# CHAPTER 9

# STRUCTURAL CHANGES AND THE ROLE OF DISTRICTS IN THE DEVELOPMENT OF THE ITALIAN FOOD INDUSTRY

CRISTINA BRASILI AND ROBERTO FANFANI

*Department of Statistics, University of Bologna, Italy*

## INTRODUCTION

The rapid socio-economic development of Italy in the post-war period has attracted the attention of many researchers. Traditional dualistic analyses were used during the 1950s and 1960s (North–South, large–small firms, traditional–modern sectors) to explain the profound differences existing within the Italian industrialization process (Valli 2005). In the 1980s, analyses of Italian economic development emphasized the presence of different regional patterns of development. The relevance of geographical agglomeration and specialization of independent small and medium-sized enterprises (SMEs) was underlined by the pioneering work of Becattini (Becattini 1987; 1989), influenced by his renewed interest in Marshall's analysis of industrial districts and external economies. Numerous studies stressed the new role and different pattern of the development of SMEs belonging to certain districts with respect to big enterprises on the one hand and isolated SMEs on the other. Subsequently, the Industrial Districts (IDs) approach became an important tool with which to analyse the roles of SMEs with regard to the remarkable economic performance of Italy over the last decades (Brusco 1986; 1989; Hirst and Zeitlin 1989; Nuti 1992; Garofoli 1989; Pyke et al. 1990; Goglio and Sforzi 1993). In national as well as international literature IDs are now considered one of the main factors for Italy's successful and rapid post-war industrial development.

In the last decades the IDs analysis of Italian development has concentrated on manufacturing industry as a whole and on its main sectors (e.g., mechanics, textile, furniture). Although it represents the third sector of the manufacturing industry with



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respect to value added, the food industry has hardly been considered in the analysis of the structural changes in the Italian economy. Little attention has in particular been paid to the vast specialization and concentration processes that have occurred at the geographical level in the Italian food industry over the last thirty years. With varying levels of intensity these processes have influenced the main components of the Italian food industry (meat processing, dairy, oil, fruit and vegetables), with different roles played by SMEs and big industrial groups. These profound sector-based structural changes and the geographical localization at regional and county levels could be described as a 'mosaic type of development' of the Italian food industry (Fanfani and Brasili 2006).

In the first section of this chapter, we outline the general characteristics of the Italian food industry and its structural changes between 1981 and 2001. The processes of concentration and specialization of the food industry at the regional and provincial levels for the main sub-sectors are analysed in the second section. In the third section, the ID approach is used to analyse the structural characteristics and geographical localization of the main sub-sectors of the food industry (meat processing, fruit and vegetables, and the dairy industry). Finally, we present our main conclusions.

## STRUCTURAL CHANGES IN THE ITALIAN FOOD INDUSTRY

### *General characteristics of the Italian food industry*

The economic value of the entire Italian agri-food system in 2003 has been estimated by INEA to be around € 203 billion (15.6% of GDP). The main components are commerce and distribution added value, € 70 billion (34.5%), catering industry added value, € 31.6 billion (15.5%), agricultural added value, € 30.9 billion (15.2%), and added value from the food industry, € 26.6 billion (13.1%). The Italian food industry is a fundamental part of the country's economic system as well as an important sector of the Italian manufacturing industry. In recent years, the food industry has been affected by both decline and loss of competitiveness, as has Italy's industry as a whole. In fact, in the last few years the food industry has closely followed the changes that took place in the entire manufacturing industry as a whole, with regard to the levels of both productivity and investment. The Italian food industry has undergone major structural changes, not only with the creation of important industrial groups with a strong foreign presence, but also in the specialization and territorial concentration of SMEs in agri-food districts. The Italian food industry, although it has a nation-wide presence, is characterized by a strong concentration in the North, with 65% of the overall national total turnover, while in the South it has a particular importance within the weak industrial sector of the southern regions.

The Italian food industry in many respects has started to resemble the other manufacturing sectors in Italy, which import and then transform raw materials. Today, the food industry must face other important changes that are particularly relevant, and which involve the rapid change of logistics systems and the development of major organized distribution groups. The growth of the large-scale retail trade in the last decade has led to a notable reduction in the traditional distribution structure, which is based on very small shops that in the past often played a role in protecting the agri-food Italian system from increasing competition from other European countries. The new phenomenon of integration in the important *filiere* of the agri-food system in Italy has been determined by the territorial rooting of some typical and traditional production and, simultaneously, by the continuing tendency towards a flexible specialization among firms, generating a need for closer and clear relationships between the various actors and protagonists throughout the food chain.

***Table 1.*** *Turnover of the Italian food industry by sector in 2003*

| *Sector* | *Turnover 2003 (million Euro)* |
|---|---|
| Dairy products | 13,500 |
| Confectionery | 10,050 |
| Wine | 7,390 |
| Processed meat | 7,165 |
| Beef | 5,300 |
| Animal feed | 4,300 |
| Poultry | 4,600 |
| Pasta | 3,170 |
| Preserved vegetables | 3,500 |
| Mineral water | 3,000 |
| Oils | 2,900 |
| Milling industry | 2,700 |
| Coffee | 2,000 |
| Frozen foods | 1,905 |
| Soft drinks | 1,700 |
| Beer | 1,680 |
| Diet and child products | 1,165 |
| Sugar | 860 |
| Fruit juice | 923 |
| Rice | 800 |
| Fish products | 841 |
| Other products | 23,551 |
| Total | 103,000 |

Source: Federalimentare and Istat.

The turnover of the Italian food industry in 2003 was € 103 billion. The food industry consists of a number of very different sub-sectors, which vary not only in their economic importance, but above all in their firm-type and employment structure (Table 1). Dairy represents the main production (13.1%), followed by confectionery (9.8%), wine (7.2%) and processed meat (7.0%). Other important sectors are poultry meats, feed, pasta-making and milling and vegetable preserves, each representing between 3 and 5% of total turnover. There are also other numerous sub-sectors of lesser importance, such as olive oil, sugar, beer, juices and fruit drinks, frozen foods etc., which often characterize specific regions[1].

*The structural and geographical changes in the food industry (1971-2001)*

The Italian food industry has a very complex structure, both in relation to its sector composition and to the differences that exist at a territorial level. The results of the last general Census of Industry, Commerce and Services of 2001 (ISTAT) not only present a detailed account of the current condition of the Italian food industry, they also highlight the major changes that have occurred since 1981. During the 1990s, the Italian food industry changed very little in terms of its size, even if the changes that took place in individual sub-sectors were notable. It is relevant to examine the most important aspects of the structural changes of the Italian food industry from 1981 to 2001, using the results of general Censuses of Industry, while focusing specifically on the changes that have occurred during the last decade. According to the 2001 Census of Industry and Services, Italy's food industry consists of about 67,000 enterprises and 445,000 employees (Table 2). This latter figure represents over 7% of employees in manufacturing industry as a whole. The Northern and Central regions contain over 60% of the enterprises, and they are responsible for

***Table 2****. Italian food industry: establishments and employees by geographical areas (1971-2001)*

| Geographical division | 1971 | 1981 | 1991 | 2001 | 71/81 | 81/91 | 91/01 |
|---|---|---|---|---|---|---|---|
| | **ESTABLISHMENTS (Local units)** | | | | **Variations %** | | |
| Northwest | 10963 | 14848 | 15723 | 16411 | 35.4 | 5.9 | 4.4 |
| Northeast | 13343 | 13225 | 15151 | 14976 | -0.9 | 14.6 | -1.2 |
| Centre | 9414 | 10288 | 10807 | 11774 | 9.3 | 5.0 | 8.9 |
| South | 21750 | 22388 | 25833 | 30671 | 2.9 | 15.4 | 18.7 |
| **TOTAL** | **55470** | **60749** | **67514** | **73832** | **9.5** | **11.1** | **9.4** |
| | **EMPLOYEES** | | | | | | |
| Northwest | 132550 | 133692 | 129093 | 121666 | 0.9 | -3.4 | -5.8 |
| Northeast | 110835 | 129834 | 134450 | 132918 | 17.1 | 3.6 | -1.1 |
| Centre | 61255 | 71978 | 71907 | 67661 | 17.5 | -0.1 | -5.9 |
| South | 105774 | 127012 | 120981 | 122404 | 20.1 | -4.7 | 1.2 |
| **TOTAL** | **410414** | **462516** | **456431** | **444649** | **12.7** | **-1.3** | **-2.6** |

