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Co-operation and Industrial Organization

Sue Konzelmann and Frank Wilkinson

Introduction

Since its establishment in 1977, the *Cambridge Journal of Economics* has been a ground-breaker in the publication of historical, theoretical, empirical and policy-oriented papers on alternative forms of industrial organization. Important among these are local and regional productive systems. Although there is now a wide and multi-disciplinary literature focusing on how to analyse and explain such systems – aside from Alfred Marshall's pioneering work on the English industrial districts of the 19th and 20th century – contemporary mainstream economics has largely ignored them (Schmitz 1999, p. 468).¹

However, the re-discovery of the industrial district by Italian scholars during the 1970s revived interest in Marshall's notion of localized productive systems, so much so that they have been described as 'Marshallian' industrial districts. Their success in securing inter-firm co-operation and channelling competitive forces towards such constructive ends as quality upgrading and technological progress brought them to the attention of the international research community. However, the success of this form of industrial organisation presents a challenge to the orthodox economic view that co-operation represents an attempt to distort prices and is therefore inefficient. It also challenges the dichotomy between the 'firm' and the 'market'. This invites a reconsideration of the role of co-operation in production, the relationship between the organization of production and markets, and the nature and functioning of productive systems.

To commemorate the *Cambridge Journal of Economics*' 40th anniversary year, this paper traces these themes in the development of economic thought, with particular reference to the relevant contributions that have appeared in the journal since the publication of its inaugural issue, in March 1977.

Co-operation and the Organization of Production

Hodgskin (2013 [1825]) was among the first to recognise the importance of co-operation and joint labour in production. But he found that 'there is no principle or rule, as far as I know, for dividing the produce of joint labour among the different individuals who concur in production' (p. 40). Mainstream economics gets around this problem by arguing that factors of production are substitutes for each other. It is therefore assumed that, confronted with production techniques composed of different amounts of labour and capital, the choice is determined on the basis of relative price. The problem of distribution is solved by assuming diminishing marginal rates of substitution between factors; but nothing is said about the nature of the relationship between the factors of production once the technique has been chosen and production is underway.

Edward Gibbon Wakefield, an early critic of Adam Smith's analysis of the division of labour, emphasised the co-operative nature of production. In his editorial notes to the *Wealth of Nations*, Wakefield (1835) argued that:

'Co-operation appears to be of two distinct kinds: first, such co-operation as takes place when several persons help each other in the same employment; secondly, such co-operation as takes place when several persons help each other with different employments. These may be termed simple co-operation, and complex co-operation' (p. 26).

Wakefield was drawing attention to the fact that in each stage of production, labour, equipment and material work in combination. None can operate without the others so that the failure of any to adequately perform its productive

¹ The exception is Krugman (1991; 1995), who has attempted to bring economic geography into mainstream economics.

functions lowers the joint product of the whole.² Wakefield was also drawing attention to the importance of the organisational and institutional framework for securing co-operation.

Marx followed Wakefield in explicitly recognising the importance of co-operation in his theories of the labour process and of surplus value (Marx, 1974 [1887], Chapters. XIII to XV). He argued that co-operation in production originates when capitalist employers bring workers together in workshops under their command. In Marx's analysis, the managerial *plan* co-ordinates production within the factory prior to the often chaotic and wasteful co-ordination of supply and demand by the market (Pagano, 1985).

Marshall similarly acknowledged the importance of co-operation in production in the sense that Marx used it;³ but he did not 'consider all the implications of this argument' (Marshall, 1920, p. 72). Marshall placed strong emphasis on the need for more sophisticated forms of co-ordination as the division of labour progressed; and he paid close attention to the role of organisation in the co-ordination of the increasingly specialised and mutually dependent productive activities of labour and machines (ibid., Book IV, Ch.VIII).

Productive Systems

The productive systems approach – first presented in Wilkinson's (1983) article in the *Cambridge Journal of Economics*' memorial issue to Joan Robinson – is rooted in Marxian and Marshallian understandings of the nature of production. It evolved as a framework for analysing the implications of mutual and conflicting interest inherent to production and industrial organization.⁴ The focus of attention is the effective use of resources, and the role of industrial organization in securing these objectives. Its starting point is the recognition that the essence of production is the mutual dependence, rooted in technical complementarities inherent to production. The exploitation of these dependencies requires full co-operation between those involved in production, and this includes a sharing of information necessary for the improvement of production, products and processes. Co-operation also fuels the learning processes by which information and knowledge are created, incorporated and diffused, and which develops new products, processes and organisational forms. The resulting *operational and dynamic* efficiencies are crucial determinants of the ability of productive systems to compete effectively, and to respond flexibly to changing circumstances and new opportunities. These efficiencies are also important because they generate the value added by the productive system, which forms the income and economic security for the productive system's stakeholders.

