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**Co-operation and competition in production and exchange:
The “district” form of industrial organisation and development**

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Abstract

This paper considers the role of co-operation and competition in production and exchange – and the “district” form of industrial organization and development. It examines Alfred Marshall’s theory of industrial districts – localized groups of small firms and their suppliers that were at the heart of Britain’s industrial development. However, with the emergence and growth of very large and successful vertically integrated firms – and as the conventional wisdom evolved to view large size as the next stage in industrial evolution – the small firm sector was progressively marginalized. In this process, Marshall’s dynamic and evolutionary approach to industrial organization was abandoned. However, the discovery of competitively successful agglomerations of small firms in Italy during the 1960s served as the motivation for construction of a new theory of the “Marshallian” industrial district, pioneered by Giacomo Becattini and Sebastiano Brusco. The success of these modern industrial districts in securing inter-firm co-operation and channelling their joint efforts towards quality upgrading and product and process innovation, at a time when large firms and the “Fordist” mass production model were generally in decline, brought them to the attention of the international research and policy community. Since then, the literature on this form of industrial organization has proliferated; and Marshall’s methodology and theory has proven remarkably resilient in explaining the dynamic, non-equilibrium processes involved in their development, evolution and performance over time.

Keywords: Industrial districts, Productive systems, Co-operation and competition, Industrial organisation, Giacomo Becattini, Sebastiano Brusco

JEL codes: B00, L00

Co-operation and competition in production and exchange: The “district” form of industrial organization and development

1. Introduction

Liberal economics¹ has long been informed by “the idea of an economy that was somehow separate from society, a collection of markets with its own inexorable principles and logic” (Abdelal and Ruggie 2009, p. 152). It has traditionally put strong emphasis on individualism and specialization – and has struggled with the notion of co-operation. Alfred Marshall’s pioneering empirical and theoretical work on the English industrial districts – which were at the heart of 19th century British industrial development – therefore posed a challenge to the conventional wisdom of his day. Marshall found that an important determinant of the competitive success of industrial districts was effective *co-operation* within and between firms, supported by a dense network of institutions, and markets regulated by agreed rules, norms and standards. He argued that these agglomerations generated economies – *external* to the firm but *internal* to the clusters – that enabled member firms to *compete effectively*, even with much larger, vertically integrated firms.

During the 1920s, however, the emergence and increasing size of highly successful American and German enterprises revived the question – which John Stuart Mill had grappled with three quarters of a century earlier² – of how to reconcile increasing returns (in production) with perfect competition (in markets). From the perspective of (static) neo-classical economic theory, the first firm to adopt the most efficient scale of production in relation to the size of the market takes the whole of the market and becomes a monopolist. Marshall’s theory of industrial districts thus sparked a vigorous debate about the problem of increasing returns and competitive equilibrium, which his “external economies” purported to resolve.

Perhaps the most influential attack on Marshall’s theory came from Piero Sraffa, who argued that resolving the dilemma required dispensing with the assumption of perfect competition in favor of monopoly. He went on to dismiss external economies on the grounds that “[t]hose economies which are external from the point of view of the individual firms, but internal as regards the industry in its aggregate, constitute precisely the class which is *most seldom* to be met with” (Sraffa 1926, p. 540, emphasis added). Sraffa’s conclusion – that “in the circumstances, I think it is Marshall’s theory that should be discarded” (Robertson, Sraffa and Shove 1930, p. 93) – apparently settled the debate; and the conventional wisdom evolved to contend that the historical tendency in capitalist development is towards large firm dominance, with the progressive reduction of the small firm sector to a residuum.

But interest in Marshall’s theory was revived during the 1960s and 1970s, with the discovery by Italian scholars of competitively successful agglomerations of small firms in the “Third Italy”. The success of these modern industrial districts in securing inter-firm co-operation and channelling their joint efforts towards quality upgrading and product and process innovation – at a time when large firms and the “Fordist” mass production model were generally in decline – brought them to the attention of the international research and policy community. Yet the success of this form of industrial organization presented a challenge to the orthodox economists’ view that inter-firm co-operation mainly represents an attempt to fix prices³ and is therefore inefficient; and it questioned their strict dichotomization of “firms” and “markets”. It also sparked debate about both de-industrialization, which found “a powerful trend towards geographic *dispersal* of at least productive (if not distributive) activity” (Harrison 1992, p. 470, emphasis in the original), and globalization, which some have argued signals the “delocalization” of economic and social relationships (Gray 1998, p.57).⁴

This paper considers the role of co-operation and competition in production and exchange – and the “district” form of industrial organization and development. Section two lays out Marshall’s theory of industrial districts and industrial organization. The 1920s debate about the nature of increasing returns (in production) and market competition is the focus of Section three. Section four examines the “re-discovery” of the district form of industrial organization in the pioneering work of Giacomo Becattini and Sebastiano Brusco, before tracing the development of this work in streams of related anglo-american and north-european literatures. Section five concludes.

