

The Viability of Industrial Districts by Flexible Specialisation : A Comparison of Italy and Japan

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The Viability of Industrial Districts by Flexible Specialisation: A comparison of Italy and Japan *

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1. Introduction

The flexibly specialised networks which are formed by small and medium-sized companies in Italian industrial districts have become known as the Third Italy Model¹⁾. International attention has been focused since mid-1970's not only on their successful results — such as the creation of employment opportunities and a high level of international competitiveness — but also on their technological innovation and great adaptability to changes in the economic environment. An industrial district of the Third Italy Model has specialised in products like textiles, garments, furniture, shoes, objects of craftwork, and ceramics²⁾. Local economies are born up by the economic activities of industrial districts. In fact, those who live in the districts enjoy higher income than residents in large cities in Italy.

In Japan there also exist a lot of traditional industrial districts with a structure similar to those of the Third Italy Model. The districts, most of which have been formed since the Edo period (1604 – 1867), produce traditional goods such as textiles, furniture, objects of craftwork, and ceramics, though some are shifting into districts of high-tech industrial goods. The districts are located in various parts of Japan, local and regional economies being depending on the activities of the industrial districts. Recently, while most of industrial districts are declining and, at the same time, local economies are stagnant, economic activities and business opportunities have concentrated in Metropolises such as Tokyo and in large cities. At present, one of the most important problems in Japan is to restructure regional economies.

In recent years, the “industrial district” model has attracted attention as a model for the creation of job opportunities, and for regional and economic development³⁾. Here we discuss how the “industrial district” model works as a system for job creation, regional development, and innovation from a comparative point of view between Japan and Italy. We will also make clear the viable conditions that are required for an industrial district comprising networks of small companies to function as a stable system.

In the next section, the structure and characteristic of the industrial districts of the Third Italy Model will be discussed. In the third section, we explain the present

* Part of this research was carried out with the financial support of the Japan Fashion Association.

situation of the industrial districts in Japan briefly. In the fourth section, the differences and the similarities between Italian and Japanese industrial districts will be discussed. In the fifth section, the viability conditions for the districts will be discussed. The final section contains concluding remarks.

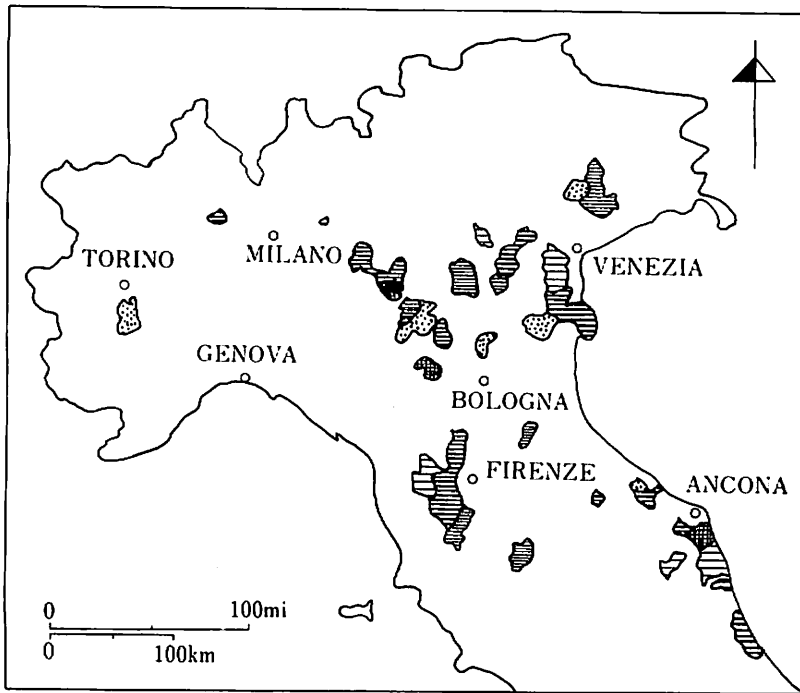
2. Industrial districts and the economic structure of Italy

Many industrial districts located in the central and north-eastern part of Italy, or the so called “third Italy”, emerged when the Italian economy was rapidly growing after World War II⁴⁾. While large industries were facing a crisis which threatened their survival in the 1970s, small firms in the districts were very active and exhibited remarkable performance, as Piore and Sebel wrote in their book⁵⁾. The districts in the third Italy used to be farming villages which had made folk art and daily necessities to sell in the local market⁶⁾. This sideline production turned into industries in the short period between the 1960–70s. The phenomenon is spreading to southern Italy along the coast of the Adriatic Sea to Bari now⁷⁾.

There have been controversies⁸⁾ on the definition or the concept of “industrial districts” of the Third Italy Model among economists, sociologists, anthropologists and geographers. Because it is difficult to explain the success of the Third Italy Model as a pure economic phenomenon without taking social factors in consideration. We do not discuss the concept of industrial districts of the Third Italy Model further, simply defining a flexibly specialised industrial district as “geographically defined productive systems, characterised by a large number of firms that are involved at various stages, and in various ways, in the production of a homogeneous product”⁹⁾. Although “industrial districts” differ in scale, they all function in the same way: each company is engaged in one production process and the entire industrial district, as an integrated network, produces goods. A coordinator, who is called “impannatore” at Prato or converter in the case of the textile industry, organises small companies or homeworkers who assume responsibility for each production process for completing a final product, from getting materials to selling it to distributors or to retailers. The network of small producers is organised flexibly and temporarily, depending on the quality of product, the kind of material or the level of demand. Each company sometimes cooperates with other companies, but one may sometimes compete with others in a given district.

