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Towards a History of the Italian Industrial Districts from the End of World War II to the Nineties

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Towards a History of the Italian Industrial Districts from the End of World War II to the Nineties*

Sebastiano Brusco[†] and Sergio Paba^{**}

Abstract. When did the first Italian industrial districts spring up? In which regions have they developed, and over what times, in the forty years of republican Italy from the end of World War II to the nineties? How do districts develop? How do they change their shape in time? By using for the first time comparable census data from 1951 to 1991 and with reference to the main existing literature on the subject, we try to answer these questions and to trace a history of the Italian industrial districts. In the discussion, we enquire into how the importance and role of the districts vary over time, and we attempt to assess their prevailing working conditions, their efficiency and their ability to face up to international competition.

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[†] Deceased January 27, 2002. Sebastiano Brusco, a Professor at the University of Modena and Reggio Emilia, was internationally recognized as an outstanding scholar in research on small firms and industrial districts. He strongly wanted this widely quoted paper to be translated into English and made available to the international academic community. This English version of our work is dedicated to his memory.

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1. Introduction

Discussions and arguments about the role of the smaller firms have been on-going in Italy for a long time.

The Marxist Left was convinced of their technical inefficiency (from which, it thought, they could only emerge by increasing in size), but saw them as its natural allies in the struggle against monopoly capitalism. The Christian Democrats considered the small firms to be a sign of the vitality of civil society, expressed in local communities and families, and in this perspective they identified one of the areas where sound traditional values survived, to be upheld against the dangers of modernity. So for different reasons — above all, in civil and fiscal legislation — the smaller firms were long defended, by both Right and Left. Up to the early 1990s, and still in substantial agreement with the Opposition, the government allowed them very high levels of tax evasion, in order to obtain their support and to compensate them for their capacity to create employment.

Through the 1950s and 1960s, economists and sociologists often branded small firms as instances of backwardness and very high levels of exploitation, as the ultimate theatre of the war between poor people. Not until the end of the 1960s did the focus of study change, and Becattini (Irpet 1968, Becattini 1975) proposed a different interpretation of the “lightly industrialised areas” of Tuscany. The basic idea was that one should not consider the small firm as such, but rather the systems of small firms. Brusco (1975) criticised the traditional notion of economies of scale, arguing that even the small firms could be — and indeed often are — efficient, though their working conditions were often clearly inferior to those of the large firm. A reappraisal of Marshall caused the notion of industrial district to be revived. This was given precise definition in an essay by Becattini at the end of the 1970s (Becattini 1979). A little later, Bellandi (1982) was to perform a careful analysis of everything Marshall had said on the districts. In the same period, sociologists also glimpsed something new in the Italian productive system. Bagnasco ((1977) referred to the “third Italy” and, in collaboration with Trigilia (1984, 1985), studied the relations between economic system and political system in the areas of the districts. Case studies began to be undertaken.

* Many of the data dealt with in this essay were produced by Franco Lorenzini of ISTAT who, by unremitting efforts, succeeded in creating a historical series comparable to the data from the Italian national censuses between 1951 and 1991. Equally indispensable was the work of Fabio Sforzi, who was the first to tackle the quantitative analysis of the districts and with whom we discussed at length the implications of the procedure of identification of the industrial districts proposed and experimented by him, adopted by ISTAT, and used in this essay. All stages of the processing were painstakingly overseen by Daniele Baroni, who also produced all the maps and processed tables of the census data. Over and above these specific contributions, however, the work must be read in the perspective of a reflection on the districts that has long engaged a number of more or less young scholars. Among these, suffice it to mention Giacomo Becattini, who has made Prato the opportunity for a theoretical reflection, and all the friends of Artimino with whom, over the years, we have attempted to construct a common language aiming at the fruitful coexistence of a variety of disciplines. Our heartfelt thanks to all of these. Any errors are, of course, ours alone.

Scores, maybe hundreds of district areas were carefully examined and described. Attention no longer concentrated exclusively on productive structures, but was also focused on institutions, systems of values and mechanisms of interaction between productive and social structures.

And at last, starting from the early 1980s, the Italian districts made their appearance in international economic and sociological literature. Sabel (1982), Scott (1988), Best (1990), Storper and Harrison (1991), Storper and Salais (1992) among the British and American scholars, the Gremi group (Camagni 1994) among the French, debated the merits and demerits of the districts, recognised them in their own countries, and interpreted them as one of the ways in which the productive structure reorganises in response to personalisation of demand and the increased pace of innovations that have brought about the crisis of Fordism.

Both the facts — the actual productive systems that have district characteristics — and the theories and interpretations change from one day to the next. The problem of which industrial policy measures will stimulate the growth of small enterprise systems is becoming ever more urgent, absorbing the attention of the European Union and the Regions, which often put forward conflicting solutions.

This is the subject of the present essay, which, for various reasons, must drastically limit its range of interests. The question is not asked, except *en passant*, as to which are the technological innovations that arise from the discussion on the districts, nor is there an attempt to understand why politicians and economists have for so long made such heavy weather of identifying a phenomenon of this magnitude and range. No cut and dried explanations are offered for the success of the districts. And there is no discussion as to which industrial policy measures may be more effective than others in encouraging the growth of the small-enterprise systems. The argument against focusing exclusive attention on generalised subsidies and incentives to firms is reserved for another occasion.

Other questions must be asked here. When did the first districts spring up? Are they recent productive structures, born out of trade union struggles and the decentralising trend of the early 1970s, or could they already be glimpsed in the immediate post-war period? In which regions have they developed, and over what times, in the forty years of republican Italy? How do districts develop? How do they change their shape in time? And again, in the period studied, we enquire into how the importance and role of the districts vary, and we attempt to assess, as far as possible, their prevailing working conditions, their efficiency and their ability to face up to international competition.

Before proceeding, a *caveat* is necessary.

The whole debate of these last few years suggests caution as regards the serious error of confusing *the small firms in general* with *the small firms of the industrial district*. The former are defined solely by their size and nothing is known about the context in which they operate and their relations with other firms and other contexts. The latter take advantage of the industrial atmosphere dealt with by Marshall (1966), they are embedded in an institutional texture with which they interact positively, and they have particular codes of behaviour that foster increased competitiveness on all markets. Confusion of the former with the latter has led many scholars into serious mistakes in analysis and forecasting. In this work, therefore, reference will in some cases be made to all the small firms, in order to report information unavailable elsewhere, but, whenever possible, we shall distinguish the small firms gathered in systems from the others, which latter will be referred to as *isolated small firms*. And let it be said at once that, while data on

all the small firms are scanty and hard to come by, information on the small firms of the districts are even thinner on the ground.

Still, some data can be had, even if the evidence is partial and episodic, since the macroeconomics of districts is as yet in its infancy.

2. Employment and value added in the small firms and the districts

Employment in the small firms in Italy and other countries

Table 1 reports the distribution of employees by size class of the firms in some OECD countries. These data show clearly that in Italy, at the start of the 1990s, the proportion of employees in the small firms, and above all in the very small ones (with less than 10 employees) is much higher than in other countries. Even in Japan, whose industrial structure is well known to concentrate important shares of its production in small subcontracting firms, this proportion lags Italy's by a good 18 percentage points. Overall, according to Eurostat estimates, more than 71 per cent of employment in Italian industry is concentrated in firms with less than 250 employees, a percentage that, with the exception of Japan, is not approached by any other country in the table. Note, especially, how wide is the gap with the main European competitors. The difference of structure from the United States is, indeed, macroscopic: in the USA, firms are called 'small' if they have less than 500 employees, and such firms account for less than 37 per cent of total employment. Looking at the data in the table, one can appreciate why scholars convinced of the important role played by the traditional economies of scale see Italy's competitive position as extremely weak, perhaps even hopeless.

Analysis of the data from the first post-war industrial census up to that of 1991 enables one to reconstruct the evolution over time of the distribution of employment in Italy by size class of the firms. These data are given in Table 2. At the outset of the 1950s, the structure of Italian industry appears dominated by large firms (with over 500 employees) and very small productive units (less than 11 employees), which together account for more than 57 per cent of the total. As the data indicate, this polarisation was destined to disappear in time, but along a pathway that changed sign on the cusp of the 1960s and 1970s.

In the first two post-war decades, the evolution of the industrial structure was conditioned by two important transformations.

The first was the completion of the formation of the domestic market in certain important sectors, such as clothing, footwear, the food industry, wood and furniture. For a long period, a large part of the supply in these sectors was locally accounted for by traditional artisans (tailors, carpenters, mattress and drapery makers, metal workers) whose reference points were markets that were territorially very restricted (Brusco - Sabel 1981). The localisation of these artisans was largely governed by the demand, by the existence of a local outlet for what they produced, and the pressure of competition was presumably very limited. Productive activity thus located itself over the territory simply as a function of the territorial distribution of the population.

With the pressure from an improved integration of the transport systems and the trend towards homogenised consumption and life styles, the emergence of a domestic market of the above-mentioned sectors involved a gradual downsizing of the traditional artisan activities. This at least partly accounts for

the constant fall through the 1950s and 1960s of the employment share of the very small firms, whose proportion of total employment in manufacturing dwindled from just under one third in 1951 to around one fifth in 1971. Moreover, the need to increase efficiency by organising production on a larger scale, and the possibility to exploit economies of agglomeration and productive specialisation, pushed various consumer goods sectors towards greater territorial concentration. In this case, the localisation of productive activities tended to be conditioned more by supply-related factors than by the size and nearness of the local markets. In the course of this process, the South lost a large number of small firms, that may have attained a regional dimension but were unable to withstand the competition from the northern firms, which strengthened more rapidly and took away their markets.

The second important transformation was the onset of the European economic integration process, whose effects began to be felt especially in the 1960s. The sectors most exposed to international competition were compelled to reorganise their productive apparatus. In general, the average size of the firms increased, in the quest for greater economies of scale. Some large enterprises, whose growth had up till then been sheltered from the competition from European producers, had to adapt their productive structure, sometimes not without difficulty, to the new pattern of competition. On the one hand, these factors contributed to strengthening the process of reduction of the employment share of the tiny firms; on the other, they may account for the increased share of employment of the medium size firms.

Starting from 1971, the data reflect an evolution of the size structure of Italian industry with quite different features from those of the two previous decades. First, the share of employment of the very small firms began to grow once more. Clearly, this phenomenon cannot be explained by the return of the traditional artisan, tied to the local market and tending to inefficiency. Along with this, employment in the two size classes immediately following increased markedly. All in all, while employees in the small firms (less than 50 employees) in 1971 accounted for 42 per cent of the total, in 1991 they accounted for almost 58 per cent of employment in manufacturing. At the same time, and to a spectacular extent, employment in all the medium-large size classes fell, and above all the importance of the largest firms shrank, their employment share diminishing by 11 percentage points in twenty years. Behind this dynamic lie certain leading factors: the crisis in standardised mass production, the decentralising of production by the large firms, which will be dealt with later on, and the greatly increased importance and role of the industrial districts.

Employment in the industrial districts in 1981 and 1991, according to Sforzi and ISTAT

In analysing data of this kind, however, it is impossible to assess the importance and role of the districts in the Italian economy. Some assistance is provided by the work of Fabio Sforzi.

Using data on commuters from the population census of 1981, Sforzi subdivides Italy into "local labour market areas". A local employment system is defined on the basis of the relation between residence and work place of the workers who live and work in those places. It represents in some way a self-contained system, where the workers who live and work there are the majority and those who reside in that local system and leave it to go to work are few, as are those who work inside the system but live in other areas. Even when they change their work place, workers will tend to stay within the same local system. This latter substantially "identifies the space-time scheme of daily life for the resident population,

where the majority of social and economic relations are engaged” (Sforzi 1990)¹. An important implication of this procedure, which in 1981 identified 995 local systems, is that the local labour systems change in time, according to the relations between place of residence and work place.

Of the “local systems” thus delimited, some have the features of “light industrialisation areas”². These areas can be recognised

by investigating the socio-economic structure of the local systems, with the aim of identifying those systems whose structural characters follow a particular pattern: the presence of entrepreneurs and workers in small manufacturing firms, that of enlarged families, the fact that as well as the family head also the wife and young children work in the industry (Sforzi 1990, p. 80).

In this way Sforzi identifies 161 “light industrialisation areas”, whose “social and economic structure can be considered as the habitat of the industrial districts” (*ibid.*, p. 90). In these areas 19.5 per cent of all those employed in Italian manufacturing industry work³. Lastly, among these 161 areas Sforzi identifies the “marshallian industrial districts”, on the basis of the “sectorial characteristics of their productive units, selecting those systems that are characterised by a dominant manufacturing specialisation and by the presence of small and medium enterprises” (p. 80)⁴. The industrial districts thus recognised number 61, within which 8.6 per cent of all Italian manufacturing workers are employed (p. 89).

Using the data from the 1991 census of population and census of industry, ISTAT and Sforzi repeated the exercise performed some years previously. The delimitation of the districts and the estimate of employees in manufacturing industry working in the districts became a standard processing, so that the data obtained were published, anonymously, in the ISTAT Annual Report on the situation of the country (ISTAT 1996). On the basis of the altered characteristics of the relations between residence and work place, in a first stage of the analysis the new local areas of employment were outlined. Since commuting distances increased between 1981 and 1991, this time only 784 local systems were identified. Hence, over the decade, the number of local systems fell by around 18 per cent.

Among these local systems Sforzi and ISTAT identify the districts with the following algorithm. “Districts” are considered to be those local systems that satisfy the following conditions.

- 1) The percentage of employees⁵ in manufacturing industry out of the total of non-agricultural

¹ Note that the “local labour systems”, thus defined, are units of analysis familiar in European statistics, though often not fully used. Spanish scholars speak of *mercados locales del trabajo*, British of *local labour markets*, French of *zones d’emploi*. ISTAT took up Sforzi’s idea and, in the 1981 census (in collaboration with IRPET, where Sforzi is among the researchers), calculated some data referring to Italian employment basins (ISTAT-IRPET 1986).

² The locution used by Sforzi echoes the title of a volume edited by Becattini for IRPET (Becattini 1975).

³ It must be stressed that this figure is calculated by dividing *all* employment in manufacturing in the “light industrialisation areas” by the manufacturing employment of the country as a whole. The idea is, essentially, that in these areas the entire industry, including industry with no specific specialisation, is influenced by the particular atmosphere typical of the productive structures based on small firms.

⁴ Sforzi does not state the size threshold used to define the smaller firms, nor the one used to identify the percentage of employees a sector must have in order to be called “predominant”. In this work, which in the 1980s attempted to pave the way for quantitative analysis of the districts, Sforzi does not proceed by simple algorithms based on previously fixed thresholds. Instead, using cluster analysis, he classifies all the local systems in different types. One of these groups embraces the light industrialisation areas. Among the latter, as already mentioned, he then identifies the districts on the basis of level of sectorial specialisation.

⁵ Following ISTAT’s definition, “employed” (or “employees”) means to all those who at the date of

employees must be greater than the national average. The local system must therefore have an industrial character. As a result of this condition, excluded from the number of the districts are almost all the local systems that coincide with large cities, like Florence, Rome and Naples, or medium-sized cities, like Udine, where the proportion of employees in the service sector is greater than the national average.

2) The proportion of employees in manufacturing in firms with less than 250 employees must be greater than the national average. According to the suggestion by the European Union, the “medium-small” firms are identified by the threshold of 250 employees. This condition requires that the proportion of those working in firms with less than 250 employees (calculated from *all* the manufacturing industry of the local system) be lower than the national average.

3) In at least one sector the proportion of those employed out of the total employed in all manufacturing industry must be greater than the national proportion⁶.