¹“Liberal economics” is a term for the classical and neo-classical economic theories that emphasize individualism in free markets and laissez-faire policies in which the government’s role is limited to the provision of support services.

²As the British industrial revolution progressed, and with the development of the factory system and market expansion, Mill (1848) argued that in response to increases in the size of the market, firms would have incentives to increase their scale of production, which would undermine competition (Book 1, Chapter 7).

³Adam Smith wrote: “People of the same trade seldom meet together, even for merriment and diversion, but the conversation ends in a conspiracy against the public, or in some contrivance to raise prices” (Smith 1999 [1776], p232).

⁴ See also Cairncross (1997); Dore (2001); O’Brien (1992); and Reich (2001).

2. Co-operation and the organization of production

In developing his theory of industrial organization, Marshall welded Adam Smith's notion of the division of labor as the primary vehicle of economic progress to Darwinian evolutionary theory (Marshall 1920 [1890], Book IV, Ch VIII). He argued that in economic life, the struggle for survival selects the fittest and fitness depends upon two complementary factors: increased differentiation and more sophisticated coordination. A finer division of labor – which requires ever-more sophisticated coordination of productive activities – leads to a more efficient use of resources; and the development of specialized skills, knowledge and machinery leads to increased differentiation. The emphasis on coordination as a factor of production sets Marshall apart from the strict neo-classical view of how markets work, in which arms-length market transactions suffice as a coordination mechanism.

Marshall was acutely aware of the systemic nature of production; and central to his understanding of the evolutionary trajectory of capitalism was the interaction between organization and knowledge (ibid., p.84). Thus, whilst acknowledging the importance of co-operation in production, Marshall focused on the role of organization in the coordination of increasingly specialized and mutually dependent activities. For Marshall, the central role of organization is the “integration” of the increasing subdivision of production with the increasing division of labor, and the development of specialized skills, knowledge and machinery to achieve this (ibid., p. 139). Marshall also drew a clear distinction between relationships within the firm and relationships between firms. Within the firm, co-operative relationships are coordinated by the manager-entrepreneur and take the Marxian form, in which co-operation in production permits the realization of increased output per worker. By contrast, outside the firm, co-operative relationships are coordinated by the market and take the Adam Smith form, where co-operation in exchange, secured by competition among individuals motivated by self-interest, permits the realization of gains from trade.

In theorizing industrial districts, Marshall identified external economies derived from the concentration of production in particular localities (ibid., p. 152). The benefits of such proximity include increases in the degree and specialization of skills; their diffusion throughout the community creating an abundant supply of appropriately qualified labor; the growth of “subsidiary” trades and specialized services; and an expansion in the use of highly specialized machinery made possible by the combined demand of many firms. The close geographical concentration of firms allows all to enjoy the benefits of large-scale production and technical and organizational innovation which are beyond the scope of any individual firm. Thus, the importance of the localization of production within industrial districts for Marshall is that it creates an environment more favourable to individual success. The close proximity of firms within a particular industry provides opportunities for specialization and for the district as a whole to secure economies of scale and scope (both static and dynamic) denied to isolated individual firms because of internal restrictions on growth. Firms concentrate their initiative and inventiveness on what they do best and establish an environment that improves the overall competitiveness of the locality.⁵

Marshall recognized that industrial districts occupy both a physical and a social space, with its own structure and history; and he highlighted the importance of *industrial atmosphere*. In his view, district effects are long-term, cumulative and dependent upon co-operation in knowledge creation and innovation. For Marshall:

“When an industry has thus chosen a locality for itself, it is likely to stay there long: so great are the advantages which people following the same skilled trade get from near neighbourhood to one another. The mysteries of the trade become no mysteries; but are as it were in the air, and children learn many of them unconsciously. Good work is rightly appreciated, inventions and improvements in machinery, in processes and the general organization of the business have their merits promptly discussed: if one man starts a new idea, it is taken up by others and combined with suggestions of their own; and thus becomes the source of further good ideas” (ibid., p. 156).

He added “[t]he broadest, and in some respects the most efficient forms of constructive co-operation are seen in a great industrial district where numerous specialized branches of the industry have been welded almost automatically into an organic whole” (Marshall 1920 [1919], p. 380).

However, Marshall considered individualistic initiative and free enterprise to be the drivers of economic progress. In Marshall's view, while collective action may foster individual success it risks blunting initiative and inhibiting competition. Thus, trade associations had a role to play in coordinating production, standardizing

⁵Contemporary analyses of industrial districts put greater stress than did Marshall on the collectivist and institutional basis for successful coordination. See, for example, Brusco and Sabel (1981); Brusco (1982); Sengenberger, Loveman and Piore (1990); Amin and Thrift (1994).

products and providing scientific and other specialized services but, lacking the profit motive, they are of second order importance to the individual effort of entrepreneurs. For similar reasons, public sector intervention has a positive although a limited role to play in industrial organization and technical progress.