*Source: ISTAT - General Censuses of Industry and Services (1971, 1981, 1991, 2001). Note: The number of establishments is greater than the number of the enterprises reported in the Table 5.*

***Table 3.*** *Establishments (L.U.) and employees (Empl.) in the food industry in 2001*

| Italy | 1 - 9 | | 10 - 19 | | 20 - 49 | | 50 - 99 | | 100 - 499 | | >500 | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **L.U.** | **Empl.** | **L.U.** | **Empl.** | **L.U.** | **Empl.** | **L.U.** | **Empl.** | **L.U.** | **Empl.** | **L.U.** | **Empl.** | **L.U.** | **Empl.** |
| Northwest | 14561 | 41926 | 1003 | 13486 | 527 | 15470 | 161 | 10883 | 148 | 30607 | 10 | 9294 | 16410 | 121666 |
| Northeast | 12805 | 40224 | 1211 | 16179 | 592 | 17871 | 179 | 12430 | 173 | 31434 | 16 | 14780 | 14976 | 132918 |
| Centre | 10601 | 30283 | 752 | 9854 | 312 | 9455 | 57 | 3853 | 46 | 8898 | 6 | 5318 | 11774 | 67661 |
| South | 28687 | 65927 | 1243 | 16384 | 532 | 15312 | 120 | 8078 | 78 | 14364 | 3 | 2339 | 30663 | 122404 |
| **TOTAL** | **66654** | **178360** | **4209** | **55903** | **1963** | **58108** | **517** | **35244** | **445** | **85303** | **35** | **31731** | **73823** | **444649** |

*Source: ISTAT - General Censuses of Industry and Services (2001).*

almost 80% of the expected turnover of the Italian food industry. The most important region is Lombardia, with over 8,200 enterprises and 71,000 employees, followed by Emilia Romagna, with over 68,000 employees. In the South, the region with the greatest number of enterprises is Sicily (7,600), but with a number of employees (24,000) lower than that of Campania (32,600).

On the whole, the changes in the numbers of employees and establishments in the Italian food industry during the last decades have followed the general direction of the manufacturing industry, albeit with some important differences. Between 1981 and 2001, the food industry witnessed a considerable increase in the number of enterprises, with only a very modest reduction in the number of employees. The Italian food industry has, therefore, not contributed in any significant way to the phenomenon of deindustrialization already mentioned during these last decades in the other sectors of manufacturing industry, particularly the textile and footwear industries. The process of deindustrialization has had no great impact on the food industry, with the only real reduction in workers occurring in the Northwestern regions and to a lesser extent in the Central regions. Indeed, during the last decades, a substantial improvement in employment opportunities in the food industry has occurred in the Northeast and also, to a greater extent, in the Southern regions.

If one wants to understand the reality of the Italian food industry one needs to keep in mind the modest average size of the enterprises and the establishments. In fact, the average establishment employs just over 6 workers, and in the Southern regions this figure is less than 4 employees. Particularly relevant is the fact that, while production establishments with less than 10 employees account for 90% of the total number, the establishments with more than 10 employees (just 10% of the total) employ 60% of the total number of employees in the Italian food industry (Table 3). A factor that highlights the strong structural dichotomy in the Italian food industry is the distribution of the larger establishments, those with more than 100 employees. Although there are only 480 establishments, they employ over 117,000 people, representing more than a quarter of the total number of employees working in the food industry. These establishments are mainly located in the Northwestern and Northeastern regions of Italy.

### *The types of enterprises in the Italian food industry*

A distinctive feature of the Italian food industry is the presence of many individual enterprises, remarkable both in numerical and employment terms. Although the number of individual enterprises has largely remained the same over the last twenty years (37,000 in 1981 and more than 35,000 in 2001), there has been a considerable reduction of employees from 119,000 to only 89,000 between 1981 and 2001 (Table 4). Despite the significant reduction in employment, individual enterprises still account for over half of the total number of enterprises, even if they employ less than 20% of the total number of people working in the food industry. These small individual enterprises have an average size of less than 2.5 employees per enterprise. The reduction in the number of individual enterprises has been accompanied by a consistent increase in the number of workers in the family business type of enterprise. In fact, the number of enterprises has doubled, from just over 10,000 in 1981 to almost 21,000 in 2001. Employee numbers in this type of enterprise increased from 73,000 to over 101,000 in the same period, representing 23% of the total number of employees in the food industry in 2001. The average number of employees in these enterprises increased to almost 5, more than double that of individual enterprises.

The capital societies (S.p.a., S.r.l.), are the main type of enterprise in the food industry in terms of the number of employees. In the last twenty years, they have registered a considerable increase in numbers, although their occupational importance has not changed. In fact, their number has increased from a little more than 3,500 in 1981 to almost 8,300 in 2001, but their employee numbers went down from over 217,000 to 213,600 in the same period. The capital societies represent almost 49% of total employees in the food industry. Their average size, over 25 employees per enterprise, is considerable when compared to the other types of enterprise operating in the food industry. Among the societies, cooperative enterprises assume an important role. They have undergone restructuring in recent decades, and in fact their numbers have more than halved, from 4,800 units in 1981 to just over 2,200 in 2001, while their employee numbers have fallen to a lesser extent, from 55,000 to around 43,000. The cooperatives represent almost 10% of all employees in the food industry, and their average size is 20 employees per enterprise.

### *Specialization and changes by sub-sectors of the food industry*

Between 1981 and 2001, the evolution in the various sub-sectors of the food industry was not uniform. Differences in the numbers of establishments and employees underlined some specializations at regional level. In the last twenty years the Italian food industry has seen a substantial increase in the number of establishments, about 21%, although at the same time there was a 4% reduction in the number of employees. This reduction was particularly pronounced in the grain mill and starch products sector, where the number of employees halved, falling from about 23,500 to 12,700. This reduction, in combination with the diminishing number of local units from more than 5,500 in the ’80s to only 2,203 in 2001, led to a noticeable downsizing of the sector (see Table 4).

Another sub-sector where similar reductions in the number of establishments and employees took place, in terms of percentage, was vegetable and animal oils and fats production. In fact, between 1981 and the present, the number of employees working in this sector has fallen from 34,000 to about 16,500, while the number of local units has decreased from 7,300 to 4,800. Also, other sub-sectors, like the beverage industry and the manufacturing of products for animal feed, have seen a reduction in the numbers of local units and employees, albeit in a less dramatic fashion than the two sectors mentioned earlier. Both the dairy and meat sectors showed a reduction in the number of establishments combined with a rise in the number of employees between 1981 and 2001. However, the fish processing and

***Table 4.*** *Enterprises and employees in the food industry by type (1981-2001)*

| Type of enterprise | 1981 | | 1991 | | 2001 | |
|---|---|---|---|---|---|---|
| | **Enterpr.** | **Empl.** | **Enterpr.** | **Empl.** | **Enterpr.** | **Empl.** |
| Individual enterprise | 36745 | 119007 | 36753 | 106795 | 35461 | 87627 |
| Company of people | 10277 | 73049 | 17034 | 94741 | 20901 | 101747 |
| Company of capitals | 3568 | 217557 | 5046 | 210949 | 8289 | 213600 |
| Social cooperative | 4804 | 55591 | 2875 | 50384 | 2206 | 43147 |
| Other enterprise form | 242 | 5254 | 195 | 3277 | 79 | 664 |
| **Total** | **55636** | **470458** | **61903** | **466146** | **66936** | **446785** |

*Source: ISTAT - General Censuses of Industry and Services (1981, 1991, 2001).*

fruit and vegetable industries have experienced the opposite, with the number of establishments increasing and numbers of employees falling. The only sector that saw a rise in both the number of local units and employees is the manufacturing of other food products. This sector has grown constantly since 1981, with the number of employees increasing from 172,200 to 220,000. The presence of this sector, which includes confectioneries, bakeries and other small activities, affects the overall value and figures of the Italian food industry.