4) In at least one sector in which the local system has a percentage of employees greater than the national one, the proportion of those working in firms with less than 250 employees must be greater than the national proportion.

If, in a local system, conditions 1 and 2 are satisfied, and if for at least one sector conditions 3 and 4 are jointly satisfied, the local sector is called “district”, and the sectors for which 3 and 4 are satisfied are called the “specialisations” of the district. The way in which conditions 3 and 4 are formulated implies that a local system may have more than one specialisation. In Italy in 1991, for instance, a local system with more than 7 per cent employed in the textile sector, more than 12 per cent in clothing, and more than 2 per cent in paper, and having a proportion of small firms in these sectors greater than the national average, would have three specialisations⁷. Of the sectors of specialisation, the one where the index as per point 3 is highest is called “dominant”, and defines the district.

On the basis of these criteria, Sforzi and ISTAT concluded that in Italy in 1991 there were 199 industrial districts, having a total of about 2,200,000 employees, equivalent to 42.5 per cent of manufacturing employment as a whole (ISTAT 1996, p. 261).

It can easily be seen how, in 1991, the procedure for identifying the districts was greatly simplified, and to some extent made automatic. Nor could it have been otherwise, if, as in all official statistics, the need was to fix the discriminating features with the utmost precision.

Yet, as naturally occurs in all classifications, the rigour in setting the criteria for selection did not succeed in eliminating discretionality.

The thresholds chosen in the procedure adopted, that defines firms with 50 employees as small and firms with 250 as medium, are obviously open to discussion. The parameter used by ISTAT is sensible and reasonable since it refers to the legislation of the European Union, that in this way identifies firms that can exploit the incentives for small and medium enterprises. But, to be sure, if the threshold had been

reference of the census performed work activities, either full or part time, on fixed term or permanent contracts, as entrepreneurs or as dependent workers.

⁶ This condition is actually satisfied in all the local systems. A local system might have not even one specialisation only if all the sectors of activity were present in its productive texture, each one with exactly the same weight as it has in the country as a whole. The real point of this condition is therefore to select the sectors on which condition 4 will be tested.

⁷ The thresholds mentioned represent the percentages of employment of the sector in question out of the

fixed having regard solely to the Italian industrial structure, it could have been lower.

The specialisation parameter relates to the national average of manufacturing industry, and this procedure may in some cases lead to paradoxical results. (Alternatively, one might apply the term “dominant” to the sector that in the district absorbs the highest proportion of employment, but this procedure, too, could produce unsatisfactory results)⁸. Moreover, it is as well to bear in mind that in these procedures the classification of economic activities that is used as reference becomes decisive. If the three-figure classification is used to estimate the level of specialisation, the number of districts will probably be different from what it would be if using a two-figure classification. And that is not all. In actual fact, there is no strong theoretical justification for basing the procedure for identifying the districts on the classification of economic activities used by ISTAT. It might be reasonable to develop a classification that highlighted phenomena of specialisation even in presence of horizontal diversification (as when in the Prato textile system the processing of fibres or cotton is added to that of wool) or that identified specialisation even in cases of vertical diversification along the *filiere* (as when, at Vigevano, the production of machines for the footwear industry is added to that of shoes).

3. The industrial districts from 1951 to 1991

The method used and the necessary caution in interpreting the results

The algorithm used by Sforzi and ISTAT to identify the districts in 1991 can also be used for the censuses before 1991⁹. In this way, it may be possible to begin tracing a history of the districts in Italy from the post-war period till the present.

To repeat the procedure used by Sforzi and ISTAT also in detail is unfortunately very difficult. The population censuses have included information on commuting only since 1971. (And, as has been said, without that information it is impossible to delimit the local systems). The classification of economic activities often changed, in the censuses of 1951 and 1961, and it is not possible to reconstruct a homogeneous historical series of employment by sector at a sufficiently disaggregated level. None of the censuses estimates the workers in the firms “up to 250 employees”, which, as was said, is the threshold used by the European Union and Sforzi. The size classes of firms vary from one census to another. For those of 1951 and 1961, the subdivision of employees by size class of the firms is not available on a

total national manufacturing employment. The example cited refers to the textile district of Carpi.

⁸ Given the percentages of national manufacturing employment as mentioned in the previous note, the procedure followed by ISTAT implies that if Carpi had 48 per cent of workers engaged in the clothing industry and 9 per cent in paper, it would be defined as a paper district. But if instead of the specialisation index one used the proportion of employees out of the total in manufacturing in the district, it would turn out that a district that embraced the entire national production of a sector might have a name different from that sector, if the sector is a very small one.

⁹ Instead of the procedure adopted by Sforzi and ISTAT, it might have been possible to follow the procedure of identifying the districts as indicated in the decree by the Ministry of Industry of 21 April 1993, issued in application of law 317 of 1991. The two procedures are similar in general structure and differ only in some parameters and in the thresholds adopted: in the ministerial decree these are higher (for instance, in order for a local system to be called “industrial”, it must have a proportion of employment in manufacturing at least 30% above the national average). It seemed appropriate to prefer the Sforzi-ISTAT procedure, which is the more authoritative one, having been adopted by the national statistical service.

retrieval system also for individual communes, as would be necessary for calculating the distribution of the employees by size class in the local systems. The subdivision of the national territory by communes and provinces has also changed over time. Between 1951 and 1991, not only the number of communes, but also that of provinces changed.

In order to obviate these difficulties, wherever possible — without however losing sight of our objective — we proceeded as follows.

The procedure for identifying the districts, described in the previous paragraph, was applied¹⁰ not to local systems delimited census by census, on the basis of the commuting recorded in the year of reference, but to the local systems identified by Sforzi for 1981. The classification of the economic activities used is such as to make the five censuses comparable, at the maximum level of disaggregation possible. (This involved a very broad level of aggregation that manages to subdivide the whole manufacturing industry into a mere 14 activities. The size threshold used to define the small firm was fixed at 100 employees, which, among those present in the five censuses, is the nearest to the size fixed by the European Union to identify medium and small firms¹¹. In order to obtain a series from 1951 to 1991 of the distribution of the employees in industry by size class of the firms, we relied on somewhat daring hypotheses¹². Lastly, the boundaries of the administrative units were held constant up to 1991.

All these limitations notwithstanding, using the algorithm of Sforzi and ISTAT, the local systems from 1951 to 1991 were studied, and those characterised by a district-type productive structure were identified.

The results of the exercise will be dealt with in the next paragraph. Here, it must be noted that their reading and interpretation need special caution.

From the mid-1970s onwards, the whole discussion on the districts has turned on the fact that a particular type of productive structure defines the industrial districts not merely but also by a series of equally important other variables. In the essays on Tuscany, in those on the Emilia model, and in the reappraisal of Marshall's insights, emphasis has been on the fact that the district is a community of

¹⁰ The 1981 delimitation was used from 1951 to 1991. Since data prior to 1971 were not available, it was decided to adopt a single territorial base for the five censuses. Adopting this procedure entails denying the deep character of the local system which, by its very nature, is as changeable as the customs of the persons who live and work in a territory, and involves considering the local systems as an administrative district. But this was the only possible solution, in view of the available data, and despite this basic limitation the exercise performed may be seen as not unuseful.

¹¹ As said, the census data do not allow the use of the definition adopted by the European Union, which considers "medium" or "small" a productive unit with less than 250 employees. The size class "up to 200 employees", the closest to the European standard, is available only for the last three census records. Comparison among all five censuses is possible only with the classes "up to 100 employees" and "up to 50 employees", while the data referring to the class "below 20 employees" have been available since 1961.

¹² As mentioned, in 1951 and 1961 the subdivision of employees by size class of the firms and by economic activity *for the individual communes* was not available, and this made it impossible to calculate the corresponding subdivision in the individual local systems. It was therefore assumed that for each local system this subdivision was equal, for each economic activity considered, to that calculated for the province to which the local system belongs. This hypothesis is entirely justified when a particular economic activity is concentrated, within a province, in an individual local system. This is the case, for instance, of ceramics in the province of Modena, which is all concentrated in the local system of Sassuolo. In different cases, the hypothesis is much less justified.

persons and enterprises working on a bounded territory, where the presence of economies outside the enterprises but within the territory demands the creation and development of a specialised productive apparatus, in which the smaller firms play a very important role. In this context the small firms are often able to design and sell their product successfully on the world market. The stage markets are highly evolved, marked as they are by highly competitive features. The community shares values and knowledge that contribute to the success of the productive apparatus. These values and skills translate into cooperative behaviour among the firms¹³, and among workers and entrepreneurs. Often, the local institutions play an important part in safeguarding and stimulating the growth and development of the peculiar characteristics of the community. The commune, the entrepreneurs' associations, the unions, the banks, the universities, technical schools and training institutes, and the service centres, but also the cultural associations, the sports clubs, the cultural centres, and the voluntary activity, religious and non-religious — all of these are places and forms in which the community gradually shapes and plans its own future.

In compiling so exhaustive a list of actors, the aim is not to trace a paradoxical and useless one-by-one map, like those of Borges. We wish merely to underline the fact that, over the years, much work has been done to identify the weight and significance of the above-mentioned variables. The study of the districts has become the study of the role assumed by each of these variables, and the way in which they mutually interact, with consequences that may be positive, or sometimes negative, on the development of territory and community. Much still remains to be done in this connection. But two results have undoubtedly been achieved, and their value for theory cannot be underestimated.

The “strictly economic” factors hardly account for the success and decline of a district.

The district does not tend towards an equilibrium situation that ensures its growth and profitable development. The success of a district depends on a harmonious composition of different economic and social characters. It may derive from the conscious action of the institutions, but it also depends on the variable trend of markets and technologies and, to an appreciable extent, on the particular instance and pathway of growth that encapsulate the history of the district.

If this is the definition of the district, and these are the important acquisitions of theory, the use of census data to identify local systems having the features of district poses significant problems. As Sforzi is well aware, the algorithm identifies not *the districts*, but *the local systems whose productive apparatus are compatible with the nature of district*. It then remains to be seen whether these local systems really are endowed with a system of rules, codes, institutions, skills, such as to configure a district, and if in that local system the external economies really play an important role. This must be ascertained by specific field analysis, and such analysis must be performed with tools taken not merely from economic theory but also from other disciplines, like sociology, geography, history, or anthropology. The local systems that are singled out by the algorithm could be dubbed *predistricts*. The prefix used would serve not so much to mark out the territories on the way to becoming districts as, rather, to note that a certain local system has a productive set-up such that it may be *presumed* to be a district.

The foregoing specifications are important for two reasons.

¹³ Dei Ottati has described very finely the cooperative behaviour among firms, introducing the notion of community market (Dei Ottati 1995).

The first represents a suggestion of method, which it may be fitting to follow in future. The procedure for identifying the districts used by ISTAT and adopted in this essay is not, by its very nature, capable of reconstructing, with sufficient sensitivity, accuracy and flexibility, the histories and destinies of the districts over time; nor, for that matter, could this be done by any algorithm summoned to give a clearcut, yes/no answer as to whether an element should be part of a determinate ensemble or not. Application of the algorithm to the five censuses enables one, for instance, to obtain a certain demography of the districts that represents a first important recognition of the process of growth and diffusion in district form in Italy, but such demography wields an axe rather than a scalpel. In applying this procedure, it sometimes happens that certain local systems lose their district character simply because in a census they have failed, by a few decimal points, to satisfy one of the four conditions of the algorithm — perhaps only to “revive” in the subsequent census. Canneto sull’Oglio, where toys have been produced since the last century, is a case in point. From 1951 to 1971 it was acknowledged to be a district, in 1981 it was excluded from the districts, but returned in 1991. The reason for its exclusion in 1981 was that the amount of employees in the firms with less than 100 employees was 54 per cent, less than the national average which was 58 per cent. Examples of this kind abound, and the whole thing is clearly meaningless from the point of view of the characteristics and significance of the districts. This strongly suggests, then, that future research must employ more flexible algorithms, more able to capture the regularities and the nuances — for example, those put forward by fuzzy mathematics.

The second reason is more general and theoretical. In the pages that follow we shall describe how the procedure adopted has marked a large group of local systems that exhibited district features way back in 1951. Many of these local systems lose these features, others acquire them and then lose them, yet others preserve them up to 1991. In terms of industrial demography, if the districts are considered in the light of firms that are born and die, the birth and death rates are often very high. But these behaviours can hardly be reconciled with the emergence and disappearance of value systems, with the establishment of certain codes of behaviour and the evanescence of others, with the spread and dispersal of skills, with an incisive working on the part of the institutions. Nor, on the other hand, can one take it as obvious that in those local systems these skills and values were not present. The conclusion is easy: namely, that this essay’s reading of the events of the territory and of Italian industry represents a preliminary reconnaissance, an attempt to draw an overall picture and to single out the points on which in-depth research may be very usefully performed.

The districts from 1951 to 1991: number, localisation, and employment

In 1951, using the threshold of 100 employees to define the small firm, 149 districts were recorded, employing a total of around 360,000 workers. Twenty years later, the total had risen to 166, with a total employment of over a million workers. Forty years on, in 1991, the number of districts had again increased to 238, employing almost 1,700,000 persons¹⁴. Hence, at the start of the 1990s, around 25 per

¹⁴ In the ISTAT report (ISTAT 1996), the number of districts censused for 1991 totals 199, whereas in this essay, notwithstanding the same algorithm is used, the estimate for 1991 is 238 districts. This discrepancy, which also affects the estimates of employment, requires some explanation. First and most important is the different number of local systems used as territorial reference in the two works. As already said, ISTAT recalculated the local systems for 1991, whose total was 784, while here local

cent of the local systems exhibit the typical features of industrial districts.

Figure 1 shows the geographical localisation of the districts in Italy in 1991. As is well known in literature, the districts are closer together in the North Eastern areas of the country, in Lombardy, in parts of Piedmont, and in the Centre, mainly along the Adriatic strip. In the South, contrariwise, the spread of the districts is extremely contained. The only striking presence is in various zones of Puglia, in some areas of Campania and in a small local system in Sardinia.

It is very interesting to confront the territorial distribution of the districts in Italy in 1971 with that of 1951. In 1971, as appears from Figure 2, the picture is very similar to that of the 1990s, the sole difference being the smaller number of existing districts. What occurred in the subsequent two decades seems clear: the newly formed districts basically sprang up close together beside those already present, in a process of, so to say, gradual territorial “contagion” which little by little gave rise to an almost homogeneous texture of systems of small firms in the most industrialised areas of the country.

The map of 1951 depicts a radically different system (Figure 3). Except for the islands, the specialised systems of small firms are spread throughout the peninsula, and, in particular, there are numerous districts in Campania and Calabria. Nearly all these districts disappear in subsequent years¹⁵. What were the real characteristics of the southern districts in the immediate post-war period remains unclear. Most probably, they involved the artisans and the set of tiny firms mentioned at the beginning of the essay, which prospered in the local markets when in many sectors there was still no completely unified national market. Confirmation of this is provided by the analysis of the sectorial specialisation of the southern industrial systems: the majority were concentrated in the food, clothing and footwear, and wood-furniture sectors, i.e. in those industries which still had local connotations in the type of product and the characteristics of the demand. Even though some of these systems may have turned out high quality products, by 1961 practically nothing remained of this widespread productive texture. The competition from the productive systems localised in the Centre-North rapidly swept away much of this entrepreneurial activity. The heavy northwards migration of the 1950s and 1960s, that drained the areas of the South of their best work forces, may also have had a further drastic consequence: the destruction of a texture of specific artisan and industrial skills that already had roots in the South before the war and could have favoured its development.