In early versions of his analysis, Marshall placed limits on firm size by the growing problems of internal coordination, the aging of the founder and the failure to find a successor. But these are individual failures and the forward impetus of the system is maintained as vigorous new firms replace the old. In Marshall's view, the district's vitality stems from its ability to innovate and to respond flexibly to changes in its environment; and whilst he recognized that industrial districts could decline just as easily as they could prosper, he expressed confidence in the resilience of this form of industrial organization and the dynamism it engendered.

But during the 1920s Britain suffered major de-industrialization and the decline of its industrial districts. Whilst Marshall's students of the "Old Cambridge School"⁶ studied this phenomenon, Marshall's thinking was shifting. Increasing industrial concentration in Germany and the USA led Marshall to place less emphasis on the limits to firm size and on the importance of external economies (ibid., p. 115). The development of capital markets, better communications and the improvement by firms of their marketing networks allowed them to grow larger than in Marshall's earlier models of industrial organization. A precondition for this was continuous refinement of management, requiring increased specialization and more effective coordination (ibid., Book 2, Ch X). The driving force remained the entrepreneurial owner – the "*captains of industry*". But there was still a role for small businesses:

"A new tradition is in danger of growing up, to the effect that a small business must be out of place in the new age; for that belongs to large businesses ... small businesses ... are the best educators of the initiative and versatility, which are the chief sources of industrial progress ... [and] the nurseries for the best brains in large businesses" (ibid., pp. 370, 167, 338)

3. Co-operation, increasing returns and markets

The classical political economists had, for the most part, understood that realization of the increasing returns inherent in the division of labor was dependent upon expansion of the market (Rima 2004, p. 172); and they were theorising at a time when most firms were relatively small. During the 1920s, however, with the emergence of very large, vertically integrated firms, economists debated the true nature of increasing returns.⁷ Marshall had tried to circumvent the problem with his theory of external economies, using the device of the "representative firm" (Marshall (1920 [1890], p. 185). Viewing the internal economies that the representative firm can gain from increasing size as self-limiting, Marshall identified external economies as the reason that markets will continue to be dominated by competition (ibid., p. 316). But Sraffa (1926), argued that increasing returns were pervasive in industry and incompatible with competition, suggesting that the solution to the problem was to turn to the theory of monopoly.

Sraffa's position was strongly challenged by Allyn Young, among others, who returned to Adam Smith's conceptualization of the division of labor and its relation to the extent of the market. Writing about 150 years after Smith – and with the benefit of hindsight of the second industrial revolution and the emergence and the growth of very large vertically integrated firms – Young approached the question of increasing returns using Marshall's concepts of internal and external economies (Young 1928, p. 527). But whilst he considered this distinction to be "fruitful", Young suggested that it is "necessarily a partial view" because "although the internal economies of some firms ... may figure as the external economies of other firms, not all of the economies which are properly to be called external can be accounted for by adding-up the internal economies of all the separate firms" (ibid., p. 528). Because Young did not view increasing returns as primarily taking the form of large-scale economies, he did not consider their existence incompatible with competition.

For Young, increasing returns must be understood from the perspective of *reciprocal demand*. Noting that "the most important single factor in determining the effectiveness of its industry appears to be the size of the market" (ibid., 532), Young reaffirmed Smith's linkage between the division of labor and the extent of the market, going further to argue that "the division of labor depends upon the extent of the market, but the extent of the market

⁶Becattini (1990a) distinguishes two Cambridge Schools of Economics. The first is the one surrounding John Maynard Keynes and his followers, including, among others, Richard Kahn, Joan Robinson, Gerald Shove, Nicholas Kaldor, Austin Robinson and Piero Sraffa. The second – the "Old Cambridge School" – surrounds Alfred Marshall and his students who studied and developed research fields within industrial economics. These included, among others, Austin Robinson, S. C. Pigou, D. H. Robertson, Arthur Bowley, Sydney Chapman, D. H. MacGregor, Charles Sanger, C. R. Fay and Philip Sargent Florence.

⁷The debate revolved around the questions of (1) whether increasing returns exist at all; (2) whether they arise out of internal economies of scale or Marshallian external economies; and (3) whether they are compatible with competitive equilibrium. See, for example, Robertson, Sraffa and Shove (1930).

also depends upon the division of labor. In this circumstance lies the possibility of economic progress” (ibid., p. 539). But in asking “what constitutes a large market?”, Young contended that it is “[n]ot area or population alone, but buying power ... [which itself] depends upon capacity to produce” (ibid., p. 532).