The concept of productive systems has general application and provides a basis for analysis at any level — production units, firms and industries; industrial districts, regions and countries; trading blocks and the global economy. At each level, there are internal and external networks of mutually dependent relationships. The terms and conditions for these are settled by the interplay of the strength each party derives from their position within the relationship, and the strength each brings to the relationship by dint of their wealth, social, political and legal standing, and other means by which relative power is determined. Essentially, each productive system, its internal relations, those it forms with other productive systems, and the terms and conditions for their formation and continuance, are the unique outcome of its own history.

The evolution of a productive system is a dialectical process in which economic and institutional elements dynamically interact in historical time. Change is generated by developments in products and processes, and by changes in productive and power relationships both within and between productive systems. These interact with the broader economic, social and political framework; and both are modified in the process. Such forces can lead to the destruction or radical modification of productive systems. What is implied is an evolutionary process determined by the way productive systems, and their relations with other productive systems, create their own environment and mutate in response to innovation in techniques and organizational forms as well as shifting power balances.

Markets, Power and Industrial Organization

In liberal economics, the theoretical position on power in the market ranges from the static neo-classical view in which it is neutralised by the market or by organisational authority if markets should fail, to the more dynamic notion that the command by entrepreneurs over resources and their deployment in the market empowers entrepreneurial creativity in the interest of economic progress.

² For a more detailed discussion of this see Wilkinson, 1983 and Tarling and Wilkinson, 1987.

³ See Marshall, 1920, pp. 71 and 72 and especially footnote 2.

⁴ For the development of the productive system analytical framework see: Wilkinson, 1983; Birecree, Konzelmann and Wilkinson, 1997; Wilkinson, 1998; Wilkinson, 2002.

Liberal economics rests on the belief in *economic man*, that extreme individualist in whom property rights invest power over the assets he or she owns, and who is inherently driven by self-interest. On the other hand, the division of labour is regarded as the central driving force of economic progress, so that increasingly specialised individuals are more and more inter-dependent. The question then becomes: how can mutual dependence between inherently self-seeking individuals be managed so that the resources they separately own and control can be put to the most effective use in their common interest? Liberal economics offers two alternative solutions: the invisible hand of the market or the visible hand of managerial authority.

Markets and Organization: Marshallian Industrial Districts

Between the invisible hand of the market and the visible hand of managerial authority in large organizations are local and regional productive systems, populated by 'small- and medium-sized firms in a particular branch of industry, localized in a specific area and participating in a production system characterized by a division of labour between firms' (Hirst 1999, p. 111). Alfred Marshall was the first to study these systems, which he identified as 'industrial districts' (Marshall 1920, p. 271).

In theorizing the industrial district, Marshall identified external economies of scale and scope derived from the concentration of production in particular localities (ibid., p. 271). The benefits of such localization include an increase in the degree and specialization of skills; their diffusion throughout the community creating an abundant supply of appropriately qualified labour; 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 concentration of firms in close geographical proximity allows all to enjoy the benefits of large-scale industrial production and of technical and organisational innovation which are beyond the scope of any individual firm.

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 provided 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 also highlighted the importance of an 'industrial atmosphere'. 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 neighborhood 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. 225).

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 specialised branches of the industry have been welded almost automatically into an organic whole' (ibid., p. 599).

However, Marshall considered individualistic initiative and free enterprise to be the drivers of economic progress. While collective action may foster individual success, in Marshall's view, it risks blunting initiative and inhibiting competition. Thus, trade associations had a role to play in coordinating production, standardizing 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 had a positive although a limited role to play in industrial organization and technical progress (ibid., pp. 666-72).

Marshall's Evolving Thinking on Industrial Organization

At the turn of the 20th century, Marshall was worried about the future of the British economy, which he viewed as 'threatened' by newly emerging countries, including the USA and Germany, that had industrialised later than

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

Britain had; and in his early work on industrial organization, ‘industrial districts were the key element that, according to Marshall, could rescue the British economy’ (Belussi and Caldari, 2009, p. 336).