There is a range of industries in industrial districts from low-tech, such as the woolen fabrics at Prato, knitting in Carpi, stockings at Castelfelfredo, and the ceramics of Sassuolo; to high-tech industries in machinery from Cento, and measuring instruments of Mirandola (Modena) (see figure 1). More than 100 industrial districts are formed in Italy (see table 1). The products, many of which have competitiveness in the international market, are exported to foreign markets.

We take an example of a typical industrial district, Prato in Toscana. Prato is a small town near Florence and its population was 165,000 in 1988¹⁰⁾. In Prato, blankets and clothes of low-middle quality were produced, using woolen fabric of secondhand clothes as materials¹¹⁾. In 1960s the system of mass-production in large corporations lost competitiveness against the countries with low labour cost and went down, so that employees were fired and set up business on their own account as craftsmen. As a



- Iron products:* Carmagnola (Piemonte), Rivarolo Mantovano (Lombardia).
 - Mechanical engineering:* Suzzara (Lombardia), Novellara (Emilia Romagna), Cento (Emilia Romagna), Copparo (Emilia Romagna).
 - Electric and Electronic engineering:* Conegliano (Veneto), Guasfatta (Emilia Romagna).

- Textile:* Urgnano (Lombardia), Quinzano d'Oglio (Lombardia), Asola (Lombardia), Carpi (Emilia Romagna), Prato (Toscana).
 - Garments:* Oleggio (Piemonte), Manerbio (Lombardia), Pontevecchio (Lombardia), Verolanuova (Lombardia), Ostiano (Lombardia), Noventa Vicentina (Veneto), Piazzola sul Brenta (Veneto), Adria (Veneto), Porto Tolle (Veneto), Mondolfo (Marche), Urbania (Marche), Corinaldo (Marche), Filottrano (Marche), Roseto degli Abruzzi (Abruzzi), Castelfiorentino (Toscana), Empoli (Toscana).

- Leather products:* Arzignano (Veneto), Santa Croce sull'Arno (Toscana), Tolentino (Marche).
 - Shoes:* San Giovanni Ilarione (Veneto), Pieve di Sacco (Veneto), Civitanova Marche (Marche), Fermo (Marche), Grotazzolina (Montelione dell'Asso (Marche), Montegranaro (Marche), Monte San Pietrangeli (Marche), Torre San Patrizio (Marche), Lamorechchio (Toscana), Montecatini Terme (Toscana).

- Furniture:* Viadana (Lombardia), Bovolone (Veneto), Cerea (Veneto), Nogara (Veneto), Motta di Livenza (Veneto), Oderzo (Veneto), Mantagnana (Veneto), Sacile (Triuli Venezia Giulia), Modigliana (Emilia Romagna), Saltara (Marche), Poggibonsi (Toscana), Sinalunga (Toscana).

- Ceramics:* Sassuolo (Emilia Romagna), Sasalgrande (Emilia Romagna).
 - Toys:* Canneto sull'Oglio (Lombardia).
 - Musical instruments:* Potenza Picena (Marche), Recanati (Marche).

- Important cities*

Source: Becattini (1989) p.405.

Figure 1. Map of Industrial districts in Italy

Table 1. List of industrial districts in Italy

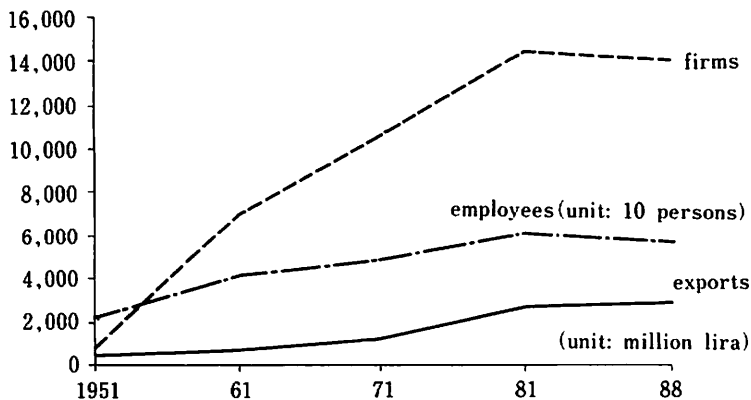
<place name>	<products>
Alta Livenza	furniture
Arzignano	tanning
Ascoli Piceno-Macerata	shoes
Barletta	shoes
Bassano	furniture
Biella	woolen textile & apparel
Brianza	furniture
Budduso	granite
Cadore	rim of a pair of spectacles
Calangianus	corks
Canneto	toys (dools)
Carpi	knitwear & apparel
Carrara	marble
Casale Monferrato	food processing
Casarano	shoes
Castelfidardo	music instruments
Castelgoffredo	ladies' stocking
Cento	machines
Cerea-Bovolone	furniture
Civita Castellana	sanitation fixture
Como	silk products
Cusio	faucets
Empoli	textile & garments
Frosolone	scissors & edge tools
Gallarate	embroidery
Gardone Valtrompia	weapons
Grumello del Monte	buttons & machines for button
Imperia	olive oil
La Spezia	ship building
Lumezzane	meta processing
Maniago	edge tools
Manzano	chair
Matera	furniture for guest room
Mirandola	machine for blood test & heart operation
Montebellununa	shoes & ski boots
Murano	glassware
Odolo	bar steel
Omegna	cooking tools
Palosco	compasses
Parma	ham
Pesaro	furniture
Possagno	construction
Prato	woolen textile & apparel
Premana	scissors & edge tools
Reggio Emilia	agricultural machines
Riviera del Brenta	high quality ladies' shoes
S.Daniele	ham
S.Stefano	measuring machines
Salerno	tomato products
Santa Croce sull'Arno	tanning
Sassuolo	tile
Settimo torinese	pens
Solofra	tanning
Teramo	casual wears
Thiesi	cheese
Tolentino	lethers
Val di Cembra	porphyry
Val Fontanabouna	slating
Valduggia	valve
Valenza	jewelry
Varese	burglar alarm for automobile
Viadana	brush & paint-brush
Vicenza	precious metalwork
Vigevano	machine for shoes