Despite these challenges to the Sraffian critique of Marshall’s external economies, during the inter-war years, with the increasing size of highly successful vertically integrated producers in Germany and America, the conventional wisdom evolved to contend that the historical tendency in capitalist industrial development is towards large firm dominance; and the role of small firms and localized productive systems was marginalized. After Marshall’s death in 1924, his methodological approach and evolutionary theory of industrial organization and development were increasingly abandoned as Neo-classical micro-economic theory focused attention on individual firms competing in particular market structures (instead of groupings of firms operating within localized productive systems and industrial sectors). During the 1920s, as Britain experienced high levels of unemployment and excess capacity, economic theorists attempted to explain the micro-economic (firm/industrial organization) effects of low levels of demand. However, their focus was on the supply side. Taking a static equilibrium approach based on a priori reasoning and assuming a given market size, theories of perfect, oligopoly and monopolistic competition maintained that capacity utilization – and hence employment – is determined by the equilibrium level of output, which only in perfectly competitive markets is at full employment. From this perspective, as in any other market, unemployment is considered voluntary; and the solution is a reduction in the price of labor.

During this same period, Keynesian macro-economic theory was evolving in quite a different direction, contending that the problem of unemployment is *involuntary* and the consequence of an insufficient level of effective demand, with the solution being government spending on public works to compensate for weak private sector spending. Although Keynesian ideas were emerging to inform macro-economic policy during the 1930s and 1940s, Neo-classical micro-economic theories informed industrial policy – and many of the English industrial districts disappeared as a consequence of policy choices – informed by economic theory – that served the interests of large multi-divisional and multi-national corporations whilst undermining some of the key sources of the industrial districts’ competitive advantages and external economies.

What economists and policy-makers ultimately took from Marshall’s theorizing on industrial organization in general – and the English industrial districts in particular – informed economic theories of firms and markets. These provided a crucial under-pinning for explanations of – and justification for – large-scale capitalism, which was actively pursued from the inter-war period onward. As theorizing increasingly focused on the benefits of large-scale productive enterprises, the role of smaller firms became somewhat marginal; and the idea of geographic location and external economies generated only a “thin trickle” of contributions in relation to forms of firm agglomeration in local and regional productive systems (De Propris 2009, p. 361).

4. Co-operation and the “new competition”: Re-discovery of the industrial district model

During the 1960s, 1970s and 1980s, however, more co-operative forms of industrial organization emerged as competitors to the dominant vertically integrated corporations. This “new competition” (Best, 1990) originated with Italian, Japanese and German producers who had evolved more co-operative relationships both with their work forces and their suppliers than was usual in the large-firm dominated Anglo-American system. Greater motivation to co-operate on the part of managers, workers and suppliers resulted in high levels of operational and dynamic efficiency based on improved labor productivity, the more effective use of equipment and materials, better quality control and the mobilization of the skills and knowledge of workers and suppliers in the improvement, design and innovation of products, processes and the organization of production (Howes 1991).

4.1. “Marshallian” industrial districts⁸

In Italy, the “new competition” took the form of the re-activation of the “Marshallian” industrial district model of production,⁹ the study of which was pioneered by Giacomo Becattini and Sebastiano Brusco, both of whom were academics interested in industrial organization and actively engaged in policy formulation and implementation.

⁸This section draws heavily on invaluable input from Gabi Dei Ottati on Giacomo Becattini and Margherita Russo and Anna Natali on Sebastiano Brusco.

⁹However, “[t]he industrial districts that the district interpretation of Italian development identified in economic reality were not simply replicas of the nineteenth century English industrial districts on which Marshall had worked: the reference to districts being ‘Marshallian’ related to a particular analytical tool, not to an empirical identification. An industrial district can be said to be a ‘Marshallian industrial district’ if it is so identified by empirical research using methodological criteria derived from the Marshallian analytical tool” (Sforzi 2015, p. 16).

Giacomo Becattini became Full Professor of Political Economy at the University of Firenze in 1968. He had published in 1962, in Italian, a book entitled *The Concept of Industry and the Theory of Value*,¹⁰ based on a study of Alfred Marshall's writings¹¹ and those of other economists, including Piero Sraffa, Lionel Robbins, Gerald Shove, Joan Robinson and Robert Triffin. During the 1960s, when Becattini began to study the economic development of Tuscany, the general perception was that following the Second World War, the North of Italy had developed whilst the South remained a backward agricultural region. It was also supposed that only large firms could generate economic development. At this time, a large part of the population of Tuscany was still living in rural areas, where economic organization was characterized by sharecropping and small cultivating ownership. Becattini observed that during the 1950s, young migrants from the countryside had started moving to Tuscany; and increasingly during the 1960s, they were gravitating in search of jobs towards expanding agglomerations of small firms surrounding Pisa, Lucca, Siena, Empoli and Prato. In these areas, the number of highly specialized manufacturing small firms was multiplying, whilst Tuscany's few large enterprises were not leading robust processes of industrial development. Since this was the opposite of what might have been expected, a new analytical framework for explaining it was required.

