

Marshallian Industrial Districts Revisited. Part III

Jesús M. Zaratiegui¹

Abstract

Marshall pointed out that a specific form of industrial organisation (industrial districts) increased the wealth of some regions in England and Germany, and connected it with the accumulation of capital and investment, social capital, externalities and increasing returns. In his view, industrial location was closely linked to demography, local governments, freedom and social institutions. He recognised that districts were a main territorial framework for knowledge-based economic growth.

The notion has attracted a widespread and so far unanticipated interest in both economic policy and academic research. Becattini and Bellandi rescued the Marshallian notion of external economies to the firm and internal to the district and applied it to the Italian districts and examined the extent to which the district as a contemporary theoretical construct is ultimately explicable by conventional neo-classical (Marshallian) economic categories of ‘externality’ and ‘agglomeration’. As a by-product of this valuable enterprise, some confusion arose regarding the usefulness of the original framework applied to more recent developments. With extensive reference to his own words, the author demonstrates that his writings on the subject of industrial districts provide an interesting exploration of issues still very relevant today.

This paper intends to contribute to a renewal and revision of the seminal concept of Marshallian industrial district to distinguish it from further developments of this idea inside the field of industrial organisation. It provides a comprehensive view of the topic of industrial districts from this standpoint; and shows how Marshall’s analysis connects it to other themes and issues in his economics.

Key words: Industrial Districts, Alfred Marshall, Industrial Organisation.

6. Organisation of firms

The co-ordination of economic activities is necessary to enjoy the benefits resulting from division of labour. This division may be limited not only by the extent of the market (A. Smith), but also by the transaction’s costs which are necessary to support it (Loasby, 1991). Marshall analyses the factors of localisation of productive activities having in mind the size of the market and the industrial specialisation that, if it has been there all along, shapes the region. We should enquire of any system of co-ordination (as districts), whether it is well fitted to encourage, rather than frustrate, the benefits that the division of labour offers. That will take us to the organisation of firms inside the district.

The hypothesis that a district is more fair and efficient than alternative organisational forms has been used to explain the business networks that developed out of Britain in the 19th century. The rationale of an industrial district hinges on why a set of separate firms linked together is superior to a single integrated firm, and this can be only understood by going right down to the plant level (Casson, 1997). Marshall claims that districts “should be clearing-houses of information of common interest, and should be competent to voice the opinions and the needs of their respective trades” (IT: 612). A well-chosen analogy because it is an organisation that collects, sorts and distributes information.

The market system is (in part) a device for conducting and evaluating experiments in economic behaviour and organisation. For Marshall, “capital consists in a great part of knowledge and organisation” (PE: 138, 377), and the aim of organisation is to aid knowledge. His law of increasing return had a connecting principle – that development entails increasing specialisation by more detailed interaction (Loasby, 1990). Note two consequences of identifying improved organisation

¹ Ph.D. in Economics, Associate Professor at the Department of Economics, University of Navarra, Pamplona, Spain.

as the direct cause of increasing returns. First of all, since increasing return is typically displayed in both internal and external economies, we should expect a firm's relations with other business to be subject of conscious organisation. Secondly, though new inventions are excluded ("we exclude any economies that may result from substantive new inventions, but we include those which may be expected to arise naturally out of adaptations of existing ideas"), adaptations of existing ideas are not ("modes of organisation already developed in other trades, could be easily adapted to them" (PE: 460).

We will proceed following three successive steps from the plant level (one single firm), to various businesses in the same area, and, finally, different trades related to one another.

a) First Form of Organisation: A single Business (PE: 377)

This level of the business' internal organisation is what Piore calls the 'organisational shell'. It has effects upon the elements within, and the organisation of, the micro production unit: for instance, the skills and activities of workers, the task of management, and the types of machines. For Marshall the big economic problem is not making better use of what one already has but exchanging it for something better; not optimising what is given already, but redefining it (Zaratiegui, 1997). For this reason, the industrial district appears as an organisation that improves information. Accordingly, the first requirement of the entrepreneur is "a thorough knowledge of things in his own trade" (PE: 297), that provides the basis from which he can innovate. As the person responsible for the entrepreneurial structure, the entrepreneur must create adequate channels to prevent information from going to ruin.

Marshall re-values the Smithian idea of an informal communication among workers to push the technological innovation. He refers to the *Whitley Report* (1916) in support of his ideas for it includes among their aims "the better utilisation of the knowledge and experience of the workers: technical training and industrial research, the development of inventions made by the workers with the co-operation of the employers" (IT: 644). Smith's three categories of improvements still provide a convenient base from which to start an analysis of the ways in which the growth of knowledge is organised (Loasby, 1999). The category of improvements which are originated by specialised workmen ("a single form of such knowledge is embodied in improved constructions of material objects: furniture, clothing" (IT: 206) needs to be extended to include also managers, especially in SMEs.

