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Abstract: As the "hard core" of Italian manufacturing economy, industrial districts and their recent development can provide an important point of view for further understanding the current situation and the prospect of Italian real economy. This paper aims at analyzing and evaluating the transformation of and innovation in Italian industrial districts in recent years. The analysis shows that, since encountering difficulties at the beginning of 1990s, Italian industrial districts have been making efforts on transformation and innovation, and such profound changes as the "grouping process" of district firms, external-orientation and internationalization of production networks, persisting in the strategy of "focusing on products", and the development of "green economy" are noticeably taking place. Despite the stubborn inefficiency of "national system", some observable successes have been achieved in the transformation and innovation of Italian industrial districts, especially in the perspective of firm size, the level of internationalization, capability of innovation, export performance and so on. As the backbone for consolidating and reviving Italian economy, industrial districts' future relies on whether they can further adjust themselves, after the heavy shock of current economic crisis, to timely grasp the opportunities provided by the recomposing of global value chain and by the changes of domestic and international markets.

Key words: Italy; industrial districts; transformation; innovation; performance; competitiveness

1. Introduction

Since the second half of 2011, as one of the focuses of European sovereign debt crisis, Italy has attracted a lot of attention of Europe and even of the world. Given the large scale of Italian economy and its significant position in euro area, the related discussions often refer to, besides the sustainability of the public finance, the multi-level and profound issues including its macroeconomic fundamentals, its economic structure and the related reforms, the characters of its banking system, its industrial competitiveness, and so forth. But in China we understand very few of the facts of these aspects. This paper would choose an important angle of Italian industrial economy, i.e. the industrial districts, to analyze their transformation and innovation in recent years, so as to enrich our knowledge about the recent changes of Italian manufacturing economy and further provide a particular view for our understanding in the current situation and the prospect of Italian real economy and its international competitiveness.

The SMEs, industrial districts and the so-called "traditional" sectors are three important and closely interconnected aspects of Italian manufacturing economy, and the industrial districts play a considerably important role to compensate the disadvantages of the other two aspects. According to the map of ISTAT renewed in 2005, 156 industrial districts were identified in which most of the firms are SMEs (with fewer workers than 250). The number of all employees in the 156 districts is more than 4.9 million, which accounts for 25% of the national total employment; at the same time, the number of employees in manufacturing is more than 1.9 million, which accounts for 40% of the national manufacturing employment. Most of the specialized products from these 156 districts belong to the sectors of "Made in Italy", i.e. the so-called "4A" sectors.[1] Additionally, the export of these 156 districts accounts for about half of the total national export, and in the sectors of "Made in Italy", the proportion even approaches 70%. [2] From the angle of geographical distribution, the majority of the 156 districts are located in northern and central Italy. In the region of Marche, almost 80% of the total employment and 70% of the export are densely located in the industrial districts.[3] Given these facts, it's meaningful and feasible to observe Italian economy from the view of industrial districts: firstly, this view can combine the issues of industrial organization and the structure of products which are the other two important aspects of Italian manufacturing; secondly, in the perspective of employment, production and export, industrial districts compose the key part of Italian industry, which makes it possible to look at the panorama of Italian manufacturing economy through this particular angle .

At the beginning of 1980s, the Chinese scholars began to notice Italian industrial districts and to introduce to China the theories of industrial districts and the Italian experience in this field. In recent ten years, with the deepening of economic relations between China and Italy and the prosperity of many specialized industrial districts in several costal provinces of China, more Chinese scholars have paid attention to Italian industrial districts. As a whole, owning to many reasons such as the current developing phase of Chinese economy and the language problem, till now most of the related research still focuses on introducing the successful experiences of Italian districts, and the attention on the difficulties they met and their transformation and innovation in recent years is obviously scarce. However, in order to understand more objectively and comprehensively Italian economy and the Sino-Italian economic relations, these recent changes need more serious consideration of ours.

Given the above-mentioned situation, this paper aims to focus on the transformation of and innovation in Italian industrial districts based on the previous research, including the background, main efforts on transformation and innovation, an evaluation on the performance and difficulties of the transformation, and also their relations with the prospect of Italian manufacturing economy. The structure of the paper is as following: section 2 tracks the main developing course of Italian industrial districts, then analyzes the challenges since the beginning of 1990s and therefore the pressure for transformation; section 3 summarizes and analyzes the efforts of the transformation of and innovation in Italian industrial districts; section 4 evaluates the effects and the performance of the transformation, and then discusses the difficulties during the transformation; section 5 concludes.

2. The developing course of Italian industrial districts and the challenges since

[1] In Italian language, the "Made in Italy" sectors can be summarized as four general ones: Abbigliamento-Moda (clothing-fashion), Arredamento-Casa (home furnishing), Automazione-Meccanica (automated and other machinery and equipment), and Alimentari-Bevande (food products and beverage), and they are generally abbreviated as "4A" sectors.

[2] ISTAT, *I Distretti Industriali*. Censimento 2001, a cura di F. Lorenzini, 16 dicembre, 2005; I Sistemi Locali del Lavoro. Censimento 2001, a cura di A. Orasi e F. Sforzi, 21 luglio, 2005.

[3] La Federazione dei Distretti Italiani, *Osservatorio Nazionale Distretti Italiani – Rapporto III*, 2012, il primo capitolo, p.25.

the 1990s

Although the original and accumulating period of Italian industrial districts could be traced back to earlier, but they didn't develop in grand scale and didn't attract much attention until the end of 1960s and the beginning of the 1970s. At that time, a number of districts had already become economically successful. The most notable of these included the textile industry in Carpi and Prato, the furniture industry in Brianza and Cascina, the footwear industry in Vigevano, and even in Puglia. For the first time the Italian machine tool industry was exporting all over Europe. The packaging machines of Bologna were being exported to Japan.[4] Till mid-1970s, in North-east of Italy (the so-called "the Third Italy"), there were already more than 50 manufacturing districts.