Thus, the location and the specialization of the food industry sub-sectors in 2001 are slightly different when compared to the previous decades, with strong variations at the regional level. In the Northern regions there is a strong concentration of establishments (42% of Italian total) and of employees (57% of total), whereas in the Centre the local units and employees are about 15% of the total (Table 5). Although the South contains 41% of the country's establishments, only 27.5% of employees with a specialization in three sub-sectors: fish processing and preservation, fruit and vegetable manufacturing and vegetable and animal oils and fats sectors, with a strong relationship to the primary sector, the territory and its products. In these three sub-sectors the South contains 71% of the local units and nearly 50% of employees.

The deep structural differences among the Italian food industry's sub-sectors are clearly demonstrated by the average size of the establishments. In the food industry as a whole, the average number of employees per establishment is 6, while the meat processing and slaughtering sub-sector has an average 13 employees per local unit, and fruit processing and preservation about 14. The oils processing sub-sector is different in that the average size is extremely low, at fewer than 3.5 employees per local unit.

## THE INDUSTRIAL DISTRICT APPROACH AND THE FOOD INDUSTRY

### *The 'Industrial District' approaches*

The 'Industrial District' (ID) approach, as a way of understanding Italy's rapid development after World War II, was rediscovered and adapted by Becattini (1987), starting from Marshall's definition of aggregation and concentration of many SMEs, with the advantages of the division of labour and economies of scale. Becattini described IDs as a localized concentration of inter-industrial relationships between firms, families and institutions. To ensure that a district remains stable over time, there must be a complex and inextricable network of external economies and diseconomies in place. These economies and development factors are often external to the enterprise but internal to the district area. The structure of IDs includes:

i) close socio-economic relationships between firms and families;
ii) geographical concentration of enterprises with specialized production in a limited area (i.e. municipalities or counties);
iii) concentration of a network of independent SMEs, with groups of firms specialized in one stage of the production process and others specialized in specific final products; and
iv) flexibility of production and of the local labour market.

***Table 5****. Establishments and employees by subsectors and geographical areas (2001)*

| Italy | Northwest | | Northeast | | Centre | | South | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|
| | L.U. | Empl. | L.U. | Empl. | L.U. | Empl. | L.U. | Empl. | L.U. | Empl |
| 15.1 Processed | 111 | 1474 | 168 | 2885 | 719 | 772 | 931 | 695 | 445 | 5826 |
| 15.2 Fish | 58 | 120 | 66 | 124 | 82 | 752 | 284 | 350 | 490 | 670 |
| 15.3 Processed fruits and | 229 | 321 | 359 | 1204 | 247 | 225 | 139 | 1399 | 223 | 3149 |
| 15.4 Oils and | 213 | 164 | 117 | 192 | 799 | 344 | 364 | 939 | 477 | 1640 |
| 15.5 Dairy | 866 | 1726 | 137 | 1326 | 467 | 767 | 210 | 1433 | 481 | 5254 |
| 15.6 Grain mill products and starch | 476 | 393 | 496 | 373 | 404 | 207 | 827 | 296 | 220 | 1271 |
| 15.7 Animal | 240 | 273 | 240 | 326 | 117 | 148 | 190 | 155 | 787 | 904 |
| 15.8 Other food | 1249 | 6654 | 968 | 5655 | 845 | 3689 | 1988 | 6010 | 5052 | 22009 |
| 15.9 | 718 | 1039 | 945 | 1204 | 480 | 535 | 140 | 959 | 355 | 3738 |
| **Total** | **1641** | **12166** | **1497** | **13291** | **1177** | **6766** | **3067** | **12240** | **7383** | **44464** |

*Source: ISTAT - General Censuses of Industry and Services Services ( 2001).*

The unique balance between competition and cooperation achieved by the firms inside the IDs, together with the division of labour and the specialization, resulted in an extremely successful performance on international markets for several decades. The network relationships between enterprises and institutions that characterize IDs are often based on common values shared by families and entrepreneurs, such as the value of work and savings, risk propensity and the exchange of information and technology. The changing role of the SMEs and the emergence of leading enterprises or networks of enterprises inside the districts have been described by Guerrieri et al. (2001)[2]. A specific role in the ID development is also played by historical and institutional developments based on habits, cooperation and mutual assistance, community services, as well as more general services in educational and professional institutions. Empirical analyses on IDs indicate that there are considerable differences between the various regional realities, in terms not only of the type of product specialization, but also of firm structure, socio-economic context, relationships between national and international markets, productivity and efficiency of production.

In recent years there has been a growing interest in the importance of institutions in local development and in the explanation of existing diversities. Crouch et al (2001) suggest the use of the 'governance approach' to explain the regulation and coordination of private SMEs and public actors in the system of local and regional development. Local governance takes on a crucial role in making indigenous collective goods available in different forms and quantities and, in many respects, it explains the existing diversities in the path of local development. In recent years the regional and local development analyses have received increasing attention, among other things in connection with the apparent contradiction of the increasing effects of globalization. Many different concepts and approaches have been utilized. The analysis based on the 'industrial districts' was accompanied by other approaches such as 'innovative milieu', 'new industrial spaces', 'learning regions' and 'intelligent regions'. Regional (national) development was also analysed by resorting to the 'industrial cluster' concept, which emphasizes geographical proximity although not necessarily specialization and intra-firm relationships[3].

*The rise of the Agri-food districts analysis*

Italian research in the areas of IDs and local development has paid little attention to the food industry. It was only during the 1990s that several empirical studies have shown the presence of agri-food districts and their relevance to the fast and complex changes in Italian agriculture and the Italian food industry. The presence and relevance of agri-food districts have been favoured by factors like the strong concentration and specialization of agricultural production into increasingly narrow areas during the 1960s and 1970s. The relevance of agri-food districts is also closely connected to the growing importance of food-processing industries in Italy. The food industry's added value is now equalling and surpassing that of agriculture[4]. The structural changes in the Italian food industry in the last decades have led to the creation of some large national groups, with a large presence of multinational firms. Nevertheless, SMEs continue to predominate and characterize the Italian food industry, as we have seen in the previous paragraph. The concentration of enterprises and their specialization in the different sectors of the food industry, at the province and municipality levels, have been increasing fast and have received increased attention from numerous researchers (Brasili and Fanfani 2000; Fanfani and Henke 2001).

At the beginning of the 1990s several scholars attempted to extend the interpretation tools of the ID approach by identifying agricultural and agri-food districts. Iacoponi's (1990) work was among the first studies attempting to introduce the ID concept in the economic analysis of agriculture. Other important studies were Fanfani and Montresor (1991) and Fanfani (1994), where the concept of *filiere* was extended to include the local analysis of the Italian agri-food system. There are now many studies that deal with specific agri-food districts, most of them focusing on Northern Italy, although some significant analyses look in particular at Southern Italy. Among the most interesting are studies on the Parmigiano-Reggiano system (Bertolini 1988), the production and processing of pork in the province of Modena

(Fanfani et al. 1992; Mora and Mori 1995), and the analysis of the poultry production system in the provinces of Verona and Forlì-Cesena (Brasili and Montresor 1997). In the 1990s the analysis of the agri-food districts was broadened in relation to the role of typical and high-quality production, such as Parma ham, San Daniele ham, Mozzarella cheese (Caserta and Salerno in Campania) and Pecorino-Romano (Sardinia). Many other agri-food districts have also been analysed, such as the fruit and vegetable districts in Romagna (Emilia-Romagna) and Salerno (Campania), and other specific districts of 'red fruits' in Vignola, the nurseries of Pistoia and neighbouring municipalities and the flower districts of San Remo (Liguria), Pescia (Toscana) and Torre del Greco (Napoli). A comprehensive review of the literature on the definition and study of agri-food districts is provided by De Rosa (1996).