For people in a district, their daily detailed experience requires to construe events and variations in the pattern of these events. In fact, "if the change comes gradually, there is no particular time at which strong incitement is offered to open up the industry elsewhere" (IT: 287), no incentives to loss the advantages of an industrial atmosphere. The individual firm is the first of Marshall's four categories of organisation which aid knowledge: "that of a single business, that of various businesses in the same trade, that of various trades relative to one another, and that of the State providing security for all and help for many" (PE: 139).

The firm can be seen as a devise for organising the knowledge of workers, and for using that organised knowledge as a basis for new initiatives (PE: 297-8), collecting "reports of appropriate scientific work throughout the world; and to set out the results in forms adapted for use by the industry" (IT: 608n). Marshall amply develops (IT: 350-94; PE: 278-90, 303) the argument that the attainable level of knowledge is nothing statistical. Competitive pressure causes internal information to grow over time. The firm is a source of "recorded and standardised knowledge" about systems of production and organisation: "each new knowledge being the offspring of others that went before, and the parent of many that follow" (IT: 206).

Recollection of specific knowledge and adoption of new technology are encouraged. In a cumulative process new machinery is adopted: "the cumulative power of carefully made machines to create others" (IT: 206). Different technological standards may cause problems in the future co-operation. The use of different machinery, production techniques, and raw materials used may also cause problems. Division of labour inside the firm allows to make greater use of specialised resources, primarily machinery and skills (PE: 278), and can encompass a broader range of knowledge, including "information on trade and matter in distant places" (PE: 282). The new knowledge is partly a consequence of improvements in organisation made possible by larger scale. Such proc-

ess is related to the size of the firm: “the advance of knowledge and wealth has brought a great and ever-changing variety of goods into ordinary consumption ... have brought also new methods of overcoming them” (IT: 251).

But he is convinced that “the small manufacturer has a number of advantages. These include not only a detailed knowledge of processes and resource use within the firm, but also the ability to recognise and utilise managerial talent amongst employees” (PE: 284). The district’s characteristic SME was gaining access to new knowledge: “he [the entrepreneur] always remains at a great disadvantage in getting information and in making experiments, yet in this matter the general course of progress is on his side” (IT: 284); but “he needs not to be far from it [the race of progress], if he has the time and the ability for availing himself of the modern facilities for obtaining knowledge” (PE: 285).

The firm is conceived as an institution for combining relevant knowledge in a way that encourages the generation of new knowledge. The entrepreneur’s task includes a continuous search for information. Since resources, reasons our economist, are not assigned without information costs, knowledge plays a central role in relation to the internal situation of the enterprise and the market. The entrepreneur main asset consists of his ability and capacity to create profits. Within the enterprise, this capital crystallises in the internal organisation that he is capable of creating (Zaratiegui, 1997). A great part of organisational capacity is a reflection of the information that has been obtained, and, at the same time, is the crucible for the development of future knowledge.

Casson (1990) shows that ‘transaction costs in internal markets make it easier for the entrepreneur to exploit the information himself rather than to license it’. Marshall understands the enterprise as an instrument to gather and exploit information for a “development of intentions made by the workers, with the co-operation of the employers” (IT: 644). ‘Good internal communications within the firm allow it to function as an open-learning system, whereby the public good properties of information are exploited to allow all employees to draw their own inferences from information collected by the firm ... Free access to this information allows everyone to take entrepreneurial decisions effectively, wherever they have the authority and the confidence to do so’.

b) Second Form of Organisation: Various Businesses in the Same Trade

The “second form of organisation” emerges when district’s firms begin to co-operate: “so great are the advantages which people following the same skilled trade get from near neighbourhood to one another” (PE: 271). They create in this manner “business networks” whose stability resides in large part in their own economic stability. This “external organisation” blurs the line between the internal agreements inside the firm and its market’s relationship: there are not two models *à la* Coase mutually excluding (markets and formal hierarchies). For Marshall, the network approach offers the whole bandwidth of co-operative arrangements between companies: the open personal relationships that emerge out of a division of labour among SMEs specialised in a segment of the productive process.

The degree of co-operation between companies is rising gradually from the one extreme, where co-ordination is left exclusively to the market, to the other, where one company’s activity becomes completely integrated into the other’s. Between these extremes each company can choose the most favourable option of co-operative strategy depending on its environment and strategic goals (Schumann, 2001). Firms relate to one another by interweaving one another’s formal organisational boundaries, rather than solely through the price-mediated exchange of commodities.

Jarillo (1993) points out the strengths of a district: 1) long-term planning security; 2) confidence in investments due to stability; 3) fixed-cost of R&D, Finance and Marketing; 4) direct contact with customers and R&D; 5) high innovative potential through knowledge exchange and cross-company learning; 6) entrepreneurial spirit, but corporate identity. Co-operation in its different varieties can be classified as a third possibility of economic organisation. Network approach seems to be a possible way to integrate two often-contradictory necessities of firms: flexibility and efficiency.