The success of Italian industrial districts at that time can be attributed to the external economic environment and internal characteristics of the districts themselves. From the view of external factors, the changing of international and domestic economic environment provided advantageous opportunities for the development of Italian industrial districts. Firstly, at the beginning of 1970s, as is well-known, there was a serious crisis in the Fordist model which could be ascribed to a series of conditions: the saturation of final markets and their increasing instability and segmentation, together with other factors such as the ending of Bretton Woods system and the oil crisis in 1973-1974. With these changes, large-scale enterprises had to begin their intensive restructuring; thus new opportunities emerged for the alternative models other than Fordism. In Italy, the industrial districts based on so-called "flexible specialization model" developed as an important alternative organization pattern.[5] Secondly, with respect to demand, in the years when the new Italian industrial districts were born some other European countries were abandoning the less capital-intensive manufacturing industries thus providing opportunities for Italian producers; therefore, the Italian industrial districts started to rapidly prosper. [6]

From the view of internal characteristics, there were also some advantageous factors. Firstly, most of the industrial districts are located in places with ever strong craftsmanship traditions. Combining the craftsman skills and modern industrial technologies, the producers in these places could gradually produce specialized, diversified and relatively high-quality products, which granted them advantages relative to Fordism. Secondly, most of the industrial districts originated from the ever countryside and the SMEs could acquire abundant and inexpensive labors, which further gave them the low-cost advantages relative to large enterprises. Thirdly, one of the most important advantages of Italian industrial districts lies in the solid local economic-social community based on varies of non-economic factors such as typical local culture, common values and trust among local entities. In such kind of economic-social community, the relations among firms are characterized by a kind of equilibrium between competition and cooperation; at the same time the industrial relationship inclines to be more flexible and efficient.[7]

In general, in the whole 1970s and 1980s, with the prosperity and stable development, industrial

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[4] Sebastiano Brusco, "The Idea of Industrial District: Its Genesis", in F. Pyke, G. Beccattini, and W. Sengenberger (eds.), *Industrial Districts and Inter-firm Cooperation in Italy*, International Institute for Labor Studies, Geneva, 1990, pp. 13-14.

[5] Luigi Burroni, "The Emerging of Different Patterns of Local Development in the Third Italy", in Fabio Sforzi (ed.), *The Insitutions of Local Development*, Ashgate, 2003, p. 175.

[6] Fabio Nuti, "Italian Industrial Districts: Facts and Theories", in Giulio Cainelli & Roberto Zoboli (eds.), *The Evolution of Industrial Districts–– Changing Governance, Innovation and Internationalisation of Local Capitalism in Italy*, Physica-Verlag, 2004, p.63.

[7] Filippo Chiesa, "I Distretti Industriali e la Sfida dell'Internazionalizzazione", articolo alla conferenza "Centro Congressi Torino Incontra", 4 marzo 2005, p.7.

districts gradually developed to become the "hard core" of Italian manufacturing economy. In this period, the characters of the districts could be summarized as the "flexible specialization model" and the "active spontaneous growth". The success of Italian industrial districts in this period has at least two points of significance: on the one hand, it successfully dug the special potential of Italian economy and built up a noticeable position for the "Made in Italy"; on the other hand, as an organizational innovation based on a special local social-cultural network, Italian industrial districts made an important contribution to the diversification of industrial organization models. Therefore, in 1999, Romano Prodi, former Premier of Italy and the president of European Commission at the time, made his own evaluation, "The district is the unique real innovative contribution from our country to economic and social evolution of this century."[8]

However, with the accelerating of globalization, the rising of knowledge economy, the rapid development and application of new technologies and policy changes at domestic, European and international levels, since the beginning of 1990s, Italian industrial districts have been facing more and more rigorous challenges and have to transform in order to sustain their advantages and competitiveness.

Firstly, from the angle of industrial organization, large enterprises began to resurge and accordingly weakened the relative advantages of industrial districts. After nearly 20 years of structural adjustment with the help of rapid application of new technologies (such as automation, computer technology and ICT), large enterprises obtained flexibility and vigor again. On the contrary, although industrial districts kept their efforts on product innovation, the long machine-handicraft-oriented tradition restrained, at least to some extent, the application of new technologies; at the same time, the SMEs in districts had the general problem of financing renovating technologies and equipments. In addition, the growing up of newly emerging economies remarkably enlarged the world consumption market and accordingly enlarged the final market for large enterprises. At the same time, the new situation of demand enhances the relative importance of the service compartments in the whole value chain including designing, marketing, distribution and financial managing. This is obviously the competence of large enterprises; on the contrary, the SMEs in districts traditionally focus on production and pay much less attention to the market. [9]

Secondly, from the view of the structure of products, Italian industrial districts faced rigorous pressures of competition. Most of the specialized products of Italian districts are under "4A" sectors three of which produce final consumer products characterized by relative low-technology. This resulted in at least two disadvantages: on the one hand, the threshold of entrance is relatively low, especially for some standardized products and production compartments, and therefore the districts face more and more low-cost competition from newly rising economies; on the other hand, compared to the competitive sectors of other developed countries, the "Made in Italy" sectors are relatively low technology-intensive, and the growth of world trade in these sectors is much slower than that in high-tech ones, which made it difficult for Italian districts to grasp the new opportunities of international market. From 1998 to 2001, the five sectors that grew fastest in