result, the flexibly specialised production system was formed through the division of labour among craftsmen or small firms. At the same time, they had to change the strategy: to improve the quality and to diversify the products. Until the former half of 1980s, the number of firms had increased (see figure 2), and at present 12,000 firms exist and 50,000 people are working in the textile industry of Prato.

In particular, it is pointed out that it is the "impannatore", or coordinator of production, that has led to the success of Prato. He or she has an important role of integrating production. First of all, the "impannatore" plans and designs products, produces the samples, collects the orders for them at exhibitions or through representatives, and finally produces them. A network of small producers and craftsmen is chosen from among many producers and craftsmen in the district and organised at will by the impannatore, depending on their skill, as well as the quality and the material of product. This is a subcontracting system. He or she plays a role of integrating market information on the trends of consumers, new ideas in fashion design, productive know-how and innovative activity. In the districts, anyone can become an impannatore easily, if he or she has a necessary knowledge and ability. Everyone opens a new business with only a small office. For example, if his samples are highly valued at exhibitions and he can take orders for them, even if his business is new, he will be financed by local banks. Therefore, the market is severely competitive and impannatori compete with each other in a survival game, so that they have to be innovative and creative. At present about 500 impannatori work in Prato.

In general, impannatori organise producers or homeworkers by using a subcontracting system. When the quantity of orders for a given producer is over his production capacity, he often asks other producers to supply the excess which he cannot produce. As a result of this reallocation of orders, an industrial district as a whole can flexibly adapt to fluctuation of demand. At the same time, this flexibly specialised system is fitted to diversify products and to increase lines of product based on consumer's needs.

In addition, the imported goods which are made in less developed counties with cheap labour cost have been flooding the Italian market. For example, in 1991,



Source: Data of Balestri Tab. 11 p.54.

Figure 2. Textile industry in Prato

imports of outerwear for ladies increased by 41%¹²⁾. It means that Italian producers face losses in their own domestic market. Italian firms are forced to shift their product lines to higher grades and higher quality. At this point, as a single producer alone cannot cope with this change completely, a network or industrial district working together as a whole must flexibly adjust itself into a new situation.

In the Third Italy, various "real services" have been furnished by the local governments and producers' associations. "The leftist parties, and in particular the Communist party which governed the region, developed not only a political programme of support to small entrepreneurship....., but also a wide-scale programme of social services such as public transport, infant day centres, and low-cost housing districts which provided an opportunity for women to enter the formal economy"¹³⁾. The Communist party and its municipal administrations not only provided the real services but also made efforts to pull up workers' wages in the districts. In particular, as a result of the latter, the workers were able to follow technological progress and to obtain higher professional skill, which made it possible to set up new businesses by themselves. At the same time, they enjoyed a higher level of social life and took pride the goods of "made-in-Italy" produced by themselves¹⁴⁾. The Communist party also established the Association for Recreation and Culture (ARCI)¹⁵⁾. In Veneto, one area of the Third Italy, the DC (Christian Democrats), which is the greatest party in Italy and governed the region, played the similar role to the Communist party in Emilia-Romagna, though the DC depended more on a market mechanism and liberalism.

Though it varies from one industrial district to another, financial services, support to consortia marketing and export facilities, material purchasing services, and various consulting services are indispensable for small entrepreneurs there¹⁶⁾. At the same time, various social services for workers such as public transportation, public housing and day-care centre are provided.

For example¹⁷⁾, "The region of Emilia-Romagna established a centre called ERVET (Regional Agency for the Economic Evaluation of the Territory) which organised a series of other service centres in the Emilia area". "ERVET set up a centralised service to provide information about such matters as patents, and foreign markets with the cooperation of the regional government to help weaker areas in Emilia-Romagna to establish specific vocational training and service centres." A ceramics centre was founded in Sassuolo, a famous industrial district of ceramics, and a footwear centre in San Mauro Pascoli. In addition, CERMET was established for testing metal materials in Bologna and CITER for clothing in Carpi. The CNA (National Artisans' Federation) and the Co-operative League also offer services.