Figure 4 repeats the map of the districts but with some most interesting additional information. Each

systems are considered to be those calculated for 1981, totalling 955. In the ISTAT report, therefore, the territorial base of some local systems was broader, and this is the case above all in the districts where employment had risen. Moreover, ISTAT used 250 employees as threshold to define the small firm, whereas herein order to make a temporal comparison the threshold was 100 employees. Lastly, the sectorial classification adopted was also different (9 ISTAT sectors as against the 14 of this essay) and this may affect the specialisation indices and hence the number and total employment of the districts.

¹⁵ The hypotheses put forward in the text are confirmed by a study by Becattini (1962) dealing with the evolution of the furniture industry in Italy from 1951 to 1961. In this period, “considering the four ‘furniture regions’ jointly, their proportion of the total employees grew from 44% to 57.2%. [...] Now, if we consider that these regions have productive units of average size appreciably larger than the others, that they embrace the preponderant share in Italy of machine tools for wood working, and that they enjoy notable ‘external economies’, we may safely conclude that the share of furniture production achieved exceeds 80% of the total. The process of expansion of Italian furniture manufacture has therefore been accompanied and characterised by a massive elimination of small firms, most accentuated in the southern regions, and in general in those not characteristically ‘furniture-producing’.” (Becattini 1962, p. ix).

district in 1991 is coloured according to its presumed date of birth. The map correctly shows the districts understood as territory, without associating any specific sectorial specialisation. This implies, for instance, that districts currently noted for a particular industry might, in the past, have had a different specialisation. Cerea, for example, in 1951 and 1961 had “tobacco” as its dominant specialisation, its place being taken by “wood and furniture” only from 1971 onwards.

Among the districts active in 1991, the oldest, i.e. those already appearing in 1951, totalled 16 per cent. This figure comprises 37 districts, among which in the North are Vigevano, Cantù, Maniago, in Central Italy Modena, Santa Croce sul Arno and Stia, and in the South only Putignano. The districts born in the 1950s, and recorded for the first time in 1961, comprise some twenty (8 per cent of the total), among which Legnago and Domegge di Cadore in the North, Prato and San Casciano in Val di Pesa in the Centre, and none in the South. The largest relative share belongs to the districts born in the 1960s and first recorded in the 1971 census (29 per cent). These districts are more frequent in North West Italy, especially in Lombardy, but there are also a number in the North East, mainly in the Veneto, in the Central areas, and above all in the Marche. Only one appears in the South. The picture is substantially similar for the districts born in the 1970s and first recorded in 1981 (21 per cent of the total), with the sole difference that the Central districts are more numerous than the North Eastern ones. Of the districts first censused in 1991 (26 per cent), the relative majority are localised in the North East, but there are also several in North West and Central Italy. In the 1991 census, for the first time — and this is the most significant datum — a not negligible number of districts appear in areas of the South, mainly in Puglia and Molise¹⁶.

Figure 5 reconstructs the trend of total employment share of the districts in Italian manufacturing as a whole, using alternative thresholds to define the small firm¹⁷. Defining the small firm with the threshold of 100 employees, as has hitherto been done, the manufacturing employment in the districts totalled 32 per cent in 1991; it rises to 34 per cent if the threshold of 200 employees is used (among those available, this comes closest to the European Union indication). Use of one threshold rather than another essentially affects the number of the districts censused, and hence the value of the share of manufacturing employment out of the national total working in the districts. However, the temporal dynamic of this share does not alter much, above all in the last three decades.

As can be seen from Figure 1, the weight of the districts has been markedly increasing in time, especially in the 1970s and 1980s, whatever the threshold employed. If, in order to compare all five

¹⁶ It is likely that in the South the local systems where large agglomerations of small firms operate are more numerous than is evidenced by the procedure adopted. This may be the result of a greater tertiarisation by the southern cities, and the large amount of clandestine activity often occurring in small South Italian firms. The whole subject has received extensive treatment from Meldolesi (Meldolesi 1996; Arbitrio, Del Monaco, Meldolesi 1996). In future, attempts must be made to evidence these productive systems by using procedures modified with respect to those employed in this essay. Some attempt in this direction has already been made by Sforzi (ISTAT 1996) who applied the procedure used for the country overall, but confining the analysis to the South, so as to lower the national averages used as threshold by the algorithms. In any case, it must be reiterated that for the South, more than other parts of the country, field studies play an essential part in achieving good results from the investigation.

¹⁷ As said, the thresholds for defining the small enterprise are used in stage 2 of the procedure of identification of the districts (which checks that in the whole manufacturing industry of the local system the employment share in the small firms is above the national average), and in stage 4 (which checks that

censuses, the small firm is defined with a limit of 100 employees, in forty years the share of employment of the districts has tripled in importance: from 10 per cent in 1951 to 32 per cent in 1991. What is surprising is that the entire trend seems to be determined by the districts with the lowest threshold, “less than 20 employees”, a datum available only from 1961 onwards. In 1991, with a threshold of 200 employees, the employment share of the districts is 34 per cent; in the same year, the share of those with a threshold of 20 employees is 24 per cent. This gap of 10 percentage points has remained more or less unchanged in the last two decades. The datum stands as confirmation of the fact that in the districts the smallest productive units play an extraordinarily important role. They probably mark the overall efficiency of the districts as against other production systems. Where technology and economies of scale allow, the smaller and more numerous the firms, the greater the likelihood that a dependent worker will become an entrepreneur; and the larger the share of entrepreneurs out of the total employed, the stronger are the incentives towards efficiency, productivity, and commitment in work.

The demography of the districts

Over the four decades, new districts have sprung up, others have lost importance, yet others have decayed, some have grown considerably, others have lost jobs, many have changed dominant sector.

Table 3 gives a preliminary demography of the districts, with survival rate, and death and birth rates in the four periods studied. The size threshold of the small firm used to identify the districts is 100 employees, the nearest to the threshold fixed by the European Union among those available for the whole period¹⁸.

Analysis of the data very clearly shows how greatly the trend differs over time. In the 1950s few districts are born and the death rate is very high. In the last three decades, on the contrary, the birth rate (very high in the 1960s) tends to fall markedly, but the death rate falls sharply, hence the survival rate shows a strong increase. In other words, the likelihood of a district’s survival over time appears much greater in the last three decades studied, testifying to their greater solidity. This trend can probably be explained by the fact that the algorithm captures those that we previously defined as “predistricts”, i.e. those local systems having features of industrial structure compatible with the districts without actually being true districts themselves. As said above, many predistricts of the 1950s were probably aggregations of non-efficient small firms, similar to those described by Lutz (1962) and Graziani (1969) in the 1960s, the majority of them localised in the southern regions of Italy.

Another interesting datum concerns the variation not in the number but in the employment of the districts over the decades (Table 4). This employment swells very rapidly (by 70 per cent in the 1950s, by 67 per cent in the 1960s), then continues to grow, but more and more slowly (47 per cent in the 1970s, 10 per cent in the 1980s). Indicative of the districts’ competitiveness is the fact that employment throughout Italian manufacturing between 1981 and 1991 dwindled by 10.36 per cent, whereas in the same decade manufacturing jobs in the districts actually grew.

These increases in employment can be broken down into three parts, that indicate, respectively, by

the same condition is satisfied also in the individual sectors of specialisation).

¹⁸ For the 1971 census, a threshold of 200 employees is also available. The trend of the figures, in these last two decades, does not alter much if this threshold is used instead of that of 100 employees.

how much employment changed in the districts that survived from one census to another, how many jobs were lost owing to the demise of pre-existing districts, and how many were created by the formation of new districts. The figures show that the three series of variations diminish regularly from 1951 to 1991, but at different speeds. The rates of increase in employment in the surviving districts slump, in spite of the rise in survival rate, and actually change sign, becoming negative, from an increase of 35 per cent in the 1950s to a fall of 3 per cent in the 1980s¹⁹. The drop in employment in the districts, due to the disappearance of districts themselves, over time becomes smaller as a result of the fall in the death rate and of the fact that only the especially weak ones tend to disappear. The increase due to the formation of new districts dwindles, but it remains very noteworthy, since in the last decade it accounts for nearly 26 per cent of the variation in employment in the districts.

The three phenomena are closely correlated, as is often the case also for the demography of firms. In particular, the decrease in employment in the surviving districts is intimately linked with the rise in employment in the new districts. Many case studies, especially in the textile sector, show that the “old” districts yield their employees to the new ones, often in this way stimulating the formation and growth of the latter. The district of Carpi, for instance, has shifted a number of production stages to the textile and clothing districts of the Adriatic coast and the South, moving stages that are less complicated and with longer delivery times to lower-income areas. This spur to growth of the new districts in local systems in the South on the part of entrepreneurs in the northern industrial districts is also documented for footwear and apparel, though it requires more in-depth investigation.

The weight and role of the large firms in the productive texture of the industrial districts

The employment estimates just discussed refer to the total manufacturing employment ongoing in the districts. But the population of the firms within the districts is not homogeneous and, most importantly, has altered over time. We must therefore take a closer look at the workers in the districts.

One can distinguish three sets of workers to which the different “systems of firms” correspond.

The first work in the firms of the sectors in which the district specialises. If we consider the procedure for identifying the districts, the sectors in which a district specialises are those in which, within that district, the amount of employees in the sector exceeds the national average, which is the case of the employees in the small firms. This share of work force may be called employment in *specialised small-enterprise sectors*.

A second group of workers is employed in sectors where the district has no specific specialisation, but in which the small firms are prevalent. These workers represent employment in *non-specialised small-enterprise sectors*.

The third group work in sectors where the small firm is not predominant²⁰. This is employment in

¹⁹ This estimate certainly tends to undervalue the increases in employment recorded in the surviving districts, above all during the 1980s. As was seen, Sforzi noted that from 1981 to 1991 many local systems, and many districts, became larger. The district of Prato, for instance, extended into some communes in Casentino, which by now belong within the productive system of Prato. This phenomenon is not envisaged in the estimates referred to in the text because, for the reasons given in the previous paragraphs, the boundaries of the local systems and the districts were preserved in the five censuses.

²⁰ These definitions can be more precisely formulated by referring to the procedure of identification of

predominantly medium- and large-enterprise sectors. The total manufacturing employment (as mentioned in the previous paragraph, and which is also the one that appears in the ISTAT reports quoted above) is of course the sum of the three groups of employees. It gives an idea of the extent to which the Italian industrial system is localised in the *territory* of the districts and, at least in part, obeys the rules of the districts.

Table 5 singles out, for the five years considered, the relative weight of the different enterprise systems present in the districts.

Specialised working grew in importance from 41 per cent in 1951 to 50 per cent in 1991. The growth of the specialised sectors within the districts encourages the spread of the small firm also in other industrial sectors, where however the threshold of specialisation is not reached. The non-specialised sectors, in which the small firms predominate, increase from about 19 per cent of total employment in the districts in 1951 to 27 per cent in 1991. This occurs to a larger extent in certain industries, like publishing and printing, metal-working, foods, and paper.

Of particular interest is the share of district employment attributable to the sectors dominated by the medium-large firms. This share was very important in 1951, equal to 40.2 per cent of the total employment — a figure almost equal to that of specialised small-firm employment. Over the forty years, however, this percentage almost halved, down to 23.1 per cent in 1991²¹. This datum is not without importance: the districts have more and more the configuration of the territory of the small entrepreneurial initiative. For the total of the sectors where the small firm predominates increases from 60 per cent of total district employment in 1951 to 77 per cent in 1991. This in no way suggests that the large firm has disappeared from the districts. In many cases, presumably, the large firms have remained where they were, though with diminishing employment levels. What has happened, however, is that a strong development of small-enterprise systems has occurred around the large firms, with close mutual relationships among them, and this has gradually rendered the role of the large firms less important. As a result of this, in several districts some sectors where the large firm predominated in the first post-war decades have by and by become dominated by the small firms. This is especially the case with mechanical engineering. For only 5 per cent of the total employees in that sector in the districts work in systems where medium-large firms predominate, as against an average of 23 per cent for all sectors.

The data reported in the previous table suggest a number of considerations. In some cases, it is merely a matter of more precisely specifying the significance of the distinctions used, while in others the aim must be to throw more light on the interaction among large and small firms within the industrial districts.

Specialised small-firm employment, inside the districts, also comprises the employment of some large firms operating in the sector of specialisation. Modena, a district specialising in mechanical engineering,

districts. In order to be called “district”, a local system must still satisfy conditions 1 and 2: the first group is that of the sectors that also satisfy conditions 3 and 4; the second comprises the sectors that satisfy 4 but not 3; and the third is that of employees who do not satisfy condition 4. It can easily be seen that the classification proposed defines the sectors of the third group regardless of condition 3, and thus takes no account of their possible specialisation.

²¹ Employment in the “sectors where medium-large firms predominate within the district” and that in the firms with more than 100 employees are in no way comparable. Still, it is worth recalling that, from 1951 to 1991, in manufacturing, the employment share of firms with more than 100 employees fell from 45.5 per cent to 32.2 per cent of the total. This suggests that the weight of the medium-large firms dwindled

includes in its specialised small-firm employment the 1800 employees of Fiat New Holland. In Monza, the mechanical specialisation includes the employees of Candy. Situations like these are, however, very rare.

Within the districts, however, the presence of large firms in sectors where medium and large firms predominate is fairly common. At Treviso, with its textile specialisation, De Longhi numbers 1500 employees. At San Bonifacio, Verona, which retains a textile specialisation, Ferroli (with four factories in Europe and about 1600 employees) produces boilers.

One may wonder to what extent situations like the above cast doubt on the importance of the estimates performed and the comments made.

A first response may be to question the efficiency of the procedure proposed for identifying the districts and their specialisations. It can be remarked, for instance, that the algorithm, of necessity, perceives the local units and not the firms, and above all fails to perceive the groups, i.e. the productive units legally distinguished but connected by financial or property ties (Barca *et al.* 1994).

There is, however, another stronger response, which also has a weighty theoretical justification. The districts, in general, are labelled on the basis of their predominant sector: Carpi for textiles, Vigevano for footwear, Pieve di Cadore for eyeglasses. Specialised employment in the dominant sector and in the other specialisation sectors, which are frequently linked with the former, constitutes the strong core of the districts, the skeleton around which a district takes shape and develops. The particular economic and social atmosphere enabling districts to grow and be competitive takes concrete form around the dominant sector and the other specialised sectors. This atmosphere, however, is not confined to small-enterprise sectors, which may also change over time, but roots itself in the social texture and becomes part of the territory. Alongside the dominant sector and the other specialisation sectors, other industrial activities may emerge and develop, not necessarily specialised but themselves, also, characterised by the widespread presence of small firms and sharing the same system of values. Within this texture of small firms large factories may spring up, born before or simultaneously with the district, or after it took shape. But it would be wrong to view the medium and large firm localised in the district as a foreign body having nothing to do with the network of social and economic relations by which persons and firms in the district are bound together.

Within the district, large and small firms interact in two fundamental ways. Firstly, they interact through the labour market.

The workers at Fiat New Holland in Modena are very different from the workers at Mirafiori. They know that they can set up as self-employed when they want and if they are able. They know that the artisan associations, the Commune, perhaps even Fiat New Holland itself, will give them a hand. Working at Fiat, being self-employed, working in an artisan firm are all feasible alternatives, large depending on one's own motivation and inclinations. This is the significance of those working careers where, as many studies show, the passage between self-employed work and dependent work, in large or small factories, is so frequent (Solinas 1982). For that matter, the workers in small firms, too, know what working at Fiat entails, and can compare their wages (and the category in which they belong) with what they would earn by working at Fiat. It is the real unification of the labour market that ensures a certain

more within the districts than in the average of the country as a whole.

uniformity in the conditions of life, in values, in cultural references throughout the whole texture.