The first step in this direction came in 1969 in a paper Becattini wrote for the Institute for Regional Economic Planning of Tuscany (IRPET).¹² In it, he demonstrated that in the expanding agglomerations of small firms in Tuscany, benefits accrued which were external to the enterprises, but internal to their local cluster, a phenomenon that came to be described as "external economies", reviving the Marshallian distinction between internal and external economies of industrial development. Thus, in manufacturing sectors where it is possible to divide the process of production into discrete stages, each of which can be efficiently performed by a set of small establishments, advantages of large scale production could as readily be attained by a large number of geographically concentrated small firms as by fewer large firms. In 1975, Becattini published a book with IRPET, analyzing the role of systems of small firms in the transformation of the Tuscany industrial landscape (Becattini 1975a); but it was not until 1978 that he used the term "industrial districts" when analyzing these developments (Becattini 1978).

Becattini's seminal article appeared in 1979, in *Rivista di Economia e Politica Industriale*, entitled "Dal 'settore' industriale al 'distretto' industriale"; the English translation, entitled "Sectors and/or Districts: Some Remarks on the Conceptual Foundations of Industrial Economics", was published in Goodman and Bamford (1989). In this article, which returned to and applied some of the concepts introduced in his 1962 book, Becattini argued that when studying industrial activity, economists are faced with the problem of defining what an industry or sector is. This is important in order to clearly determine the boundaries between industries, and, hence, what is typical of – and what is outside of – their processes of development and change. Eventually, he proposed adopting Marshall's concept of the industrial district. According to Sforzi (2015), an important theoretical step forward was embedding the concept of industrial district as both a "model of production" and a "unit of investigation" into one another.

Addressing criticism of Marshall's reasoning, especially by Sraffa, who had dismissed the idea of external economies, Becattini argued that Sraffa's interpretation of Marshall focused too much on the single industry. In Becattini's reading of Marshall, external economies of industrial development within districts' paths of change are not exclusive to any single industry; rather, they apply to groups of related industries, connected locally by horizontal, vertical or diagonal exchanges and sharing a common industrial atmosphere (Becattini 1990b).

At around the same time as Becattini was theorizing the industrial development of Tuscany, Sebastiano Brusco, at the University of Modena, was studying the efficiency of local clusters of small and medium sized firms in Emilia Romagna. From this, he was making similar observations to those of Becattini, but from a different theoretical perspective – that of Piero Sraffa. Brusco refused to accept that the advantages of a localized division of labor derived from external economies of scale, arguing instead that small firms with modern technology could be as efficient as large firms. Following the work of Adam Smith and Allyn Young,¹³ Brusco based his analysis on the understanding that if stages in a production process could be operated separately without loss of efficiency, they could be operated separately by different firms.

In his empirical analysis of the metalworking industry in Bergamo, Brusco found that enterprises differed greatly in size and technology, as a consequence of their differing degrees of vertical integration, methods of coordination and relationships with other firms. He found that small firms were operating profitably by

¹⁰See Becattini 1962 for Italian title and full reference.

¹¹In particular, *Economics of Industry* (1879) with Mary Palley Marshall, *Principles of Economics* (1890) and *Industry and Trade* (1919).

¹²See IRPET 1969. Becattini had set-up IRPET in 1968.

¹³See, especially, Young (1928).

successfully reaching the minimum efficient scale of production for the particular stage of the production process in which they specialized. From this, he proposed a taxonomy of different types of small firms, based on characteristics of their relationships with other firms: these included (1) independent enterprises, (2) members of networks of inter-dependent subcontractors, and (3) firms embedded in industrial districts (Brusco and Sabel 1981). These findings paved the way to identifying the development and training policies most appropriate for both different types of firms and the various types of local production systems he identified.

Brusco's observation of policy-making in Emilia-Romagna led him to consider the design and working of a range of fundamental institutions around which policies supporting the emerging clusters of firms could be developed. These initiatives were developed in concert with the organizations involved, in an open and creative dialogue designed to identify their needs and those of other segments of society in which they were embedded. Brusco identified the direct provision of "real services" to groups of firms as being more effective than providing cash grants to enable them to acquire these services individually. Because of the variety of problems presented by these firms, not only is the service center well placed to provide an appropriate range of solutions; there are also dynamic benefits associated with the sharing of information among a larger number of firms as opposed to focusing on the leader. In Brusco's view, this would improve the market performance of the collective, as opposed to improving the competitiveness of any individual firm (Brusco 1992). During the 1990s, Brusco's ideas about industrial strategy formed the basis for a general re-thinking of development policies that extended beyond the Emilian industrial districts, to include the more backward areas of Southern Italy.