[8] see Franco Amatori e Andrea Colli, "Il Volo del Calabrone - Fatti e Misfatti di Una Storia di Successo Tutta Italiana: Il Distretto Industriale", materiali per insegnamento Storia Economia, Università Commerciale Luigi Bocconi Milano, Anno Accademico 2000-2001.
[9] Carlo Trigilia, "Italian Industrial Districts: Neither Myth Nor Interlude", in Frank Pyke and Werner Sengenberger (eds.), *Industrial Districts and Local Economic Regeneration*, International Institute for Labour Studies, 1992, p.40.

world trade are automobile, other transport vehicles, furniture, chemical products and electronic products. Among them, only in sector of furniture Italy's world market share was more than 4%; however, in other four medium-high-tech sectors, there is nothing outstanding in its performance.[10]

Thirdly, from the view of internationalization, at the beginning of 1990s, Italian industrial districts faced a lot of challenges in the capabilities of grasping the opportunity of economic globalization. On the one hand, owning to the narrowness of domestic market, Italian districts have been highly export-oriented since its early period; therefore, with falling down of economic growth of its traditional trade partners (above all western European countries and the US) in the 1990s and at the beginning of the new century, the districts were influenced a lot by the changes of external demand. On the other hand, in the 1990s, the outward FDI of Italian industrial districts was very limited mainly owing to such factors as the predominant position of SMEs, specialization in "traditional" sectors and "lock-in effect" of export-oriented model; the FDI level is much lower than either the average of non-districts Italian firms or that of other industrialized countries.[11] This limited the districts to optimize their efforts on grasping the opportunities offered by the restructuring of global value chain.

Fourthly, with the changing of policy environment, the former "spontaneous growth" of Italian industrial districts became less sustainable. The Maastricht Treaty (going into effect since 1992) regulating the European monetary union deprived of Italy's monetary policy authority and also restricted its fiscal policy, which changed much the ever economic model depending on credit expansion, devaluation of currency and public spending.[12] Additionally, the European environmental policy became more and more comprehensive and severe and increased the production cost of the district firms than before.

Under the pressure from all above-mentioned negative factors together with the long-term inefficiency of the "national system", Italian industrial districts seemed touching their bottlenecks at the beginning of 1990s. Two examples from textile sector could help explain the situation. Prato, the first largest district of the sector, after the stagnation in the 1990s, lost over 2000 job positions from 2000 to 2005; in the same period, Como, the second largest one, also experienced a decrease of 20% in turnover and 9% in employment.[13] As the key part of Italian industrial economy, the difficult situation of the districts must have negative effects on the vigor of the entire Italian economy and the competitiveness of "Made in Italy" sectors. According to a research done by Prometeia, from 1995 to 2001, Italy's share in the world export market fell down from 4.6% to 3.7%, and the number of "traditional" sectors which lost more than 4% of world export market share was as high as 13.[14] Obviously, the sustainability of industrial districts not only determines their own future, but to a great extent relates to the status of the entire Italian economy and its competitiveness.

3. The efforts of transformation and innovation of Italian industrial districts

[10] Filippo Chiesa, "I Distretti Industriali e la Sfida dell'Internazionalizzazione", pp. 11-12.

[11] Sergio Mariotti and Marco Mutinelli, "Small Multinational Groups in the Italian Industrial Districts: Interpretations and Empirical Evidence from the Mechanical Engineering Industry", in Giulio Cainelli & Roberto Zoboli (eds.), *The Evolution of Industrial Districts-— Changing Governance, Innovation and Internationalisation of Local Capitalism in Italy*, Physica-Verlag, 2004, pp. 336-339.

[12] Filippo Chiesa, "I Distretti Industriali e la Sfida dell'Internazionalizzazione", p.9.

[13] Ibid., p.12.

[14] Prometeia, *La Dinamica Settoriale della Domanda Mondiale e l' Andamento delle Esportazioni*, Rapporto di Previsione, Bologna, Marzo 2003.

As a particular model of industrial production organization, Italian industrial district is not static, but evolves under the combining effects of both "inside force" of self-accumulating and the "outside force" of external economic environment. Since the beginning of 1990s, the rapid changes of external environment have been exerting a significant influence on the developing track of Italian districts. In recent years, the transformation of and innovation in Italian industrial districts are more and more salient and their direction has also been increasingly clear. The most important efforts comprise the following three aspects: the "grouping process" of district firms; the external-orientation and internationalization of the production networks; persisting in the strategy of "focusing on products", and the development of "green economy".

3.1 The "grouping process" of district firms

The phenomenon of grouping process within Italian industrial districts has already started since the end of 1980s and attracted the notice of some scholars. [15] In the perspective of internal evolution of industrial districts, this trend has its own logic. Firstly, in general, with the maturing of the district model and gradual growing of the firm size, one leader firm would emerge in a district and then try to stabilize its business relations with other firms (suppliers or competitors) for the sake of pursuing its own strategy, which directly contributes to the formation of a business group; secondly, although almost all the firms within a district belong to the same sector, the concrete divisions of them along the whole value chain are normally distinctly different owning to the diversities in production, organization and marketing model, and this impels the firms to set up new factories or to acquire existing factories when they are trying to extend to produce other products within the same sector.[16] Since the 1990s, grouping process has been developing as a prevalent trend in the majority of Italian industrial districts. Table 1 provides the proportion of district firms belonging to a business group in 2001. This result comprises all of the 199 manufacturing districts identified by ISTAT and all of the specialized sectors of "Made in Italy". It can be found from Table 1 that the grouping process had already reached a considerable level at the beginning of the new century, especially in sectors of machinery and home furnishing. Regarding all the sectors of "Made in Italy", the grouping process is more developed in industrial districts than that in non-districts. Additionally, the TeDIS observatory based on a series of surveys covering 45 districts showed that, in 2006, among all the firms with at least €2.5 million of annual sales a large fraction (37%) are part of formal or informal groups.[17]

