Chapter 10

Industrial Districts

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Around eighty years ago, the eminent English economist Alfred Marshall (1919) noted the possibility of organizing manufacturing industry along two lines: either under the one roof of a big enterprise; or by small enterprises within localities specializing in a particular industry, which he called industrial districts. These industrial districts were the dominant form at the time. Gradually, in the course of the twentieth century, and notably after WWII, mass-production technologies developed and patterns of demand converged towards the mass consumption of relatively standardized products, to shift the balance towards the large enterprise. The growth of the giant corporation reaching out to all parts of the world for its inputs, factories, and markets seemed inevitable and unstoppable.

By the 1960s, in the heyday of growing global demand for cheap mass-produced commodities such as Coca-Cola, Levi jeans, Hoovers, and Fiat Cinquecentos, the industrial district seemed to have had its day – forgotten and relegated to the pre-factory phase of industrialization. The norm had become the vertically integrated corporation drawing on internally generated scale economies to produce standardized goods for a predictable market. But, this was not the end. In 1984, sociologists Michael Piore and Charles Sabel published a seminal book in which they argued that the late twentieth century was the "second industrial divide," a turning point that could reverse the order, from giant corporations back towards regional economies organized around networks of small firms in the same industry. Their claim was that new patterns of demand and the availability of new production technologies and techniques were re-enabling the resurgence of small firms, notably those locked into reciprocal relations with other firms. They noted that affluence and rising incomes in certain parts of the world were increasing the demand for design-intensive and customized products. They argued that these new, quality-based and volatile consumption patterns stretched the capabilities of enterprises geared up for large volumes of the same product for a predictable market. They also noted the rise of re-programmable technologies, often numerically controlled, which made it possible for smaller firms to respond to such demand by allowing flexible usage across both tasks and volumes of output. Large-scale usage of expensive and inflexible

technologies was no longer seen to be essential for cost savings in the production process.

Piore and Sabel argued that the new market and technological circumstances provided a unique historical opportunity to reverse the industrial order from large-scale production in impersonal corporations to more decentralized forms drawing upon skills, flexible technologies, and small-scale production units. They labeled the new order as the age of flexible specialization, to mark a production system based on the utilization of flexible technologies and flexible work arrangements within task-specialist units. This allows the final product to be put together in different combinations without loss of efficiency at the level of both the individual unit and the system as a whole.

Sabel (1989), like geographers Michael Storper and Allen Scott (1989), went on to claim that there was substantial and growing evidence for the resurgence of flexibly specialized, decentralized business systems, all geographically agglomerated. In particular, three forms at the cutting edge of competitiveness in quality-driven markets were identified: high-technology agglomerations such as Silicon Valley; craft-based networks, including industrial districts and clusters of small firms in urban areas, specializing in quality-based niche markets of traditional consumer goods such as clothing and footwear; and the business networks of high performance large corporations such as Daimler Benz, drawing on the competencies of relatively autonomous branch units and their local supply chains.

For these commentators it was clear that decentralized production, including industrial districts, could replace mass production, centered around the hierarchically controlled large corporation with its branches scattered around the world, as the dominant industrial paradigm. Flexible specialization would be very different from the preceding paradigm.

Why the Interest?

In truth, the interest in industrial districts far exceeds their empirical significance. Its explanation has to be placed in the broader context of fascination in the revolutionary changes promised by flexible specialization. Ten to fifteen years ago, there was scarcely a mention of industrial districts, while now, few publications in economic geography, industrial sociology, or business studies fail to mention their importance. Yet, beyond the notable examples in advanced economies such as Italy, Spain, France, Japan, and Denmark, where craft traditions remained preserved in the age of mass, science-driven production, the evidence for industrial districts is relatively scant. No doubt small artisan enterprises are to be found everywhere, especially in the developing countries, but rarely are they organized into industrial districts, which possess a distinctive set of characteristics (see next section). The interest in industrial districts has to be explained by other, symbolic or conceptual, reasons. At least four stand out. At first, they symbolized the possibility of small firms and craft democracy in a world of skill-reducing and impersonal big firms (Brusco, 1982). Novel combinations of advanced flexible technologies (such as mini-robots and mini-computers) and the craft skills and ingenuity of small workforces, made it possible again for small to be economically viable. At the same time, evidence of close worker–management co-operation, informality, and mutual

reliance in such firms promised the return of human-centered and democratic industrial relations. After decades of worker alienation, oppression, and de-skilling under the tight rules of the hierarchically organized large enterprise, a new industrial democracy came as an unexpected and welcome relief.

Second, the gathering number of case histories of flexible specialization – from regional examples such as artisan districts and high-tech agglomerations to examples of organizational decentralization in high-performance companies – served to reinforce important claims stressing the collective institutional and social foundations of economic life. We learnt that economic success had far less to do with the entrepreneurial virtues of rational economic man as theorized by neoclassical economics, than with collective foundations such as interdependence among economic agents, and the presence of local business support systems, conventions of dialogue, trust and reciprocity, and, in some localized cases, a culture of social and civic solidarity (see, for example, Aoki, 1988 and Sabel, 1994 on Japan; Trigilia, 1986 and Putnam, 1993 on Italy; Saxenian, 1994 on Silicon Valley; and Herrigel, 1995 and Staber, 1996 on Baden Württemberg). These were seen as essential supports for (smaller) firms, facilitating the sharing of risks, costs, information, knowledge, and expertise, and easing competition with larger firms with access to a greater level of internal resources.