However, Marshall also recognized that industrial districts could decline just as easily as they could prosper. Yet he expressed confidence in the resilience of this form of industrial organisation and the dynamism it engendered:

‘Thus, although even a little obstinacy or inertia may ruin an old home of industry whose conditions are changing; and although the opening out of new sources of supply or new markets for sale may quickly overbear the strength which old districts have inherited from past conditions; yet history shows that a strong centre of specialized industry often attracts much new shrewd energy to supplement that of native origin, and it thus able to expand and maintain its lead’. (Marshall 1920, p. 287)

During the 1920s, however, Britain suffered de-industrialisation and the decline of the British industrial districts. Whilst Marshall’s students of the ‘Old Cambridge School’⁶ studied this phenomenon, Marshall’s thinking shifted to viewing large size as the next stage in industrial evolution, with the disappearance of small firms being ‘inevitable’ (ibid., pp. 579-80).

Explaining the Decline of the British Industrial Districts

But why did the British districts decline so rapidly? Based on their reading of the work of Marshall and his students, Belussi and Caldari (2009) suggest that the demise of the British industrial districts was a consequence of the cumulative impact of: the gradual acquisition of knowledge, skills and competitive capabilities in other countries; superior innovation and technological development by competitors; and the conservative attitude of British entrepreneurs of small district factories (ibid., pp. 349-50). ‘The local industrial atmosphere degraded, and so did the capabilities of local firms to absorb external technical change. Industrial secrecy and cut-through competition took place. The automatic organization and the district division of labour were suffocated’ (ibid., p. 354),

Thus, somewhat contrary to the conventional wisdom of the time – that the evolutionary trajectory of industrial capitalism was towards large firm dominance – Belussi and Caldari (2009) conclude that the decline of the British industrial districts from the 1920s onwards could be explained not so much by the superior performance and efficiency of administrative coordination in large firms as by ‘exhaustion of the original conditions and the ill-conceived Victorian heredity of believing themselves technologically superior to any international competitor’ (ibid., p. 354). This ultimately prevented local entrepreneurs from recognising and responding effectively to radical changes in international competitive conditions.

Co-operation and the ‘New Competition’: Re-discovery of the District Model

During the 1970s and 1980s, more co-operative forms of industrial organization emerged as competitors to the dominant vertically integrated corporation. 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 Anglo-American productive systems. 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 labour productivity, the more effective utilisation of equipment and materials, better quality control and the mobilisation of the skills and knowledge of workers and suppliers in the improvement, design and innovation of products, processes and the organisation of production (Howes, 1991).

Social, Collectivist and Institutional Coordination

Building on Marshall, ‘Neo-Marshallian’ research on industrial districts emphasises the social and cultural aspects of localised productive systems more than Marshall did. 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

⁶ Becattini (1990) distinguishes two Cambridge Schools of Economics. The first is the one surrounding JM 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, SC Pigou, DH Robertson, Arthur Bowley, Sydney Chapman, DH MacGregor, Charles Sanger, CR Fay and Philip Sargent Florence.

behaviour which engender trust and co-operation and thereby strengthen inter-firm networks. 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 organised labour. In turn, government establishes – 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).

However, according to Staber (1996), 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’ (p. 157). More recent theoretical and empirical work on production and industrial organisation – and, in particular, on industrial districts – offers insight into this apparent ‘gap’ in the literature on industrial districts.

In this, Wilkinson’s productive systems framework, described above, provides a valuable contribution to our understanding of the role and functioning of the social relations of production; similarly, Lawson’s (1999) ‘Competence Theory of the Region’ provides a useful framework for explaining how local productive systems develop capabilities as a consequence of their social relations. Taking the competence theory of the firm as his starting point, Lawson extends this perspective to the analysis of the regional productive system. He argues that within the various literatures on local and regional productive systems that have emerged to investigate the trend towards organizational (vertical) disintegration, there has been a convergence in focus towards what might be considered local and regional competences and capabilities. This convergence is upon sets of relationships that emerge from social interaction and exist at a different level from the practices and products they explain. These constitute the region’s competences or capabilities, which are ‘real factors which emerge from, and are reproduced through, the interaction of agents where some systems of interaction are better, more competent, at facilitating some kinds of outcomes than are others’ (ibid., p. 160).

Empirical studies of the Italian experience, by Dei Ottatti (1994), Brusco (1982) and Solinas (1982) provide insight into how the structure and nature of social relationships within the district model operate and the way this influences the development and performance of the district and its constituent firms.