Table 1 – Firms belonging to a business group (2001), % of firms

	District firms		**Non-district firms**	
	(c)/(a) %	(c)/(b) %	(c)/(a) %	(c)/(b) %
Food（17 districts）	5.67	20.61	2.69	17.7
Textile and clothing（68）	5.01	21.82	3.09	17.43
Leather and footwear（28）	4.06	15.92	2.83	14.73
Furniture（39）	4.91	25.33	2.39	18.66

[15] See P. Bianchi & G. Gualtieri, "Emilia-Romagna and Its Industrial Districts: the Evolution of a Model", in R. Leonardi, R. Y. Nanetti (eds.), *The Regions and European Integration*, Pinter Publishers, London, 1990.
[16] Donato Iacobucci, "Groups of Small and Medium-sized Firms in Industrial Districts in Italy", in Giulio Cainelli & Roberto Zoboli (eds), *The Evolution of Industrial Districts - Changing Governance, Innovation and Internationalisation of Local Capitalism in Italy*, p.150.
[17] Giancarlo Corò and Stefano Micelli, "The Industrial Districts as Local Innovation Systems: Leader firms and New Competitive Advantages in Italian Industry", in Michele Barbato and Luo Hongbo (ed.), *Industrial Districts and Economic Globalization: Italy and China Compared*, UniCredit SPA *Review of the Economic Conditions in Italy*, 2008, pp.73-74.

Mechanics（33）	7.46	25.77	5.43	22.31
Other sectors（14）	7.23	20.99	9.27	26.27

Source: Giulio Cainelli, "I Gruppi di Imprese nei Distretti Industriali Italiani", PPT, Università di Bari e CERIS-CNR, Milano, 2007, http://195.128.234.47/aisre/doc/news/cainelli.ppt; notes: (a) all firms; (b) Joint-stock firms; (c) Joint-stock firms belonging to a business group.

In order to analyze the evolution of internal structure of business group and inter-firm relations, some researchers classified the structures of group within Italian industrial districts in different types including "pseudo group", "conglomerate group", "district group", "international group", and so on.[18] In recent years the "district group" based on the long-term tradition of internal cooperation and mutual trust within the district has become the most prevalent type. According to the findings of Brioschi, in 2004, more than half (112) of all the 211 district groups in region of Emilia-Romagna can be identified as "district groups". Generally, the development strategy of a "district group" is dominated by its leader firm, and most of the other firms still keep their own control in operation and management and in most cases still keep their own brands and trademarks.[19] Obviously, the strategy of the group, whatever vertical or horizontal integration oriented, has already exerted and will continue to exert profound influence on the internal organization and management structures of industrial districts.

3.2 External-orientation and internationalization of the production networks

With the rapid restructuring of global value chain in recent years, the ever "close" production networks of Italian industrial districts proved less and less sustainable, and the trend of external-orientation and internationalization has been gradually clear. This trend is generally initiated by the leader firm within a district, trying to set up an opener production network beyond the local territory in order to continue cutting operation costs and optimizing production capacity.

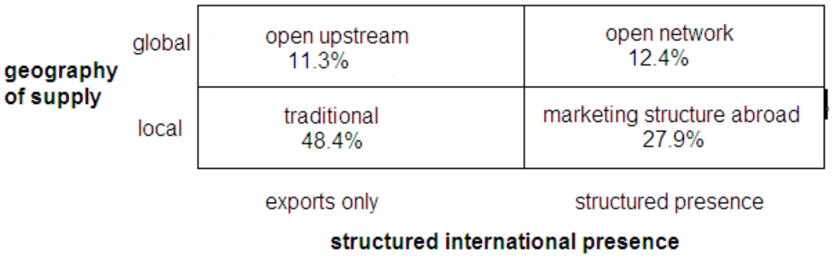
The extending of production networks of industrial districts developed in various forms including developing external supplier networks, subcontracting, and foreign direct investment and so on. The form which so far developed most rapidly and achieved most is the external-orientation of supplier networks. According to the observations on 101 typical districts carried out by Unioncamere, the geographic distribution of the suppliers of the district firms is considerably dispersive. In 2007, only 20.2% of the suppliers of observed firms came from the same district, 27.4% of the suppliers were in the same region but out of the district, 35.2% of the suppliers were beyond the region, and other 17.2% were operating in other countries.[20]

Figure 1 – Four types of the industrial district firms

[18] The "pseudo group" refers to a structure consisting of just one production firm plus one or more financial and real estate firms, the latter often employing very little staff or not at all. "Conglomerate groups" are combinations of two or more firms operating in separate industries; they generally include one or more financial/real estate companies. A "district group" is a cluster of firms headquartered in the district that are engaged in the district's reference production sector, whatever their compartment of level in the product chain. A "international group" is a highly evolved and diversified structure with one or more companies within the district (generally, production companies) and one or more companies abroad (typically, marketing arms). See Francesco Brioschi, Maria Sole Brioschi and Giulio Cainelli, "Ownership Linkages and Business Groups in Industrial Districts. The Case of Emilia Romagna", in Giulio Cainelli & Roberto Zoboli eds. , *The Evolution of Industrial Districts- Changing Governance, Innovation and Internationalisation of Local Capitalism in Italy*, pp.161-166.