Although Becattini and Brusco had different theoretical perspectives, they faced the same challenge: that of accounting for the unexpected direction of industrial development in Tuscany and Emilia-Romagna; and they both wanted to give credence to the possibility of rapid economic development generated from the grass roots level upwards. Although they were remarkably successful in this respect, it was not until the failings of the "Fordist" mass production model became increasingly obvious, during the 1980s and 1990s, that economists more generally acknowledged their achievements. This can be at least partly explained by the fact the early research findings on the Italian industrial districts were mainly published in Italian, so that their dissemination outside of Italy was limited. Therefore, for many years Becattini's and Brusco's work did not feature in the wider international scientific and political debate about industrial organization and policy (Landstrom 2002).

The international diffusion of the analysis of the re-emergence of Marshallian industrial districts in Italy began with publication of the 1981 Conference papers of the International Working Party on Labor Market Segmentation (Wilkinson 1981), which included a paper by Brusco and Sabel (1981), entitled "Artisan Production and Economic Growth" and with Brusco's (1982) paper in the *Cambridge Journal of Economics*.¹⁴ Soon after, the classification "Emilian Model" entered into discussions of regional policy-makers and international researchers, where it has figured prominently in the debate about alternative modes of production. In 1990, the International Institute for Labor Studies in Geneva made a major contribution to the understanding and dissemination of the theory and practice of industrial districts, with publication of *Industrial Districts and Inter-firm Co-operation in Italy* (Pyke, Becattini and Sengeberger 1990), which contained influential papers by both Becattini and Brusco.

4.2. Industrial districts, "post-Fordism" and flexible specialization

During the 1980s, as the crisis of Fordism was deepening, the "district" model of industrial development represented an empirical alternative to the vertically-integrated mass production model. Becattini's conceptualization of the industrial district as a "model of production" thus served as a turning-point for applied research on localized production systems. The centrality of industrial districts for local and regional development was influentially argued by, among others, Charles Sabel and Michael Piore (Sabel 1989; Piore and Sabel 1983; 1984) and Allen Scott and Michael Storper (Scott 1988b; Storper and Scott 1989), who located their analysis in the broader macro-economic and social transformations of the 1970s and 1980s.

Piore and Sabel's (1984) *The Second Industrial Divide* provides one of the earliest accounts of this phenomenon, assigning a key role to the Italian industrial districts, which arose from the industrialization of craft and rural areas in Central and North East Italy. This they associate with the transition from the "Fordist" mass production model to a new technological paradigm, based on flexible technologies, skilled workers and new forms of industrial community. In this context, artisanal modes of production and "flexible specialization" in the district model of industrial organization constituted a "second industrial divide" – as a response to the breaking-up of mass markets and increasing demand for variation in many consumer markets by growing

¹⁴Brusco (1982) was translated from the Italian into English by Jonathan Zeitlin.

numbers of better-off households (Piore and Sabel 1984; Sabel and Zeitlin 1997). From this perspective, in the resulting increasingly volatile and uncertain environment, flexibility is required, which itself depends upon specialization based on a new articulation of the inter- and intra-firm division of labor. The argument goes on to suggest spacial implications: “The more volatile markets became, the more firms experimented with flexible forms of organization which permitted rapid shifts in output. As they did, they encouraged the reconsolidation of the region as an integrated unit of production” (Sabel 1989, p. 18).

Building on this conceptual scheme, Scott and Storper argue that the “historical rupture” of the 1980s was a crisis of Fordism as a model of capital accumulation and regulation, leading to a new regime of flexible accumulation, featuring flexible production methods, “ensembles” of flexible production sectors and a “new geography” of flexible accumulation. From this perspective, during the 1970s, “emerging structures of flexible production helped to intensify the crisis of Fordism by exerting strong competitive pressures on mass industries [whilst at the same time] ... the advent of flexible production organization was potentiated by the problems of Fordist industry” (Storper and Scott 1989, p. 26). Intensifying flexibility caused the vertical dis-integration of organizational structures, which in turn led to locational convergence and spacial agglomeration as a consequence of “the tendency for internal economies to give way before a progressive externalization of the structure of production under conditions of rising flexibility [which] ... leads at once to a revival of proclivities to locational convergence and re-agglomeration” (Scott 1988b, p. 175).

Despite the profound influence of this “new orthodoxy” regarding the phenomenon of the industrial district and flexibly specialized local and regional economies on both research and policy communities,¹⁵ Ash Amin and Kevin Robins (1990) challenge it on the grounds that it collapses “very diverse processes and areas into one category, and then [treats] this as a symbol of the new area of accumulation” (Amin and Robins 1990, p. 186). “Such a theory tends to be either so vague and diluted that it can apply to any example of a local production complex or one which ignores continuities with the past” (ibid., p. 204). “A more adequate account ... acknowledges the complex and contradictory nature of the restructuring process – and particularly of its spatial dimensions” (ibid., p. 185). The new orthodoxy has also been criticized for being overly descriptive; for its “simplistic binary opposition” of *rigid* mass production against *flexible* specialization; and for its blend of determinism – in the technological and economic structural logic behind the transformation from Fordism to post-Fordism – and voluntarism – in the behavioural rationale for the growth of flexible specialism and emergence of industrial districts (ibid., p. 191).