The second interaction, perhaps just as strong, occurs through the close production relationships, and through the exchanges of knowledge that take place through those relationships and through the movement of workers from large to small firms or vice versa. In Emilia and the Veneto it is often possible to reconstruct the “genealogy” of a sector and how, over the decades, a sector has developed out of a starting factory whose technicians have subsequently left the firm to set up an independent enterprise and make a specific product whose technical feasibility and market potential they have glimpsed (Brusco - Rinaldi 1991). Thus was born, for instance, the packaging machine sector in Bologna. Nor does knowledge move only one-way from large to small firms. The transfer of an important part of Tetrapak from Sweden to Modena, or the opening of a Nike factory at Montebelluna, have the aim of exploiting a productive system rich in innovations and stimuli.

To sum up, through one channel or the other large and small firms influence one another, and both change their nature. In this interaction in a small territory, we find the same kind of relation that Vaccà (1995) has described for the large multinationals who set up branches far from their place of origin and, if they want to exploit the opportunities of new investment to the full, must adapt and absorb the fundamental characters of the new socio-cultural context in which they operate.

There are some cases, often cited in literature, of large firms that in different ways have spurred the formation of district systems. Magneti Marelli brought to Carpi a series of skills that, years later, were to prove useful even in the formation of the biomedical district of Mirandola (Solinas 1993). Another example is Conegliano in the province of Treviso, where the mechanical district was able to emerge and develop thanks to the presence, since the 1950s, of the large domestic appliance firms, first of Zoppas, then of Zanussi. In all these cases the large firm, which was essential in the take-off stage of the district, gradually lost its predominance and centrality to the advantage of a system of small firms that retained its market autonomy and its independent ability to grow.

Large and small firms, then, can coexist side by side, with mutual profit. Still, it remains true that this fruitful coexistence demands a difficult equilibrium, that may rupture if the large firm acquires too much importance. In such a case, the logic of the large firm becomes too predominant, to the point where it displaces the system of values and powers that previously informed the community of producers. At bottom, it is this datum that the algorithm used here seeks to capture when it affirms, for instance, that the district of Pesaro, which had a small-firm specialisation in the “wood and furniture” sector in the censuses of 1971 and 1981, lost this specialisation — even while retaining the qualification of district — in 1991 owing to the increase in size of its large firms producing cookers.

4. The importance of the production of districts in certain specific sectors

The importance of the districts changes according to industrial sectors. Technology, which influences economies of scale, and the characteristics of the demand, that affect the variety of the products, make the organisation of production by district more or less convenient. The districts tend to affirm themselves in the less concentrated sectors, where the optimal size from the point of view of productive economies of scale is restricted and where the standardisation of products is low.

Productive specialisations and technological level of the districts

The total manufacturing employment of the districts can be broken down by sector, and for each sector the share of employees working in the district can be calculated. Figure 6 reports the results of this exercise.

For purposes of comparison among the various censuses, the sectorial disaggregation is not very high, and 14 manufacturing sectors are taken into account. A very interesting picture emerges, as regards both the values and the change of the shares over time. As expected, the districts dominate in the “clothing and footwear” and “textile” sectors, with 52 per cent of sectorial employment in 1991 (threshold 100 employees), and play a very important part in the “wood and furniture” (about 40 per cent of employment) and “leather” (38 per cent) sectors. The districts are of great importance in the working of “non-metal minerals” (33 per cent) that includes ceramics, marble treatment, but also jewellery and goldsmithing, and in the group of “plastic and other manufactures” (33 per cent), which comprises a heterogeneous set of industries, producing e.g. musical instruments, sports articles, toys, lamps.

Figure 6 also shows the temporal dynamic of the employment shares, analysis of which suggests two main remarks.

The first concerns the employment weight of the districts. Except for “tobacco” and “publishing and printing”, the role of the districts has been constantly growing in all industrial sectors. The increase in employment share of the districts is in some cases really astonishing — as in the case of textiles, where the figure rose nearly ten times in forty years.

The second thing to note is that in the majority of cases the increase is distributed, on average, more or less equally in the two twenty-year periods, 1951-1971 and 1971-1991. In particular, the first of these periods appears of decisive importance in the growth of the textile districts and those of tanning and leather working. The second period is comparatively more important for clothing and footwear, mechanical engineering, non-metal minerals, paper, and much more important for rubber, plastic and other manufactures. This is further confirmation of the fact that the districts do not represent a typical phenomenon confined to the 1970s and 1980s, as the literature often suggests, but in at least some sectors industrial structures compatible with the district took shape and were already present in the 1950s and 1960s, as the analysis of the districts’ demography has already hinted.

As can be seen, these results seem to confirm the widespread opinion that districts prosper in so-called “traditional” sectors — those that in the various Pavitt-type (1984) classifications are held to be at low technological level or, alternatively, with “mature technology”. This conviction has played an important part in obstructing the formation of a balanced judgement on the competitive abilities of the systems of small firms. In actual fact, these classifications rest essentially on a prejudice, whose theoretical foundations can be spelt out.

In the first place, this prejudice is deeply rooted in the conviction whatever cannot be measured does not exist. Any research worthy of the name must be performed in laboratories with a brass plate on the door, and must be certified by an appropriate item in the company balance. Perhaps it is no accident that research expenditure is indicated as R&D, in capital letters. Research spending by small entrepreneurs who, by trial and error, build a prototype of a machine tool, or make the model for a garment, is seen as

trespassing in this field²². The number of patents is often used as a proxy of all the research activity, though there is plenty of evidence that, for a long series of innovations, the entrepreneur views the patent as a hazard since it reveals in detail a procedure or design that may easily be copied by adapting it with some slight alterations.

Again, the prejudice can be explained by an unbounded faith in the market power of big science, with a short-sighted contempt for incremental innovations. The discovery of nylon is assumed to have brought very important advantages, and this is certainly the case, even though the crises of many large plastics firms shows that the invention of a new polymer does not always guarantee the firm against competition. But it is further assumed that composing a balanced mixture of cashmere or merino wool with a minimal amount of nylon flake (such as to produce a light, very soft and hardwearing material) is a problem any old hand can tackle. If it then turns out that the producers of menswear materials in Prato or Biella edge the most famous British producers out of the international market, this will be said to be a short-term short-lived competitive advantage, “certainly not such as to underpin the competitiveness of a country”.

Lastly, the judgement on the innovative ability of the Italian districts neglects one incontrovertible fact. In the districts, not only clothes, shoes and furniture are produced. As can be seen from Figure 6, the districts have an appreciable weight also in the sector generically called “mechanical engineering”. In 1991, 26 per cent of employees in this sector worked in local systems with district characteristics. The “mechanical” sector comprises a large number of activities profoundly different among themselves. Some are clearly dominated by large firms, like cars, domestic appliances, and electronics; but there are many others, more limited in size but of great technological importance, where the districts play a leading role and where Italy enjoys a clear comparative advantage in the international markets. To name but a few, medical equipment, some precision engineering segments, optical instruments. The districts also produce machines for iron and wood working, machines for furniture or footwear production, machines for producing tiles or jewels. Regarding these goods, it is hard to speak of design and attention to the consumer. The attention is focused on the production processes, the utilisation of electronic techniques for long or short mass production, efficiency, flexibility and the low cost of fixed capital. The kidney dialysis machines produced by the small firms at Mirandola, then purchased — and with good reason — by the big multinationals, cost half the price of the previous machines. The Mirandola entrepreneurs, with factories employing 100 to 200 workers, have trodden the same path usually attributed to the Japanese: redesigning an existing product, making it more efficient and less expensive.

To conclude this discussion, it may be of use to emphasise two crucial points that tend to be ignored.

Reappraisal of the role of incremental innovations does not imply underestimating basic research, or the formalised applied research performed in big laboratories. Merely, a balanced view is needed, in which a not marginal role is also played by design, the ability to perceive the deep-seated, often unexpressed needs of the consumer, the capacity to defend a market with a wealth of project that others may not possess.

This commitment to judicious assessment of the various forms of technical progress does not rest on

²² Sabel (1984) has written, with his customary acumen, of the ability of the districts to produce technical progress, and of how this happens. Russo (1996), with accuracy and a wealth of detail, has studied “the several doors” through which new technologies enter the districts.

exalting the function of know-how, while undervaluing codified knowledge. On the contrary, there is an awareness that incremental innovations or innovations of product nearly always spring from an intense and frequent relation between know-how and the knowledge in books and in the world; that interaction between the two kinds of knowledge is hard to bring about, and is often subordinate to the presence of efficient institutions, designed and planned to realise this aim²³. In speaking of a correct relationship between local and global, the reference is, first and foremost, to the way this goal can be achieved.

The role of small-enterprise systems outside the districts

As was seen, in the individual sectors the districts account for about 32 per cent, if we take their total employment. This, however, in no way implies that 68 per cent of employment is distributed in the medium-large enterprise systems, or in isolated small firms. A large share must be ascribed to *specialised small-enterprise systems localised outside the districts*.

An important part of these is accounted for by urban areas, which are excluded from the algorithm used to select the industrial districts, either because the weight of the industry decreases in favour of tertiary activities or because the important presence of some large firm(s) in the territory prevents the condition of small size for the manufacturing industry as a whole from being satisfied²⁴. The reason for exclusion, in this case, is that the towns — at least, the large ones — by their very nature represent a territory too socially and economically heterogeneous, where one is less likely to find that close community of enterprises and people and the shared values that are such obvious features of the industrial districts.

This argument may, however, be unsatisfactory in a number of cases. The local system of Udine, for instance, stands after Monza as the largest concentration of small firms in the furniture sector, with 8-9000 employees in the last three censuses. Yet this territory never figures as a district because it does not meet the first condition of the algorithm. As for Monza, with 14,000 employees in the furniture sector, it, too, does not figure as a district before the last two of the censuses, since formerly it failed to satisfy condition 2 of the algorithm referring to the average size of manufacturing firms²⁵.

In the literature on the districts these productive systems have not yet received much attention. To be sure, there are many cases in which these *systems of small enterprises outside the district*, identified by the algorithm, are simply the small firms present in a large metropolitan area that are numerous merely because the local system to which they belong is very large, but are not linked by any network of social and economic relations. However numerous and physically close, these firms are immersed in the dense

²³ On the need for ongoing linkage between local knowledge and codified knowledge important material can be found in Becattini and Rullani (1993).

²⁴ Referring once more to the procedure for identifying the districts, the small-enterprise systems outside the districts are those that satisfy conditions 3 and 4 of the algorithm adopted, but belong to local systems that do not satisfy condition 1, or condition 2, or both.

²⁵ Anastasia, Corˆ and Crestellano (1995) cite two cases like those of Udine and Monza. In 1991, the algorithm used by ISTAT (and in this essay) failed to perceive the glass district of Murano, which is comprised in the local system of Venice. The footwear district of Riviera del Brenta — perceived and censused with the boundaries of the local systems of 1981 — disappeared in 1991, because the increased commuting included the towns along the River Brenta in the local system of Padua, within which the footwear district could no longer be perceived.

texture of heterogeneous economic activities that characterises the large metropolises, and they ultimately operate in a dispersed, isolated way, even if they do similar things and are located at a few kilometers' or even a few hundreds of meters' distance from one another. In other cases, however, matters are different. There are exceptions that need to be reflected on. The textile district of New York, for instance, is all concentrated in a single area of Manhattan²⁶ (Kenyon 1964, Scott 1988) where practically no other important activities are performed, and there, to be sure, there exist rules, forms of co-operation, devices for diffusion of knowledge, processes for exploiting workers' know-how. Very similar things occur in the Sentier area of Paris (Dubois 1988, Prudhommeaux 1994). And again, the recent literature on "edge cities" (for example, Garreau 1992) underlines the tendency towards territorial concentration and sectorial specialisation in the suburbs of great metropolises like Los Angeles. Rather than being appendices dependent on the centre of the city, these systems constitute autonomous industry-cities that may have some characteristics in common with the industrial districts.

So, once again, analysis pure and simple of the industrial structure turns out to be insufficient, and the need is for an analysis at closer quarters, using instruments from a variety of disciplines. Even though every effort must be made to work out procedures that enable what really happens to be perceived, case analysis remains indispensable.

Table 6 measures the share of the employment in different enterprise systems out of the national total, among which that of the specialised small-enterprise systems. As can be seen, in 1991, the share of these systems is only slightly greater than that of the specialised small-enterprise systems of the districts (16.4 per cent as against 15.9 per cent). The temporal trend of the non-district small-enterprise systems is, however, very different from that of the districts: the latter, in forty years, have tripled their share of total national employment, whereas in the same period the former have seen their share dwindle by around 7 percentage points (see also Fig. 7).

5. The districts change in time

Districts, like firms, change in time. The product changes, as does the level of vertical integration, the links with the centres that furnish scientific and technical knowledge become tighter or slacker, the markets change, the network relations with other firms or with other productive systems alter.

Of course, as was seen in the previous pages, many local systems lose the features that make them districts. It has already been shown how this may sometimes happen because a large firm assumes a preponderant role, but it may also happen because, as in the case of the districts of the Marche which produced musical instruments, foreign competition on the market overcomes the district productive structure.

Though it is highly instructive to study defeats, we shall here confine ourselves to some remarks on the evolution of the districts that have survived and been successful.

In this case, it is not possible to assess the normative outlines of evolution — and for a simple reason: namely, that the decisions taken by the district are not coordinated, not weighed beforehand by a

²⁶ From Scott 1988, pp. 75-6, we learn that today, the entire industry is concentrated in the central area of Manhattan in the few blocks running from 34th Street on the south to 40th Street on the north, and from

collective rationality, however limited it may be. The hundreds and thousands of brains in the district proceed according to individual mechanisms, by trial and error and by imitation. This is a source not merely of weakness of the district but also of strength. To study which are the conditions of success of a district is not a problem of optimisation, and analysis of the way in which a rational agent must choose between possible alternatives. It entails, if anything, the study of which industrial policy interventions can best encourage the growth of a local system.

It is, on the other hand, possible to retrace certain elements of regularity that have marked the path trodden by the districts over these last forty years. The data come from two sharply dishomogeneous sources: the data produced, census by census, by the selection procedure applied to the local systems; and the case studies, that by now constitute a body of research that — even though of disparate value — yields a wealth of valuable information.

From the first source that, as was said, studies the “predistricts”, comes some interesting information, almost all of it concerning the history of the diversification of the districts.

Very frequently the products of a district change in time. Carpi went from a specialisation in “wood and furniture” (actually, the treatment of wood shavings) to textiles (knitwear). Prato travelled the same road, from woollen textiles to working the entire textile range (cotton, synthetic fibres, even silk). New specialisations appear alongside the old ones. During the 1970s, Carpi added garments to knitwear, while Empoli in the 1980s added leather working to garments.

Two cases of diversification crop up very frequently. The first is the emergence of a mechanical specialisation. This occurred at Vigevano, where footwear gave rise to production of machines for footwear manufacture, or at Sassuolo where, along with tiles, machinery for the ceramic industry is produced. The second case is, substantially, only an odd detail, incomprehensible at first glance. In many districts, a specialisation in paper-cardboard technique is added to the traditional specialisation. But it is hardly surprising that the production of shirts or shoes stimulates the production of boxes for packaging them.

One can scarcely fail to notice how almost all these diversification processes hinge on a set of well-defined skills that gradually extends into fields of kindred activity.