The district scheme could be considered a third way to organise business. Jarillo argues that the network approach avoids most of the weakness of sub-contracting and vertical integration, and agrees with many authors that speak of the strategic fit between a company and its environ-

ment. Hence, there is no superior organisational structure, but only one most effective way to adapt to the demands of the environment. The choice between firm, market and districts may be analysed by using the principle that the most efficient arrangement (the fittest) will survive: “the fit firms are those that ‘profit by the environment’, but also that ‘benefit the environment’” (PE: 265). For economic actors this means that they must continuously monitor the changes in the environment (Lambooy, 2000). Failure to do so could lead to the loss of a district’s economic strength and, ultimately, to its disappearance.

The comparative efficacy of alternative modes of co-ordination must be expected to decline with respect to pure market co-ordination, in favour of deliberate organisation (industrial districts), the more intangible and tacit (and therefore the less appropriable) the particular units of exchange become (Peneder, 2001). Since there is no satisfactory means of purchasing these on factor markets, deliberate organisation matters.

The competition precisely shows which forms of networking are really efficient. Marshall considers this approach as the surging organisational alternative that brings together the advantages of the market and the hierarchy solution. Co-ordination of dispersed and local knowledge may be secured within a market (invisible) or within a firm (visible college). External economies brought about by the shared use of new knowledge would reduce the role of hierarchy in big enterprises, and the role of perfect competence via the price mechanism in the market. For him, the relevant point is no longer the characteristics of one single SME, but the characteristics of the industrial structure of which the SME is a part. His big challenge was to describe this continuum from market (a mechanism involving independent owners) to firms (based on integrated ownership), but he failed to offer any theoretical explanation of the relative domains of firms and markets.

Co-ordination either through markets or firms demands good management: “he makes use of methods and reasoning, which had been brought up to high standards by the collective efforts of innumerable workers at various times and lands: and in return almost every stage of his original methods, in so far as published, contributes to the world’s wealth of knowledge” (IT: 205). A challenge to the industrial district is the capacity to restructure without managerial hierarchy. For if SMEs come to fill Penrosian *interstices* created by large firms they must be able to reorganise collectively to seize new opportunities (Best, 1990). A fully developed district would behave like a collective entrepreneur: it would possess the capacity to redesign organisation and process as well as product.

Along these lines, Casson (1997) has brought to completion a model of industrial districts in Northern Italy, based upon Marshallian premises, combining pre-modern and modern sectors. He shows that the local networking of the Marshallian industrial district is well adapted to the fashion-oriented sector of the textile industry. Not by chance Marshall poses as example “trades connected with furniture and dress” (IT: 206, 396) when he explains that discrimination in prices is an adequate way of understanding those districts. Because “furniture is representative of goods that the retailer must select with reference to the general requirements and tastes” (IT: 807). This does not imply that the mere existence of a district that is heavily industrialised does qualify the place as an “industrial district” in the Marshallian sense.

In the beginning of the 20th century, different industrial sectors in England were immersed in this trend. Without doubt the small capital needed, the decentralised organisational structure of the industry, the continuation of manual work procedures which were difficult to mechanise, the possibility of using sweating methods, etc., led to an inflow of new businesses, stark competition between producers and shrinking profit margins for masters and manufacturers (Magnusson, 1994). In machine-tool industry, many firms were on the lookout for new customers and settled close to them: so, textile machinery concentrated in Lancashire and Yorkshire; ship-building in the Clyde, Northeast coast and the Thames; and farm machinery in Lincolnshire and East Anglia. Each firm produced a wide range of products in small lots (Valdaliso, 2000). The logic of production was to profit of ‘economies of range’, constantly increasing the variety of commodities. The usual strategy was to hold specialisation and expand the market: many firms turned to the international market.

Such productive technique –known as ‘flexible specialisation’– was based in the production of small lots by order and the exploitation of economies of range through the use of very ver-

satile machinery by a skilled labour force. Normally, the wholesale suppliers arrived to take orders for goods. Each firm required a network of contacts through which it can test out its own ideas and learn of others: “the advantages to be derived from personal contact between customer, trader and producer ... who procure ... the making of high-class goods to the order” (IT: 285). Big firms were more efficient but a different “form of organisation is needed for almost all branches of trade which cater for individual idiosyncrasies ... some high faculty is needed” (IT: 282). The industrial logic was no longer volume but variety: “they also make goods of all kinds” (IT: 284).

Custom-made products ask for the development of very specific technical solutions: “it remains true generally that the several strata of trade make more thorough studies of the requirements of consumers and of the varieties and qualities of producers’ goods than could be effected by any means other than extensive subdivision of labour and specialisation of knowledge and skill” (IT: 279). Marshall mentions the case of an American producer: “each factory makes, as a rule, only a single class of boot or shoe –it may be a high-class boot for girls, or a stout boot for working women– ... it makes each quality and pattern in ‘sizes’ and half sizes, and in six or a dozen different widths ... the needs and taste of each individual consumer are met as they could be by a skilled artisan” (IT: 233).