Most recently, and coinciding with the rise of evolutionary economics (Hodgson, 1999; Metcalfe, 1998; Storper, 1997), the interest in these local stories of success has begun to turn towards what they can tell us about mechanisms and sources of learning and adaptation. It is becoming increasingly clear, in today's context of rapid technological change, heightened product obsolescence, and intensively contested markets, that an essential condition for economic survival and growth is the ability to keep ahead of the game by learning new tricks and adapting to, or shaping, ever-changing circumstances. Until the late 1970s, during the heyday of the large firm, questions of innovation were either largely ignored, or reduced to technological capability, narrowly defined as the ability of firms to generate or harness the fruits of science and technology through product and process innovation. Now, the discussion has broadened considerably to situate innovation in the broader context of learning and adaptation, acknowledging the importance of both formal (e.g. science and education) and informal (e.g. grounded skills, craft cultures) sources of innovation. In addition, it has come to recognize that innovation – or better learning – is not a sufficient condition for economic success, as it does not automatically secure adaptation, because of entrenched organizational habits and cultures (Cohen and Sproull, 1996). The knowledge that industrial districts rely on informally constituted learning (e.g. learning-by-doing) and are adaptable due to flexible specialization (e.g. ability to mix products or humans and tools in varying ways) has reinforced the conceptual stress on evolution and path-dependency.

Finally, for geographers in particular, the rediscovery of decentralized production systems has renewed hope in the powers of place and the locality or region as a unit of self-sustaining economic development. The age of mass production represented the erosion of local linkages as large multi-locational companies embarked upon fragmenting the production process to seek out cost-efficient regions around the world for their branch units. These units came to be tightly locked into a global intra-corporate division of labor, undermining local affiliations and prospects for

local development. Development in a region no longer secured the development of the region. In contrast, all the examples of flexible specialization cited above point to the resurgence of regions as self-contained units of economic development. We are told that producers draw on local supply chains and are solidly locked into the local labor market, knowledge fabric, industrial conventions, and business support institutions, acting as genuine development poles. The regional production complex has become a feasible option among a variety of "worlds of production" (Storper and Salais, 1997).

This rediscovery has helped to rekindle the hopes of the urban and regional policy community, after years of despair over the problem of global integration without local self-sustaining growth, and has forged a "new regionalism" (Amin, 1999a; Lovering, 1999) informed by a radically new theorization of regional development. With the help of insights from recent examples of growth based on the mobilization of "endogenous" resources, regional policy has begun to move away from its traditional emphasis on universally applicable instruments such as support for technological innovation and training, promotion of entrepreneurship, attraction of inward investment, and upgrading of the transport and communications infrastructure. It has become more sensitive to local contexts, and recognizes the broadly defined social and institutional conditions conducive for sustainable development (Storper, 1997; Cooke and Morgan, 1998).

In short, the interest in industrial districts draws on a much wider fascination with a new phase of capitalism that is human-centered, democratic, and regionally oriented. It is also part of a new theoretical project: understanding the socio-institutional foundations and evolutionary processes of economic life.

This chapter begins with a definition and typology of industrial districts, followed by examples drawn notably from central and northeastern Italy – the cradle of contemporary industrial districts. It then examines the various theories that have sought to explain their success. The chapter ends with a discussion of the future of industrial districts in the face of contemporary challenges to their classical form.

Placing Industrial Districts

Definitions

Marshall (1919), drawing on his turn of the century observations in complexes such as the Sheffield cutlery industry and various wool textile areas in West Yorkshire, saw industrial districts as rivals to large-scale industry. For him, it was the concentration of small firms in the same industry and the indivisibility of the local industrial system from local society that marked the industrial district. As the noted Marshallian economist Giacomo Becattini (1991, p. 84) remarks:

> Marshall proved in his early writings that most of the advantages of a large scale of production can be achieved also by a population of small-sized firms concentrated in some area, which are specialized in different phases of production and find their labor supply in a single local market. In order for [the industrial district] to develop, it is necessary that such a population of small firms merge with the people who live in the same territory, and who, in turn, possess the social and cultural features (social values and institutions) appropriate for a bottom-up industrialization process.

Marshall famously explained the economic advantages of industrial districts in terms of the localization economies resulting from the geographical agglomeration of firms in the same industry. Agglomeration offered small firms a series of cost savings and economic opportunities normally denied to the isolated small firm. First, there were advantages associated with proximity, such as reduced transaction and transport costs, and ease of access to inputs such as specialized labor, services, and know-how. Second, there were economies resulting from specialization, both by the locality in a given product, and by its firms in a particular task. The "division of labor" between firms allowed the individual firm to specialize in a given task or phase and sell its product to a variety of customers. In other words, the industrial district benefited from economies of variety resulting from the possibility of making up the final product in different ways without loss of productive efficiency (Bellandi, 1996a), and from the benefits of scale economies through task specialization. Third, the specialization of an area in the same industry continuously stimulated spin-off and new entrepreneurship, cushioned to a degree by the incorporation of firms into an interdependent local production system providing the necessary market opportunities.