[19] See Francesco Brioschi, Maria Sole Brioschi and Giulio Cainelli, "From the Industrial District to the District Group: An Insight into the Evolution of Local Capitalism in Italy", *Regional Studies*, No. 9, 2002.

[20] La Federazione dei Distretti Italiani, *Osservatorio Nazionale Distretti Italiani – Rapporto III*, 2012, pp.72-73.



Source: Giancarlo Corò and Stefano Micelli, "The Industrial Districts as Local Innovation Systems: Leader Firms and New Competitive Advantages in Italian Industry", in Michele Barbato and Luo Hongbo (ed.), *Industrial Districts and Economic Globalization: Italy and China Compared*, UniCredit SPA *Review of the Economic Conditions in Italy*, 2008, p.89.

Based on the differences of internationalization of production and presence in outlet markets, Corò and his colleagues classified the strategic positions of the leader district firms in four types, and then made a specific study based on the data of 2006 from TeDis. These four types are presented in Figure 1. The lower-left cell shows the more traditional firms, those whose production remains concentrated in the district and that only sell the products abroad through traditional channels. These are still the largest group numerically (accounting for almost half of the total), although in terms of sales their weight is considerably less (30%). A significant number of firms (nearly 28%), shown in the lower-right cell, have begun a plan of investment to increase their control of markets abroad through various forms of presence in the outlet countries. This is the classical path to growth based on strengthening the traditional commercial outreach of district firms. A small fraction of firms (11.3%) can be described as open upstream (upper-left cell), i.e. firms having initiated internationalization of production (through sub-contracting and foreign direct investment) to sustain competitiveness by cutting costs. Finally, a small group that is especially important for their visibility and sales can be classified as following the open network model (upper-right cell). These are firms capable of international projection both upstream and downstream along the value chain. By number, they account for just over 12% of the sample; by sales, they are much more important, accounting for about a third of total sales. The fourth type is more common in the district areas of the North-east and less so in the South. Yet the phenomenon characterizes all sectors and all parts of Italy, irreversibly marking the evolution of the district model.[21]

As a whole, the external-orientation and internationalization of production networks would to some extent change the ever close and complicated supplier networks and even the social relations within the districts; however, in the perspective of evolution, this not only has not substantially impaired the nature of local networks, but also has been conducive to improve dynamics and integral function of the district. While outsourcing, the leader firms generally keep the key tasks such as product design and sample production for local suppliers, which on the one hand means that the most important cooperation still remains locally, on the other hand promotes competition among the local suppliers and further improve dynamics within the districts. Additionally, operating internationally elevates the quality of demand of the leader firms for the related services and accordingly improves the development of local specialized services (design, training, R&D, logistics, finance, communication, marketing and so forth) and will further improve the integral

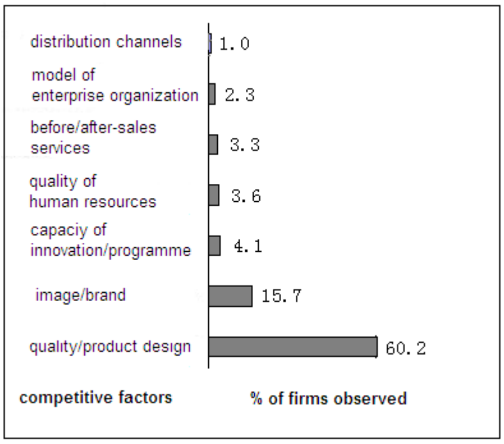
[21] Giancarlo Corò and Stefano Micelli, "The Industrial Districts as Local Innovation Systems: Leader firms and New Competitive Advantages in Italian Industry", in Michele Barbato and Luo Hongbo (ed.), *Industrial Districts and Economic Globalization: Italy and China Compared*, UniCredit SPA *Review of the Economic Conditions in Italy*, 2008, pp.75-76.

business environment of the districts.

3.3 Persisting in the strategy of "focusing on products" and "green economy"

Almost all the specialized sectors of Italian industrial districts belong to light industry, and three of the "4A" sectors produce final consumer products; therefore, "focusing on products" has been the key strategy of most district firms. With the inter-firm demonstration effect, this has further become the competitive strategy of the whole district. In practice, district firms try to combine modern production technology and their own advantages in traditional handicraft and artistic designs, make efforts on product quality, design and brand reputation, strive to find their own positions in the upper compartment of the value chain. Even if in recent years the importance of some business services such as marketing are generally acknowledged, the district firms still regard the products as their competitive source, persisting in gaining advantages mainly from manufacturing but not business activities. Figure 2 provides the result of a survey carried out by Unioncamere in 2011 on the competitive elements of district firms. Among all the firms observed, a considerably large part (60.2%) regards product design and quality as competitive element and strategy, another 15.7% of the firms attaches importance to image and brand. Comparing the proportions of all the elements, it is easy to get the direct impression of district firms' strategy of "focusing on products".

Figure 2- Competitive elements of district firms



Source: La Federazione dei Distretti Italiani, *Osservatorio Nazionale Distretti Italiani – Rapporto III*, 2012, pp.65-66.