Example of districts’ product type is dedicated products. The critical conditions for dedicated products is the existence of a community of specialists working on the redesign of the product within tight time limits, using their tacit and customary knowledge of the product (Boekema, 2000). Such an interpersonal community of knowledge developers was often based on traditionally acquired skills. Constant communication is necessary to carry out the specific technological development, with communication between producers and users being the most essential. This type of products includes medium-high quality products addressed to very specific and segmented markets: “an exceptionally large part of British manufactures is designed to be sold to peoples of widely differing habits and requirements; to many things designed for personal use” (IT: 594).

Co-operation leads to the creation of what Loasby (1991) calls ‘invisible colleges’, in which there is a free communication of ideas which encourages investigation. Members of industrial districts share information with each other, picking up and using what is to superfluous to the others. Competition and collaboration with similar businesses in the generation of new knowledge as in the *Bedstead Makers’ Federation* which “induce its members to assist one another’s works by communications for the purposes of comparing, criticising and improving” (IT: 606n). The total information circulating within the district at any time is a reflection of its collective expertise. It rests on new sources of information; or their existing sources dry up. The external environment can change as well, sometimes making obsolete much of what a particular group may know. To improve the quality of information means to improve their competitive position.

It was crucial that they knew each other and could directly discuss problems and explore new possibilities. This requires the nurturing of personal relations and using a common language (Best, 1990). For that reason, the *Pottery Manufacturer’s Association* (1918) tried “to bring about closer co-operation with the technical arts, and designs sections of the pottery schools; to promote general propoganda, and to undertake advertising in connection with the industry; encouraging and utilising improvements, inventions, and patents for the advancement of the industry” (IT: 604). Expert teams were appointed to assist the firms who were in trouble. This interaction between firms favours the creation of new techniques, since “if one man starts a new idea, it is taken up by others and combined with suggestions of their own; and thus it becomes the source of further new ideas” (IT: 271).

The co-ordination of knowledge in a healthy industrial sector depends upon combining competition with co-operation (PE: 5), twin manifestations of enterprise “How do they reconcile in “localised districts”? The process of improving information, by means of this process, will probably be organised more efficiently with “each new knowledge being the offspring of others that went before, and the parent of many that follow” (IT: 206). What implies that everyone is “generator of ‘different’ improvements: the tendency to variation is a chief cause of progress” (PE: 355), and this is what is expected of efficient institutions. Mutual interchange creates ‘improvements’. Where firms are clustered together “inventions and improvements in machinery, in process and the

general organisation of the business have their merits promptly discussed: if one starts a new idea ...” (PE: 271).

Marshall misses nothing, but does not perceive the danger that a constant interaction inside the district could become rather rigid the model; outsiders have incentives to act as free riders, avoiding this rigidity, and profiting from the district’s information leaks. Also individual firms face the free rider alternative: if the gains from belonging to the district are less than the gains from quitting, they will leave. The ‘invisible college’ must remain in an elastic equilibrium, open to novelties, with a certain degree of unpredictability among its members.

This second form of organisation encourages invention and innovation: “in the *Cable Makers’ Association* any member who makes a distinct advance in technique, is allowed to have the sole benefit of it for a time; or, as an alternative, other members (but no businesses outside the *Association*) are permitted to use it on terms advantageous to the inventor” (IT: 607). Everyone would take notice that the concentration of business capacities is an advantage for everyone: “each profits from the ideas of his neighbours: each is stimulated by contact with those who are doing new experiments; and each successful innovation begins to spread” (IT: 53). A mechanism of conjecture, verification and criticism appears.

There were various factors that showed the valuable character of information as externality, mainly, the improvement in communications amongst the isle (Zaratiegui, 1997). Marshall’s insistence in the necessity for improvement in the character of English entrepreneurs notes the necessity to co-operate so that external competition –from American and German businesses– would not overtake a great part of the English market, as in fact happened. Marshall directs his counsels mainly to small businessmen, whom he considers the sinew of English business. Later on, Williamson (1975) analyses the advantages of a good internal organisation, especially when a process of integration vertical is in place, but he neglects the fact that the organisation of an industry is guided by the need of creating and using knowledge: and that means the development of specialised resources’ *pools* inside an administrative framework.

c) Third Form of Organisation: Various Trades Relative to One Another

Marshall posits his third form of organisation in a modern way, because he integrates in the framework of this knowledge a great part of the social fabric surrounding the business (Zaratiegui, 1997). The entrepreneur is interested in finding out what is going on, what his customer think, what his competitors are doing, and what new opportunities seem to be emerging: “the knowledge that a trader obtains of the character and solvency of his customers, and the opinion, which they form of the soundness of his advice as to the qualities of different sorts of his goods, extend from one part of the business to another” (IT: 271). It is a natural complement to his interest in developing new products and new processes (Loasby, 1991), the “external trade connections” (PE: 377), a network of information and transmission of ideas unites the district to his suppliers and clients: “he learns quietly and almost unconsciously about men and manners in his father’s trade and in those from which that trade buys and to which it sells” (PE: 299).