Importantly, however, Marshall also stressed the indivisibility of industry from local society, which generated the social norms and values he considered to be critical for innovation and economic co-ordination. One aspect was mutual knowledge and trust – the product of economic interdependency, social familiarity, and face-to-face contact – which helped firms to reduce the cost of their transactions (from transport to information costs), facilitate the flow of information and knowledge, control the behavior of those firms trespassing local conventions, and strike a delicate balance between competition and co-operation between economic agents. Another aspect, famously stated in Marshall's words, was a particular "industrial atmosphere" resulting from the involvement of the whole local society in a common industrial project. For Becattini (1991), this atmosphere includes a life ethic based on self-help, entrepreneurship, and a sense of local belonging; a regular flow of bottom-up innovations generated by the industrial atmosphere; a culture of emulation resulting from the mobility of labor between firms; and an area reputation (e.g. "made in Sheffield") that attracts consumers and traders in a given niche market (e.g. cutlery).

Contemporary definitions of industrial districts are remarkably close to Marshall's original definition. Becattini (1990, p. 38), for example, summarizes:

> I define the industrial district as a socio-territorial entity which is characterized by the active presence of both a community of people and a population of firms in one naturally and historically bounded area. In the district, unlike in other environments, such as manufacturing towns, community and firms tend to merge.

Even observers not wedded to the Marshallian tradition stray not too far, e.g., Oinas and Malecki (1999, p. 11):

> Industrial districts . . . embody the interaction and dense network of linkages that comprise a local production system, usually around a single or highly related industries.

In the non-Marshallian definition, what is considered central is the division of labor among task-specialist units within the locality (hence the term "local production

system"). Thus industrial districts might include, as implied by Storper and Scott (1989), large-firm-dominated regions such as Baden Württemberg, and high-tech regions such as Silicon Valley which combine networks of small and large firms, as well as Marshallian industrial districts and urban centers housing specialized producer or consumer services firms trading with each other. Local interdependencies are the common feature across these production systems. Other commentators (e.g. Markusen, 1996) have sought to broaden the definition still further by emphasizing the agglomeration of firms in the same or related industries in the same locality or region. In my view, this loses the central feature of industrial districts, further blurring the distinction between a production system and the co-presence of firms in a locality. Agglomeration is not the same as interdependence.

For Marshallians, the distinctive feature of an industrial district is not only interfirm dependency, but also the weaving of economy and society into a local "communitarian market" (dei Ottati, 1994). The business system, cultural values, social structure, and local institutions are mutually reinforcing. Such an emphasis is partly based on analysis of the dynamics of craft areas that have reappeared in the countryside or small towns of such advanced economies as Italy, France, Japan, Denmark, and Spain in the last two to three decades.

The most researched and celebrated districts – reflecting their success in international markets and their numerical importance – are those of central and north-east Italy, scattered across the regions of Tuscany, Emilia-Romagna, and Veneto (see figure 10.1). All three regions have become highly prosperous, with the lion's share of their prosperity accounted for by the dynamism of small firms employing fewer than 15 workers, operating in the specialized niche markets of traditional consumer industries characterized by volatile and design-intensive demand patterns. The regions contain many districts, many of a Marshallian nature, as listed in table 10.1, and include internationally famous areas such as Prato (textiles), Modena (machine tools), Santa Croce (leather tanning), Carpi (knitwear), and Sassuolo (ceramics).

A Marshallian example

Let us focus on one example to get a feel for a typical contemporary Marshallian industrial district: Santa Croce sull' Arno, a leather tanning district in Tuscany. Santa Croce is a small town, 40 kilometers east of Pisa, which specializes in the production of medium- to high-quality cured bovine leather for predominantly the "fashion" end of the shoe and bag industries. There are only two other major leather tanning areas in Italy: Arzignano in the Veneto, which is dominated by a small number of large, vertically integrated, and highly mechanized tanneries, orientated towards the furnishing and upholstery industry; and Solofra in the South (Campania), which specializes in less refined, non-bovine, cured leather for the clothing industry. The Arno Valley accounts for about 25 per cent of national employment in the leather and hide tanning industry.

Remarkably, in an area no larger than 10 square kilometers, are clustered 300 artisan firms employing 4,500 workers and 200 subcontractors employing 1,700 workers. The real figures are probably much higher as the subcontractors' figures cover only those firms officially registered with the Santa Croce Association of