### *The main characteristics of the agri-food districts*

The analysis of the agri-food districts in Italy shows that there are close similarities with the way other types of industrial districts developed in Italy in the last decades. The similarities refer not only to the specialization and concentration of production in a limited area, but also to the structural organization of the firms and the different role played by the SMEs. At the same time the analysis clearly shows some differences and particularities of the agri-food districts in relation to the ID. Existing studies on agri-food districts show that they have a different origin and a that they have evolved differently over time. In fact, in many cases their origin is closely related to the enhancement of the value of local resources and traditions. The presence of typical and traditional products represents the groundwork for the development of arts and crafts in processing and preservation activities, which help to improve quality. The strong local demand for the typical products has also played a critical role in the development, making it possible to achieve economies of scale at the initial stage and then to diversify the products progressively. In these cases, the role played by productsspecialization could be very different. In fact, the high-quality ham is the prevalent product of Parma and San Daniele ham districts, whereas in the Modena salami district there is a wide range of products (ham, salami, pre-cooked traditional products).

A specific feature of agri-food districts is their geographical dimension. While industrial districts are concentrated in a limited area (few municipalities), the size of agri-food districts varies much more: from several provinces, in the case of the Parmesan cheese production, to a part of a province, as in the case of the Parma ham district and the Pecorino cheese district in Sardegna. There are only a few municipalities that are included in poultry production districts, mainly located in the Verona and Forli-Cesena provinces. In the case of the San Daniele ham district, only one municipality is involved in the meat processing and preservation establishments, but there is a wider area involved in the supply of raw materials.

An important aspect in the development of the agri-food districts has to do with the structure and characteristics of the enterprises, and in particular with the changing role of the SMEs and the growing importance of cooperatives and big enterprises. Thus far, there is little evidence of a specific and sequential pattern of structural changes of the enterprises inside the agri-food districts. However, in the Italian experience there are different firm structures in the agri-food districts. In fact, in each of the two poultry districts (Verona and Forli-Cesena) the predominant role has been assumed by few really large enterprises that are leaders at the national level. The role of these big enterprises has recently grown with the bird flu, which has tended to have a more devastating impact on the SMEs, especially in the Forli-Cesena districts. The SMEs remain important in the poultry production. These districts now display many of the characteristics of 'vertical integration' between the leader firms and the others SMEs of the districts.

In the Parmigiano-Reggiano districts the role of the SMEs is still predominant, with more than 500 small *caseifici* processing the raw milk produced by the numerous farms in the area. The role of cooperative enterprises is also relevant in the preservation (at least for 12 months) and commercialization of cheese. The production cooperatives *caseifici* are grouped in second-level cooperative enterprises (medium-size enterprises) that are trying to increase their size through the acquisition of other cooperatives or private retailers. In the commercialization of the Parmigiano cheese a growing role has been acquired not only by the large enterprises, but by the great distribution chain as well. SMEs play a more important role in the ham, and fruit and vegetable districts. Here, there are three or four cooperative or private medium-sized (200-500 workers) leader firms, carrying out all production processes in-house (e.g. cutting, preserving, marketing). The SMEs are in part independent and specialized in very high-quality products, and in part focus on one phase of the production process and serve other enterprises of the districts. The network of relationships between SMEs and leader firms is more developed and organized in the districts localized in the Northern regions as compared to the South.

The analysis of agri-food districts confirms one of the main strategic weaknesses that occur when one uses industrial districts as an analytical tool: local systems cannot easily spread to other areas, as the conditions of their success are not easily transferable. In fact, the district implies know-how, skills, traditions and cooperation, institutional involvement in specialized services and infrastructures that cannot be created through traditional instruments of regional policy.

### *The role of public and private institutions*

Economic analysis often disregards the role of institutions, not only in terms of the creation and provision of general services (education, health, transportation etc.), but also, crucially, in terms of the creation of infrastructures and real services for enterprises. Indeed, for the many consortia and companies providing real services to enterprises, the local authorities play a fundamental role by promoting and funding these initiatives. In the agri-food districts there are some remarkable examples of the role of institutions to create consortia of SMEs to tackle the economies of scale needed with respect to marketing and innovation problems. The consortia of Parma ham and Parmigiano-Reggiano, for example, play a crucial role in the control and certification of the application by farms and enterprises of the districts of the so-called ‘disciplinary of production’. Besides certifying the production process and the quality of the products and imposing a registered trade mark, the consortium, other than certifying the production process and the quality of the products and imposing a registered trade mark, plays a relevant role in advertising and promotion activities that is crucial to expand the market at national and international level.

The local institutions and authorities often play a central role in agri-food districts, not only in terms of the creation and management of general services, but also in terms of the supply of specific services to local enterprises. The activities of regional and local institutions are particularly relevant in the process of producing and diffusing the adaptation of new technologies and innovation. The agreements often concern the diffusion of innovations to the enterprises of the most important districts in the regions. Also, if these centres consider the diffusion of technologies of different manufacturing sectors, there is a tendency to create specific centres for the main districts of each region or province. At the national level the districts have not been formally recognized as a subject of politico-economic intervention only in 1991, under Art. 36 of Law no. 317. To implement this law, the Ministry of Economic Affairs did not provide the parameters to identify the districts until April 1993. Also, more recently in 2001, the Ministry of Agriculture recognized the relevance of ‘agricultural districts and agri-food districts of quality’, but thus far financial support has been limited and ineffective. The activities of public and private institution are often relevant in terms of designing and implementing economic policy programmes and projects targeted at individual districts.

## AGRI-FOOD DISTRICTS AND THE LOCAL SYSTEM OF DEVELOPMENT

In recent years, investigations of agri-food districts have become more and more common. Despite the availability of empirical analyses and the growing amount of statistical data, it has remained difficult to single out the features of, and criteria for, the definition of food districts. In the next section, an accurate and reliable methodology for identifying the main districts of the Italian agri-food system will be developed, using the results of the 2001 Industrial Census. The analysis of industrial districts on the one hand and the agri-food system on the other has clarified some aspects of the territorial development of the Italian food industry. The territorial analysis of the food industry will be enhanced in order to identify the presence and role of agri-food districts in Italy. The Italian institute of statistics published new evidence concerning industrial districts with reference to the 2001 Census results (ISTAT 2005). Only 7 out of the 156 industrial districts detected in 2001 belong to the food industry. Once again, as in the 1991 Census, agri-food districts are largely ‘underestimated’ with respect to their actual importance. In the past, most attention was directed at generic attempts to provide a national mapping of agri-food districts, because of their clear underestimation and the political actions supporting quality agricultural and agri-food districts[5]. A recent analysis concerning the identification of these districts was published by Unioncamere (2004), using a methodology similar to the one suggested by Brasili and Ricci Maccarini (2003). This methodology uses six indices, which basically refer to the structural characteristics of the food industries and overall population from the 2001 Census. The six indices refer to the localization, concentration and specialization of establishments and employees in the food industry at the municipality level. The indices are as follows: *index of localization of establishment (I1); index of localization of employees (I2); index of concentration of establishment (I3); index of concentration of employees; (I4) index of specialization of establishment (I5); index of specialization of employees (I6).*

$$I_1 = \frac{\frac{U.L._{hi}}{P_i}}{\frac{U.L._{ho}}{P_{i0}}}; \qquad I_2 = \frac{\frac{Add.\ U.L._{hi}}{P_i}}{\frac{Add.\ U.L._{h0}}{P_{i0}}}; \qquad I_3 = \frac{U.L._{hi}}{U.L._{h0}};$$

$$I_4 = \frac{Add.\ U.L._{hi}}{Add.\ U.L._{h0}}; \qquad I_5 = \frac{\frac{U.L._{hi}}{U.L._{aa\,i}}}{\frac{U.L._{h0}}{U.L._{aa\,0}}}; \qquad I_6 = \frac{\frac{Add.\ U.L._{hi}}{Add.\ U.L._{aa\,i}}}{\frac{Add.\ U.L._{h0}}{Add.\ U.L._{aa\,0}}}$$