The entrepreneur knows that “a large part of the value of any business will consist of its particular trade connections and external organisation” (PE II: 335, 527). “They have also the vantage ground of established trade connections” (PE: 299). Marshall claimed that intangible assets, such as goodwill, acquired through marketing activity, may be of greater value than all the plant and equipment used in a business (Casson, 2000). “The marketing reputation and connections of a business may be a larger property (or ‘capital’) in proportion to its earnings, than is the fixed plant of a manufacturer ... and is a powerful factor of success in all the undertakings of a business” (IT: 270). A rather complex capital to be measured and that does not appear in the books. In turn, “the firm needs the investment of a large capital in building up the external organisation of his business” (PE: 458). High costs cause that the “demand curve will be very steep” (PE: 458n); so, the entrepreneur needs to measure the costs of “building up the trade connections”, and there he cannot go further than a “very rough guess” (PE: 397), it is pure instinct. Entering a district allows for sharing and lowering costs.

In this manner, business’s external organisation is improved and innovation incepted: “they can discuss with the manufacturer himself any suggestions which may occur to them for

modifications in detail, to suit their individual judgements, or to meet the special tastes or requirements of localities with which they are connected" (IT: 286). According to Marshall, marketing is a highly entrepreneurial activity; a web of commercial, social and technical agreements, which unites the entrepreneur even with his rivals, whose innovations give him both incentive and information. Learning from the problems posed by clients and suppliers has some present transaction costs that reduce those in the future and show the way which innovation must follow. Nelson and Winter's analysis of organisational routines is thoroughly Marshallian' in its recognition of the "external trade connections" (PE: 458, 377), which embody knowledge and offer a basis for new experiments. Having fixed clients, the company can lower its transaction's costs, obtain information from their regular shopping, and open new communication's channels.

Marshall's insistence on the complementarity between information and business's "external organisation" has hardly been subsequently developed. The high degree of productivity, which was being praised in these newly formed industrial districts, drew the attention of our economist, who intuited some of the potential benefits of this revolution in the industrial organisation of his epoch. This did not impede him from detecting the danger of degenerating into a mutually reinforced immobilism. As Loasby shows (1999), the firms may be so busy learning one from each another that they have neither the time, nor the incentive to learn from outsiders. Thus a successful district may be no less vulnerable to competence-destroying innovations than a single firm; indeed, it may be even more vulnerable to innovations that require significant changes to be closely coordinated.

7. Markets

A distinctive note of districts is that "the price is seldom the primary consideration", it is not the essential element gearing the election because "purchasers will go far in order to obtain the things best suited for their purposes" (IT: 283). The district's characteristic good must convey its corporative image: unifying symbols or trademark that distinguish the origin of the goods elsewhere. "The character of the goods is certified by a trade-mark, or other brand" (IT: 300). Thus the necessity of providing, adjunct to the good, an ample complementary information. Marshall offered a number of isolated insights that anticipate modern work on the economics of marketing (Casson, 2000). His main thematic achievement as to relate marketing to entrepreneurship, by highlighting the role of innovative wholesalers inside the districts as market-making entrepreneurs.

In Marshall's England, the cotton industry was in the hands of merchants for distribution and sale of goods (Chapman, 1992). That implied "a form of combined representation or co-operative selling" in this sector, "now increasingly entrusted to special agent; who represent a number of mills and thus enable the producer to devote his time almost entirely to works management and purely industrial questions" (IT: 602n). Also, a highly elaborated division of labour between production and marketing activities took place in the cutlery industry of Sheffield and Solingen (Magnusson, 1994). Thus most of the masters were dependent on putters-out, merchants or wholesalers for the selling of their produce. As a consequence, only a few cutlery firms had their own selling departments. Without doubt, an early segmentation of this functional division of labour served as a major factor behind the persistent 'traditionalism' of the cutlery sector in Sheffield, as well as for the conspicuous stagnation of this industry during the 20th century.

According to Marshall, given that "the marketing side of the work of a business is an integral process, and not a series of independent transactions", success in many cases seems to have originated from firm's ability to combine manufacturing with commercial activities: "the line of division between production and marketing is increasingly blurred" (IT: 170), because "production and marketing are parts of the single process of adjustment of supply to demand" (IT: 181). During the 'managerial revolution', production and marketing were integrated in many firms (Chandler, 1990). Although Marshall's descriptive writing shows that he was aware of this trend, he was unable to provide a convincing explanation of why certain industries integrated production and marketing while others did not –for example, where brand names are important in building trust. Such a combination was not typical for the majority of SMEs in Sheffield during the 19th century; but, due to its professionalisation, "an increasing part of the activity of a manufacturing firm is now

given to marketing” (IT: 170), which “is facilitated by association with others engaged in the same industry” (IT: 511).