4.3. Social, collectivist and institutional coordination

When industrial districts were re-discovered in Western countries during the 1970s, they attracted considerable attention as part of a more general tendency in the economic and sociological literature on industrial organization, away from a strict dichotomy between the “market” and the “firm”, and towards what G. B. Richardson (1972) describes as “the dense network of co-operation and affiliation by which firms are inter-related” (p. 883), emphasising the social, collectivist and institutional bases for the success of localized productive systems. Building on Marshall’s analysis – and that of the Italian literature, developing it further¹⁶ – some of the more recent work on industrial districts has taken a “social embeddedness” perspective that points to the centrality of social cohesion and privileges the social and cultural over the economic determinants of district performance. Such studies suggest that the “embeddedness of firms in a distinctive local social fabric is a key feature of the industrial district model” (Staber 1996, p. 148). Here, emphasis is placed on the influence of community – defined as family and other social relationships, rules of behaviour embedded in those relationships, and more formal institutions such as churches and political parties – in guaranteeing standards of behaviour which engender trust and co-operation and thereby strengthen inter-firm networks.

The basis for the success of these forms of industrial organization is seen to be the ability to build relationships closer to what Alan Fox (1974) identifies as *high-trust*.¹⁷ In this context, trust is related to flexibility in a social sense – being willing to give and take, to help in an emergency and to forgive occasional faults – and in a sense more directly related to economic relationships, including sharing information, honouring informal understandings and being ready to renegotiate a contract. It would seem then that in an imperfect, uncertain world, the role of honouring formal and informal promises in generating, fostering and maintaining trust, is tempered and supported by a degree

¹⁵See, for example, Hirst and Zeitlin (1988; 1989); Kern and Schumann (1987); Sengenberger and Loveman (1988).

¹⁶ This idea is central in all of Becattini’s works on industrial districts; and it is also at the center of Brusco’s work on the Emilia-Romagna model. Although he does not use the term “embeddedness”, Brusco develops the idea of the “rules of the game” in industrial districts (Brusco 1982, p. 174).

¹⁷In the sense that it is used here, *trust* simply means the reliance on and confidence in the truth, worth, reliability of a person or thing (*Collins Concise Dictionary* 1995).

of flexibility in the social environment in which economic relations are embedded and flexibility within economic relations goes beyond formal commitments (Burchell and Wilkinson 1997).

Institutions are also important. Within industry, trade associations are seen as playing a central role in providing technical, financial, marketing, training and other services. They also represent employers in their dealings with local and central government and with organized labor. In this context, they are particularly important when representing small and medium-sized firms, by providing a “voice” they would not otherwise have. In turn, governments establish – by social, company and other legislation – a framework of standards that underpins the equitable and co-operative relationships between firms (Sengenberger, Loveman and Piore 1990). Thus, an important feature of modern industrial districts is what Ash Amin and Nigel Thrift (1994, p. 102) describe as “institutional thickness”.¹⁸ However, the social embeddedness perspective is “silent on the content of social relations [and] on the *mechanisms* by which social structures constrain and facilitate economic action” (Staber 1996, p. 157, emphasis in the original). More recent theoretical and empirical work on production and industrial organization, in particular that on industrial districts in Italy, offers insight into this apparent “gap” in the literature on social embeddedness.

4.4. Industrial districts, “competitive” clusters, life cycles and evolutionary paths

As the 1980s progressed, continuing high levels of unemployment, sluggish productivity growth, de-industrialization – and growing concerns about competitiveness – drew further attention to the emergence of successful clusters of firms and industries in many regions around the world. Attempts to explain the socio-economic, institutional and territorial conditions for regional competitiveness – and the economic, social and institutional processes involved – generated a growing body of research within and across the boundaries of a wide range of academic disciplines, including economic geography, industrial economics, economic sociology, business economics and political economy; and it attracted the interest of politicians as regional economic development rose up the policy agenda. The result was a proliferation of terms aimed at capturing and representing the form and nature of regional productive systems, including “industrial districts”, “new industrial spaces”, “territorial production complexes”, “neo-Marshallian nodes”, “regional innovation milieu”, “network regions”, “learning regions”, “local production systems” and “competitive clusters”.¹⁹ Among these, one of the most influential analytical constructs and policy tools is Michael Porter’s notion of *industrial or business cluster* (Martin and Sunley 2003).