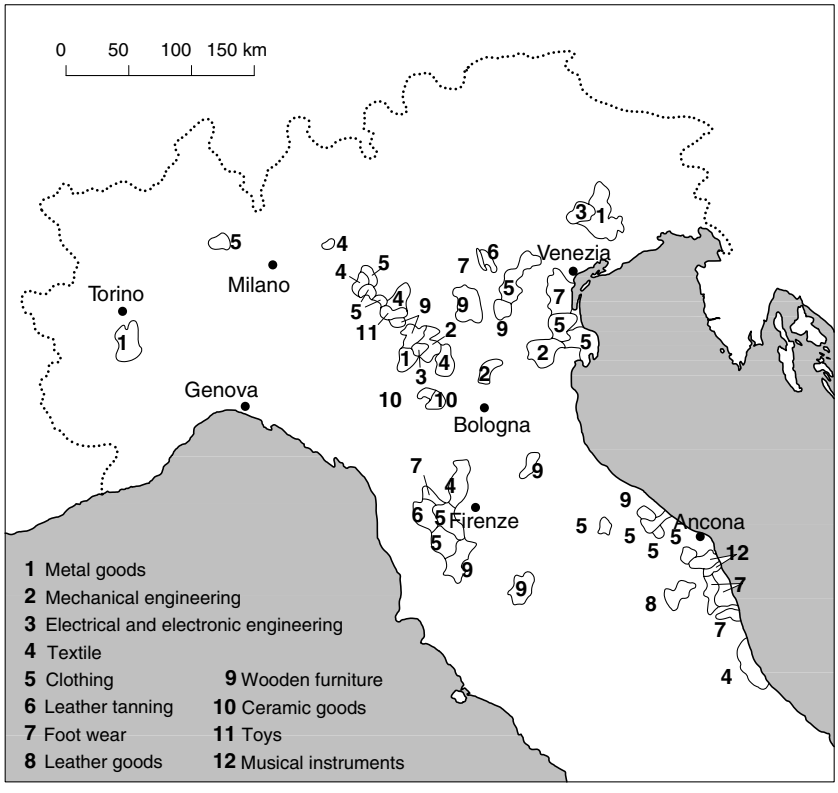

Figure 10.1 Industrial districts in Italy
Source: Sforzi (1990)

Leather Tanners or the Association of Subcontractors. On average, the area derives 15–20 percent of its sales revenue from exports, almost 80 percent of which are destined for the European Union (EU). Although the share of exports has been growing, the industry is still heavily dependent on the Italian market, particularly upon buyers in Tuscany, who account for 30–40 percent of the domestic market.

Twenty years ago, Santa Croce was not a Marshallian industrial district. There were many fewer firms, production was more vertically integrated, the product was more standardized, and the balance of power was very much in favor of older and larger tanneries. Today, Santa Croce derives its competitive strength from specializing in the seasonally-based fashion-wear niche of the industry. Typically, market conditions in this sector, such as product volatility, short product life cycles, design-intensity, and flexibility of volume, demand an innovative excellence and organizational flexibility that Santa Croce has been able to develop and consolidate over the last two decades by building upon its early artisan strengths.

The boom in demand for Italian leather fashion-wear in the 1970s and 1980s provided the opportunity for area-wide specialization and growth in the output of cured leather. That such growth was to occur through a multiplication of independent small firms supported by a myriad task-specialist subcontractors, was perhaps

Table 10.1 The regional distribution and sectoral specialization of localities (communes) with industrial districts in Italy

Region Sector	Piemonte	Lombardia	Emilia-Romagna	Veneto	Fruili Venezia Giulia	Toscana	Marche	Abruzzi
Metal goods	Carmagnolo	Rivarolo Mantovano						
Mechanical engineering		Suzzara	Novellara Cento Copparo	Conegliano				
Electrical and electronic engineering			Guastalia					
Textiles		Asola Urgnano Quinzano d'Oglio	Carpi			Prato		
Clothing	Oleggio	Manerbio Pontevico Verolanuova Ostiano		Noventa Vicentina Piazzola sul Brenta Adria Porto Tolle		Castelfiorentino Empoli	Mondolfo Urbania Corinaldo Filottrano	Rosetto degli Abruzzi
Leather tanning				Arzignano		Santa Croce sull'Arno		
Leather goods							Tolentino	
Footwear				San Giovanni Ilarione Piove di Sacco		Lamporecchio Montecatini Terme	Civitanova Marche Fermo Grottazzolina Montefiore dell'Aso Montegranaro Monte San Pietrangeli Torre San Patrizio	

Wooden furniture	Viadana	Modigliana	Bovolone Cerea Nogara Motta di Livenza Oderno Montagnana	Sacile	Poggibonsi Sinalunga	Saltara
Ceramic goods		Sassuolo Casalgrande				
Toys	Canneto sull'Oglio					
Musical instruments						Potenza Picena Recanati

Source: Sforzi (1989)

more a result of specific local peculiarities than an outcome of the new market conditions. Opposed to the highly polluting effects of the tanning process – Santa Croce is one of those places where you can recognize the "industrial atmosphere" by its smell – the local administration was unsympathetic to factory expansion applications and also refused, until very recently, to redraw the local land-use plan to allow for more and better factory space. This, together with the strong tradition of self-employment and small-scale entrepreneurship in rural Tuscany, encouraged the proliferation of independently owned firms, scattered in small units all over Santa Croce. Two further stimuli for fragmented entrepreneurship were the preference of local rural savings banks to spread their portfolio of loans widely, but thinly, to a large number of applicants as a risk-minimization strategy, and the availability of a variety of fiscal and other financial incentives offered by the Italian state to firms with fewer than 15 employees.

This initial response to rapidly expanding demand was gradually turned into an organizational strength capable of responding with the minimum of effort and cost to new and rapidly changing market signals. The tanners – many calling themselves "artists" – became more and more specialized, combining their innate "designer" skills with the latest in chemical and organic treatment techniques to turn out leathers of different thickness, composition, coloration, and design for a wide variety of markets. The advantage for buyers, of course, was the knowledge that any manner of product could be made at the drop of a hat in Santa Croce. The small firms were also able to keep costs down without any loss of productive efficiency, in part through different forms of co-operation. One example is the joint purchase of raw materials in order to minimize price. Another is the pooling of resources to employ export consultants.