The process of concentration responsible for these trends was driven by mergers, acquisitions, and business federations (Casson, 2000). When two big British cotton firms (*Coats and Clark*) merged, “the task of marketing was committed to a powerful *Selling Agency*; it also undertakes the marketing of the *English Sewing Cotton Company* and of *Lister and Co.*, whose products are similar to its own” (IT: 596n). Advertising thus could be carried out in common by various firms of a commercial district, as long as they work in related areas: “co-operative organisations can afford to advertise, to study foreign demands and customs, to make demonstrations, to collect credit information, and to extend credit” (IT: 614). The logic of these combinations lays in economics of scale. According to Marshall, however, it was often economics of scale in marketing, rather than economics of scale in production, which stimulated concentration.

Marshall associates information with advertising, and explains that “manufacturers frequently find it best to use certain of their goods as a means of advertising others; in the former class they put those goods which are so uniform in character and so largely consumed that nearly all buyers know their value very well, in the second those with regard to which purchasers think more of consulting their fancy than of buying at the lowest possible price” (PE: 396). He argues that it may be useful for a firm to push the goods with elastic demand (“easily sold”) at very competitive prices in order to create custom for the goods with less elastic demand, related mostly with caprice: “joint products, e.g. the practice of selling some goods at near prime cost, for the purpose of advertisement” (PE: 458).

Joint supply and joint demand interact when a firm is considering an advertising campaign to promote goods which are in joint demand, knowing that each of the goods will share to some degree in the benefit of the advertising, because of the joint supply of goodwill (Casson, 2000). “Stores were inclined to sell branded goods ... at prices that barely covered expenses; in order that they might act as ‘decoys’ or ‘leaders’ for other sales” (IT: 301), “on the ground that, though they have not yet attracted the attention of his market, they are likely to obtain a strong position there, when their use has become familiar” (IT: 615). Sharing of common support services –shared marketing: “a name or a trade mark which has gained good fame with regard to one product is a great aid to the marketing of others” (IT: 270). “For since many well-to-do people are willing to buy ready-made clothes, the trade in them is of gigantic dimensions and gives scope for lavish advertising” (IT: 304n).

Marshall saw the importance of the protection of trademarks inside the district and the “influences on the methods of marketing of goods ‘branded’ with a mark which conveys a guarantee of quality” (IT: 300). He perceives “forces which have taken many branches of manufacture out of the hands of small local producers ... and given to strong centres of localised industry”. Trademarks were the lifeblood of Sheffield commerce: “the tailor knows well that his reputation runs no risk when he recommends a cloth from the pattern book of a particular maker”. At the time it was often complained that Solingen and Remscheid –also industrial districts– were responsible for the infringement of trademarks of Sheffield’s well-known firms (Magnusson, 1994). “A merchant in high repute can sell such things as cutlery, made by unknown men, at higher prices if they bear his name, than if they bear the names of the makers” (IT: 301n).

For the highly esteemed cutlery firm of J. Rodgers (Sheffield), the protection of its trademark was a crucial matter. When asked before the committee on *Trademarks* in 1862: ‘Would you consider that that mark has a market value?’ Rodgers answered plainly: ‘Certainly’ (Magnusson, 1994). Thus to rely on certain trademarks, protected by different means, must have been commonplace with many firms at this time. “The protection of branded goods on their way to consumers has been developed by American producers into a fine art” (IT: 302). The fines for abusing marks were quite high but seem not to have prevented such offences from continuing. “Measures are taken to prevent the goods from being sold under poor conditions, and thus bringing the brand into disfavour among consumers; and ‘price maintenance’ is enforced in order to keep the brand in favour of traders” (IT: 302).

Marshall mentions *Coats'* cotton business in this regard: "its trademarks have immense value; because as has already been noted, the mischief done by using inferior sewing thread would often be immeasurably greater than the price of good thread; and the ordinary purchaser cannot judge its quality by inspection" (IT: 596). And points out to "the controversy about the maintenance of a high retailer's profit on branded goods" (IT: 302n). Also a good example is *Wheatley Bros* which, like so many other respectable Sheffield firms, relied on its good name and reputation and was recognised for its high-quality production. This implied that it was highly vulnerable from acts of trademark infringements (Magnusson, 1994). This is probably the reason for the frequent correspondence on trademark issues between the firm and its solicitors.

High competence with forced solidarity among them: interrelations among firms, competition and collaboration, availability of services, differentiated presence of suppliers, and the appeal to final buyers, are essentials of efficiency. Firms compete with one another but in industrial districts in practice they can collude as well. Thus the merchants within an industrial district may seek to impose customary prices for putting out when demand is buoyant, whilst reserving the right to cut prices further when times are bad. The effort of building up an external organisation creates a "common or general market" –as opposed to "particular or special market"– for the firms inside the district, for the firm outside the district could be tempted to enter if it is not succeeding in its "peculiar market" (PE: 458); though it might provoke negative effects such that of "incurring odium from other producers for spoiling the common market" (PE: 459). In the cutlery manufacture, its relatively low profitability may have been a consequence of diminished demand resulting from the production of worthless goods by some cutlers, whose action spoiled the market for their more conscientious colleagues.