In Emilia Romagna, professional training has been well organised and results in the good performance. The municipal administration, the labour unions and the associations of small firms offer job training to small firms. Public authorities and employers' associations support openings of a business by teaching how to manage a firm or by offering financial services, and promote the organisation of associations for export or marketing. They sometimes provide cultural services for workers.

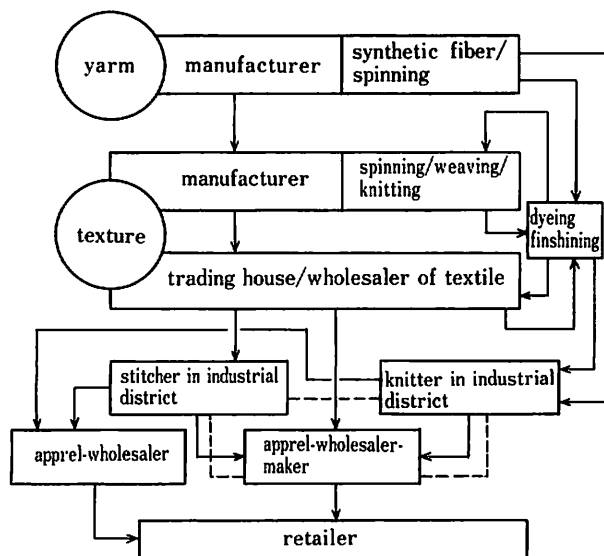
In Italy, in particular in the Third Italy, there are many small cities which have their own economic basis and are richer than any other large cities. For example, the small Mantova Region with a population of only 373,154, had the highest per capita income, and was the richest in Italy, in 1991. The high income, of course, is derived from the economic activity in the industrial district, which focuses on production of

ladies' stockings and socks. In fact, many local cities are born up by decentralised industrialisation¹⁸⁾.

On the other hand, the area from Torino, to Genova, to Milan is the traditional industrial area of Italy. This is where the networks centring on large companies are found. Moreover, this area is also studded with industrial districts in the area from Milan to the northern border. While the districts in the Third Italy are new and sharply outlined, those in the north overlap with one another. Silk goods from Como, cotton goods from Varese, woolen goods from Biella, and furniture from Lissone are well known. Besides these, there are very small industrial districts like S. Stefano near Varese which produces measuring instruments, and Valduggia near Biella which produces light bulbs.

The engineering industry in this area, which has remained competitive until now, has supported other industries together with the electronics and software industries. This area where various industries coexist features strong inter-industry relations, which has brought about an external economy which can back up the activity of small and medium-sized firms (figure 3).

Inter-industry relations also exist among industrial districts engaging in different industries¹⁹⁾. The development of complementary specialisation among industrial districts, and the expansion of a variety of related service industries, have helped in the independence of local economic activity and in the formation of a decentralised economic system. Such an economic structure functions as an industrial infrastructure that can create new industries and can provide new business opportunities for entrepreneurs. Toscana, Veneto, Friuli, and Marche form their own local economic area, which has built the decentralised economic system of Italy and, at the same time, the prosperity of small local cities.



Source: Senken-shinbun p. 69.

Figure 3. Distribution channel of apparel

3. Industrial districts and the economic structure of Japan

Japanese industrial districts have engaged in local production of textiles, ceramic ware, furniture, traditional shoes, tableware paper and cutlery which has existed from the Edo Era or earlier. At the same time, the industrial districts engaging in such foreign industries as Western furniture, knitwear, machine, or glasses began during and after the Meiji Era. Both types of these industrial districts are scattered all over Japan and their productive activities greatly influence regional economies. The industrial districts of machine industry like Sakaki and Keihin²⁰⁾ not only engage in parts processing for large companies, but also manufactures finished machinery. But in many cases, industrial districts produce traditional daily necessities or industrial arts.

While the number of industrial districts which the national government prescribes by law²¹⁾ is about 200, the number designated by municipalities is over 1,000 including small districts. As a matter of fact, the real number is volatile, because, on one hand, some industrial districts declined and disappeared, and, on the other, some are growing. In 1988, the number of the districts with sales of more than 500 millions yen is about 550, 7.6% of total workers in Japan are employed there, and 4.5% of total productions in Japan are manufactured²²⁾. The ratio of the districts with exports of more than 20% to sales declined from 14.7% in 1985 to 7.8% in 1990. Before 1970s, small firms in these districts had strong international competitiveness to the extent of the conflict with U.S.A in case of textile industry.

Goods produced in industrial districts are sold nationwide through wholesalers and trading houses. The production structure within an industrial district may differ slightly according to the type of industry, but in general, small companies specialise in one production process and have a division-of-labour, with a structure which is very similar to that of Italian industrial districts. In the districts, technical skills, technologies, various information, and production know-how are more or less exchanged, but producers and firms do not always seem to do so positively.