Dei Ottatti’s (1994) investigation of how the development of the industrial district is financed, offers important insights into the way *trust* operates within the Italian industrial districts. Focusing on the issue of credit and the form it assumes in the process of the rise and development of industrial districts, she demonstrates how the social environment of the ideal-type industrial district resembles a ‘community’ in which relationships involve successive transactions that extend over a long, unspecified period of time. In this context, trust based on reputation serves as ‘personal strategic capital’ which can be used to effect transactions carried out over an open-ended time-frame and requiring adjustment. She then describes how this works, providing a fascinating insight into the financing of productive activities within the district, much of which would otherwise be ‘invisible’ to the outsider. One form of finance involves inter-linking credit, by which a ‘pure entrepreneur,’ who specialises in conceiving business ideas and marketing final products made in the district, extends credit to a ‘subcontractor borrower’, who repays the loan by discounting it from the work ordered by the lender. In this context, the ‘capital of trust’ based on reputation owned by the subcontractor-borrower represents a strategic resource. Another form of financial intermediation involves banks and entrepreneurs who are trusted by bank managers. These tend to be those entrepreneurs who have contracts with external markets, as it is through them that the majority of local products are exported and raw materials imported. However, double financial intermediation also takes place when pure entrepreneurs in the district, who are trusted by the bank manager, are in a position to become financial intermediaries themselves. According to Dei Ottatti, such ‘pure entrepreneurs are in the unusual position of being at one and the same time entrepreneurs without a factory and lenders without money’ (Dei Ottatti 1994, p. 542). They borrow from the bank to lend to subcontractor borrowers. Dei Ottatti concludes that in the formation and development of the district, the ‘capital of trust’ – more than the availability of financial capital – is the decisive factor in the external funding of small firms, which frequently takes ‘less visible forms’, such as inter-linking credit. ‘[I]t is relationships of trust between agents which make transactions such as informal credit possible. It is also thanks to the existence of such relationships that collateral seems to become unnecessary, even for the granting of bank credit’ (ibid., p. 543).

From Marshall onward, the analytical focus has been on the role of industrial organisation in securing co-operation in production, in generating new technology and in fostering high performance. Much less attention has been paid to the *sources of conflict* within productive systems, how this impacts their effectiveness and how they can be resolved. In this, Brusco (1982) makes a significant contribution. In his discussion of the flexibility of the Emilian economy, Brusco focused on industrial relations and the structure of the labour market. In the well-organised primary sector of larger firms, industrial relations were amiable; and although wages were relatively high, work practices were flexible. But trade union organisation and legal restrictions posed major obstacles to the ability of firms to adjust to the vagaries of supply and demand. These rigidities in the primary

sector were eased by spill-over of high and low demand for labour to the largely unorganised secondary sector, where small firms were exempt from legal restrictions on redundancies. The putting-out of work to neighbouring low paying regions added to the flexibility of the Emilian economy. Thus,