That implied to use a double yardstick –neighbour and foreigner– discriminating in favour of the first, aided by its socio-territorial closeness: "the relations between the individual producer and his special market differ in important respects from those between the whole body of producers and the general market" (PE: 459). That price-discrimination can adopt different models; for instance, "to sell some of his surplus goods outside his own particular market at prices that do little more than cover their prime costs: while whitening that market he still tries to sell at prices that nearly cover supplementary costs; and a great part of these are the returns expected on capital invested in building up the external organisation of his business" (PE: 458). The maintenance of high prices in the market controlled by the firm (where the "external organisation" is stronger), goes in parallel with a lowering of prices in foreign markets.

Each firm attempts to create its particular market out of the common one with customers accustomed to dealing with that firm (IT: 629). The particular market "is some people or groups of people with whom he is in somewhat close touch: mutual knowledge and trust lead him to approach them, and them to approach him, in preference to strangers" (IT: 182). A related common practice was that "of retaining the names of many firms which have been absorbed by it, that causes some consumers to suppose that they have a choice among the products of many competitive firms; and are thus protected" (IT: 596n).

Another side effect was that firms grouped in districts could optimise the use of machinery through a well-organised second-hand machines market. SMEs acquired at lower prices "highly specialised machinery" and special skills (PE: 264), so reducing the costs of machinery replacement. Due to the diversity of needs in the productive process and the intensive use of machinery, equipment out of use can be re-utilised by other firms. There is a better distribution of the existing equipment (new and old) which favours the spirit of enterprise: "for subsidiary industries devoting themselves each to one small branch of production, and working it for a great many of their neighbours, are able to keep in constant use machinery of the most highly specialised character" (PE: 271). The most valuable specialised machinery can be re-used till the point it is almost rubbish. In the district there is a gradual diffusion of machines that could be called 'off-standard', capable only of a single operation: "the technique of each establishment may be indirectly strengthened by ... keeping ... activity on a relative small range of work; while other parts ... are told off to different establishments, which also work intensively within a narrow range" (IT: 174). This trend facilitated the development of habits as "responsibility, of carefulness and promptitude in handling expensive machinery and materials becomes the common property of all" (PE: 205).

The continuous introduction of new or re-utilised machinery became the principal channel of incremental innovation, the most common in districts, involving a technological spillover which benefits all members. It establishes a feedback of information between producers and buyers of machinery inside the industrial district: they can pose the specific problems to be sorted and design the appropriate machine. For the producer, the district is a laboratory of R&D to test innovations in the existing machinery; very often the client himself manipulates the machine, and what was designed for a specific purpose is used for a different one: "standardised component parts are built up into good bicycles in many a small workshop" (IT: 246).

An industrial district behaves as a scientific community. Marshall was thinking in R&D processes, the district as creative engine of new knowledge: "when a new mechanical idea has been created, its translation into a smoothly-working business machine involves a long series of experimental stages ... in laboratories founded within their own works" (IT: 172-3). Knowledge cannot always flow smoothly. Transformation is necessary in flows between basic and applied knowledge. Competition becomes more efficient due to the creation of inter-dependencies through a beneficial co-operation.

In fact, an indicator to identify the district's model is the presence, in an area that manufactures a good, of firms that produce the necessary machinery for the production of that good: "subsidiary trades grow up in the neighbourhood, supplying it with implements and materials, organising its traffic" (PE: 271); it is the outcome of the "constant intercommunication of ideas between machine makers and machine users" (IT: 603). So, the district always has machinery 'ad hoc' for its production structure. "New machinery and new processes are for the greater part devised by manufacturers for their own use" (PE: 280), "invented for the purpose" (IT: 247). It profits from 'economies of learning' and 'economies of imitation'.

This climate of competition and co-operation has important effects on the type of machinery used (Brusco, 1986). There exist strong incentives to invest in more productive machinery to offer lower prices: "he will resolve to have the best plant and the best methods existing for that particular task which he has taken in hand" (IT: 247). Such "beneficial interaction" favours a high degree of stability so that "a new industry is not as dependent as formerly on the parallel development of subsidiary industries in its neighbourhood, which may supply its minor wants and turn its by-products to account. Machinery and other implements can now be brought from almost any distance in standardised shapes" (IT: 170).

Firms which hardly could get access to the capital market, now can increase its liquidity: "the economic use of expensive machinery can sometimes be attained in a very degree in a district in which there is a large aggregate production of the same kind, even though no individual capital employed in the trade be very large" (PE: 271). Fresh capital to open up a new business was often lacking in Sheffield: until the middle of 19th century no institutions existed which might have provided the industry with such credit. Not until the establishment of the *Sheffield Banking Company* in 1831 we can speak of an operating private banking system in the town that was able to provide credit to the cutlery manufacturers.