Where:

| | |
|---|---|
| U.L. | number of establishments; |
| Add. U.L. | employees in the establishment; |
| P | population; |
| h | food industry sub-sector; |
| i | municipality; |
| aa | food industry total; |
| 0 | national value. |

The first two indices describe the localization of the food industry sub-sectors with respect to the population of individual municipalities, while the third and fourth indicate the concentration of food industry sub-sectors with respect to the number of local units and of their employees, and the fifth and sixth indices represent the specialization of each food industry sub-sector with respect to the food industry as a whole. The next step is to transform the value of the six indices into a dummy variable equal to 0 when the value of each index is smaller than μis + σis (i = municipality, s = index) and 1 when the value is greater than μis + σis. A 'summary index' will therefore be calculated, with values ranging from a minimum of 0, when none of the municipality elementary indices exceed the threshold value of μis + σis, to a maximum of 6, when all the municipality elementary indices exceed the threshold values. Hence, the agri-food districts will be identified by considering the municipalities that exceed a threshold value by 4 or more as representative of the local agri-food systems. The remainder of the section, for reasons of brevity, will concentrate on reporting the results of the analysis of the three main Italian food industry sub-sectors, meat processing, fruit and vegetable and dairy. As will become clear, these sub-sectors are characterized by extremely different geographical and structural features, and are thus suitable to demonstrate the composite nature of the Italian food industry.

*Main agri-food districts and local systems in the meat industry (sub-sector 15.1)*

The general Census on Industry and Services 2001 data highlight the fact that in Italy the number of local units involved in meat processing and transformation is more than 4,450. Between 1991 and 2001, the number of employees in this sub-sector grew slightly, to a little over 58,000. Sub-sector 15.1 represents 6% of the food industry in terms of the number of local units, and over 13% in terms of the number of employees. The provinces with the largest number of local units and employees are Parma, Modena and Reggio Emilia, containing nearly 20% of the former and 19% of the latter categories. The province of Parma saw a rise in the number of employees of over 13% between 1991 and 2001, while the increase in local units was lower at 3.5%. Modena and especially Cremona recorded the most pronounced reductions between one Census and the other. The indices of localization, concentration and specialization described above were used to identify the main local systems of the meat-processing industry. A first evaluation for 2001 of these local systems using the summary index identified 10 distinct territorial systems characterized by a presence of the meat-processing industry, concentrated in

***Table 6.*** *Concentration of establishments by province in the meat sector 1991-2001*

| **Provinces** | **1991** Establishments | % | **Provinces** | **2001** Establishments | % |
|---|---|---|---|---|---|
| Parma | 478 | 10.9 | Parma | 495 | 11.1 |
| Modena | 270 | 6.2 | Modena | 241 | 5.4 |
| Cremona | 189 | 4.3 | Reggio Emilia | 118 | 2.6 |
| *Total (three)* | 937 | 21.4 | *Total (three)* | 854 | 19.2 |
| Reggio Emilia | 149 | 3.4 | Cuneo | 115 | 2.6 |
| Milano | 123 | 2.8 | Cremona | 112 | 2.5 |
| Torino | 117 | 2.7 | Torino | 112 | 2.5 |
| Bolzano-Bozen | 105 | 2.4 | Milano | 102 | 2.3 |
| Padova | 103 | 2.3 | Napoli | 101 | 2.3 |
| Mantova | 87 | 2.0 | Mantova | 91 | 2.0 |
| Verona | 87 | 2.0 | Bolzano-Bozen | 89 | 2.0 |
| *Total (ten)* | 1708 | 39.0 | *Total (ten)* | 1576 | 35.4 |
| **Total sub-sector (15.1)** | **4385** | **100.0** | **Total sub-sector (15.1)** | **4454** | **100.0** |
| **Total food industry** | **67514** | | **Total food industry** | **73832** | |

*Table 6 (cont.)*

Table 6 (cont.)

| Provinces | 1991 Employees | % | Provinces | 2001 Employees | % |
|---|---|---|---|---|---|
| Modena | 4690 | 8.1 | Parma | 4498 | 7.7 |
| Parma | 3971 | 6.8 | Modena | 4482 | 7.7 |
| Verona | 3224 | 5.6 | Verona | 4067 | 7.0 |
| *Total (three)* | 11885 | 20.5 | *Total (three)* | 13047 | 22.4<br>0.0 |
| Milano | 3155 | 5.4 | Forlì-Cesena | 3929 | 6.7 |
| Reggio Emilia | 2854 | 4.9 | Milano | 2230 | 3.8 |
| Roma | 2794 | 4.8 | Reggio nell'Emilia | 2047 | 3.5 |
| Cremona | 2445 | 4.2 | Mantova | 1872 | 3.2 |
| Forlì-Cesena | 1947 | 3.4 | Cremona | 1808 | 3.1 |
| Mantova | 1823 | 3.1 | Roma | 1777 | 3.0 |
| Torino | 1580 | 2.7 | Vicenza | 1287 | 2.2 |
| *Totale (ten)* | 28483 | 49.1 | *Total (ten)* | 27997 | 48.1 |
| **Total sub-sector (15.1)** | **57994** | **100.0** | **Total sub-sector (15.1)** | **58264** | **100.0** |
| **Total food industry** | **456431** | | **Total food industry** | **444649** | |

Source: our processing on ISTAT- General Censuses of Industry and Service (2001)

65 municipalities, with over 800 local units and more than 20,700 employees. In 1991, however, although there were 10 territorial systems, they included 97 municipalities, with slightly over 1,000 local units and around 17,000 employees.

The most important local system is that which extends throughout the province of Parma, containing 438 local units and over 4,000 employees. If statistical criteria are not adhered too rigidly, the two municipalities in the province of Reggio nell'Emilia (Correggio and Reggio Emilia itself) may also be included. In the municipality of Langhirano alone, there are 155 local units involved in meat processing and transformation, employing 1,250 people. In the 79 municipalities with a summary index higher than 4, the local units characterized by meat-processing industry represent over 56% of manufacturing enterprises and 72% of employees present in those municipalities. These percentages increase to 76% and 88%, respectively, in the 12 municipalities where the summary index is equal to 6, denoting an almost exclusive production of meat in these areas. Hence, in the meat industry there is a progressive localization of the meat-processing sub-sector, with a reduction in the number of municipalities involved, an increase in the number of local units and employees, and a simultaneous increase in specialization.

*Main agri-food districts and local systems in the fruit and vegetable sector (sub-sector 15.3)*

In 2001, the Italian fruit and vegetable processing and preservation industry consisted of 2,233 local units, which employed 31,500 people. When we compare these figure to those of 1991, two contrasting figures emerge. Although the number of local units increased by 23%, the number of employees fell by 14%. Thus, the average number of employees per establishment fell considerably from more than 20 in 1991 to just over 14 in 2001. Analysing single provinces in terms of local units, it becomes clear that the province of Salerno strengthened its leadership in the fruit and vegetable sector. In 2001, Salerno contained 253 establishments, an increase of more than 40% compared to the 1991 Census data. Also, the province of Naples grew spectacularly in terms of the number of local units: in 2001, its 165 establishments represented a 38% increase compared to 1991. In addition, the provinces of Cosenza, Avellino and Catania also experienced a notable increase in the number of local units in the fruit and vegetable industry, with increases in percentage similar to those witnessed in Naples and Salerno, although their importance in absolute value is smaller.