The developing of "green economy" is another important aspect of transformation of Italian industrial districts. At the beginning of 1990s, most of district firms were critical of cost-raising effects induced by environmental regulation; however, with the interaction of demonstration, competition and cooperation among firms, at the begging of the new century, a large part of the districts had developed a new model to accommodate itself to the regulations and more and more district firms have successfully adjusted to "green" production. Being initiated by local intermediate agencies and supported by local government, more and more firms developed such kinds of district-level cooperation as collaborating on investment in environmental infrastructures, R&D cooperation in developing related technology and collectively signing "voluntary agreement" on reducing emission of pollution. In this way, the district firms gradually benefit from the positive externality of cooperation while shouldering the related costs of regulation. In 2001, there were totally 15 voluntary agreements at national level among district firms and 27 agreements at regional level. [22]

It is worth notice that at present "green economy" is not regarded by district firms as a burden any longer but is generally recognized as a new model of management, organization, production and marketing, and a new source of dynamics and competitiveness. According to the observation of Unioncamere, in 2011, despite the difficult situation of serious crisis, more than 1/3 of district firms increased their investment in "green" technologies: 53.8% of which was invested to employ energy-saving equipments and technologies; 30.5% was used to ameliorate in-use equipments and machines in order to reduce environmental pollution; the last 15.7% was employed in R&D and production for eco-products.[23]

4. An evaluation on the performance of transformation and innovation and on the difficulties

Among the above three aspects, the grouping process and the external-orientation and internationalization can be regarded as important parts of transformation of the districts in organization structure, while "focusing on product" and "green economy" are actually the persistent innovation of the districts in products and industrial process. In reality, these three aspects reinforce each other and aim to together sustain and reshape the dynamics and competitiveness of the districts. Then, how is the performance of these efforts? What's their impact on the mid- and long-term competitiveness of Italian industrial districts? Given the fact that the transformation of the districts, especially the transformation of organization structure, would be a long-term process, the evolution and restructure of all elements at present are still vibrant, the paths of transformation are different, together with the negative effects from the shock of current economic crisis, it's not easy to answer these questions. This section tries to evaluate the performance of the transformation of Italian industrial districts based on the available data and discuss the current and future difficulties.

Firstly, with regard to their own characters, the industrial districts not only still compose the "hard core" of Italian manufacturing in terms of "quantity", but also begin to show new vigor in terms of "quality", leading transformation and innovation of the whole Italian manufacturing economy.

In the perspective of firm size, with the development of self-accumulating and the grouping process, the average size of firms within the districts is growing gradually. According to La Federazione dei Distretti Italiani, in 2011, the number of micro-sized firms (the number of employees between 1 and 9) accounts for 86% of all district firms, obviously under the national average level (that is 95%); the number of small and medium-sized firms accounts for 13.6, much higher than the national average (that is 5%). Accordingly, the corporate status is also advancing. In 2011, the number of capital company accounts for 30% of all firms, markedly higher than the national average level (22%). It is obvious that, with regard to cultivating medium-sized firms of benign-organization, Italian industrial districts still provide a more dynamic environment.

With regard to internationalization and capacity of innovation which are connected with each other and directly determine the competitiveness, the districts are presently staying at the foreland

[22] Anna Montini and Roberto Zoboli, "Environmental Impact and Innovation in Industrial Districts", in Giulio Cainelli & Roberto Zoboli eds. , *The Evolution of Industrial Districts- Changing Governance, Innovation and Internationalisation of Local Capitalism in Italy*, pp. 302-303.

[23] Unioncamere, "Le Nuove Formule Organizzative Distrettuali e Le Strategie Attuale di Fronte alle Modificazioni dello Scenario Competitivo", in La Federazione dei Distretti Italiani, *Osservatorio Nazionale Distretti Italiani – Rapporto III*, 2012, pp.34-35.

of Italian manufacturing industry. Table 2 shows the results of an investigation of La Fondazione Nord Est. Firstly, after nearly 20 years of structural transformation, the internationalization of Italian industrial districts has developed a lot. At present, the internationalization level of district firms is markedly higher than that of non-district firms: about 34.7% of all district firms belong to the type of “high level of internationalization”, while the proportion in non-districts is only 27.7%. Even under the shock of economic crisis, the internationalization process of districts is showing a trend of accelerating and enforcing. [24] Secondly, the district firms perform much better than those of non-districts with respect to capacity of innovation. Additionally, in recent years, some districts specializing in high-tech products such as luxury cars, aeronautic products, chemical and pharmaceutical products, cosmetics, electronic components, diagnosing and bio-medical products, and so on, are making rapid progress in technological and product innovation, developing some “high-tech” districts which can strongly compete with other developed countries in sub-divided markets. The district of aeronautic products in Varese and that of bio-medical products in Mirandola are two examples of these “high-tech” ones.

Table 2 – Internationalization level and capacity of innovation: a comparison between districts and non-districts (% of all firms, 2010)

	level of internationalization				capacity of innovation			
	high	**low**	**no**	**total**	**medium-high**	**low**	**no**	**total**
districts	34.7	9.3	56.0	100.0	45.4	21.0	33.6	100.0
non-districts	27.0	10.5	62.5	100.0	36.7	30.9	32.4	100.0
total	27.7	10.4	61.9	100.0	37.5	29.9	32.5	100.0

Source: La Fondazione Nord Est, from La Federazione dei Distretti Italiani, *Osservatorio Nazionale Distretti Italiani – Rapporto III*, 2012, p. 253, p.256。

As a new feature of innovation, “green economy” should be paid more attention. At present, the districts that took the lead in investing in “green economy” have already been on the track of sound progress and have begun to “harvest” the competitiveness in the field of energy-saving and environmental protection, which shows active demonstration effects to other districts. As a whole, the districts where “green economy” is developing rapidly are mainly concentrated in northern Italy, especially in region of Lombardi and Veneto. In the perspective of developing path, “green-oriented” districts can be divided in two types: one type is specializing in the traditional sectors well-known as “Made in Italy”, focusing on the efforts to employ new technologies to save energy and reduce emissions, and trying to reduce the energy costs and environmental pollution from all parts of the production chain, such as the tanning district in Vicentino; the other type is focusing on the innovative activities aiming at improving energy efficiency, developing new technologies, developing new energy and new materials, such as the innovative energy district in Belluno. In brief, as a new production model and philosophy, “green economy” has become a new source of added value and competitiveness. [25]

Secondly, with regard to market performance, the process and performance of Italian industrial districts can be obviously observed from the export. In recent several years, the export led by the

[24] Unioncamere, “Le Nuove Formule Organizzative Distrettuali e Le Strategie Attuale di Fronte alle Modificazioni dello Scenario Competitivo”, in La Federazione dei Distretti Italiani, *Osservatorio Nazionale Distretti Italiani – Rapporto III*, p.69.