The main device for cost flexibility, however, has been the consolidation of an elaborate system of putting-out between tanners and independent subcontractors (often ex-workers). The production cycle in leather tanning is composed of 15–20 phases, of which at least half are subcontracted to task-specialist firms (e.g. removal of hair and fat from the uncured skins, splitting of the skins, flattening and drying). Constantly in work, and specializing in operations that are most easily mechanized, the subcontractors have been able to reduce drastically the cost of individual tasks at the same time as providing the tanners with the fluctuations in order size and specification demanded by the market. This articulate division of labor among and between locally based tanners and subcontractors – combining the advantages of complementarily between specialists and competition between the numerous firms operating in identical market niches – is perhaps the key factor of success.

Product specialization and agglomeration have also played a major role. Santa Croce, like other past and present industrial districts, is a one-product town which offers the full range of external or localization economies associated with local excellence along the entire chain of activities associated with leather tanning. In the locality, there are warehouses of major international traders of raw and semi-finished leather as well as the offices of independent import agents, brokers, and customs specialists. There are depots of the major multinational chemical giants as well as locally owned companies selling paints, dyes, chemicals, and customer-specific treatment formulae to the tanners. There are at least three savings banks that have consistently provided easy and informal access to finance. There are

several manufacturers of plant and machinery, tailor-made for the leather tanning industry, and there is a ready supply-base for second-hand equipment and maintenance services. There are several scores of independent sales representatives, export agents, and buyers of finished leather in the area. The local Association of Leather Tanners, the Mayor's office, the bigger local entrepreneurs, and the Pisa offices of the Ministry of Industry and Trade also act as collective agents to further local interests at national and international trade fairs. There are several international haulage companies and shipping agents capable of rapidly transporting goods to any part of the world. There is, at the end of the value-added chain, a company that makes glue from the fat extracted from the hides and skins. No opportunity is missed in Santa Croce.

The entire community in Santa Croce, through its enterprises, families, institutions, associations, clubs, restaurants, shops, and piazza gatherings, is associated in one way or another with leather tanning. This provides new opportunities, through spin-off into new specialized tasks, thus guaranteeing the local supply of virtually all of the ingredients necessary for entrepreneurial success in quality-based and volatile markets. It also provides specialized skills and artisan capability, and a continual supply of industry-specific information, ideas, and knowledge – in short, Marshall's "industrial atmosphere" – geared towards supporting innovation and learning.

A typology

As suggested earlier, not all contemporary industrial districts are Marshallian. Artisan districts such as Santa Croce and many others in Italy, but also elsewhere (e.g. Gnosjö in Sweden, Sakaki in Japan, Alcoy in Spain) draw on craft excellence, multi-use technologies, and the Marshallian social tradition of self-reliance and cooperation. They are classical craft districts, centered around a very large number of small firms locked into an elaborate division of labor, and bound by strong informal traditions and craft institutions supporting the needs of firms (from artisan associations and rural banks to technical schools and trade centers).

There are other small-firm districts, however, many in Emilia-Romagna (see table 10.1) which Sebastiano Brusco (1992) has described as Mark II industrial districts, in which the small firms have come to be surrounded by more formalized institutional support, as well as increased capacity for technological innovation among some firms. Institutional support includes service centers (public or private, and usually located in or near the districts), providing industry-specific expertise to individual firms (from market information and legal or financial services to technological and managerial know-how). This means that a search for these services is not limited to the opportunities provided through inter-firm dependencies (Cooke and Morgan, 1998; Mistri, 1998). Innovative firms include so-called network leader firms within the districts, usually medium-sized companies, which have emerged in technology- or research-intensive industries with high levels of customized demand (e.g. agro-machinery, biomedical instruments). They subcontract products and tasks to other much smaller specialized firms, but provide the managerial, commercial, and technological expertise that takes the district forward into international markets driven by advancement in science and technology. Thus, Mark II industrial districts are less dependent on informal Marshallian traditions and craft institutions.

Table 10.2 Typology of industrial districts with respect to innovative capability

		Strong local co-operative environment	
		Industrial district Mark I	Industrial district Mark II
SMEs Internal resources and competence	Low	I Local production systems with *low* potential for technological capability-building (e.g. Gnosjö, Sweden)	II Local production systems with *some* potential for technological capability-building (e.g. Carpi and Reggio-Emilia in Emilia-Romagna)
	High	III Local production systems with *good* potential for technological capability-building (e.g. Jaeren, Norway; Sassuolo, Emilia-Romagna)	IV Local production systems with *high* potential for technological capability-building (e.g. Modena, Emilia-Romagna; Baden-Württemberg, Germany)

Source: Asheim (1997).