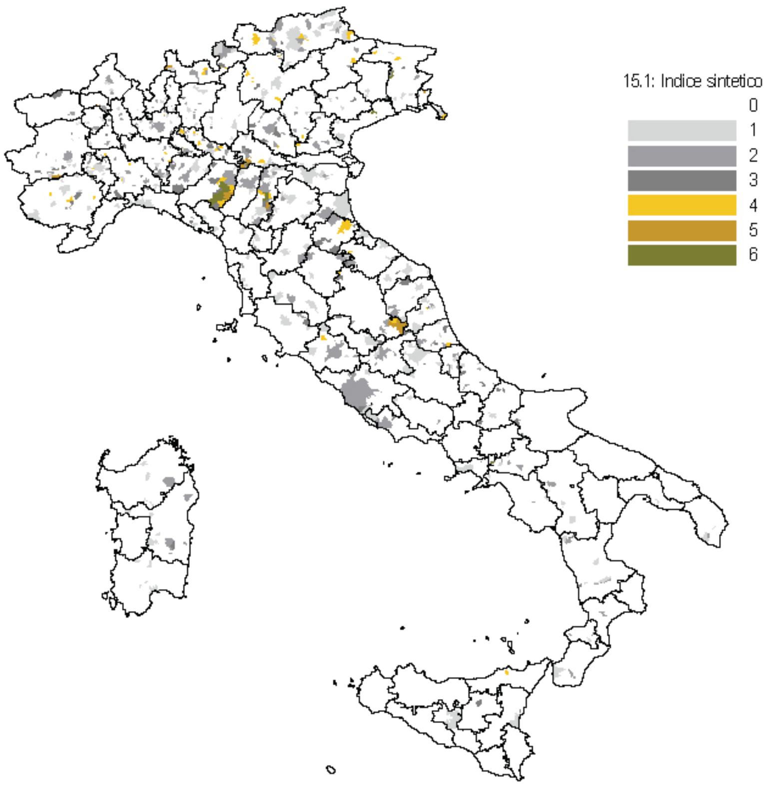


***Figure 1.*** *Italian meat industry: main districts and local systems*

***Table 7.*** *The local production system of production in the meat sector by province 1991-2001*

| ***Local system*** | **Provinces** | **Munici-pality** | **Meat** | | | **Food industry** | | | **Employees** | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | **Local units** | **Employees** | **Employees/ Local units** | **Local Units** | **Employees** | **Employees/ Local units** | **Food/ Manufact.** | **Meat/food** | **Manufact.** |
| *Parma* | Parma | 12 | 438 | 4068 | 9.3 | 872 | 11373 | 13.0 | 34.2 | 35.8 | 33293 |
| *Modena* | Modena | 9 | 150 | 3929 | 26.2 | 587 | 6941 | 11.8 | 13.2 | 56.6 | 52774 |
| *Cremona* | Cremona | 13 | 58 | 1471 | 25.4 | 191 | 3288 | 17.2 | 25.0 | 44.7 | 13160 |
| *Mantova* | Mantova | 3 | 33 | 775 | 23.5 | 78 | 1051 | 13.5 | 19.1 | 73.7 | 5496 |
| *Verona* | Verona | 8 | 16 | 3606 | 225.4 | 318 | 7224 | 22.7 | 21.2 | 49.9 | 34129 |
| *Romagna* | Forlì | 4 | 23 | 3837 | 166.8 | 352 | 6760 | 19.2 | 25.4 | 56.8 | 26654 |
| *Norcia* | Perugia | 1 | 13 | 103 | 7.9 | 26 | 172 | 6.6 | 74.1 | 59.9 | 232 |
| | Macerata | 1 | 2 | 961 | 480.5 | 21 | 1017 | 48.4 | 58.5 | 94.5 | 1738 |
| *Valtellina* | Sondrio | 6 | 13 | 819 | 63.0 | 22 | 892 | 40.5 | 37.4 | 91.8 | 2385 |
| *Alto Adige - Val Pusteria* | Bolzano | 1 | 2 | 116 | 58.0 | 5.0 | 150.0 | 30.0 | 52.4 | 77.3 | 286 |
| *Alto Adige - Val Venosta* | Bolzano | 1 | 5 | 117 | 23.4 | 11 | 132 | 12 | 35.5 | 88.6 | 372 |
| *Burgraviato* | Bolzano | 3 | 13 | 207 | 15.9 | 44 | 668 | 15.2 | 27.0 | 31.0 | 2470 |
| *Valle Isarco* | Bolzano | 2 | 4 | 244 | 61 | 6 | 251 | 41.8 | 70.7 | 97.2 | 355 |
| *San Daniele* | Udine | 1 | 36 | 464 | 12.9 | 44 | 508 | 11.5 | 43.2 | 91.3 | 1177 |
| ***Total Italia*** | | **65** | **806** | **20717** | **25.7** | **2577** | **40427** | **15.7** | **23.2** | **51.2** | **174521** |

Source: our processing on ISTAT- General Censuses of Industry and Service (2001)

***Table 8.*** *Concentration of establishments by province in the fruit and vegetable sector 1991-2001*

| Provinces | 1991 | | Provinces | 2001 | |
|---|---|---|---|---|---|
| | Establishment | % | | Establishment | % |
| Salerno | 180 | 9.9 | Salerno | 253 | 11.3 |
| Napoli | 119 | 6.5 | Napoli | 165 | 7.4 |
| Reggio Calabria | 92 | 5.1 | Foggia | 114 | 5.1 |
| *Total (three)* | 391 | 21.5 | *Total (three)* | 532 | 23.8 |
| Foggia | 54 | 3.0 | Cosenza | 80 | 3.6 |
| Cosenza | 51 | 2.8 | Bari | 72 | 3.2 |
| Ravenna | 49 | 2.7 | Reggio Calabria | 67 | 3.0 |
| Avellino | 49 | 2.7 | Avellino | 66 | 3.0 |
| Bologna | 48 | 2.6 | Catania | 62 | 2.8 |
| Catania | 47 | 2.6 | Palermo | 57 | 2.6 |
| Palermo | 46 | 2.5 | Latina | 51 | 2.3 |
| *Total (ten)* | 735 | 40.4 | *Total (ten)* | 987 | 44.2 |
| **Total sub-sector (15.3)** | **1820** | **100.0** | **Total sub-sector (15.3)** | **2233** | **100.0** |
| **Total food industry** | **67514** | | **Total food industry** | **73832** | |
| **Provinces** | **1991** | | **Provinces** | **2001** | |
| | Employees | % | | Employees | % |
| Ravenna | 4667 | 12.7 | Salerno | 4024 | 12.8 |
| Salerno | 3850 | 10.5 | Ravenna | 2730 | 8.7 |
| Napoli | 2619 | 7.1 | Napoli | 2497 | 7.9 |
| *Total (three)* | 11136 | 30.3 | *Total (three)* | 9251 | 29.4 |
| Modena | 1873 | 5.1 | Forlì-Cesena | 1774 | 5.6 |
| Bari | 1245 | 3.4 | Parma | 1464 | 4.6 |
| Verona | 1117 | 3.0 | Verona | 1006 | 3.2 |
| Parma | 1112 | 3.0 | Modena | 977 | 3.1 |
| Ferrara | 1014 | 2.8 | Bari | 972 | 3.1 |
| Cosenza | 894 | 2.4 | Avellino | 816 | 2.6 |
| Bologna | 879 | 2.4 | Piacenza | 776 | 2.5 |
| *Total (ten)* | 19270 | 52.4 | *Total (ten)* | 17036 | 54.1 |
| **Total sub-sector (15.3)** | **36730** | **100.0** | **Total sub-sector (15.3)** | **31499** | **100.0** |
| **Total food industry** | **456431** | | **Total food industry** | **444649** | |