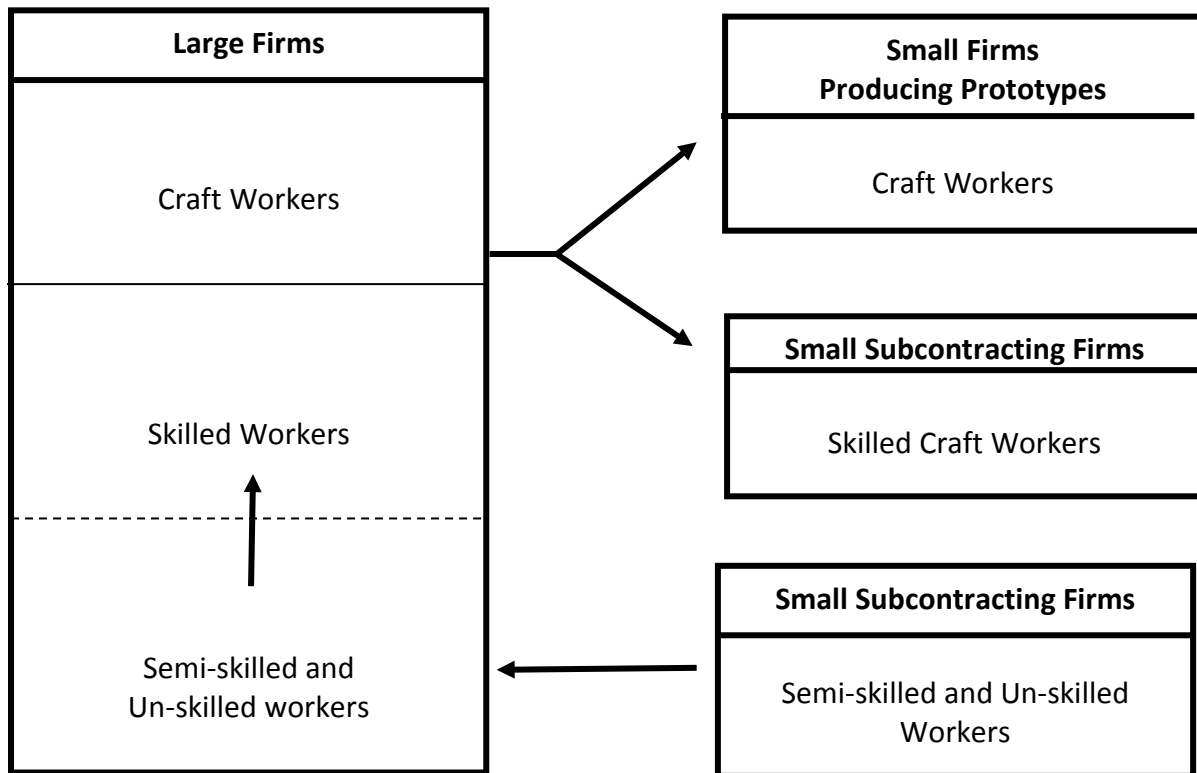
[a major explanation for] the freer role played by market forces in Emilia and the more authentically capitalist character of its development as compared with other Italian regions was ... the system's capacity to regain the flexibility lost to the unions in the large factory by segmenting the productive structure and export its contradictions' (Brusco 1982, p. 183).

In short, within the Emilian productive system, the threats to mutual interests in the primary sector, posed by distributional conflicts, were offset by their displacement to Emilia's secondary sector and to low paying regions outside the district. Another important determinant of social cohesion within the district was local government: 'There is no doubt that the efficiency of local government has raised real wages and improved the quality of life of Emilian workers' (ibid., p. 182) However, Brusco explicitly acknowledged that the success of the Emilian model was ultimately dependent upon competitive success. Any failure of the Emilian economy to maintain its leading position in the product market

'could quickly deteriorate into a competitive scramble for orders. This, in the conditions where trade unions only partially control the labour market, could put downward pressure on wages, and cause a reduction of prosperity and a dismantling of the productive structure upon which that prosperity is based' (ibid., p. 184).

Solinas's (1982) analysis of the structure and operation of the Carpi knitwear industry complements Brusco's analysis by detailing how the structure of the Carpi labour market (as illustrated in Figure 1, below) enables 'a large proportion of the work-force ... [to] assure themselves "good jobs", even within highly competitive small firms where union representation is minimal and government legislation is frequently avoided' (Solinas 1982, p. 350). The structure of the labour market provides career mobility opportunities enabling unskilled and semi-skilled workers to move from small subcontracting firms to large firms, in which they acquire skills and work experience that can be used to start-up their own small firms. Solinas also highlights benefits resulting from features of the industrial district that protect workers from the exploitation of monopolistic power by final goods producers; the high level of competition for appropriately skilled workers within the district; the subordination of firms and workers in regions outside of Carpi's industrial district; and full employment stemming from competitive success in national and international product markets. This reinforces Brusco's analysis, particularly with respect to the central role played by labour market segmentation and competitive success in protecting social cohesion and living standards within the industrial district.

Figure 1: Labour Mobility and the Acquisition of Skills



Schmitz (1999) builds upon Marshall’s analysis to develop a theoretical framework for exploring how clustering – used interchangeably with industrial district – furthers competitiveness and growth, not only in advanced economies but also in developing countries. Whilst agreeing with Marshall’s contention that local external economies are important determinants of the success of industrial districts, Schmitz (1999) argues that they are not sufficient to explain the strength of clustering firms. He suggests that what is missing from the Marshallian explanation are: (1) consciously pursued joint action;⁷ (2) increasing returns to scale; (3) enabling and disabling external economies (pecuniary and technological); (4) enabling and disabling joint actions on the part of private self-help organizations and public policy; and (5) the breaking-down of investments (in finance and human resources) into ‘riskable steps’ to create possibilities for the accumulation of capital and skills. He concludes that whilst recent research on industrial clusters in advanced and developing countries attests to the importance of external economies (which are incidental) and consciously pursued joint action as factors explaining growth and competitiveness, they can usefully be brought together in the concept of ‘collective efficiency’.