With these differences in mind, Bjorn Asheim (1997) has argued the case for a fourfold typology of industrial districts based upon differences in the potential for technological capacity-building and innovation (see table 10.2). In all four cases, the assumption is that the districts are more than agglomerations, that is, they constitute a local production system with strong links among firms. Asheim explains his typology (p. 151):

> Square I represents the original Marshallian model of the industrial district. However, the problem with these industrial districts is their relatively low potential for endogenous technological capacity-building; i.e. owing to the relatively low level of codified knowledge and technological know-how of SMEs [small and medium-sized enterprises] . . . they are mainly able to adopt, adapt, and develop incremental innovations. In Square II we find industrial districts with some potential for technological capability-building, due to the collective resources of the district as they belong to the mark II model, which to some extent compensates for the low level of internal resources and competence of the individual firm. Square III represents industrial districts with a good potential for technological capacity-building due to a strong horizontal inter-firm cooperation normally found in these districts between firms with high levels of internal resources and competence [i.e. firms with significant technological competence]. Last, Square IV is characterized by a high potential for technological capacity-building due to the combined effect of the presence . . . of SMEs with high levels of internal resources and competence together with considerable public intervention.

Asheim's typology is helpful for noting important distinctions between Marshallian and other types of industrial district. In doing so, it raises the question of whether the differences between types of industrial district matter less than the similarities. Take, for example, the inclusion of Baden-Württemberg in Square 4. This is a large region, dominated by large corporations, a range of commanding industries, increasingly internationalized production linkages, and formidably large and multitudinous research organizations (Cooke and Morgan, 1998; Staber, 1996). This region is quite different from a craft industrial district such as Santa Croce. Both areas, of

course, conform to the definition offered earlier by Oinas and Malecki (1999), who stress the centrality of product specialization and the localization of the division of labor, but the differences are also significant. Thus, while some may wish to retain the broad definition, it is wise not to lose sight of the very different industrial processes at work within the above typology.

Theorizing (Marshallian) Industrial Districts

With such internal differences, it is not feasible to provide a theory of industrial districts that incorporates all the variety, but without degenerating into bland generalizations. This section therefore focuses on craft industrial districts, acknowledging the risk of skewing the above typology in one direction. It places particular emphasis on the socio-political foundations and learning assets of craft industrial districts, so as to add value to accounts in English that are already well known.

In the early years of rediscovery of industrial districts – the 1980s – two analytical models dominated research published in English: Piore and Sabel's model of flexible specialization, emphasizing the combined advantages of craft traditions, yeoman democracy, multi-purpose technologies, and division of labor; and the neo-Marshallian model advanced by economists such as Becattini, emphasizing the importance of localization economies, the combination of scale and scope (or variety) through product and task specialization, industrial atmosphere, and long local histories of competition and co-operation. There were considerable overlaps between the two models, with differences between them largely a matter of emphasis rather than dispute. Sociologists tended to focus on the production process while economists and geographers focused on the properties of the locality.

Communalism

A parallel strand of literature on the Third Italy, well known in Italy at the time due to the seminal studies of Arnaldo Bagnasco (1988) and Carlo Trigilia (1986), but appreciated abroad only more recently following the work of Robert Putnam (1993) and his research collaborators (Nanetti, 1988; Leonardi and Nanetti, 1990), emphasized the nature of local political subcultures to explain the "long histories of collaboration and competition in industrial districts." This literature helped enormously to explain local social and cultural dispositions towards reciprocity and trust. It noted the decades-old strongly communitarian political culture that cut across class, gender, and institutional divides (socialist in Tuscany and Emilia-Romagna, and Catholic in Veneto). Carlo Trigilia (1991, p. 39) summarizes:

> . . . in these communities there is often the prevalence of a specific political tradition, which generally dates back to the start of the century, and a complex of institutions – parties, interest groups, and cultural and charitable structures – that derive from the same political-ideological matrix.

The social practices and conventions of business in industrial districts, such as reliance on extended family labor, persistence of peasant values, belief in the values of work (over profit), and pride in professionalism and product quality, help to explain

self-help and entrepreneurial spirit, but not co-operation with others. This is where communitarian local political subcultures helped. For example, in Emilia-Romagna, the Communist and Socialist parties were both pro-worker and pro-business and gained majority influence among both the unions and the artisan associations and co-operatives to which the small entrepreneurs flocked. In turn, these business organizations became important centers of economic power, serving not only to further the interests of small entrepreneurs, but also to provide training in business formation and management. As a consequence, Capecchi (1990, p. 28) notes:

> . . . a kind of Communist and Socialist "political community" was formed wherein people of the same political leaning came to be in charge of local and regional government, labor unions, small artisan associations and industries, and firms organised as co-operatives.

This political community, first, saw to the business needs of the small firm, but importantly it also inculcated a culture of collective action through interest groups. In some regions, such as Emilia Romagna, the local authorities started to offer business premises and services to small firms into the 1970s. Importantly, labor unions, industry associations, small-firm organizations, and local chambers of commerce developed research intelligence for the use of their members and sponsors, but also contributed, through widely attended and frequent public seminars and conferences, towards constructing a public reservoir of knowledge, opinion, debate, and reputation. In addition, the artisans' federations lobbied for favorable legislation and policies, established sector-specific training programs, provided access to a range of business services (from legal advice to technical information), helped to establish consortia for joint purchasing and sales, organized fairs and market publicity, and secured loans or credit. Finally, they gave legitimacy to craft or co-operative economic values, which elsewhere in the world were being discarded as anachronistic or inefficient.