We take an example of a traditional industrial district since the Edo era, Fujiyoshida at the foot of Mt. Fuji. Fujiyoshida is a small city and its population was 56,000 in 1988. In Fujiyoshida, fabrics, though they were traditionally silk fabrics and called "Koshu-fabrics", have been produced for garments and umbrellas of comparatively high quality through yarn-dyeing technology. At present 8,000 people are operating 9,000 looms in 3,000 firms, though the numbers have been recently diminishing due to the increase of imported goods.

The production system in Fujiyoshida is formed through the division of labour, and the producers, most of which are small, are engaged in one production process such as twisting, dyeing, winding, warping, weaving, and finishing. The production is organised by Sanchi-donya (wholesalers in this district), wholesalers or trading houses. This is a subcontracting system. However, the planning / design of a product is usually set up in the head office of wholesalers or trading houses in Tokyo where the information on market and fashion concentrates.

In many cases, a trading house, a local wholesaler or a manufacturer, or so-called "maker" which often controls distribution channels organises the whole production using a subcontracting system (Figure 3). Due to the recent lack of successors of family

businesses and competition from imported goods (many of which are produced in foreign countries by Japanese companies), quite a number of industrial districts are on the decline. Recently a new type of business, particularly in the apparel industry, which directly combines production with retail using information technology²³⁾, has eroded small producers in industrial districts. As firms get market information at retail of their products, they can choose proper lines of goods and reduce stocks, which will diminish the cost of product.

In many industrial districts in Japan, a technical centre (Gijyutu centre), a design centre or a centre for supporting small firms was established by a local government to provide small producers in the district with technical services mainly. An association organised by the firms in a district gave the members general information together with the technical centre and the local government, though it was not important. The Japanese government has given them services like financial supports, guidelines for the related industries, and, recently, professional training²⁴⁾. Generally speaking, in Japan, the service has been limited to technical support and to financial assistance, such as a subsidiary by the government.

4. Comparison of the Industrial Structures of Italy and Japan

The Japanese industrial structure and division of labour system within an industrial district are not so different from those of Italy. However, a significant difference seems to exist between the two countries in the function of industrial districts. This difference may result partly from a difference in the roles that industrial districts and small and medium-sized companies play in the economic systems of the two countries, as previously stated.

In Italy, some of the industries which produce goods in industrial districts such as apparel, shoes, furniture, ceramics etc. maintain a high level of international competitiveness; they are "star" industries in Italy, though they consist of only small firms. The proportion of large-sized firms of the Italian economy was the lowest, 18.5% in terms of employees²⁵⁾ in 1981, in the developed countries, and they are not so competitive in international market. Moreover, Italian industries are incorporated into the division-of-labour schema of the EC economy. On the other hand, industries in Japanese industrial districts, which produce goods mainly on the domestic market now, often seem to be "declining industries". Leading Japanese industries, for example of transportation equipment, precision machinery and electrical machinery, are comprised of large companies, though they greatly depend on small and medium-sized companies as suppliers. Among the developed countries, the weight of large-sized firms in the Japanese economy are the second lowest, 27.5% in terms of employees, though the definition of large firm is different²⁶⁾. The relationship between a large company and a supplier, which is called "Keiretu", is not temporary but continuous.

As a social factor, Italian people have a strong sense of regionalism and they are region-oriented, so that the Italian economy is decentralised, as previously mentioned. In contrast, Japanese people are large-company-oriented and the most capable people tend to concentrate in urban areas. The performance of industrial districts seems to be affected a great deal by the contrasting characteristics of both people. When we compare industrial districts in Japan with those of Italy, the differences of social

factors cannot be negligible. In particular, many scholars have pointed that the success of the Third Italy must be explained not only in an economic context but also in a social one.

From a structural point of view, certain differences in the systems of industrial districts also exist. Identifying the differences between industrial districts in Italy and Japan, we might be able to understand the structure and working of a flexibly specialised industrial district model.

The differences are taken up in the following way:

(1) Concerning the channel between an industrial district and the market for its products, the Japanese distribution channels are complicated, though the relationship varies from one industry to another. In Japan, traditional Sanchi-donya or Sanmoto is of both a manufacturer and a wholesaler in an industrial district. Sanchi-donya, as manufacturers, plan products, subcontract producers in segmented production process, provide them with materials, and sell finished goods to trading houses or wholesalers in cities which have a hold over distribution channels. The number of this type of the wholesalers in the apparel industry was about 30,000 in 1988.

Recently, trading companies or wholesalers, like *apparel makers*²⁷⁾ which have both the function of manufacturers and wholesalers in the apparel industry, are located in large cities like Tokyo, Osaka or Kyoto. They plan products, order products them for Sanchi-donya or manufacturers in industrial districts, and sell the finished goods to retailers. As a matter of fact, the *apparel makers* control distribution channels to retailers. They integrate the function of manufacture into both that of distribution and that of retail, and, therefore, vertically drive the whole production system. This type of wholesaler is comparatively large-sized and the number is estimated about 3,000.