Collective Learning

During the 1990s, contributions drawing upon earlier literature on the Italian industrial districts broadened out to create what Martin and Sunley (2003) have described as a sometimes ‘chaotic’ debate on the role of clusters, learning regions and innovative milieu in generating economic growth (Cooke and Morgan 1993; Camagni 1991). In this, the literature on Italian industrial districts conceptualises innovation as a social process in which the systematic exchange and enhancement of knowledge among district firms plays a central role (Bellandi 2007).

In this context, Patrucco’s (2005) examination of the Emilian plastics district makes an important contribution. Examining the way in which interdependencies among industrial, institutional, technological and regional factors, both at the same point in time and across time, account for the generation and diffusion of localized technological knowledge and the emergence of technological systems, Patrucco demonstrates the complexity of

⁷ This can be (a) *bilateral* (individual firms co-operating with each other (e.g. sharing equipment or developing a new product)) and/or (b) *multilateral* (groups of firms joining forces (e.g. in business associations or producer consortia)). Within bilateral and/or multilateral joint action, co-operation can be (a) *horizontal* (between competitors) and/or (b) *vertical* (between producers, sellers and consumers of outputs).

the evolution of technology systems in which collective learning processes play a key role. He finds that the systemic production and distribution of localized technological knowledge is the result of the co-evolution of interactive behaviour and collective learning at the industrial, institutional and technological levels. In this context, collective learning is based on the entry dynamic of small firms based on start-ups and spin-offs; user-producer relations; institutional communications of R&D-based knowledge; and inter-industrial provision of artifacts, technologies and services. The crucial institutional arrangement for the governance of knowledge production and distribution is the co-evolution of specific sets of economic *and* social interactions.

Analysing the structure and development of the Italian industrial districts, Belussi (1999) focuses on the supportive role played by industrial policies within the ‘spontaneous’ workings of the market, with the aim of proposing a conceptual framework for policy formulation that emphasises collective learning. Taking an evolutionary institutional approach in which competition is a process of discovery and ‘the driving force of the system ... [that] must be enacted by markets and by dynamic entrepreneurs’ (Belussi 1999, p. 739), she argues that there are no institutions or policies that can be expected to have general application. The positive influence of institutions and policies depends upon the presence of strategic actors, capable of recognising and responding effectively to market signals. Belussi’s ‘central claim ... is that institutions can set the rules, channel and mobilize knowledge and increase the transferability of knowledge from one individual to another. But they cannot re-create or develop markets if they lack productive capacity’ (ibid., p. 739) Local institutions are endogenous and serve as ‘external actors in the market’ (ibid., p. 739). She proceeds to argue that both markets and institutions play a crucial role in the development and implementation of policies aimed at the accumulation and mobilisation of knowledge and support for processes of collective learning.

Evolutionary Paths and District Life Cycles

Building on Marshall’s evolutionary perspective – and his recognition of the vulnerability of the industrial district model to decline – contemporary scholars have studied the evolution and ‘life-cycle’ of localised productive systems.⁸ 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, as evident in contributions by Dei Ottatti (2003 and 2014), Rammazotti (2010), Cusamo et al 2015) and Cowling and Tomlinson (2011), an important focus is the changing institutional environment as well as the economic context (local, national and international) in which the evolution of the district takes place.