Second, the political community helped to intermediate between sectional interests, without dampening the advantages of associational independence (i.e. effort and loyalty based on membership of interest associations). The role of long-standing ruling parties wedded to communitarian beliefs was critical in this regard. In an industrial district or region, the dominant party drew together, into a heterogeneous coalition, the urban working class, the peasantry and agricultural workers, an urban middle class won over by administrative efficiency and good public services, and an entrepreneurial class satisfied by the latter as well as the offer of business services. In addition, it was able to exercise considerable "network" influence (Bellini, 1996), through the common set of beliefs and values shared by its voters and activists, newspaper readers, recreation club members, and participants at mass festivals and rallies. This network influence also helped to establish consensus up and down the hierarchies of various local institutions. Inter-personal familiarity, and the frequent mobility of the party elite through senior positions within these organizations played an important role in establishing a common agenda as well as nurturing a culture of consultation and compromise.

It should not be assumed that this culture of intermediation has been simply the product of party alliances. It was also the product of what Robert Putnam (1993) has described as the democratic culture of civic regions, finely balanced between an

efficient state and strong associationalist tendencies in civil society. In the Third Italy, at least two of the regions – Emilia-Romagna and Tuscany – are replete with voluntary associations, and with high levels of public participation in all areas of public life, from recreation, sports, and culture to housing, welfare services, and education. This fine balance has served to inculcate, first, a tradition of associative governance in which real authority is placed in the hands of autonomous groups (for example, the empowerment of voluntary organizations and charities in welfare provision). Secondly, it has bred a fiercely republican culture composed of belief in individual and group entitlements, rights, and responsibilities, an inclusive and shared public arena, and consultative and democratic decisionmaking. One effect of this culture has been that the public expects efficiency and accountability from the local authorities, and, in return, the political community has expected public endorsement of the local state's commitment to wealth creation and social solidarity.

Thus, beyond the politics of intermediation and communalism, and the institutions of flexible specialization or Marshallian industrial atmosphere, lies a way of life that cherishes – at least in the most civic regions – regional preservation, progressive values, and active civic life. In the Emilian context, Capecchi and Pesce (1993) have related this way of life to the region's strong tradition of women's autonomy, commitment to collective resolution of problems, appetite for cultural innovation, production and consumption, openness to outsiders, and advanced sense of citizenship.

Trust, tacit knowledge, and incremental learning

More recently, the success of industrial districts has been traced to their ability to draw on the economics of trust. The sources of trust have been sought in the nature of the networks of reciprocity which bind firms together (Sabel, 1992; Lazaric and Lorenz, 1998; dei Ottati, 1994; You and Wilkinson, 1994) and/or in the nature of local subcultures (Putnam, 1993). In industrial districts, firms are highly dependent upon each other and on supporting institutions for supply and markets and, for this reason, bound into ties of reciprocity. This kind of "studied trust" (Sabel, 1992), which is different from culturally enforced loyalty, is said to combine the benefits of competition and co-operation. While interdependence allows firms to establish long-term commitments, mutual regard, common learning patterns, and reduced transaction and search costs, the possibility of selecting partners and customers from an array of local firms is said both to help avoid the formation of strong ties of dependence which might stifle innovation and change, and to preserve the autonomy and independence that is necessary for entrepreneurial excellence and new learning opportunities. The industrial district is seen as a perfect example of the strength of weak ties (Granovetter, 1973; Grabher, 1993).

Equally, the commonality of the economic project in industrial districts, together with the political and institutional features of communalism described above, are also local sources of trust. More precisely, they are sources of conventions of mutuality and social obligation, which play a vital role in legitimating certain forms of economic behavior (e.g. mixing contractual and informal agreements, and tolerance for payment lags) and sanctioning against other forms of behavior which threaten the fine balance of power within districts (e.g. repeated violation of

payment schedules, price cutting, and hierarchical business practices which threaten the principle of decentralization). There are tacit rules of the game in the air based, at least in part, on communal solidarities of some sort.

The informal basis upon which conventions such as trust are reproduced at the level of both the production system and local society, also lies behind the emphasis on the industrial district as a particular type of innovation environment, as seen above from the typology suggested by Asheim. The consensus seems to be that within the typical industrial district, it is informal, non-scientific, and interactive knowledge that plays a more significant role, in contrast to the technologically advanced firm which derives its dynamism from access to the fruits of scientific knowledge, technological advances, and strategic leadership (Asheim, 1997; Maskell and Malmberg, 1999; Bellandi, 1996b). Success – at individual and network level – is the product of craft knowledge and experience, apprenticeship, imitation, and incremental innovation and adaptation. Learning is achieved through imitating, doing, and using (Braczyk et al., 1998). Industrial districts thus are specific learning environments, equipped for continuous and incremental adaption within given niche-markets through the mobilization of informal ties and tacit knowledge.

Conclusion: Prospects

In the early 1990s, discussion of the future of industrial districts tended to be framed in terms of whether or not they would survive in the face of new global challenges. My own view then (Amin and Robins, 1990) was that they would not survive competition from better equipped big firms starting to move away from mass production towards flexible specialization. Similarly, the late Ben Harrison (1992) argued that they would be incapacitated by the predatory behavior of incoming firms and financial institutions, who would incorporate them into a wider spatial division of labor, destroy local tacit arrangements between firms and banks, and shake out very many small firms by concentrating production and power into their own hands. Optimists – from Marshallians and followers of Piore and Sabel to geographers predicting a decisive shift from vertical integration and global production hierarchies to vertical disintegration and local production networks (Storper and Scott, 1989) – disagreed. The debate remains polarized and unresolved.