How do wholesalers or a *apparel-makers* control distribution channels? How do manufacturers or Sannchi-donyas in an industrial district sell their goods to a retailer directly? There are two main reasons. If the manufacture sells its goods to the retailer, a wholesaler or a *apparel-maker* who has transacted with the retailer would punish the manufacturer by refusing to buy its goods. At the same time, if goods were unsold at the retail shop the wholesaler often takes back them, so that the retailer prefers the dependence on the wholesaler to the transaction with the manufacturer who cannot take returned goods due to lack of capital. In fact, it is not easy for a new entrepreneur to become a wholesaler or *apparel-maker*. Moreover, any entrant will not receive much benefit from becoming a manufacturer or Sanchi-tonya. However, as apparel-makers or wholesalers are comparatively large-scale, and often also importers, they can give manufactures and retailers information on the worldwide trends in fashion, or the most advanced technology in manufacturing and marketing, if they think it necessary.

In Italy, however, distributors called "rappresentante" function as mere brokers, referring retailers to manufacturers. Manufacturers in the districts and distributors are independent of each other. Shows and exhibitions, where manufacturers and retailers can directly conduct business and exchange information, also serve an important role. Particularly in the apparel industry, direct deals made between manufacturers and retailers are on the increase. For exporting, the companies either use export associations that they have set up within their industrial districts, or seek export routes by themselves. Exports include original brands as well as well-known brands manufactured by OEMs. Of course, in the districts, there are manufacturers

which are subcontractors of such brands.

(2) It is only when product planning including design, production know-how and market planning, is integrated that a manufacturer comes up with a product that satisfies consumers. But, in most Japanese industrial districts, not only manufacturers but also *Sanchi-donya* appear to be isolated from market information because they must depend on the wholesalers, which have a hold over their distribution channels to retailers. They are therefore left with only one function to fulfill: the production of goods.

As they cannot keep in touch with accurate market information, they will, as the most probable case, depend upon wholesalers for planning products, as well continue producing traditional types of goods or increase lines of good for risk aversion. On the other hand, if wholesalers take charge of planning, they will end up with wasteful projects and inefficient production due to their lack of technology and production know-how. The wholesalers seem to take the whole risk of production and, as a matter of fact, get a higher share of added value than do the manufacturer and retailer. However, in this system, no one grasps all the related information and it is difficult to integrate market information and planning of products on design and quantity into production know-how. In fact, in the apparel industry, the cost of product has a tendency to rise as a result of overproduction and wasteful production.

In contrast, Italian “*impannatori*” and “*converters*”, if they can generate good enough ideas, have open access to producers in industrial districts. They themselves sometimes may be producers, too. All they need is an office with a telephone. Anyone can freely enter the market and the entrance barrier is sensibly low. Theoretically speaking, they can exploit the market if they are capable of introducing competitive products. This indicates that in Italy competition has generated advanced planning (design and materials), production systems (organisation of subcontractors), production technology (use of information technology and machinery) and market development.

(3) Apparently, not only wholesalers and apparel-makers but also manufacturers in Japan tend to be mass-production-oriented and market-share-oriented. Even if wholesalers and, in particular, *apparel-makers* which are large-sized firms, have many lines of products including imported goods, they cannot flexibly cope with the fluctuation of demand and the variation of each line of products. As a matter of fact, *apparel-makers* have increased their brand-names as a measure to increase product-lines, but they seem unable to manage a lot of brand-names easily. They must produce and sell a certain volume of goods to maintain their organisation or distribution channels.

In industrial districts, most of not only manufacturers but also producers lack enough production know-how, managerial resource and market information to diversify their products and to shift to their goods into higher grades. The profit margin that they get has been going down due to the dependence to wholesalers. As a result, they have a tendency to try to increase their profit margin by expanding production volume.

In Italy, business administration is very likely centred on niche markets²⁸⁾. Companies try hard to differentiate themselves from others by exploiting markets that

are as free from competition as possible. In pursuit of high-value-added products, companies also try to make their products more sophisticated. Because of their profit-driven policies and awareness of the risk of expansion, entrepreneurs are cautious of extending their firms and of producing a volume of product²⁹⁾. In this way, the proliferation of products is realised *ex post* in an industrial district as a whole.

(4) A difference of technology used in Japan and Italy may also be a factor for comparison. In the past, equipment and machine manufacturers in Japan, most of which were small-sized, such as ironworks, were located within and near industrial districts and supported producers in those districts. Nowadays only several or a very few manufacturers survive through competition: they supply their products nationwide or worldwide from a handful of production centres. As a result, machines in general have become standardised, sophisticated, and large-scale by using computer technology. Naturally cost for such technology tend to be higher, which seems to encourage expansion of scale and to increase production volume in order to make up for machinery depreciation. For example, in case of the furniture industry, a woodworking machine with numerical control is too efficient and too expensive for a small producer³⁰⁾.

Near Italian industrial districts, there still remain small-sized machine manufacturers. Cooperating with the local producers, they develop and manufacture special-purpose machines. Japanese companies in the shoe, furniture, and textile industries often import machines made in Italy. Systematic technology for manufacturing such machines may be one of the factors that supports diversified, small-lot production. On the other hand, Benetton, a famous Italian knitting firm, bought knitting machines made in Japan with the most advanced technology.

