empirical level. The blossoming of local networks of production all over the Italian territory in the last few years calls for a search for other ways to pattern the national territory. With reference to his explanatory capability a division of the territory into the three macro-regions (Northwest, South, and Northeast) seemed to fail in determining the right patterns for regularities in the development process. Moreover, the administrative localities have in most cases no particular geographical significance (ISTAT 1997). Actually, the literature seems to converge in approaching the study of Italian development subdividing the national territory in ‘local systems’.

Once determined the adequate unit of analysis, scholars are now concerned about being able to rely on regular statistic surveys on the same level of analysis. The next part

will analyse the progresses made in the attempt to determine the physical borders of the local systems in order to benefit from a series of data to support the study of the performances.

3.2 *Local Labour Market Areas as units of analysis*

The growing attention in the economic debate on local systems of production as unit of analysis can be related to different motivations – the previous chapter tried to summarise some of them, justifying the spatial identification of the object of the analysis with the industrial district. The reasons that induce the choice of the industrial districts have relevant effect on the definition and of these phenomena. Therefore, looking through the wide literature on industrial districts, one can assert that several different definitions arise and that the elements at the basis of focusing on these production systems are far from being neutral for the industrial district conception itself. Although industrial and regional economics often explicitly refer to the Marshallian industrial district, the different kinds of grounds and scientific perspectives, that lead to the spatial identification of the object of the analysis with the industrial district, influence the understanding itself of the nature of these local systems of production.

In the last years a common understanding of the criteria to border the unit of analysis/industrial district seemed to emerge in the Italian literature (empirical works). One can observe a convergence in identifying an industrial district and in determining its borders by some empirical works. ISTAT (1997) identified 784 “local labour market areas” in the Italian territory. This criterion is defined by ISTAT as the most suitable candidate to determine units of analysis for the study of socio-economic phenomena, which need to be anchored to a certain territory in order to be fully understood, like industrial districts. The units of analysis, identified by the *local labour market areas/method (LLMAs)* showed them as endowed with a higher level of self-containment, of geographical and statistical significance in comparison with the territorial administrative units. These units are individuated with an algorithm elaborated by Sforzi (Sforzi 1990), which interprets the daily commuting due to work reasons. This method connects places of residence and of work, trying to capture the spatial zoning of the social patterns according to the degree of coincidence between place of residence and place of work. The procedure consists of different (five) phases:

- Identification of the potential localities, where labour force is supposed to be concentrated;
- Reinforcement of the hypothesis of a labour force concentration;
- Extension of the borders of the localities in local proto-systems;
- Identification of the local systems;

- Verification phase (optional)¹¹.

Although many of the recent applied works define the unit of analysis according to the local labour market areas and determined by the algorithm by Sforzi, this approach seems to have some important limits. Some attempt to test its significance showed the weakness in its capabilities to provide a picture of the districts' mapping in Italy coherent with the known districts' borders. Sforzi himself recognised the inability of this method to evaluate and 'monitor' the presence and importance of certain elements of social capital and the 'belong feeling' – defined by Sforzi as an important aspect for the implementation of local decisional processes. On the other hand the strength of this method is in the extent to which it is diffused and adopted in empirical studies. Being the data elaborated by ISTAT, made available at this level, and being the LLMAs adopted as units of analysis in several applied studies, it is consequently expected to observe a convergence of the literature towards the adoption of these units.

4 *Conclusions*

The study of the Italian literature on industrial districts highlighted the presence of two different approaches - one focusing on the economic relationships (productive structure) taking place in the districts, the other dealing with the social and institutional structure framing the economic context. Both approaches can be defined as neo-Marshallian, according to the fact that they both seem to move from the Marshallian concept of industrial districts and elaborated an Italian concept of industrial districts, stressing the role and developing the meaning of the Marshallian 'industrial atmosphere' in one case and analysing the economic structure of the network in the other.

The paper tried to highlight that, despite the great emphasis and the vast literature on the importance of a space-based analysis, only in the last few years we observe an attempt to identify the local systems in order to relate their economic performances to the territorial peculiarities. The contributions to the study of local development were based on a division of the national territory into administrative units, which do not necessary correspond to local productive systems. The subdivision of the national territory into *local labour market areas* has to be considered a first important step towards the identification of the local systems in Italy.

¹¹ For an analytical description of the phases of the algorithm see ISTAT 1997.

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