Source: our processing on ISTAT- General Censuses of Industry and Service (2001)

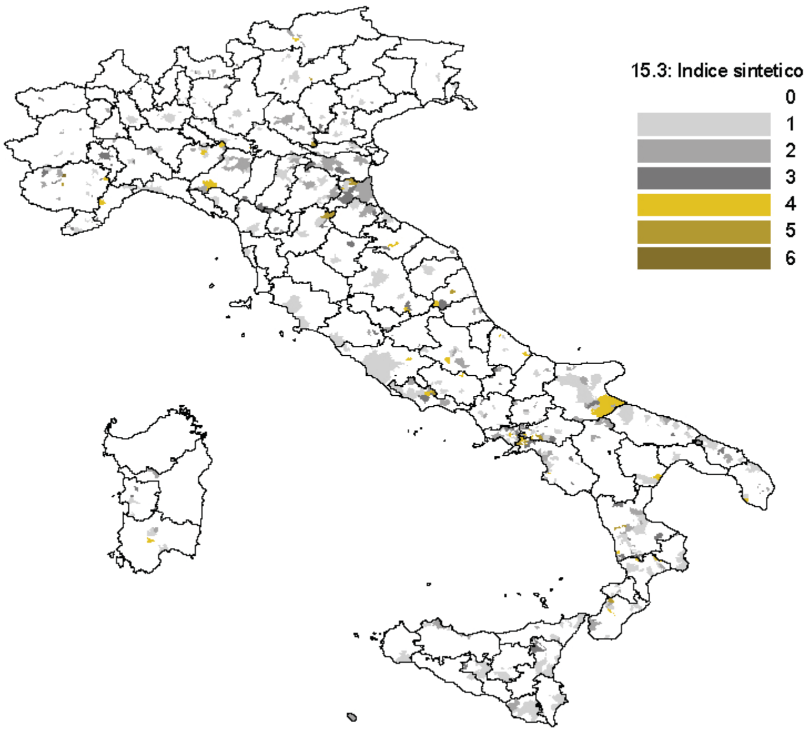


***Figure 2****. Italian fruit and vegetable industry: main districts and lcoal systems, 2001*

When we look at employee numbers in the fruit and vegetable industry we see that, among the major Italian provinces, only those of Salerno and Parma show an increase when compared to 1991, 4.5% and 31% respectively, while in all others cases there is a strong negative trend. The province of Ravenna highlights the deepening crisis in the fruit and vegetable sub-sector, with an almost 50% reduction in the number of employees since 1991, from nearly 4,700 to just over 2,700 in 2001. The province of Bari, has also undergone a substantial reduction in the number of employees, with just 972 employees remaining in 2001, representing a reduction of approximately 22% compared to the previous Census. However, it is possible to confirm that, in recent years, the geographical localization of the fruits and vegetables processing and preservation industry has benefited above all Southern Italy. If we again use the six indices of localization, specialization and concentration to identify the main local systems, we see that the number of municipalities where there is a higher concentration and specialization in the fruit and vegetable industry is 40, with a total of 33 local units and nearly 8,000 employees (municipalities with a summary index greater than or equal to 4). Extending the analysis to include neighbouring municipalities, with a high concentration in this industry, we can identify 13 provincial local systems (four of them located in the South), accounting for 651 local units and over 19,500 employees, with an average size of nearly 30 employees per local unit. Almost 62% of employees and 29% of local units of the Italian fruit and vegetable processing industry are concentrated within these local systems.

*Main agri-food districts and local systems in the dairy sector (sub-sector 15.5)*

According to the latest Census of Industry and Services (2001), the dairy industry, does not seem to have undergone any major changes, especially with regard to the number of local units. The number of establishments in 2001 remains substantially unchanged at 4,817, against 4,847 in 1991. The number of employees increased by 7%, stabilizing at around 52,500, and the average size of the local units grew slightly, with 18 employees per local unit in 2001 (Table 9). However, analysis of the single provinces shows that the changes have been noticeable, with the exception of Parma, which, with its 423 local units, remains substantially the same as in 1991 (417), thus retaining its leadership in the provincial ranking. The most evident increases in the number of local units are found in the provinces of Naples and Bari, at 62% and 30% respectively, while the most notifiable reductions took place in the important provinces of Milan, Mantova, Reggio Emilia and Modena, with losses in the number of establishments ranging from 49% in Milan to 21% in Modena.

With regard to the number of employees, there appears to have been a parallel increase with the number of local units, especially in the provinces of Naples and Bari, +18% and +23%, while the other provinces did not experience notable variations during the decade, with the exception of the province of Pavia (-16%). This would indicate that in provinces where the number of local units fell, forms of productive merger and concentration took place. However, the dairy industry continues to be located throughout the country, with a presence in 1,909 municipalities in 2001. If we look exclusively at local units with more than 10 employees, the number of municipalities involved was reduced to 859 (810 in 1991), representing more than half of the total; 71% of local units and 92% of employees are concentrated in these municipalities. If we only look at local units with 50 or more employees, the concentration increases: 211 municipalities (188 in 1991), representing 34% of the total number of local units and 66% of employees in the dairy sub-sector. It is also possible to identify the main local systems in the dairy industry using the six indices of localization, specialization and concentration. There were 53 municipalities with high specialization and concentration in the dairy industry sub-sector in 2001. These municipalities contained 444 local units, with nearly 8,200 employees. Widening the analysis to the neighbouring municipalities characterized by a high concentration in the sub-sector, 15 dairy local systems can be defined with 1,411 local units and nearly 24,771 employees. The average size is about 17.5 employees per local unit. Five of the local systems we identified are located in Southern Italy. They include about 644 local units, with nearly 8,200 employees, and a smaller average size at 12.7 employees per local unit.

***Table 9.*** *Concentration of establishments by province in the dairy sector 1991-2001*

| **Provinces** | **1991** Establishments | % | **Provinces** | **2001** Establishment | % |
|---|---|---|---|---|---|
| Parma | 417 | 8.6 | Parma | 423 | 8.8 |
| Reggio Emilia | 279 | 5.8 | Bari | 305 | 0.3 |
| Bari | 234 | 4.8 | Napoli | 291 | 6.0 |
| *Total (three)* | 930 | 19.2 | *Total (three)* | 1019 | 0.9 |
| Modena | 213 | 4.4 | Salerno | 228 | 0.2 |
| Napoli | 180 | 3.7 | Caserta | 201 | 0.2 |
| Udine | 166 | 3.4 | Reggio Emilia | 200 | 0.2 |
| Milano | 164 | 3.4 | Modena | 168 | 0.1 |
| Salerno | 153 | 3.2 | Mantova | 95 | 2.0 |
| Mantova | 144 | 3.0 | Brescia | 83 | 0.0 |
| Treviso | 139 | 2.9 | Milano | 83 | 0.0 |
| *Total (ten)* | 2089 | 43.1 | *Total (ten)* | 2077 | 1.8 |
| **Total sub-sector(15.5)** | **4847** | **100.0** | **Total sub-sector (15.5)** | **4817** | **100.0** |
| **Total food industry** | **67514** | | **Total food industry** | **73832** | |
| **Provinces** | **1991** Employees | % | **Provinces** | **2001** Employees | % |
| Milano | 4047 | 8.3 | Milano | 4060 | 7.7 |
| Parma | 3269 | 6.7 | Parma | 3216 | 6.1 |
| Napoli | 2141 | 4.4 | Napoli | 2532 | 4.8 |
| *Total (three)* | 9457 | 19.3 | *Total (three)* | 9808 | 18.7 |
| Cremona | 1937 | 4.0 | Bari | 537 | 4.0 |
| Reggio Emilia | 1893 | 3.9 | Reggio Emilia | 503 | 3.6 |
| Mantova | 1727 | 3.5 | Cremona | 479 | 3.5 |
| Bari | 1707 | 3.5 | Latina | 475 | 3.1 |
| Pavia | 1700 | 3.5 | Mantova | 457 | 3.0 |
| Modena | 1168 | 2.4 | Perugia | 448 | 2.7 |
| Roma | 1148 | 2.3 | Pavia | 447 | 2.7 |
| *Total (ten)* | 20737 | 42.3 | *Total (ten)* | 13154 | 41.3 |
| **Total sub-sector (15.5)** | **19702** | **100.0** | **Total sub-sector (15.5)** | **52542** | **100.0** |
| **Total food industry** | **456431** | | **Total food industry** | **444649** | |