(5) Concerning the mobility among professions, the degree of barriers seems to be different. In Japan, it seems unusual for a subcontractor specialising in a certain part of the production process to become a converter or a manufacturer of the entire production process, in so far as he or she does not find out any distribution channels. In Italy, however, conversions are often seen between subcontractors and manufacturers. In some cases, subcontractors change into manufacturers, but in other cases, the reverse happens, especially when the manufacturers turn to be unsuccessful as coordinators.

(6) The Italian style of management is different from that of Japan. In comparison with Japanese small-sized manufacturers and producers of apparel, textile and furniture, Italian companies of the same size and in the same industry seem to be more innovative in management particularly in use of information technology and in overseas marketing. In Japan the structure of division-of-labour and distribution channel is so fixed that it might not be easy to innovate management freely.

(7) While most Japanese entrepreneurs in industrial districts are troubled about the lack of successors in family business, the system of educating sons or daughters to become a successors functions well in Italy. This is partially because of the higher rate of unemployment, 10.9% in 1991, in Italy³¹⁾. As human resources for production are plentiful in Italian industrial districts, entrepreneurs can employ able workers easily.

As many scholars pointed out, an industrial district is a local pool of skill. Moreover, local government and associations have tried to attract “new blood” with various policies and services.

(8) The function of industrial districts is different between two countries, though the system of division-of-labour and mechanism is similar. Italian industrial districts are autonomous and relatively independent from other large firms or institutions. At the same time, they have almost all functions of both the production of their specialised goods and the social life of employers and workers, on which local economies are based. On the other hand, an industrial district in Japan holds few functions except production: it seems comprised only of a factories or subcontractors, though there are some exceptions.

5.The viability conditions of an industrial district

The proportion of industrial districts in Italian economy is by far larger than that of Japanese economy, and the former are more active than the latter. However, the former also appears to have reached mature. The government of Emilia Romagna, it is said, has implemented a high-wage policy for workers. But, in fact, although only under the category of piecework, the long working hours of peripheral labourers, and their poor working conditions have largely supported the Third Italy model. Based on the result of the author’s research³²⁾, Italian manufacturers amidst rising labour costs, were inclined to use subcontractors located in lower-wage districts, for example in Marche, or in the more southern regions. As they have lost competitive cost advantages, Italian companies have sought niche markets and pursued sophistication in product design and quality. But apparently this strategy is reaching its limit. “At the middle stage of their life cycles, industrial districts encounter problems endemic to their form and function that require both internal reflection and repair, as well as some amount of outside assistance”³³⁾.

There are two views on the future of Italian industrial districts. Is the Italian industrial districts model an historical stage, or merely an initial stage of industrialisation, such that of the industrial districts in U.K. which A. Marshall had watched disappear completely 100 years ago? Do most of the Italian districts decay with the advance of industrialisation? Do only a few firms survive, merging with others? From this point of view, the advance of industrialisation means that the size of firms becomes larger and larger continuously and that large firms, instead of small corporations, become the majority. We must consider that else where, however, in Europe, small and medium-sized firms have played an important role in an economy as a whole. Moreover, large firms like IBM and GM are forced to decentralise, breaking down into smaller units, in order to cope with the rapid change of economic environment.

Can we regard flexibly specialised industrial districts in Italy not as a stage, but merely as a unique type of industrialisation? Or can these districts serve as model substitutes for Fordism in large firms. In fact, they look as if they are mature and decaying, as previously stated. Conditions such as low labour cost or technology gap don’t last long. In a market economy, any economic activity and system must be

adjusted to the change of an economic environment. Otherwise, even one of the largest companies will not be able to survive. As any industrial district must be also adaptable to change, adaptability is indispensable for the districts. Italian industrial districts have coped with imported goods with low price, greatly shifting into production of high-quality goods and diversification products lines.

At this point, the Italian districts seem to be more adaptable and flexible than those of Japan, because the former are both autonomous and flexible, having almost all functions including various services. But the latter are partially dependent on wholesalers or apparel-makers and have the function of production only. Even if the wholesalers or the apparel-makers have an adaptability and can survive changes in an economic environment such as the rising yen, producers and manufacturers in industrial districts as well as the districts may not do so. As a matter of fact, most of the wholesalers and the apparel-makers are also importers, though they have various managerial resources and information and may try to support the producers and manufacturers. Therefore, it is a necessary condition that an industrial district be autonomous.

For the adaptability to changes, it is important for industrial districts to follow the trend of the advanced technologies and develop new technologies, at least partially, by themselves. Most industrial districts in Italy provide firms and craftsmen with various services, as in the case of Emilia Romagna. In Marche, institutions related to local universities have also assumed a key role in developing local industries by offering education for workers and management and consulting for management, along with other services³⁴. However, in most districts the function of R&D which large corporations strive to hold is weak, though they can use advanced technologies, improve technologies and create new ideas on management or production³⁵. Not only in high-tech industry but also in low-tech, even if the degree of immediate necessity is different, R&D is the key factor. At this point, a scholar suggested that the districts should try to invite large companies to set up their plants or offices for transferring advanced technologies and information. The writer doubts whether this policy is effective or not. The centre for R&D seems to be necessary in the districts in the long-run.