These diversification processes are also reflected in the census data, and in their elaboration. The distribution by sector of specialisation changes markedly in time²⁷. Some specialisations become less widespread. In 1951 about half the districts had a specialisation in the food sector. Similar or higher values figured for “wood and furniture” and for “clothing and footwear”. But in 1991 only one district out of five shows a food specialisation. Clothing and wood also appear less frequently. In 1991 clothing is present as a specialisation in 44 per cent of the districts²⁸, and wood in 37 per cent.

Other specialisations, on the contrary, become gradually more usual. In 1951 a mere 6 per cent of the

Sixth Avenue on the east to Eighth Avenue on the west.

²⁷ As against that, from 1951 to 1991 the change in the number of specialisations per district is scarcely significant: from 2.41 to 2.67.

²⁸ The figures reported for “clothing and footwear” in the text are strongly influenced by the presence and sudden disappearance of the predistricts of the South, as mentioned several times above. In actual fact, the very high incidence of this specialisation in 1951 slumped to 29 per cent in 1961, only to rise again steadily in the subsequent years, reaching 44 per cent in 1991.

districts specialised in “plastic and other manufacture”. In 1991 the figure rose to 27 per cent, accounted for by sports goods, lamps, musical instruments, dolls and toys. These products are often concentrated in a local system that ends by playing an important role in the European and world market. The mechanical specialisation has already been mentioned. From a presence of 10 per cent in the districts in the post-war period, it had risen to 23 per cent at the last census. This is a further sign that the district does not live by textiles alone. And yet further confirmation comes from the trend of metal-working which, among the other sectors, comprises tube manufacture, metal printing and profiling. At the start of the period this specialisation featured in 0.7 per cent of the districts, rising to 11 per cent. From the analysis of the case studies three things may be usefully remarked.

The internationalisation processes have gone ahead rapidly more or less everywhere, but in very different ways.

The Veneto textile districts, and also the Puglia ones, have set up several production branches abroad, respectively in Slovenia and Albania. Cases like these are much rarer in Emilia and Tuscany. Emilia, on the contrary, has witnessed the arrival of a fair number of foreign firms. Fini was bought up by Kraft and Tetrapack moved its main research centre to Modena, in order to make best use of the flexible, competent network of local artisan metalworkers. Armani took over Simint, in order to exploit the skills and high professionalism of the clothing sector artisans of Modena and Carpi. Nike set up its own factories at Montebelluna, so as to remain up to date with the technological innovations that frequently and regularly emerge from this district.

The size of the firms, too, changes in different ways from one place to another.

Starting from the late 1990s, in the textile and metal-engineering districts of Emilia there has been a steady fall in the number of firms with less than 5 employees. Whereas the firms with 5 to 20 employees have increased. This, *inter alia*, is one of the reasons why the ratio between firms born and firms present tends to diminish. In other words, there is a shift towards firms that have at least a minimum of organisational structure, and where some form, at least embryonic, of separation between the various entrepreneurial functions can be perceived. However, nothing of this kind seems to be happening in Tuscany.

Almost everywhere, on the other hand, there is an increase in the size of what Fabrizio Barca has called the “economic firm”, as against the “juridical” firm. There is an increase in size of the “groups” of firms, composed of enterprises linked by cross-holdings or controlled by a single company acting as a holding company or head of the group. In the Veneto, above all, there are more and more frequent instances where juridically distinct artisan firms work under the same roof, directed by a single entrepreneur and separated merely by a wooden partition put in place for the benefit of the Inspectorate of Labour. This phenomenon sometimes goes hand in hand with growth in size of the juridical firms. If the phenomenon is very accentuated, as seems to be the case of Santa Croce sull’Arno, the role of the smaller firms dwindles to such an extent that the district risks losing one of its basic distinguishing characteristics, and turns into a productive system with different peculiarities.

6. Some data on the performance of small firms and districts: wages, profits and exports

There is no information that enables us to evaluate satisfactorily the performance of small firms in the

industrial districts and its evolution over time. The available data are scanty, and often episodic. Still, one can attempt to outline a picture that shows at least the orders of magnitude of some important parameters.

Wages

In the discussion on the role of small firms in Italy, the question of wage level has always occupied a central position.

Vera Lutz (1962) and Augusto Graziani (1969), in their studies written in the 1960s, viewed small enterprises as the point of backwardness and exploitation. Low wages — claimed these authors, though in different analytical contexts — are the means by which small firms manage to offset the low productivity of their workers, which, in turn, originates from the low level of investment and the scant capacity for accumulation. In the debate in the 1970s, small firms mainly played a “sponge-like” role (Paci 1973, Frey 1975), being able to soak up the work force that fails to find employment in the advanced sector where the large firms operate.

The arguments that arose within the FIOM at the start of the 1970s raised once again the question of the poor working conditions of those employed in the smaller firms. Precise evidence for this phenomenon comes from all the surveys conducted by the union, above all in Emilia, Veneto and Lombardy²⁹. The smaller firms no longer represent the backward sector of the economy, but are seen as functional to the large firms, that commission them to perform entire stages of a production process. It is claimed that the smaller firms are simply “detached departments” where, with the intermediation of the artisans, the large firm can carry on levels of exploitation that would otherwise be forbidden by the unions. In the course of this long debate, Brusco (1975) and others have shown that in several cases the technology of the small firms is perfectly comparable with that of the large ones (the machines, it is said, are the same, so why should productivity differ according to whether they operate under the one roof or in different locations?). But this line of research clearly demonstrates that the workers’ condition in the smaller firms is inferior to that in the large ones. Wages are lower, overtime more frequent, and payment under the counter and black work are generally more widespread.

This situation, at least as far as is shown by the data in Table 7, seems not to have changed much between the 1970s and 1990s. Setting the wages in the larger firms at 100, those in firms with 20 to 50 employees reach 67 in 1974-77 and 71 at the end of the 1980s. In practice, the differentials remained almost unchanged. And it should also be remembered that the differentials would have been decidedly higher if one were in possession of the data regarding the firms with less than 20 employees.

²⁹ The essential texts of reference, exemplars of the work done by the union in this period, are: Flm Emilia Romagna 1972 and Flm Bologna 1977. As witness to the care and commitment shown by the union in this kind of research, one may also cite the volume published at Verona in 1974. In this publication (Centro studi Federlibro, Fim, Sism-Cisl di Verona 1974), for some firms subcontracting for Mondadori, worker by worker (quoting first names and surnames so that anyone can check on the precision of the estimate), calculation is made of the “hourly pay of the workers if the wages were equal and the categories homogeneous by percentage with respect to the wages and categories of the workers employed in the same departments of Mondadori”. The results are striking and reflect the move towards decentralisation that was spreading in these years. The subcontracting firms have wages between 30 and 57 per cent lower than those at Mondadori. Of course, the situation reflects the particular state of things in Verona at that time, where Mondadori was practically the only commissioning firm. Since then, matters have probably improved.

How far can these conclusions reflecting the workers' conditions in manufacturing industry as a whole be applied to the districts?

In the nature of things, precise data on the districts are very scarce. But many things suggest that in the industrial districts the wage differentials (and, in general, the differentials in the workers' condition) are markedly lower.

An important line of investigation has been opened up by a fine piece of research by Signorini (1994), even if it was performed on too small a number of firms to enable generalisation. This offers hints for working that deserve consideration. Signorini uses the data of the Centrale dei Bilanci from 1982 to 1989, to study the wage trends (and other variables, dealt with below) at Prato, Biella, and in other "isolated" (i.e. not located in a district) wool firms³⁰. The results of the exercise are reported in the Table below.

These data suggest two remarks. Throughout the period, in the firms of the Prato district (whether large or small) wages are regularly higher than in the Biella textile firms and in the isolated firms. At Prato, "the *per capita* cost of labour is 20 per cent greater than that in the isolated firms; at Biella it is normally about 10 per cent greater. The sign of these differences remains the same, even if their amounts differ. At Prato, the gap concerning the cost of labour reaches a maximum between 1985, at the peak of the positive phase of the cycle, and 1987; it then diminishes slightly. [...] However, in 1989 it was still well above the average" (Signorini, pp. 45-6).

At Prato the differentials are inverted. Workers in small firms earn higher wages than those in the big firms. This is perfectly credible, if one recalls that wage bargaining between unions and artisan confederations in Prato has been going on since the beginning of the 1950s, that in small firms overtime is probably more frequent and more widespread, and skills are higher³¹.

These results are confirmed by another recent study, which suggests that they may occur in a great number of cases. The study analyses some thirty-five districts in the Veneto, Emilia and Tuscany, for the period 1986-94. The aim of the study, promoted by the International Labour Office - ILO (Brusco *et al.* 1996; Dei Ottati 1996; Crestanello 1996), was to ascertain in what way, during the last ten years, the Italian industrial districts had responded to increased international competition and the challenge from the globalisation of markets. Given the lack of resources needed, it would have been impossible to collect the necessary data for a statistically representative sample. The authors therefore gathered the data through interviews with privileged witnesses: entrepreneurs, trade unionists and technicians operating in the dominant sector in each district.

Similar conclusions were reached for the three regions. With reference to the dominant sectors, in the local systems studied the wages were nearly always higher (and rose faster) than in the other areas of the country. In other words, in the period studied, at Treviso, Carpi or Prato wages were above the Italian average for the textile sector, at Langhirano they were higher than the average computed for the whole

³⁰ Signorini studied all the firms in the woollen textile sector censused by the Centrale dei Bilanci, about 500. The sample is obviously not representative, but it is quite reasonable to think that "there exists at least a qualitative representativeness for each size class" (Signorini 1994, p. 37). Given the structure of the archive of the Centrale dei Bilanci, Signorini's data elaborations exclude firms with less than 10 employees.

³¹ As Signorini notes, "the Centrale dei Bilanci does not furnish the data needed to assess the relative weight of these factors" (*ibid.* p. 47).

Italian food industry, and so on.

In addition, the ILO research confirms what was said regarding the trend of employment in the districts, and shows that the especially high wage level coincided, in these areas, with a good stability of employment. This does not mean that in the districts studied employment never decreased. It means, instead, as has already been shown, that employment in these areas has always held up better than in the rest of the characteristic sector of each district. In many districts with a mechanical specialisation, employment increases even if the overall employment in the sector shrinks. In Carpi, the textile sector has witnessed a fall in employment, but much less than has occurred in the Italian textile sector as a whole.

These positive results for wages and employment at the same time belie, of course, the hypothesis that the increase in competitiveness necessarily leads to a fall in wages. But a large part of the employment in the district areas is concentrated in the smaller firms, and entrepreneurs and trade unionists have given a judgement on the wages usually paid in the area (and not of the wages by size class of the firms). These results therefore also cast some doubt on the presence of those large wage differentials mentioned at the beginning of the paragraph, and pose the problem of studying them with reference not only to the size of the firm but also to the different provinces and, above all, the different local systems.

In any case, the evidence given by Signorini (which does not take into account the firms with less than 10 employees) and the reports by ILO (which, as said, are concerned rather with average wage levels than with differentials) are not sufficient to furnish conclusive proofs. It is probably true — even if a heavy research effort would be needed to ascertain it — that, at least as far as an impartial observer can understand, the average wages of the tiny firms are lower than those of firms with over 50 employees. And there is an explanation for this, linked with the particular working of the labour market of the districts.

As Solinas has convincingly shown (1996), the labour market of the small district firms is much more profoundly segmented than the market of the large firms. The segmentation, at least for an important part, derives from the labour *supply*, not from the *demand*. Some of the workers in the small firms are “career” workers: meaning that they have made a choice, have decided to stake an important piece of their lives on a particular specialisation and a particular job. All the available information suggests that these workers earn wages comparable to, sometimes higher than, what they would earn in a large firm. A second group of workers comprises young persons doing a fixed-term job, or young persons in their first or second job in search of their path in life, or persons who somehow see the job as transitory. These are the young people whom Osterman (1980) has called in *moratorium*, and whom Solinas has estimated to number around 30 per cent of the total. These workers probably have lower wages than they would in a large firm. They are mostly young, give little to the firm (in terms of commitment), and receive much (because they experience the period of moratorium as a weaning from family life, a getting accustomed to the discipline of work in the factory³², as a professional training school, and as a process of research by trial and error into their inclinations). So it is to some extent reasonable that the smaller firm, which is ready to

³² The disadvantage for a firm of taking on a young person who has never worked in the factory before can be deduced from the fact that, at parity of age, the period of first job seeking lasts eighteen months on average, whereas the period of job seeking for a worker of the same age already with experience of work is only three months on average. The datum refers to Emilia Romagna, the early 1980s (Brusco - Solinas 1986).

hire them in this difficult period, should pay them a much reduced wage. Large firms, on the contrary, are not concerned in the matter, since they do not hire young persons with no clear outlook, and so have no workers in this very low wage band.

The larger presence in the small firms of these young workers who are going through a process of growth and experiment may have two consequences.

The special role played in the labour market by the small firms in the districts (that of inducting young people into subordinate work) may account for a differential (even though a reduced one) in the cost of labour between firms, when the average labour cost in a small firm is compared with the average cost in a large one. There is no actual proof of this wage differential, in the districts; but if there were, it might be thus explained.

In addition, the larger presence of young workers should, in the smaller firms, give rise to greater wage differentials *within the firm*.

From all these hypotheses it comes the need to study wages and labour costs, if possible in small territorial areas, and to analyse the influence of the individual worker's age (or rather seniority in work) on wages. For age and seniority are probably good proxies enabling those young workers in *moratorium* to be identified.

Profits

In the districts, a good wage and employment trend has usually been accompanied by a good trend in profits.

Following the procedure adopted in the previous paragraphs, in this case, too, it will be as well firstly to recall the data available for all the smaller firms in the country, and then to cite the very few data available for the districts.

Table 9 shows that, in the period considered, calculating the values over Italy as a whole, the proportion of gross profits³³ out of value added always remains higher in the small firms than in the large ones. And, "since the capital/value added ratio is certainly not greater in the small firms than in the large ones, the greater gross profits/value added ratio implies a higher return on capital" (Barca - Magnani 1989, p. 252). In addition, as again noted by Barca and Magnani, the intertemporal variability of the proportion of the profits "is always rising with the growth in size"³⁴ of the firms. It can easily be seen, however, that the profitability differentials fall as, in the late 1980s, the larger firms reorganise and restructure.

In many small firms, this higher capital return is certainly connected with the lower wages reported in

³³ Gross profit, sometimes given as "gross operating margin" (), is defined as the difference between the value added and the sum of the incomes from labour of the dependent and independent employees. (If the turnover is taken as the initial reference point, the ... is defined as the difference between turnover and the sum of expenditure for purchase of materials and services + incomes from labour.

³⁴ "The standard deviation measured on the logarithms of the proportion of the profits for the MSEs oscillates, as the sectors vary, between 7 and 14 per cent; for the MLEs it runs from 20 to 70 per cent (concentrating around 35 per cent)" (Barca - Magnani 1989). Barca and Magnani subdivide industrial firms into three bands: those with 20-99 employees, medium-small enterprises, MSEs; those with 100-199 employees, medium enterprises, MEs; and those with over 200 employees, medium-large and large enterprises, MLEs.

Table 9. Thus there remains the doubt that this very high profitability does not occur in the districts, where, as seen, the wages are higher than the average in the dominant sector of the district.

At this point, Signorini's above-mentioned study comes to the rescue. The results are reported in Table 10.

The ROI (return on investment) is a better index of profitability, since it cuts out the distortion effects that may derive from a different capital intensity that separates small firms from large ones. Alas, data concerning firms with less than 10 employees are lacking yet again. There are elements to suggest that the situation does not alter with respect to the larger size class, but there are others (for instance, the gradual reduction in number of firms with less than 3 employees) that might lead one to suppose the contrary. Substantially, the only thing that is clear is the absolute need for the national statistical service to bend all necessary energy towards this task, even while aware of the extraordinary difficulty of producing data on this particular portion of Italian industry.