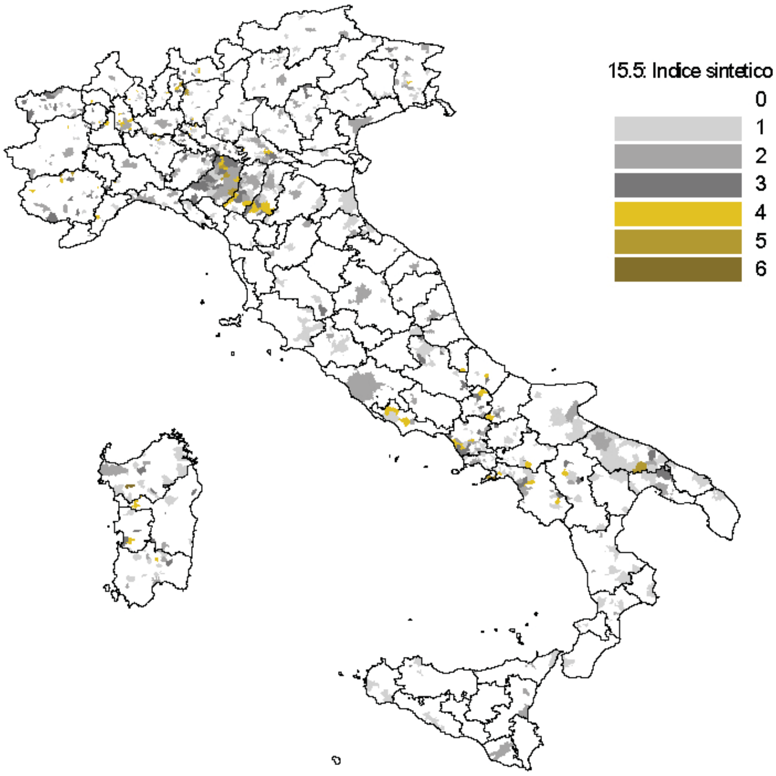


***Figure 3.*** *Italian livestock industry: main districts and local systems 2001*

## CONCLUDING REMARKS

The socio-economic development of Italy has been analysed using the industrial-districts approach starting from the late 1970s. Nowadays, the industrial districts are considered one of the main factors of the successful and rapid development of Italy after the Second World War, at the national and international level. The industrial districts are also considered relevant to the survival of many SMEs and their successful performance on the international markets. The district approach affected the analysis of the development of the Italian food industry recently. Nevertheless, the presence and role of agri-food districts has been relevant. The food industry is an important sector of Italy's manufacturing industry, and there are major differences with regard to its characteristics in terms of production sub-sectors and geographical distribution. The long-term evolution of the production structures (1981-2001) emphasizes the fact that the reduction of enterprises and employees is lower than that of the other manufacturing sectors. The process of deindustrialization has also affected the food industry. The reduction in the number of employees and enterprises has been relevant only in the Northwestern and Central regions, while a strengthening or low increase has been found in the Northeastern and Southern regions. The geographical differences have grown, especially with regard to the types of enterprise. In the South, a moderate number of medium-sized enterprises is combined with a prevalence of individual enterprises, while in the North capital societies and large enterprises prevail.

The picture of the food industry that emerges from a detailed analysis (at municipality level) of the 2001 Census data highlights the presence of important territorial changes in the sub-sectors of meat processing, dairy products and fruits and vegetables. These differences, which are often connected to typical and high-quality agri-food products, contribute significantly to the presence of the food industry on international markets. The structural analysis of the Italian food industry clearly reveals a higher concentration and specialization, not only at the regional level, but also at the provincincial and municipal levels. This clearly indicates the presence of numerous agri-food districts and local systems of production. Since the late 1980s, the focus has been on analysing and identifying the agri-food districts. In general, it has become clear that agri-food districts have the same main characteristics and the same factors of competitiveness as other industrial districts. Thus, many of the different approaches and concepts that could be used for regional and local development could also apply to the agri-food districts. However, it is important to note that the agri-food districts have several distinctive features.

The mosaic development of the agri-food districts in Italy shows the different patterns of local development according to the different product specialization and enterprises structure. The Italian experience shows the important role of the agri-food districts as factors of endogenous development. The variety of agri-food districts and their different origins emphasizes the importance of traditional and art and craft experiences, the utilization of local resources and 'savoir faire', the development of collective services (training, diffusion of technologies) and specific services to assure and preserve the high quality of the district production. The role of local and regional institutions (public or private) is often relevant in terms of assuring these collective and specific services, but also with regard to supporting the governance and further development plans for the agri-food districts. However, it is important to note that the agri-food districts are often characterized by typical and high-quality products derived by cultural and historical traditions. These peculiarities make the typical and traditional products of the districts more easily 'identifiable', facilitating their marketing and the adoption of special programmes of 'territorial marketing' by the local institution and consortium. In the past, as is the case with industrial districts in general, the products of the agri-food districts were described as niche products catering to specific and limited markets. Nowadays, in many cases, these niche markets have expanded and become relevant to and a structural part of the food demand. The increasing demand for quality and typical food products may – as we have emphasized – increase the possibility of developing local and regional food districts.

In the years to come, it would be desirable to conduct more research into the structural changes within the food industry, and to investigate the degrees of complexity and differentiation among the districts with regard to the several sub-sectors. In fact, the level of development and competitiveness the agri-food districts changes not only with product specialization, but also, and especially, with the structure of the enterprises, where the network relationship between SMEs is accompanied by a growing role of leading firms, cooperative enterprises and large groups. The private and public institutions still have an important role to play in developing local and regional agri-food districts, especially in the field of services and the diffusion of innovations. Whichever path is chosen, it is important to take food safety and product quality into account, which, although traditional, can benefit from the distinctiveness that often makes the products unique on the international markets.

## NOTES

[1] Due to the strong concentration and territorial specialization of each sub-sector, the analyses at national and also at regional level (NUTS 2) are not enough to understand the reality of the Italian food industry. The analysis, at least in Italy, must be carried out at the provincial level (NUTS 3), where the most significant changes take place.

[2] The analyses of the role of leading firms inside IDs have been scarce. In fact, we should point out that, in the first and well studied textiles district of Prato (Becattini 1987), medium-sized firms having leadership in the district were present just in the 1960s and '70s. These firms belonged to important families (Pecci, Sbraci) or were related to foreign investment and State intervention (Fabbricone).

[3] For a review of the different approaches, see Amin (1999) and Brasili and Fanfani (2005). Industrial clusters were also used at the regional level to measure competitiveness, following the suggestion of Porter (1990). For a comparison of Porter's approach and the IDs approaches, see Fanfani and Lagnevik (1995), with particular reference to the agri-food systems. New works on IDs and clusters are in Banca d'Italia (2004) and Brenner (2004).

[4] It is no wonder that the concept of agri-food systems, which began with the seminal works of Davis and Goldberg (1957) and Malassis (1979), also stimulated research on geographical concentration and specialization of many types of agricultural production and, in particular, the food industry. See also Viaene (1994) and Fanfani and Brasili (2003).

[5] The Italian law of Orientation and modernization of the agricultural sector (n. 57/2001) and the legislative decree n. 228/2001 provides for the definition of quality rural and agri-food districts (art. 13), remitting to the Regions the right to specify them.

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