To make sense of the evolution of the Prato industrial district since the end of the Second World War, Dei Ottatti (2003) applies Albert Hirschman’s ‘Exit-Voice’ model for analysing responses to challenges confronting district firms, institutions and local government. Cognisant of the central importance of social cohesion and economic performance for district vitality, her objective is to identify the various and changing mechanisms that ‘facilitate [their] preservation and renewal over time’ (Dei Ottatti 2003, p. 502). She finds that formation of the Prato district was the joint outcome of both massive ‘exit’ from employment in larger Prato mills (that had become unprofitable due to the loss of export markets following the war) to self-employment’ and the activation of individual ‘voice’ in substitution for collective voice. In this context, political action and local government played a central role in creating the social and institutional environment for the expression of ‘voice’ in its various and changing forms. During the 1950s and 1960s, with growth in demand for textiles from industrialised countries, the district prospered. However, as a consequence of shifts in consumer demand, the introduction of automated technologies and the emergence of low cost/price international competition, the Prato district faced a deep crisis during the mid-1980s that triggered a process of general industrial restructuring. The response was deliberate concerted action – involving unions, local artisans’ associations and industrialists’ associations – aimed at governing the massive resulting exit of workers. This reinforced social cohesion and district revival and facilitated the rapid implementation of the required changes in both processes and products. In assessing the long-term evolution of the Prato district, Dei Ottatti concludes that ‘the role of deliberate intervention [i.e., ‘voice’] is of considerable importance because it helps give a direction to the evolutionary process, as it enables the latter to achieve a genuine development of the potential contained in the system’ (ibid., p. 518). The district’s competitive advantage thus depends upon the joint operation of market mechanisms (i.e., extensive availability of ‘exit’) and deliberate or semi-deliberate human action (i.e., the spread of individual and collective ‘voice’ by virtue of a complex system of formal and informal institutions that facilitate communication among individuals and groups). She also finds that political action is centrally important in the creation and reinforcement of a sense of identity and commitment to local development, stimulation of institutional innovation and facilitation of the expression of new forms of ‘voice’ as the district evolves.

⁸ For studies of the evolutionary path of localized productive systems, see, for example, Scott 1998 and Enright 1998. For studies of district ‘life-cycles’, see, for example, Swann 1998.

Ramazzotti (2010) demonstrates how quite the opposite dynamic is possible. He reminds us of Beccattini's insight that the economic and social vitality of industrial districts depends upon the interaction between two major subsystems: a community of people and a population of firms (Beccattini 1990, p. 38). In this context, social cohesion is of central importance as both 'a condition for and a consequence of the vitality of the district' (Ramazzotti, 2010, p. 959). But social cohesion is dependent upon both trust and confidence about the future of the industrial district and its constituent people and firms. It is therefore vulnerable to the consequences – for people and firms – associated with responses to both internal and external challenges. To demonstrate this dynamic, Ramazzotti describes how, from the mid-1980s, confronted with the challenges associated with increased competition from less industrialized countries, technological change (especially information and communication technologies) and restrictive macroeconomic policies (and a resulting lower level of effective demand), many Italian industrial districts pursued 'low road' approaches to restructuring. This disrupted social cohesion, which, in turn, put strain on the ability of districts to deliver the economic and social benefits required to restore trust and confidence in the future. It also undermined vitality both by causing internal rivalry (within firms and within the value chain) and by weakening the unifying forces derived from external rivalry (between the industrial district and other areas). However, because '[a]n industrial district is a sub-system of a market system, which itself is a sub-system of a political system' (ibid., p. 970), reversing this degenerative cycle will require appropriate public action, such as the implementation and enforcement of laws protecting health and safety and prohibiting irregular and precarious employment within the district.

Under pressure from globalisation, the institutional frameworks that underpin industrial districts and other cooperative forms of industrial organization are being severely tested. Dei Ottatti (2014) provides an interesting analysis of the case of the Chinese in the Prato textile district, and the possible consequences for the future of Prato in the new global economy. Whilst the Chinese district in Prato appears to have much in common with the Italian industrial districts, it also has some significant differences. Important in this respect is the density of social and economic relations with family members and friends who have remained in mainland China or emigrated to other countries; and due to modern technology and globalization, the local productive system has a transnational dimension. When Chinese immigrants first arrived during the early 1990s, Prato provided a favourable context. There was a shortage of local homeworkers and subcontractors for the sewing of knitwear items; and the Chinese had basic homeworking skills (such as how to use a sewing machine), a modest amount of money (to purchase a few second hand sewing machines) and labour from family members or friends. However, a little more than a decade later, the Prato textile industry suffered an unprecedented crisis as a surge in cheap Chinese imports (following China's accession into the WTO in 2001) coincided with the phasing-out of the transitional quota system of the Agreement on Textiles and Clothing in 2004. As the crisis deepened, the Chinese were increasingly viewed with resentment – and as persons who, in their quest for economic success, did not hesitate to violate host country norms, such as hiring co-ethnic, illegal immigrants and operating an illegal underground shadow economy. Dei Ottatti concludes that although the future is by no means clear, if it is to be a prosperous one for the people of Prato, including its Chinese immigrants, it cannot be left to the operation of market forces. Instead, it requires deliberate action on the part of the populations involved to create or evolve institutions capable of broadening Prato's socio-economic system, integrating differences within itself and extending its relationships beyond mere geographic proximity.