Signorini's results are in any case of the greatest interest.

At Prato, the ROI is always greater than the average; once again, this result is valid for every year and for each size class (with the sole exception of the largest firms in 1987). [...] The Biella firms, too, generally show a higher ROI as against isolated firms. Nevertheless, at least up to 1985, this fact is due more to "large" than to "small" firms. [...] This fact seems to indicate that certain economies of agglomeration also exist at Biella, but that they work somewhat differently compared to Prato, i.e. mainly through medium-sized firms³⁵ (Signorini 1994, pp. 44-5).

On the point under discussion here, Signorini substantially concludes that "in spite of the higher *per capita* cost of labour, firms belonging to both districts systematically achieve operating profits greater than isolated firms" and that this difference "is the fruit of a considerable advantage of the firms belonging to the two districts in terms both of labour productivity and global productivity (*ibid.*, p. 65).

Signorini's underpinning idea is that this comparative advantage on labour productivity and global productivity measures the "district effect" — that is, it measures "in what sense the small firms belonging to the districts effectively differ from the others" (*ibid.*, p. 31). That this effect actually occurs in the majority of districts has yet to be proved, and much work can usefully be performed in this direction. But certainly the hypothesis does at least find initial confirmation in all of what has been said in the previous paragraphs concerning the gradual concentration of many sectors in certain specialised areas. If the rate of profit were uniform for all the regions and all the local systems, there would be no trace of this impressive tendency towards territorial concentration. But, in any case, the literature on the districts deals amply with the reasons that may account for this comparative advantage.

Exports

The last indicator of success that needs to be considered is the ability of the smaller firms to export.

³⁵ Signorini (1994 p. 48) pursues the analysis of the collected data in more depth by calculating the regression values of the ROI on the size of the firm, calculated in terms of employees, for each year from 1982 to 1989. "If district dummies are not introduced into the regression, the size variable enters with a negative 'small is beautiful' sign into all the regressions except the one referring to 1987, but is significant only in the years 1983, 1984 and 1985. [...] If, instead, district dummies are added (one for Prato, one for Biella), the size variable loses all importance: it turns out not significant in any of the years considered (except, in 1984, for a weak significance at 10 per cent, with a negative sign). On the contrary, the Prato dummy is significantly positive in the majority of cases; that referring to Biella in two cases."

Some idea of this can be got from the elaborations of the ISTAT data by the Bank of Italy.

On average, Italian manufacturing firms export between 22 and 25 per cent of their turnover. The competitiveness in the markets of firms with 20 to 49 employees does not differ greatly from that of larger firms. The datum relating to the propensity of these firms to export is, among other things, strongly influenced by the fact that in this size class the subcontracting firms are much more numerous than among the firms of other classes, and, as several analyses witness, the subcontracting firms work mainly for national enterprises. In order to compare the competitive ability of final firms and subcontracting firms on international markets taken jointly, it would be necessary to calculate the proportion of value added that is *directly* or *indirectly* sold on foreign markets³⁶. Alternatively, in order to compare the capacity to export of small and large firms, one must confine oneself to “final” firms: that is, to those firms that produce a finished product that can find its outlet in foreign markets.

A comparison restricted to final firms is available for the firms in the textile/clothing sector. The datum is available only for 1993, but it has the advantage over all the other data collections cited hitherto of also taking account of the firms with less than 10 employees.

As Brusco and Bigarelli note,

unexpectedly, the data show that the amount of exports as a proportion of total production does not significantly vary with the size of the firm. The data differ widely from region to region. [...] In Tuscany the tiny firms export nearly half their production and the share of exports falls as the size of the firm increases; in the Veneto the opposite occurs, and tiny firms export only 25 per cent of their product (1995, pp. 16-7).

In order to explain the small firms’ ability to sell abroad, the authors refer to what they call the *fair effect*. A large firm with about 18,000 employees³⁷ will usually have a sample range of 2000 models, and will spend about 2 per cent of its turnover to produce the range.

The district of Carpi (final and subcontracting firms of Carpi, employees in subcontracting firms outside Carpi) has about the same number of employees, and 700 final firms work there, preparing each season sample ranges of number and size to comprise a total of around 100,000 models. The cost of the sample ranges is equal to some 6-7 per cent of the entire turnover of the final firms of the district. The costs of the products of Carpi district — if the Carpi firms do not somehow recover them with respect to the large firm: e.g. through a greater labour intensity — are higher than those of the large firm. But the foreign buyer arriving in Emilia, like the buyer who lives in Tuscany, finds, set out before him, in every season and open for months, an enormous fair in which he can find anything he needs. He can order short runs or long runs, slightly kitsch or highly sophisticated embroidered products, T shirts that last one season or cardigans that last a lifetime. It is this very person, the buyer from outside who comes before the season to see what is going on in the Italian textile districts, who represents the decisive structural element that accounts for the tiny Italian firms’ ability to export. They have, of course, to pay a price for this advantage: not least [...] the fact that 90 per cent of the firms make up a sample range of their own (*ibid.*, p. 18).

³⁶ It may be argued, and not without foundation, that anyone who exports *indirectly* (that is, by selling to a commissioning firm details or semi-finished products that are part of a product that is thereafter exported) may not have the relations or knowledge of foreign markets needed for exporting. But certainly anyone selling indirectly abroad has at least the competitive ability to keep pace with the demands of quality and price of the international markets.

³⁷ In computing the employees one must include the group firms, the firms controlled by the group, and the subcontracting firms linked with the group.

The explanation put forward is specific for the sector considered and also implicitly assumes, without supplying any evidence, that all the firms who export belong to a district. It remains true, in any case, that the small district firms, in whichever sector they operate, have a fundamental strong point in the extraordinary variety of the product they offer, in terms both of quality and price.

The ability of the small firms to export is also dealt with by Fortis (1996). He defines the *Made in Italy* sector, which is responsible for a large part of Italian exports. The sector includes the goods of the “fashion-furnishing-household-Mediterranean diet system” and several products of non-electrical mechanical engineering³⁸. Italy is the world’s leading exporter for the majority of these products. Between 1954 and 1993 “the importance of the fashion system in Italian exports tended to remain stable, at around 20 per cent, though with short-term fluctuations” (*ibid.*, p. 41). In the same period the importance of “furnishing-household” and mechanical products “grew considerably, going from just over 10 per cent to over 30 per cent of total exports”. To sum up, in the 1990s more than half of Italian exports comes from these sectors.

What is particularly interesting in this connection is that “this set of productions, though not homogeneous from a merceological point of view, has various common denominators (evolution of artisan tradition, quality and careful perfecting of design, development by districts, etc.)” (*ibid.*, p. xi, note). Fortis does not specifically enquire how much of *made in Italy* is produced in the industrial districts or in the local small-enterprise systems, but remarks more than once that “these productions are distinguished by having industrial structures made up mainly of small-medium firms or large family-run firms” (*ibid.*, p. x). The exports Fortis describes can substantially be divided into two portions. The first, and most important, comes from the districts and thus includes the production of some medium-large firms operating within a district, like Luxottica, Alessi, Riello, Polti and Guzzini. The second portion comes from medium and large firms, like Merloni, Marazzi, Natuzzi, and Snaidero, that operate in local systems not defined as districts. Still, even if they do not satisfy the rigid conditions prescribed by the algorithm, the local systems in which these firms work are rich in smaller firms that collaborate with larger ones, but also attempt to win a production stage market that extends outside the district, or to have a diversified production that finds its own market space³⁹.

7. Conclusions

The analysis performed so far needs to go into more detail, requires more research effort, and

³⁸ To the “fashion system” also belong textile/clothing products, skin and leather goods and footwear, eyeglasses and goldsmith and jewellery products. The “household system” includes stone and ceramic goods, heating and air-conditioning equipment, furniture, lighting equipment and domestic appliances (not only washing machines, dishwashers and refrigerators, but also small household appliances), household goods, taps and plumbing fixtures. The “Mediterranean diet” system includes cereal-based foods, fruit, wine and oil. The main products of non-electrical mechanics are textile machines, machinery for the food industry, other machines for specific industries, and machinery (machine tools and others) for metal working (Fortis 1996, tables 7 and 8a, pp. 32-7). Fortis, then, defines the *made in Italy* production on a merceological basis. An analysis of the importance the production of the districts assumes in the various industrial sectors (similar to that performed in paragraph 4) would probably enable a definition of *made in Italy* based entirely on data regarding the productive structure.

³⁹ More precise information on the exports of the districts can be found in Viesti 1993, Conti 1995, and Conti -

specifications (also theoretical) on the categories used in exploring the data. But one fact stands out clearly. The productive systems in which the tiny, small and medium firms play a leading role absorb, in Italy, a share of employees in manufacturing industry that runs from 35 to 40 per cent of the total. If we assume that the productivity of the district workers is not lower than the national average (and it has long been argued that this hypothesis is plausible), these systems account for a share of production of more or less the same order of magnitude. This is not merely a curious detail, of interest for slightly one track-minded scholars. Taken all together, these systems make up a very important portion of Italy's productive system, larger than FIAT, ENI and IRI added together. Moreover, from 1951 to 1991 the role of the districts in the productive system increased enormously. The products of these territories have become more and more numerous and sophisticated. In the districts the ability to export has increased to the point where it accounts for an impressive share of Italy's exports as a whole. Many and complex are the products that range over the globe bearing the trademark of these territories, stamped with the common labour of a large number of small or very small firms.

This singular character of the Italian economy poses a series of problems that, in this work, it is only possible to hint at in passing.

Why have the districts not caught the attention of scholars and politicians?

If the situation is as we have just described, why have these systems been so seriously undervalued by governors, the political world, and professional economists? Confronted with the successful achievements of the industrial districts, many (among the governing class, trade unionists or scholars) have reacted by predicting misfortune, calling up the spectre of globalisation, claiming that the districts "may indeed have performed well up to yesterday, but are bound to fall foul of the critical situation that threatens". In certain cases, the districts appear to be regarded almost as a bit of typical muddling along Italian-style, of which one ought to feel rather ashamed, because to talk about them only confirms the disgraceful image of an Italy made up of mandolins, pizzas and the knack of getting by.

There may be two important replies to this. Firstly, as Keynes recalled, in order that even macroscopic facts may become visible, there must be a theory to account for them. It is possible that those who have studied the districts have not yet supplied a theory — and the quantitative analyses — of sufficient quality to enable the perception of what has happened. But one should also bear in mind that space, in economic literature, has always had a completely marginal role, and this has drastically reduced the willingness to consider territory as a crucial object of analysis. All this, according to Krugman (1995) is underpinned by a fundamental reason: the dominant economic theory cannot or will not abandon a description of the world governed by perfect competition and constant returns to scale. Without increasing returns, it is very hard to furnish a microeconomic justification for the emergence of aggregations of firms in space, unless one has recourse to those external economies that economic theory after Marshall has never greatly liked.

The second reason must be sought in the fact that Fordism has engendered an excessive and exclusive faith in economies of scale. Gigantism, the search for large size, has for years figured as the panacea for all ills, for problems of efficiency and competitiveness. The absolutely necessary relation between size and efficiency has become a common place. Robin Murray (1991) has shown that faith in Fordism does

not belong exclusively to capitalist countries, but is also rife in socialist ones, whose factories were built with a heavy parcelling-out of labour and a distinct separation between conception and execution. Add to this that, up to a few years ago, left-wing parties firmly believed in the central importance of the large enterprise. Big capitalism, big factories, big concentrations of workers were regarded as the privileged place of production, of class conflict, of the development of avant-gardes. Only recently has the dogma of the large firm's centrality ceased to be one of the essential points of reference for left-wing thought⁴⁰.

Why only in Italy? Italian specificity in face of the crisis of Fordism

Above all, if assessed with reference to what has occurred in the other industrialised countries, the empirical evidence hitherto set forth poses an additional problem. Why has all this happened only in Italy? Among the OECD countries, the share of employment in small and tiny firms recorded in Italy finds something similar only in the industrial structure of Japan. It may be wondered, then, why nothing like this has come about in France, Britain or Germany.

One can begin to reply to this question in two ways.

Already at the start of the 1970s, the oil shock, the growth of personalised demand and the speed of technical progress caused everywhere an upheaval in the methods of production of standardised goods produced on the Fordist model. The responses to this phenomenon, which cast doubt on the long-consolidated productive structures and structures of thinking, have been multiple and far-reaching. The organisational structure by divisions adopted by the large enterprises (Sabel 1982; Piore - Sabel 1984; Womack, Jones, Roos 1990) is being remodelled from top to bottom, and the huge multinationals are fragmenting into independent (also juridically independent) units, with a mandate to sell at least half their production on the market. Involvement by the workers in the production process (which is one of the success factors of the small-enterprise systems) is more and more frequently acknowledged as one of the decisive variables in determining competitiveness on international markets. The western world is carefully examining the Japanese model, as one of the ways that enable workers' participation to be encouraged. External economies and the role of knowledge (which are also typical features of districts) increasingly solicit the attention of theory and research. This is why what has taken place in Silicon Valley is repeatedly studied, as an example of an agglomeration of firms that derive their innovative ability not only from investments and from the research of big science, but also from the creative capacity of a widespread competence and from economies of agglomeration. Attention is focused on the role of incremental innovations, and the countries of South East Asia (that in this connection, paradoxically, resemble districts) burst onto the scene, not only in the world markets but also in the research agenda of many scholars.

To sum up, a new consumption model, the increased pressure of technical progress, and the resulting decline of Fordism, induce far-reaching changes throughout the structure of industry and solicit a wave of reflection on the possible models of growth, on the organisation of production and on the decay of the "one best way".

In Italy, this whole set of phenomena act as a strong spur to the growth of districts and of small-enterprise systems that, outside the districts, carry on relations of collaboration and exchange with the

⁴⁰ This has been treated in detail by Brusco and Pezzini (1990).

large firms⁴¹. As from the mid-1960s, Italy has featured many local systems with district characters. The sectors in which these local systems specialised were those where the crisis of mass productive was most acutely felt and which had perhaps never been completely colonised by Fordism. The personalisation of demand and the increased role of incremental innovations give these small-enterprise systems a decisive stimulus, making available to them a space that could not have been predicted. So rapidly and successfully do these systems grow that Sabel considers them to be one of the two alternatives to Fordism (the other being, of course, the restructured large firm) and posits a convergence of the two models⁴². Best, in his volume (1990), argues that there are only two alternatives to Fordism: the large flexible Japanese firm and the Italian districts with their centres offering collective services.

To be sure, this very particular growth on the part of very small firms has been underpinned by other elements as well as the crisis of Fordism. A decisive role has also been played by strong national specificities.

First and foremost, there is the important legislation that specifically encouraged artisan enterprises. As early as the Fascist period, Italian commercial law accorded considerable advantages to tiny firms. In this volume Arrighetti and Seravalli show how, as from the immediate postwar period, Christian Democrats and Communists agreed in granting the small firms advantages unknown in any other of the industrialised countries. Suffice it to recall the fact that in Italy the artisan firms enjoy a special statute (for example, they are not subject to bankruptcy), which is not the case in any other industrialised nation.