Porter’s cluster concept has been grounded in and promoted on the basis of its promise of “competitiveness” (of firms, industries, locations, and nations). In 1990, he proposed that “the basic unit of analysis for understanding *national* advantage is the *industry*” (Porter 1990, p. 73, emphasis added); and he described the cluster as being composed of “industries connected through vertical (buyer/supplier) and horizontal (common customers, technology, distribution channels, etc.) relationships” (ibid., p. 149). However, by 1998, Porter had added a territorial dimension to his definition: “Clusters are *geographic* concentrations of inter-connected companies, specialized suppliers, service providers, firms in related industries, and associated institutions (for example, universities, standards agencies, and trade associations) in particular fields that compete but also cooperate” (Porter 1998, pp. 197-8, emphasis added). They are “a form of network that occurs within a geographic location, in which the proximity of firms and institutions ensures certain forms of commonality and increases the frequency and impact of interactions” (ibid., p.226). In relation to industrial districts, Porter suggests that among studies focused “on geographic concentration of companies ... which can be seen as special cases of clusters ... [there are] Italian-style industrial districts of small and medium-sized firms dominating a local economy ... in some types of industries” (ibid., p. 206). Thus, from this perspective, the cluster is a localized system of production of which the Italian industrial district is a special case. However, according to Becattini (2004), although clusters and industrial districts appear similar phenomena, “the cluster is the localized manifestation of the global process of capital accumulation” whereas “the industrial district is the result of the efforts of a productive community to carve for itself a place in the global division of labour”.

Although enormously successful as a conceptual and policy tool, Porter’s clusters have been strongly criticized on a number of bases, including their neglect of the role of *people* and their system of values as well as associated institutions (such as universities) and their support for deepening the knowledge base (Sforzi 2015, p. 21). Definitions of Porter’s cluster concept also lack a clear delineation of boundaries, both industrial and geographic (Martin and Sunley 2003, pp. 9-10); and as currently articulated, cluster analysis fails to consider the

¹⁸A term that no doubt Marshall would have appreciated, although he would probably have preferred “organizational thickness”.

¹⁹See, for example: Amin and Thrift (1992); Asheim (2000); Harrison (1992); Harrison, Kelly and Grant (1996); Keeble and Wilkinson (2000); Markusen (1998); Morgan (1997); Porter (1998); Scott (1988a; 1988b; 1998; 2001); May et al. (2001).

dynamics of the inter-regional *system* as a whole, or the interdependencies and evolutionary trajectories of firms inside clusters relative to those outside of them (ibid., p. 18).

Building on Marshall's evolutionary perspective – and his recognition of the vulnerability of the industrial district model to degradation – contemporary scholars have studied the evolution and “life-cycle” of localized productive systems.²⁰ These contributions aim to explain how vibrant local economic systems might emerge and the manner in which their original dynamism may eventually be eroded. In this, an important focus is the changing institutional environment as well as the socio-economic context (local, national and international) which frames evolution.

5. Conclusions

We conclude by returning to Alfred Marshall, who was keenly aware of the evolutionary nature of productive systems and of the environments within which they are embedded. He viewed competition as “an activity, a process with evolutionary dimensions” (Kerstenetzky 2010, p.576), rather than a market structure; and he was concerned with “competitiveness” – of firms as well as local, regional and national productive systems. Marshall saw the evolution of industrial organization and development as encompassing different routes to industrialization and involving alternative forms of industrial organization – including both large factories and small firms in industrial districts – that are variously inter-twined as they evolve and co-exist over time.

Currently, industrial districts are evolving in response to challenges associated with globalization and the dramatic acceleration in the pace and volatility of change in products, technologies and markets. But despite these challenges, Jonathan Zeitlin (2008) sees evidence of the continuing resilience of the district form of industrial organization. He identifies three broad trends: (1) increased differentiation in the size distribution of district firms whether through the emergence of large “leader firms” or through the creation of formal and informal groups of firms; (2) increased sourcing from outside the district, often through direct investment in production facilities in other regions and countries; and (3) increased investment by foreign multinational firms that have acquired key local firms within the district. In Zeitlin's view, “[f]lourishing industrial districts require a complex and variable ensemble of regulatory institutions for the provision of common services and the resolution of internal conflicts, together with strong local interest organizations capable of internalizing the costs and benefits of such collective goods.” (ibid., p. 112) He goes on to argue that, from a strategy and policy perspective, their prospects will depend upon a bottom-up approach, involving:

“social and political leadership in which establishing a dialogue and building consensus among local interests becomes inseparable from analysing the weakness of the regional economy and constructing effective institutional solutions ... A final indispensable requirement ... concerns local government autonomy. Only local authorities are in a position to acquire the detailed knowledge of the local economy and broker the social consensus among local actors needed for the effective provision of collective services and the creation of an ‘industrial public sphere’” (ibid.).

²⁰For studies of the evolutionary path of localized productive systems, see, for example, Scott (1998b) and Enright (1998). For studies of district “life-cycles”, see, for example, Swann (1998).

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