Now, interestingly, the discussion has moved on to speculate less on the survival or death of the classical industrial district, than to ask about the ways in which industrial districts are changing and evolving. This has helped to take the debate out of the cul-de-sac of having to be optimistic or pessimistic about their future. One topic, for example, concerns the innovative strengths of industrial districts. Given their greater disposition towards incremental learning within a given product matrix, industrial districts appear to be less well equipped to cope with path-breaking changes in product or technological trajectory (Asheim, 1997). The firms have limited R&D capacity, and their tendency to adapt to externally driven changes hinders strategic, path-shaping or environment-changing behavior. Charles Sabel (1995, p. 4), for example, contrasts task-oriented co-ordination in the Italian craft model with goal-oriented co-ordination among Japanese decentralized firms:

> . . . forms of coordination, derived from Japanese experience, that encourage deliberate, experimental revision of the definition and distribution of tasks within and among economic institutions outperform those based on notions of craft or entrepreneurship, that pursue the reintegration of conception and execution of tasks within a division of labor assumed to be natural and beyond reflection. This system of coordination I will call learning by monitoring because of the way it links evaluation of performance to reassessment of goals.

For Sabel the craft system generates skill-based interdependency among constituent units, while the goal-oriented system allows individual parts to experiment and adapt as the "system oscillates between determining the division of labor for itself and reconsidering that determination in light of execution" (Sabel, 1995, p. 9)

To a degree, however, this is to typecast the industrial district and deny the possibility of its mutation towards new forms that might permit path-breaking behavior without violating its defining organizational principles. Other commentators have observed that among those industrial districts that have been forced to confront intensified international competition, rapidly changing industry standards and aggressive market leaders, there is an emerging potential for strategic behavior as well as radical innovation. For example, some have seen the rise (from within) of leader firms, capable of technological and market leadership, and managing complex subcontracting relationships, so that the task-specialist units can remain less experimental (Bellandi, 1996a; Varaldo and Ferrucci, 1996).

Within Emilia-Romagna, and Type II districts in general, there is mounting evidence of the emergence of network leader firms, displaying signs of "learning by monitoring," especially in technology-intensive sectors such as automatic machinery or the agromechanical sector, and in new research-intensive sectors such as biomedical products (Lipparini and Lomi, 1996). These are medium-sized firms (80–100 employees), run by highly qualified or creative entrepreneurs with decades of business experience and leadership in a particular industry, and often commanding considerable influence within the regional business community and related organizations (e.g. technical schools, research centers, local authorities). In contrast to the past, they are like a holding company or network co-ordinator, marketing a range of related goods that are fashioned and assembled through a series of product-specific subcontracting networks, each with its own leader and follower firms. Their role is to provide international market access, strategic leadership, and resources, respectively through their extensive commercial experience and presence, investment in appropriate managerial and technical expertise, and command of financial and other resources. Their own survival is based on developing strategic capability and adaptive capacity, so that markets can not only be anticipated, but also shaped.

The example of network leader firms helps also to mollify the warning by commentators such as Ben Harrison concerning the rise of destructive hierarchies. Gabi dei Ottati (1998) argues that such firms are not interested in internalizing production or exercising central control, but are reliant on complex subcontracting and partnership arrangements for the production of specialized and non-specialized inputs. They are rather like the gathering houses of products and sub-assemblies fashioned by small firms within districts, elsewhere in a region, and possibly also abroad. Their role is to provide managerial leadership, markets, and innovation

capability, but they are also reliant on the grounded knowledge, skills, and incremental learning capabilities of the firms that surround them. In this relationship of mutuality, the integrity of the industrial district as a local production system of interfirm dependencies is somehow preserved.

To see industrial districts in a perspective that emphasizes evolution rather than decline or preservation should not imply any complacency about their future. There are serious threats which also need to be appreciated. First, a frequently voiced complaint by entrepreneurs in the Italian districts is that their sons and daughters are reluctant to enter the family firm, preferring professional careers to the risks and hard work of running a small firm (Mistri, 1998). Second, the solidarity and "democratic associationalism" (Amin, 1999b) that characterized Marshallian industrial districts in their formative years is now waning. Ideologies of individualism, market efficiency, and instrumental allegiance are now all-pervasive, even in places with strong family ties, and communal and civic affiliation. It remains unclear whether the balance between competition and co-operation that has proven so critical for industrial districts can be sustained without such local Marshallian commonalities. Finally, it is well known that in many industrial districts, such as Santa Croce, the division of labor is no longer locally contained, as some firms begin to source cheap raw and semi-finished materials from abroad, and establish market outlets overseas. At what point in its insertion into a wider division of labor does an industrial district cease to be one? Does it simply become a center of design, ideas, and innovation – a "Marshallian node in global networks" (Amin and Thrift, 1992) – or does it have to integrate head and hand, and contain the entire division of labor in an industry, to qualify as an industrial district?

Acknowledgment

This chapter was written during a Fellowship in 1999 at the Swedish Collegium for Advanced Study in the Social Sciences (SCASSS) in Uppsala. I wish to thank SCASSS for its generous support, as well as Eric Sheppard for his comments on the first draft.

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