But there is also a further specific reason why in Italy the response to the crisis of Fordism has taken this peculiar form. At least from the mid-1960s to the mid-1970s, the Italian unions have played an extraordinarily incisive part in medium and large firms. They have eliminated a number of unhealthy or wearing jobs, they have often contributed to bringing about far-reaching changes in work organisation, they have kept overtime under control, have influenced the procedures for attribution of skill qualifications, and have greatly reduced the wage differentials between skilled workers and others. And the small firms have certainly not been unaffected by all this. The very high rate of unionisation in many small-enterprise areas forbade the presence of happy little pockets where union action was not influential or decisive. But it was all very attenuated. As has been shown, in the first half of the 1970s the difference between the condition of the workers in the large firms and those of the smaller firms was very evident. Clear, amply documented witness to this is borne by the host of surveys performed at that time by scholars and trade unions. That was the period of decentralisation, when elementary production stages were shifted from the large to the small firms. Thousands of lathe and milling machine operators were dismissed by the large firms, and returned to work as subcontractors for the same firms as they had left, often with machines like the ones they had previously used, sometimes with the very same machines. To sum up a long story, one can say that in a first period the subcontractors were subject to the oligopsonistic power of their subcontracting firms, after which, bit by bit, the production stage markets developed: the

⁴¹ Frequently the growth of small-enterprise systems is consciously encouraged by the large firm. This is not confined to Italy, as is clearly shown by the example of Japan or by the relations between the Singapore producers and the multinationals in the computer sector.

⁴² The 1980s witnessed a long debate around the possibility that the large firm would increasingly split into smaller units, whereas the small-enterprise systems would give rise to service centres on an ever wider scale, in order to fulfill the functions required by a regional or national scale.

market for lathing and printing in metal-engineering, weaving and ironing in textiles and knitwear, butchering in the food industry. The stage markets gradually became competitive markets, where the small final firms competed with one another and with the large enterprises. The small firms' wages and profits returned to being wages and profits of competition. And the external economies of the district, of which we have spoken citing the data on wages and ROI, little by little allowed the condition of workers in the small firms in the districts to align themselves with that of the workers in the larger enterprises.

In actual fact, the history of the birth of the stage market, that coincides with that of the growth and diffusion of the small final firms, it is not always linked to what happened between the end of the 1960s and the mid-1970s. At Prato the growth of a layer of final firms and the birth of the stage market, as from the early 1950s, was determined by the Korean War and the crisis of the large enterprises. At Modena it was the large-scale layoffs at Fiat Tractors in the first half of the 1950s, and the support given to the small firm by the local administration with the artisan zones. In the Veneto, this history is often connected with the operation of firms destined to become great and competitive at global level, like Benetton. Wherever one looks throughout the forty years studied, however, the presence of profound differences in the regime of industrial relations has had imposing effects, though it should be remembered that, in the industrial districts of the North, the difference in working conditions of the workers in the large and small firms has gradually been levelling out. Perhaps, even today, it is at least partly to the different regime of industrial relations that we should refer in order to account for the recent growth of industrial districts in the South.

Lastly — and here is a further national specificity — the growth of the small-enterprise systems has been encouraged by the peculiar structure of Italy's commercial distribution which, at European level, is the one with the lowest degree of concentration. At the end of the 1980s in the UK the top five commercial enterprises had a market share of around 63 per cent, in Germany 48 per cent, in France 46 per cent, in Italy a mere 10 per cent. The customary response to these data is to underline the backwardness and inefficiency of Italy's distributive apparatus and its negative consequences on the prices of the goods offered, and hence on the well-being of the consumers. Some of these arguments are justified, but this is only part of the problem.

The domination of large-scale distribution in commerce has important effects on the productive structure of certain consumer goods sectors. The selling price plays a central part in the competitive strategies of the distribution chains. One important consequence is the continual search by large distribution for suppliers able to produce, at low cost, goods as standardised as possible and products in long runs. An ever more important, if less well-known, consequence is that large distribution tends to expropriate the capacity to design and innovate products from the systems of production. As is demonstrated by the examples of Marks and Spencer in Britain, Ikea all over Europe, or Artsana in Italy, a large part of the design of products is performed in departments set up *ad hoc* by the large distribution, and very many producers, other than the largest, are often reduced to the role of mere subcontractors.

In Italy, on the contrary, a sort of equilibrium between producers and distributors has come about. The brand names of the producers are widely known and crop up frequently, but there is also a strong loyalty to one's own retailer. Producers have preserved their long-standing ability for design, making it their trump card in difficult international markets, where even the smallest producers may have a role in some market band if they show imagination and intelligence. To sum up, one can surely argue that the

fragmentation of Italy's distributive apparatus has also encouraged the growth of the industrial districts and has protected their capacity to export.

The future of the districts

The presumed fragility of the district system rests on two main arguments. The first of these stresses the fact that these are systems specialising in so-called mature or traditional sectors, poor in technology and, moreover, threatened by the formidable competition from South East Asian producers. The second views the small size of the firms as a fundamental impediment that prevents the districts from facing the challenges imposed by the globalisation of world markets.

The low costs of labour and the innovative ability of the developing countries certainly pose a thorny problem. Producers located in South East Asia show a really extraordinary capacity for imitation, technological learning and, recently, even original design, and the competitive pressure of these countries is being felt in many markets. The fact remains, however, that even in these countries wages are continually on the rise. But, above all, it must be acknowledged that the districts have proved themselves to possess an ongoing ability for innovation, design, upgrading of the quality of their products, that has hitherto distanced the countries of South East Asia as far as is necessary. This process can be correctly interpreted as a one of dynamic competition, not so different from the innovation-imitation model put forward for the computer sector by Grossman and Helpman (1991). The district firms, whose entrepreneurs have themselves often been workers and had strong ties with factory and home working, show a particular genius in producing goods for the person, goods for the household, and investment goods that make workers' labour easier. This ability probably stems from the fact that these entrepreneurs, in their culture and lifestyle, are more in touch with the needs of families, workers, and farmers. When all this is wedded to the Italian tradition of taste and good design, the result is a range of products that it would be very hard to develop in other contexts.

The second element of weakness, as was said, is the reduced size. The great emphasis laid on globalisation processes (whose precise significance is, to tell the truth, often rather hard to understand) leads many to think that the small size of the firm prevents it from standing up to international competition. Once more the large firm is set against its smaller counterpart, and we hear reiterated that big size is a necessary condition for undertaking global strategies, for seizing new growth opportunities, and for successfully penetrating a network of international exchanges. It remains to be seen what really are the relative advantages of the large firm as against the small one.

Economies of scale of production represent a first important justification for large size. Actually, in this connection there is no real antithesis between large and small firms in the sectors involved by the districts. Indeed, there appears to be a negative correlation between the degree of sectorial productive concentration at European level (measured with a "three figure" level of sectorial disaggregation) and the share of activity of the sector performed in Italy within the districts⁴³. The districts thrive in the industries where the economies of scale are contained, the variety of products is ample, and the industrial concentration indices are low. In other words, it is unlikely that a district will find itself in competition,

⁴³ Thus much emerges from a first assessment of the data on European industry reported in the recent volume by Davies and Lyons (1996).

for the same products, with firms whose large size stems only from production economies. Exploitation of these economies on the part of the large firm, would imply offering more standardised products, and hence a market position differing from that of the district firms, which latter draw advantage from the consumer's willingness to pay for the variety and quality of the products.

But production economies of scale are not the only possible ones. If large size cannot be justified by production technology, surely it can be if, in order to enter and remain in the markets, it is necessary to invest heavily in advertising and the firm's visibility. These unrecoverable fixed costs may lead to considerable economies of scale.

Many of the sectors where the districts are important are advertising- or marketing-intensive. This implies that some firms — those whose brand names become known as a result of incremental innovations of particular value or a highly innovative design, and to which Paba (1994) has given the name "visible firms" — exert a fairly steady control over access to important segments of the final markets.

Many visible firms, whose size may not be very great and whose turnover in Italy normally totals between 200 and 400 billion lire, were born and operate within the districts, providing occupation to a complex system of subcontractors who rely on them to place all or nearly all of their production. A relation of productive cooperation, design, and common experimentation is established among these firms and the system of small firms, that goes to enrich the knowledge and skills of the district as a whole. From this atmosphere the small district firms often draw advantage, for, instead of relying for their existence on the subcontracting relation with the visible firms, they succeed in finding a place of their own on the markets. This is the case, for instance, of the medium and small firms in Cadore that surround the Luxottica factories. Firms with their own visible brand names and firms that manage to survive thanks to the above-mentioned "fair effect" can thus coexist within the districts without any conflict. Together they enable the district to be present in various segments of the market and to broaden its variety of offer, thus increasing the possibilities of its survival and growth.

In other instances, however, the interests of these firms clash openly with those of the districts.

This may sometimes occur when these firms decentralise their production to local systems scattered over the world, while retaining for themselves the capacity of designing and developing the product and, indeed, all the marketing activities. Thousands of South East Asian producers are familiar with this. They invade western markets with computers, bicycles, toys. They have an astonishing ability to produce these goods, but they cannot sell in the markets of industrialised countries unless they use the brand names, distribution networks and sales capacities of large industrial enterprises or distribution. The examples are legion, like Nike in sports footwear or Mattel in toys. Such strategies create serious difficulties for the districts, but there are plenty of cases where the districts have managed to defend themselves, once again by exploiting their amazing ability for invention and design. After all, precisely in the sectors of footwear and toys the districts have hitherto shown that they know how to defend — and sometimes even to expand — their share of the world market.

On the other hand, the district risks real suffocation when an individual firm with a big brand name and large turnover, that has grown inside the district or has moved in recently, gradually lures the final firms by turning them into its subcontractors and transforms the system of small enterprises into a

production system tightly linked to its own world market strategies. In this way the innovative abilities of the system are enfeebled and vanish, and the entrepreneurs, once deprived of their independent interface with the market, can easily be replaced with others, whether near or far.

Table 1 - Size distribution of manufacturing employment (%) in some OECD countries (early 1990s)

Number of employees	Italy (1991)	Germany (1992)	France (1992)	U.K. (1993)	Spain (1991)	USA (1991)	Japan (1991)
1 – 9	23.3	7.4	8.1	7.2	18.3	3.0(4)	5.0(4)
10 – 49	29.2	14.3	17.7	15.6	29.1	nd	nd
50 – 249	18.9	15.8 (1)	21.2	21.7	20.4	nd	nd
< 250	71.4	37.5 (2)	47.0	44.5	67.8	36.6 (5)	74.1 (7)
> 250	28.6	62.5 (3)	53.0	55.5	32.2	63.4 (6)	25.9 (8)
All classes	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(1) 50 - 199 employees

(2) < 200 employees

(3) > 200 employees

(4) 1 - 10 employees

(5) < 500 employees

(6) > 500 employees

(7) < 300 employees

(8) > 300 employees

Source : Eurostat, *Enterprises in Europe, Fourth Report*, Bruxelles, 1996.

**Table 2 - Size distribution of manufacturing employment in Italy (%).
Census years from 1951 to 1991***

Number of employees	1951	1961	1971	1981	1991
1 – 9	32.3 (1)	28.0 (1)	20.2	22.8	26.2
10 – 19	5.4 (2)	7.3 (6)	8.7	12.4	15.3
20 – 49	8.7 (2)	11.6 (7)	13.1	13.7	16.3
50 – 99	8.1 (3)	10.1 (3)	10.8	10.2	10.0
100 – 199	11.8 (4)	12.4 (8)	10.4	10.1	9.1
200 – 499	8.6 (4)	9.1 (9)	12.8	11.1	10.1
> 499	25.1 (5)	21.5 (5)	24.0	19.7	13.0
All classes	100.0	100.0	100.0	100.0	100.0

(*) 1991 data differ from the ones reported in Table 1 because Eurostat data include the mining and quarrying industry.

(1) 1-10 employees.

(2) 1951 Census reports employment data only for the whole 10-50 size class. We estimated employment in the 10-20 and 20-50 size classes using the 1961 shares.

(3) 51-100 employees.

(4) 1951 Census reports employment data only for the whole 100-500 size class. We estimated employment in the 100-200 and 200-500 size classes using the 1961 shares.

(5) >500 employees.

(6) 11-20 employees.

(7) 21-50 employees.

(8) 100-250 employees.

(9) 250-500 employees.

Source : Census data.

Table 3 - Survival, mortality and birth rates* of industrial districts (%)

	Survival rate	Mortality rate	Birth rate
1951 - 1961	40,94	59,06	26,85
1961 - 1971	65,35	34,65	99,01
1971 - 1981	83,73	16,27	41,57
1981 - 1991	83,65	16,35	30,77

* Percentages are calculated with reference to the first year of each decade.

Table 4 - Change of employment in the industrial districts*

	Growth of employment in the survived districts	Change of employment due to the death of districts	Growth of employment due to the birth of new districts	Total change of employment in the districts
1951-1961	34,93	- 34,26	69,69	70,36
1961-1971	17,33	- 31,85	81,80	67,28
1971-1981	25,78	- 13,00	34,37	47,16
1981-1991	- 3,27	- 12,43	25,64	9,94

* Percentages are calculated with reference to the first year of each decade.

Table 5 - Employment in the districts according to the type of firms and sectors (%)

	1951	1961	1971	1981	1991
Employment in small-firm specialized sectors	40,9	43,4	47,0	43,7	49,9
Employment in other small-firm sectors	18,9	21,4	25,9	27,4	27,0
Employment in sectors dominated by medium sized and large firms	40,2	35,2	27,2	28,9	23,1
Total employment in the districts	100,0	100,0	100,0	100,0	100,0

Table 6 - Share on total national manufacturing employment of different systems of firms *

	1951	1961	1971	1981	1991
Employment in small-firm specialized sectors located in the districts	4,2	5,9	9,4	11,3	15,9
Employment in other sectors located in the districts	6,1	7,7	10,7	14,5	15,9
Employment in small-firm specialized sectors outside the districts	23,8	21,2	18,1	15,5	16,4
Employment in other firms outside the districts (small sized and isolated firms, medium sized and large firms)	65,9	65,2	61,8	58,7	51,8
Total employment in the manufacturing sector	100	100	100	100	100

* Small firms are defined as firms with less than 100 employees.

Table 7 - Per worker value added according to the size class of firms. Nominal values ('000 lire)

Number of employees	1974-77	1978-80	1981-85	1986-90
20 – 49	4891.9	9480.9	19572.7	29849.2
50 – 99	5429.3	10206.9	20543.8	32780.8
100 –199	5989.8	10980.2	22092.2	35598.0
> 200	7290.4	12561.7	24430.8	41462.9
Total	6563.0	11605.1	22690.1	36870.5

Source: Bank of Italy

Table 8 - Textile sector (wool): per capita labour cost in Prato, Biella and in isolated firms according to the size class of firms. Various years. Nominal values (million lire)

	1982	1983	1984	1985	1986	1987	1988	1989
<i>Prato</i>								
10-99 employees	19.7	23.3	26.6	29.5	31.5	34.4	37.5	41.7
>100 employees	18.7	22.0	26.1	28.8	29.9	30.6	34.0	37.9
<i>Biella</i>								
10-99 employees	16.3	18.9	21.5	23.6	24.2	28.9	33.2	34.6
>100 employees	17.4	20.2	23.1	25.4	28.2	30.4	34.9	37.5
<i>Isolated firms</i>								
10-99 employees	15.6	17.5	20.2	21.3	24.2	26.9	29.4	32.4
>100 employees	16.7	19.0	21.9	23.7	25.2	26.9	30.7	34.2
<i>National average</i>								
10-99 employees	18.3	21.1	24.4	26.2	28.2	30.7	33.8	36.7
>100 employees	17.1	19.7	22.7	24.7	26.7	28.5	32.8	36.1

Source: Signorini, *op. cit.*, p. 46

Table 9 - Manufacturing sector: Share of profits on value added according to the size class of firms. Various years.