[25] Unioncamere - Fondazione Symbola, “I Distretti Industriali e la Green Economy – il Caso del Veneto”, in La Federazione dei Distretti Italiani, *Osservatorio Nazionale Distretti Italiani – Rapporto III*, 2012, p.232.

districts has once again become the engine of Italian economy; thus the international competitiveness of “Made in Italy” has also been consolidated. According to an investigation of Intesa Sanpaolo (2009), despite encountering difficulties since the beginning of 1990s, the average export propensity of the districts has been gradually increasing. In recent ten years, this propensity has always been about 50% and markedly higher than that of non-districts.[26]

Table 3- The dynamics of Italian export from 101 principal industrial districts that compose the index of Fondazione Edison,（Ateco 2007）

	1991	2001	2005	2008	1991-2001		2001-2008		2001-2005		2005-2008	
					absolute variation	Var. %	absolute variation	Var. %	absolute variation	Var. %	absolute variation	Var. %
clothing-fashion（31）	11.8	28.7	24.8	25.6	16.9	142.5	-3.1	-11.0	-4.0	-13.8	0.8	3.3
home furnishing（16）	3.6	9.7	8.8	9.2	6.0	165.8	-0.5	-5.6	-0.9	-9.0	0.3	3.7
automatic-machinery（32）	6.2	17.4	20.1	23.3	11.2	179.5	5.9	33.8	2.7	15.4	3.2	16.0
high-tech（7）	0.9	4.1	5.7	6.7	3.2	352.2	2.6	62.5	1.6	39.3	1.0	16.6
food-wine（15）	1.2	3.8	4.5	5.5	2.6	223.0	1.7	45.7	0.7	19.5	1.0	21.9
total	23.8	63.7	63.9	70.2	39.9	167.7	6.5	10.2	6.5	0.3	6.3	9.9

Source：Fondazione Edison, “L’Analisi dell’Export Distrettuale Italiano e la sua Dinamica Congiunturale”, in La Federazione dei Distretti Italiani, *Osservatorio Nazionale Distretti Italiani – Rapporto I,* 2010, p.155.

Table 3 shows the research result of Edison Fund (la Fondazione Edison) on the export of Italian industrial districts from 1991 to 2008. The fund has been following 101 principal districts for many years and classifies the districts by sectors: clothing-fashion, home furnishing, automatic-machinery, high-tech and food-wine. It can be easily seen that 2001 is an important year as a watershed. From 1991 to 2001, even though a lot of districts have already met difficulties, the export still increased rapidly thanks to the increase of external market demand, and the export of almost all the districts achieved a high increase of more than100%. After the tragedy of September 11, 2001, the majority of developed economies stepped into downturn, and the entry of China into WTO in the same year was another unprecedented challenge for Italian districts specializing in “traditional” sectors. From 2001 to 2005, the export had obviously slowed down, and the index of export nearly did not increase at all. However, since 2006 the export started to increase again and reached the historical peak value in 2007 and 2008. With regard to the sectors, Table 3 also provides the following information: firstly, the revival of export of such sectors as clothing-fashion and home furnishing in recent several years shows, at least to some extent, that the positive effects of transformation of the districts in “traditional” sectors have already begun to be noticeable; secondly, the export of such sector as food-wine and automatic-machinery has been continuously increasing thanks to the steady international competitiveness status; thirdly, the export of the few “high-tech” districts increased remarkably with steadily increasing competitiveness.

The export performance since the outbreak of international financial crisis can help more to evaluate the transformation and innovation of Italian industrial districts. In 2009, the export of districts decreased markedly by 20% compared to the previous year, but this level of decrease is much lower than that of national average (30%). In the following two years, the export

[26] Giovanni Foresti, Fabrizio Guelpa e Stefania Trenti, “‘Effetto Distretto’ – Esiste Ancora?”, collana ricerche di INTESA SANPAOLO, gennaio 2009.

experienced a continuous and rapid recovery and increased 10.5% and 11.3% separately in 2010 and 2011. Especially in the first 9 months of 2012, the export of as much as 48 districts exceeded the level of the corresponding period of 2008 which was the precedential historical record; among these 48 districts, the export of 11 districts increased by over 20%, including the mechanical manufacturing district in Treviso (by 70%), the food district in Parma (by 60.4%) and the water faucet district in Omegna (by 31.8%).[27] Given that Italy's traditional external market, that is developed economies, has been in downturn in the recent several years, competing in the markets of newly-emerging countries increasingly became the key impetus to the export of Italian districts, among which China is the destination with the most rapid increase: in 2010, Italy's export to China increased by 48.8% compared to the previous year, and the export of districts increased by as highly as 81.6%. Simultaneously, the increase of export of Italian districts to Russia, Brazil, Romania, Poland and Saudi Arab is also considerably noticeable. [28]

Certainly, the difficulties restricting the transformation of and innovation in the districts should not be neglected, and two of the most worrying factors are the stubborn inefficiency of Italian "national system" and the current lingering economic crisis.