One of the requirements for survival is the existence of divisions or institutions that are capable transferring technologies and information to producers and companies in the districts. The problem is how to locate them there or whether existing institutes are available to fulfill this function. The institutions could be universities or colleges as in the cases of Silicon Valley in U.S.A and Burden-burk in German³⁶, or they could be self-governing bodies or research institutes, such as some in Emilia and Marche.

6. Concluding remarks

No national or regional economies can work well without the entrepreneurship of small firms. But they cannot survive on their own. They can be put into two categories: an "industrial district" where small and medium-sized companies form a network in response to mutual dependency, or as groups of small and medium-sized companies which work for large core companies within an integrated system. The core need not be necessarily a single company and both groups are often synchronised. Here we have

discussed the viability of the first model.

We may apply this model to policy for either developing countries or under-developed regions. There have been a lot of controversies on this point, such as those on the development of south Italy³⁷⁾. While the area along Adriatic Sea in South Italy has succeeded in industrialisation, the area on the other side seems to have lagged behind. For forming an industrial district, together with the various services furnished by public and private entities, the most important factor is the entrepreneurship of people who live there. Though how to activate and how to measure the entrepreneurship are another problems, the degree of entrepreneurship in industrial districts seems to be higher than that outside industrial districts. As the related services are provided there, as the degree should increase. An initiator is necessary for good coordination between entrepreneurship and the services. The extent of entrepreneurship greatly varies from one area to another both in Italy and in Japan. Many have pointed out that, in the case of Italy, the industrial districts and the entrepreneurship derived from the existence of “metayage” or “mezzadria”, a system of peasant farming in a part of Europe. Because, under this system, farmers must strive to find out something to sell as a side business, they manufactured daily necessities or craft arts.

The remaining subject is to understand the mechanism that the entrepreneurship generates. However, at the same time, the way of creating autonomous structures and various services should be taken into consideration, in particular, in industrial districts or under-developed areas of Japan.

Notes

- 1) A geographic triangle defined by Udine, Pisa and Ascoli Piceno and centred on Bologna and Florence.
- 2) Silicon Valley and Route 128 in the United States are often cited as an industrial district of high-tech industries.
- 3) See Bergman *et al.* [1991].
- 4) See, for example, Valli [1992] pp.242-8.
- 5) See, Piore & Sebel [1984].
- 6) As for the history, see Blim [1990] and Cappello & Prandi [1973].
- 7) According to my research in Italy.
- 8) See Becattini [1990], “The Marshallian industrial district as a socioeconomic notion” in Pyke [1990], Becattini [1989] [1992], and Pyke [1990].
- 9) Pyke [1990] p.2.
- 10) The population of the textile area including Prato city was 315,000.
- 11) See Balestri [1990].
- 12) According to the data of Istituto Nazionale per il Commercio Estero (ICE).
- 13) See Pyke [1990] p.33.
- 14) Concerning Italia fashion goods, we cannot ignore the fact that the producers of Italian fashion are also the consumers.
- 15) See Sengenberger [1990] p.154.
- 16) Private consulting companies and private business schools also are located in the districts.
- 17) Private consulting companies and private business schools also are located in the

districts.

- 18) In Italy, there seems to be a more distinct characteristic for each region or each city to maintain its own cultural identity than those in any other countries. It is called "Capmanilismo". "Capmanello" means a church bell, that is to say each district has its own church bell.
- 19) Capecchi, V. points this out. See Pyke [1990] p.29.
- 20) "Sakaki": The small industrial district of the machine industry in the central part of Japan, Nagano prefecture. "Keihin"; The industrial district located between Tokyo and Yokohama, and specialised in the machine and electronics industries. Small enterprises in this district have an important role as suppliers for large high-tech firms.
- 21) For the purpose of various policies.
- 22) See Small and Medium Enterprises Agency [1992] p.99.
- 23) A new format of retail shop.
- 24) The Japanese government has carried out a lot of industrial policies, in the form of providing funds and, at the same time, regulating firms. However, most of them, in particular the policies towards a certain industry such as the textile industry, did not succeed.
- 25) See Sengenberger [1990] p.145. Table 1. Large firms are defined as having over 500 employees.
- 26) Large corporations are defined as having over 300 employees.
- 27) For example; Renown, with the total sales of 232 billion yen; Kashiya, with sales of 208 billion yen; World, with sales of 154 billion yen.
- 28) According to my field research in Italy in 1992.
- 29) See Kiyonari [1992] and Okamoto [1992].
- 30) According to my research in Shizuoka Prefecture, an entrepreneur with a wood-working machine with numerical control began doing new business, assumes a cutting process only. Even if a producer buys it for his own use, the operation ratio will be very low.
- 31) This figure may mislead, because, in the Third Italy, the rate of unemployment is very low.
- 32) My research in Carpi, an industrial district of knitting wear.
- 33) See Blim [1992].
- 34) See the relationship between Ancona University and ISTAO.
- 35) The technological level of small corporations is the same as that of large. See Pyke [1990].
- 36) The Steinweis foundation organises universities and colleges for offering technical and technological consulting for small enterprises.
- 37) For example, see Pyke [1990].
- 38) This may be not the very solution to my question, the way of restructuring industrial districts and of decentralising the Tokyo Metropolis. However, from this point of view, concrete policies should be formulated and carried out.

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