Number of employees	1974-77	1978-80	1981-85	1986-90
20-49	31.1	31.3	35.6	37.5
50-99	30.2	32.5	35.7	38.0
100-199	29.8	32.0	34.9	37.9
> 200	24.5	25.5	30.8	35.9
Total	26.5	27.9	32.8	36.7

Source: Bank of Italy

Table 10 - Textile sector (wool): Gross profits of firms in Prato, Biella and in isolated firms according to the size class of firms. Various years. Nominal values (million lire)

	1982	1983	1984	1985	1986	1987	1988	1989	
<i>Prato</i>									
10 -99 employees	12.6	14.5	18.7	19.0	15.8	12.4	12.5	12.0	
>100 employees	16.7	18.0	17.5	15.5	14.1	6.9	10.5	14.8	
<i>Biella</i>									
10 -99 employees	10.2	8.8	13.3	14.5	14.0	11.4	12.5	11.0	
>100 employees	13.4	11.6	13.3	16.6	16.2	13.8	13.8	11.1	
<i>Isolated firms</i>									
10 -99 employees	14.5	13.0	16.0	14.9	13.0	11.1	8.0	9.8	
>100 employees	6.8	6.9	9.2	13.6	11.2	10.3	6.4	8.9	
<i>National average</i>									
10 -99 employees	12.5	13.3	17.4	17.6	15.1	11.9	11.3	11.3	
>100 employees	11.4	10.4	12.0	15.4	14.0	11.7	10.0	10.3	

Source : Signorini, op. cit., p. 46

Table 11 - Share of export on total turnover in the manufacturing sector per year and size class of firms

Number of employees	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
20-49	18.8	19.7	20.0	19.7	19.4	18.6	18.3	17.9	18.2	18.0
50-99	22.3	23.5	23.5	22.4	22.1	22.1	22.0	21.0	22.2	22.4
100-199	23.4	24.4	25.2	23.9	23.8	23.3	23.0	23.6	23.5	25.6
200-499	24.3	24.4	25.4	24.8	23.3	23.8	24.0	24.3	23.4	23.5
>500	27.0	27.0	27.0	25.5	24.2	24.7	24.5	23.7	24.6	24.9
Total	24.1	24.5	24.8	23.6	22.8	22.9	22.8	22.3	22.7	23.2

Source : Bank of Italy

Table 12 - Share of exports on total turnover in the textile-clothing industry per size class of firms and region in 1993

Number of employees	<i>Lombardia</i>	<i>Veneto</i>	<i>Emilia Romagna</i>	<i>Toscana</i>	<i>Umbria</i>	<i>Marche</i>	<i>Campania</i>	<i>Molise</i>	<i>Puglia</i>	Total
< 20	34.7	24.5	26.0	49.3	44.0	32.4	9.6	10.6	29.1	34.5
20 – 49	35.2	25.7	37.0	37.8	59.1	33.8	18.2	30.0	20.3	33.9
50 – 99	30.9	29.4	34.3	40.9	38.7	36.6	12.8	20.0	13.1	31.5
100 - 249	29.8	43.4	26.9	25.1	12.0	33.1	43.0	17.0	70.9	33.8
250	19.7	46.3	37.2	22.2	20.2	53.0	-	55.0	5.0	38.8
Total	30.9	37.7	32.3	41.3	43.0	36.1	17.6	47.4	28.2	34.9

Source: Osservatorio nazionale del settore tessile abbigliamento e calzature, SISSMA srl/R&I srl



Figure 1 - Industrial districts in 1991



Figure 2 - Industrial districts in 1971



Figure 3 - Industrial districts in 1951

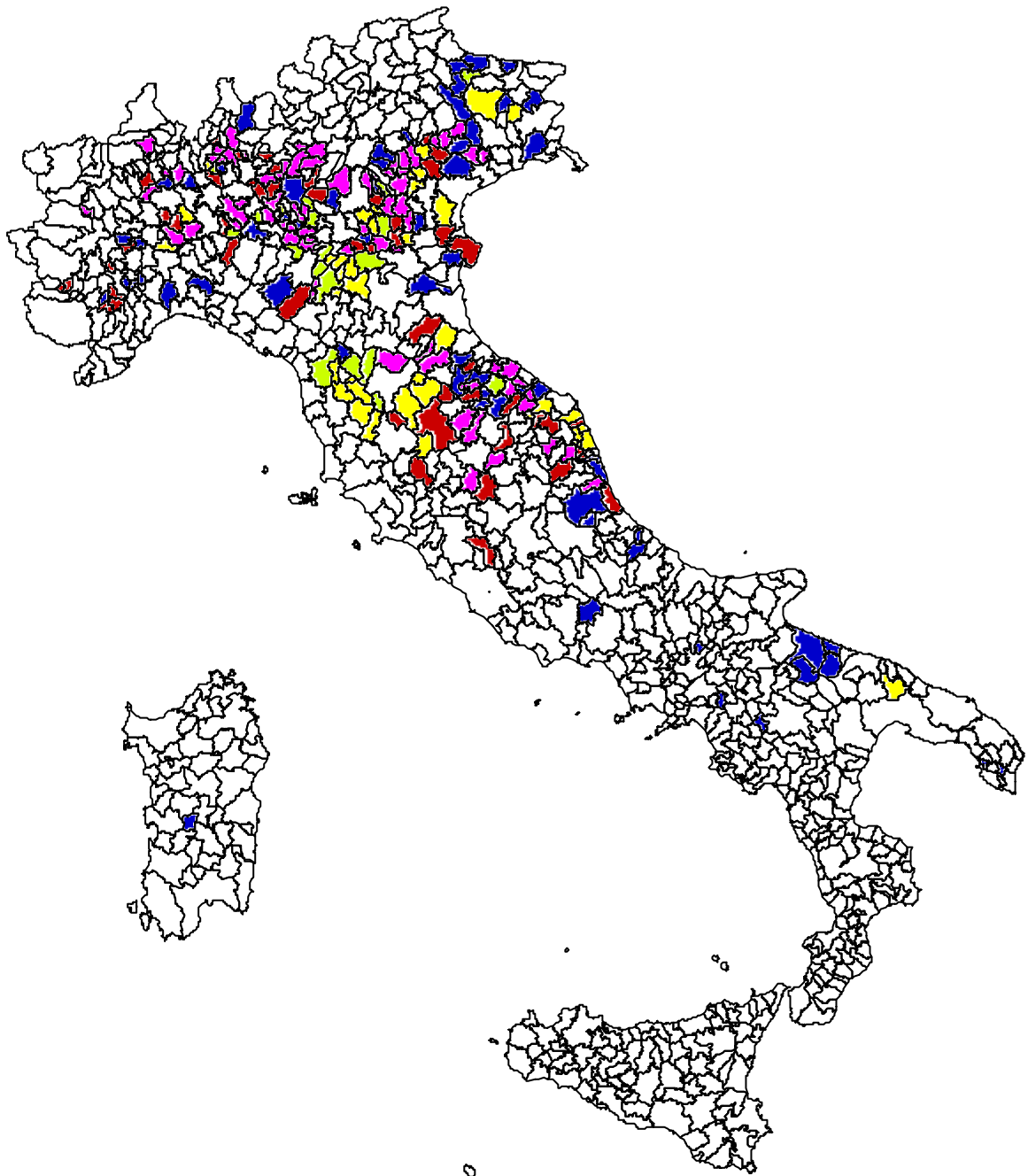


Figure 4 - Industrial districts in 1991 according to their age

(black: 1991, dark grey: 1981, medium grey: 1971, grey: 1961, light grey: 1951)

Figure 5 - Share of employment in the industrial districts on total manufacturing employment per census year according to the definition of small firms (number of employees)

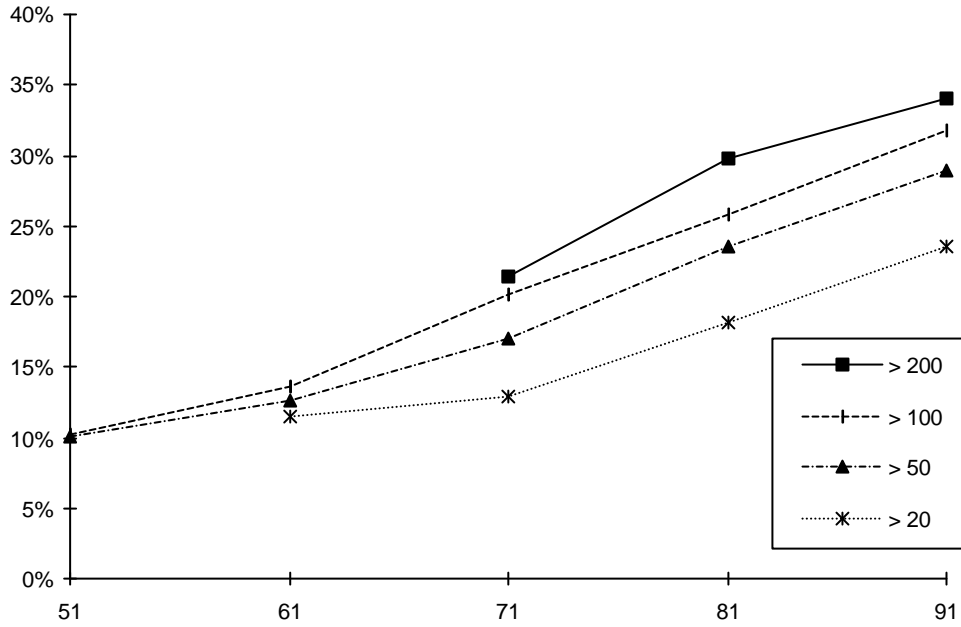


Figure 6 Share of employment in the industrial districts on total employment by industrial sector and census year

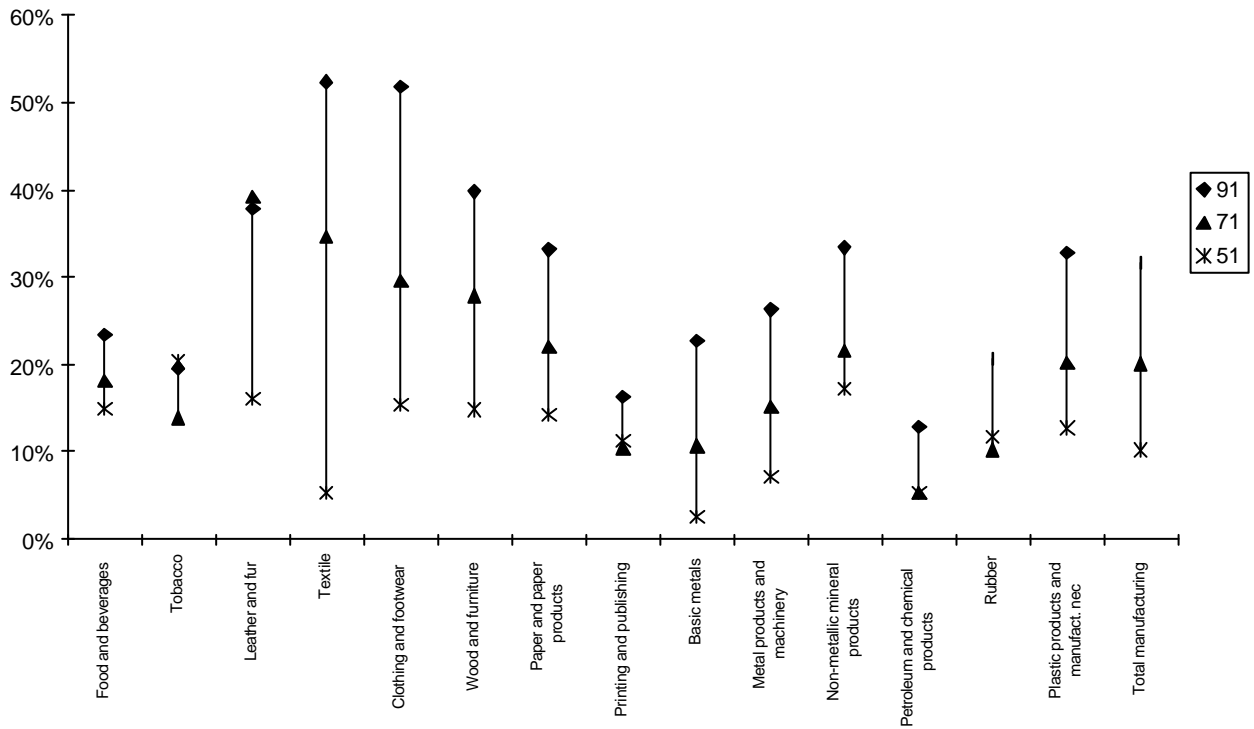
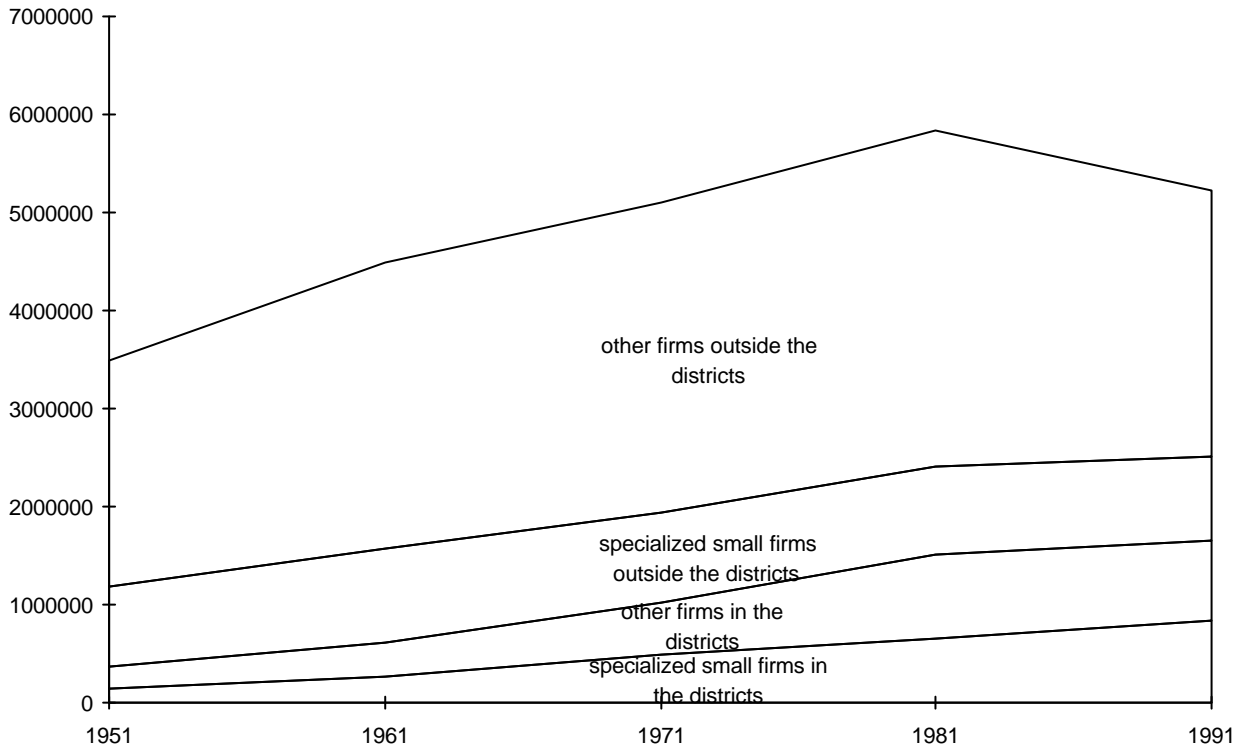


Figure 7 Employment by type of firms per census year



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