Typically we find in the district an informal network of local access to credit: "this trust contains ... 'commercial credit' ... or 'social credit', it is analogous to personal credit" (IT: 165), that implies "to lend on the basis of personal knowledge" (IT: 320n). In this manner, the Bank can evaluate the personal qualities of a potential creditor and measure the investment's risks, better than banks outside the district: "the private banker whose life was spent in one locality was able to ascertain the characters, habits, and prospects of the neighbours more thoroughly than is possible for the branch-manager of a great bank, who is often almost a stranger to the locality: and therefore loans on 'personal' credit to businesses which are not strong" (IT: 346). But that peculiar philosophy of credit can only work if honesty prevails: credit to friends without proper guarantee might provoke bankruptcies with domino effect for the interweaving of firms.

If the fundamental factor of growth in the district is diffused competence, it is clear the limited relevance of the availability of capital, of savings in the evolution of these areas. "The banks were ever ready to furnish with the capital needed for a quick rise from the artisans' bench to a post of command" (IT: 63). The capital invested in districts is not the opportunity cost or alternative to a commodity. It is rather an alternative to rest, the transformation of the income earned

by working a number of hours per year above the average (Brusco, 1986). The crucial starting-point, the condition which allows for the mobilisation of the work of the older and the young, and which is an incentive to longer working-hours, is know-how.

Know-how is capable of transforming rest into work, and work into capital. The local banks' net is a tool for SMEs to fight against a hostile credit system. Marshall thought so: "the charge of excessive conservatism is sometimes brought against British banks" (IT: 103). And W. Bagehot, first director of *The Economist*, pointed out towards 1850 that 'shyness is the word defining the role of the banking system in its support to British economy'. The main chunk of this business was in the hands of local banks as a way to avoid the firms' reluctance to invest money in new ideas for the risk of being trapped once the investment has been done: "each firm, though of moderate size, might reasonably hope to obtain most of the advantages in production, which would be accessible only to vast businesses, if each had been mainly dependent on its own resources. Under these conditions, a very large capital in the aggregate was distributed over many firms of moderate size, each with its own individual life, its own power of initiative, and its own personal relations" (IT: 315). This explains the highly personal nature of the capital markets (Kynaston, 1995). Local private banks were a creation of entrepreneurs and capitalists to fund their own enterprises.

8. Final considerations

Some of these districts continued to innovate up until World War II; at this point, national governments encouraged the firms' conversion to mass production. But experience "shows a surprising permanence of localised industries, which have maintained its lead" (IT: 287). Lyon survived crisis after crisis ... A different story from that took place in the Sheffield cutlery industry. From the early 1860s, the firms began to concentrate on a slow-growing, almost luxurious segment of the market; moreover, domestic tastes had stabilised. Many dynamic firms therefore abandoned the cutlery industry for the production of speciality steel (Piore, 1984). This was to a large extent an effect of the loss of export market shares in continental Europe, not the least to German (mainly Solingen) competitors (Magnusson, 1994). But in this case, shrinking quotas in America and generally overseas also played an important role.

Sheffield was increasingly ousted from these markets. The problem rests in that within such industries the available production technologies were still rather simple and there was no significant technological innovation in production methods during this period which would have led to a sharp rise in throughput. In the middle of the 1950s, many of the firms specialised in a section of the trade such as razors or scissors or in different processes such as forging or grinding (Carter, 1957). The industry seemed old-fashioned with considerable reliance on handwork ... The secret in the workman's fingers has been passed on by the father-to-son method of training. 'The past still seems to dominate the present'. Though Marshall describes (1919) how they manage to survive: "Sheffield was unwilling to adopt the new method (stainless steel cutlery): but having once fully convinced of its efficiency, is adopting it; and she is striving vigorously to regain the ground" (IT: 213). The price of this 'traditionalism' was high: it was without doubt a major factor behind the general stagnation within the industry noted already in the beginning of the 20th century.

In the narrow-track view of technological development, the vitality of the industrial district appears (if seen at all) a violation of the laws of progress ... the world might have turned out differently from the way it did, and thus a world with a history of abandoned but viable alternatives to what exists. Let us finish quoting the happy mood of Marshall about the districts' future:

For it enables them to secure the many various economies of specialised skill and specialised machinery, of localised industries and production on a large scale: it enables them to have increased facilities of communication of all kinds; while the very closeness of their neighbourhood diminishes the expense of time and effort involved in every sort of traffic between them, and gives them new opportunities of getting social enjoyments and the comforts and luxuries of culture in every form. No doubt deduction must be made for the growing difficulty of finding solitude and quiet and even fresh air: but there is in most cases some balance of good (PE: 320-1).

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