As the result of the stubborn inefficiency of "national system", there has been an obvious lack of public policy incentive aiming at the districts in Italy. It's well-known that a series of negative factors in Italian "national system" (including the overstaffed institutions of bureaucracy, the deficient infrastructure, the considerably high energy costs, high tax, the lacking of investment in education and R&D, and so forth) compose the problem that has worried the Italian industry for many years. For the industrial districts that lead the internationalization and innovation of Italian economy, the negative effects of these factors would be more serious.

The lingering economic crisis adds difficulties in the way of the transformation of the districts. Since the second half of 2008, with the following of international financial crisis, economic crisis and sovereign debt crisis one after another, the business environment of the districts became unprecedentedly difficult. The situation of employment stood in the breach. The crisis aggravated the existing problem of the districts in employment. In 2008 and 2009, the districts lost 92 thousands of jobs and the decreasing trend has not stopped yet till now. Even though the crisis can to some extent help to restructure the economy, the long duration and the complication of its evolution increased the uncertainty in economic expectations, which restricts the recovery of stagnant domestic consumption and the investment in structural transformation. Considering the uncertain future evolution of the crisis, although the outstanding export performance can play the defensive role, there are still a lot of difficulties for Italian industrial districts to entirely get rid of the crisis.

5. Conclusions

As mentioned at the beginning of this paper, the SMEs, industrial districts and the so-called "traditional" sectors are three important and closely interconnected aspects of Italian manufacturing economy. Based on the recent history of Italian economy, it's not difficult to find that the existence of industrial districts has to a great extent compensated the disadvantages of the other two aspects and therefore helps to maintain the status of Italy as an important European

[27] Antonio Riccardi, "I Distretti dell'Osservatorio: Sintesi dei Fenomeni più Elevanti Emersi da III Rapporto", in La Federazione dei Distretti Italiani, *Osservatorio Nazionale Distretti Italiani – Rapporto III*, 2012, pp.29-30.
[28] Ibid., pp.35-36.

industrial country. [29] After a period of “active spontaneous growth”, the Italian districts encountered difficulties at the beginning of 1990s; however, their efforts on transformation and innovation are also noticeable. Based on the above narration and analysis, the following several conclusions could be drawn:

Firstly, Italian industrial districts are not static, but in a dynamic process of gradual evolution. The concept of “districts” was ever an important innovation of industrial production model, and now its future is still to a great extent determined by its ability of adaption in the structure of organization. The ever close local productive system has been gradually broken, and nowadays the grouping process of district firms and the external-orientation and internationalization of production networks have developed as an irreversible trend. However, the core meaning of the districts in the perspective of organization has not essentially changed, the close internal social-cultural connection remains the significant feature, and the solid cooperative network is still a unique advantage. In short, the district firms still stay in the more favorable position compared to non-districts counterparts in the production and operation thanks to the advantage of platform provided by the districts.

Secondly, as another part of the transformation and innovation of Italian districts, the strategy of “focusing on products” is also worth our consideration. It’s just this strategy that contributes a lot to the characters of “Made in Italy”, which combines modern industrial technologies, traditional handicraft and artistic design advantages, makes efforts on quality, design and credit standing of trademarks, and tries to find standing position in the differentiated and specialized markets. Based on this strategy and its effect, on the one hand, Italy didn’t abandon the so-called “labor-intensive” sectors (such as clothing, footwear, furniture and so on) as many of the European countries ever did, but showed to the world how an industrial economy could steadily climb the ladder of quality in “traditional” sectors; on the other hand, in such high-tech sectors as aeronautic and bio-medical products, Italian districts are showing noticeable competitiveness in some specialized markets. Additionally, the rapid development of “green economy” further enriches the strategy of “focusing on products”.

Thirdly, the export performance in recent years to a great extent tells the effect of the transformation and innovation of Italian industrial districts. Despite many difficulties, the districts maintained the “active specialization model”, especially in expanding to external markets and the ability of adapting to the changes of business cycle. In fact, even before the outbreak of international financial crisis, the export of the districts has already get rid of the downturn and showed a new vigor. In recent two years, even under the complicated situation of economic crisis, the districts still managed to grasp the opportunities of international market, recovered their exports rapidly and became the engine of the recovery of Italian manufacturing and the growth of the whole Italian economy. Compared to the other European countries stuck in the mud of sovereign debt crisis such as Greece, Spain and Portugal, the strong export led by the districts has become the line of defense to prevent Italy from getting into deep recession.

In conclusion, industrial districts at present not only compose the key part of Italian manufacturing economy in terms of “quantity”, their growth in “quality” is also still far from reaching the terminal and seems to step in a new sustainable developing track. As the backbone for

[29] Italy is the fourth largest European economy according to the dimension of GDP; however, from the aspect of value added of industry and its proportion to GDP, Italy is presently in the second position (following Germany).

consolidating and reviving Italian economy, industrial districts' future relies on whether they can further adjust themselves to timely grasp the opportunities provided by the recomposing of global value chain and by the changes of domestic and international markets. If the current domestic economic reforms could be carried out steadily and successfully, the efficiency of Italian "national system" and domestic business environment would be markedly promoted, the districts will probably stand in a more favorable position after the heavy shock of the crisis. In particular, given the current context in which several European countries have successively proposed the "re-industrialization" plan, the active transformation of Italian manufacturing economy led by the industrial districts maybe allows us to nourish some positive expectations for the prospect of Italian economy.