Cusamo et al (2015) make a valuable contribution to the literature on the evolution of industrial districts as it relates to the process of spin-offs and cluster life cycles. To shed light on spin-off dynamics and their contribution to the process of agglomeration and firm performance, Cusamo et al (2015) examine the evolution – the emergence and success – of the Sassuolo tile district. This is in the light of the new literature on the 'cluster life cycle' (Boschma & Fornhal 2011), based on studies of the spin-off dynamics in the USA, that contends that instead of regional culture, local institutions and external economies, the process of agglomeration is largely driven by spin-offs. This literature goes further to argue that the success of localised productive systems can be explained by the success of the spin-offs created within them.⁹ Assessing the degree to which the Marshallian explanation of the emergence and performance of industrial districts stands-up to these newer theoretical arguments, Cusamo et al (2015) conclude that:

'in the case of Sassuolo, it appears that being a spin-off, directly inheriting competencies, routines and relations from experienced parents, does not provide a privileged condition for taking advantage of district externalities. The district economic and social milieu provides relevant knowledge about market opportunities and access to resources that can benefit a broader group of would-be entrepreneurs. Hence, in line with established district literature, our analysis suggests that although leading firms can impact on the local system dynamics through spin-offs, the entrepreneurial process is largely influenced by context specific factors

⁹ See, for example, Klepper 2007, 2009 and 2010; Klepper and Sleeper 2005; Boschma and Wenting 2004; and Buenstorf and Klepper 2010.

or Marshallian externalities, such as knowledge spillovers and the supply of ‘collective goods’ at the territorial level’ (p. 63).

These findings therefore lend support to Marshall’s original conceptualization of the dynamics of the industrial district, the importance of local institutions and the centrality of repeated interactions between small firms within the district benefitting from external economies.

In considering the issue of industrial strategy and policy, Cowling and Tomlinson (2011), argue for a regional and local focus; and they echo Ramazzotti’s (2010) conclusion that in this context, a ‘high road’ approach has the potential to generate virtuous cumulative effects. By focusing their analysis on economic governance (rather than institutions), they note that in the now wide literature on regional innovation systems, the governance issue – and the role of trans-national corporations (TNCs) – are largely ignored. However, because asymmetric economic power between TNCs and small firm networks put the latter at a considerable disadvantage, Cowling and Tomlinson conclude that ‘[t]he long-run efficacy of industrial strategy depends upon appropriate economic governance structures that facilitate wider stakeholder engagement and better serve the public interest’ (Cowling and Tomlinson 2011, p. 847) In their view, ‘[w]ider public interests are likely to be better served through an inclusive approach where governance structures are relatively diffuse and allow opportunities for all stakeholders to participate in the development process ... based on non-hierarchical modes of production’ (ibid., p. 847).

At present, industrial districts are evolving in response to challenges associated with globalisation and the dramatic acceleration in the pace and volatility of change in products, technologies and markets. But despite these challenges, Zeitlin (2008) sees evidence of the continuing resilience of the district form of industrial organization. Echoing conclusions of many of the contributions in the *CJE*, described above, 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 strategic and policy perspective, their future 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., p. 112).

Conclusions

During the late 19th century, based on his study of the British industrial districts of the time, Marshall developed powerful insights into the forces that lay behind the emergence, development and vitality of local and regional productive systems, in which the balance between co-operation – within and between district firms – and competition is an important determinant of the success of both the district and its constituent small firms. Marshall was interested in understanding the sources of vitality of such systems, in the face of market and technological forces that in other contexts tended to encourage the growth and vertical integration of large-scale producers. His key insight was that external economies of scale and scope – in marketing, labour, the supply of inputs, etc. – could be realised by groups of small firms ‘welded almost automatically into an organic whole’ (Marshall 1920, p. 599). Marshall also highlighted the importance of an ‘industrial atmosphere’ and social aspects of district development. But his principle concern was with the economic ones. Thus, he left only glimpses that more recent, Neo-Marshallian scholars have built-upon and developed further.

The re-discovery of the industrial district by Italian scholars, including Sebastiano Brusco and Giacomo Beccattini, some 50 years later coincides with the establishment of the *Cambridge Journal of Economics*. During the forty years since, the journal has published important historical, theoretical, empirical and policy-oriented contributions to our understanding of industrial organization in general, and the district form in particular. These are included in this Virtual Special Issue, commemorating the journal’s 40th anniversary year.

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