Industrial districts and globalisation: Learning and innovation in local and global production systems

Introduction

Industrial districts (Becattini et al. 2003; Belussi, Gottardi and Rullani, 2003) in the Third Italy, which has been the paradigmatic example of localised learning and endogenous growth, used to be characterised by the whole value chain (Porter, 2000) being carried out locally in the districts. This is no longer the normal case, as specific phases of the value chain, typically the most labour intensive or/and the most polluting phases, are increasingly being located outside the districts in previous East-European countries and/or countries in the Third World, as a result of an industrial restructuring caused by increased global competition as well as stricter environmental regulations (Belussi and Macdonald, 2003; Belussi, Gottardi and Rullani, 2000; Rullani, 2003). This results in a transformation of the industrial structure in the districts as well as a territorial fragmentation (Bonomi, 1997) of the previous local value chain (Sammarra, 2003). The outsourcing goes either to locally owned and existing factories in the eastern and southern countries, or to subsidiaries of the outsourcing firms or to both. Many empirical works have documented the strategies of delocalisation of Italian districtual firms (Carminucci and Casucci, 1997; Cavalieri, 1995; Scarso, 1996; Corò and Grandinetti, 1999a and 1999b; Caroli and Lipparini, 2002; Belussi, 2003a).

This has resulted in a concentration of only the most knowledge and/or capital intensive phases of the industrial activity (R&D, design, product development, marketing etc.) in the original industrial districts, often taking place in more or less formally integrated larger groups of district firms (Cainelli, 2002). Other SMEs in the districts adapt to this local fragmentation process by changing status from being subcontractors in local production systems to assume the same role in global production systems.

Another important tendency, which has speeded up the territorial fragmentation of the local systems, has been the transition from an "internal to the district governance" of knowledge to a more open "globally integrated governance" (Belussi and Pilotti, 2002). This has happened both in high tech specific districts (i.e. biotech sectors) and in industrial agglomerations (e.g. traditional industrial districts specialised in textile-clothing, footwear, leather, and furniture, Schiattarella, 1999). As a consequence, in these production systems a general increasing in firms' knowledge intensity has occurred. But this implies also that the relevant perspective for the analysis of the knowledge base of firms is neither the individual

firm, nor always the local system of firms, but often extra-local production or learning systems (Becattini and Rullani, 1996; Malmberg and Maskell, 1999; Maskell and Malmberg, 1999; Maskel et al., 1998; Maskell, 1999a; Biggiero, 1999).

A third tendency, which is clearly observable, is an increased number of FDIs in industrial districts' types of clusters (Porter, 1998). Typically, the most innovative and competitive middle-sized firms were being bought up (Sanguigni, 2002). This new development gave rise to a potential conflict between the local innovation network or system in the districts and the newly-entered corporations, due to the integration of the acquired district firms into the strategic business systems of the MNCs (Caves, 1982; Dunning, 1993). Incoming FDIs, carrying "foreign" institutional incentives and constraints (e.g. corporate governance system characteristics through their internal capital allocation and monitoring system, are not necessarily compatible with (or complementary to) the local and regional innovation systems (Whitley, 1993 and 1999; Rugman and Verbeke, 2003). In other words, this is posing the question to which extent foreign direct investments are value creating or value exploiting when they interact with the cluster or district firms (Lorenzen and Mahnke, 2002). The governance of knowledge production is central to the theory of MNCs. FDI dominates in all sectors where there are important firm-specific factors (Hymer, 1976; Buckley and Casson, 1976; Dunning, 1993; Cantwell, 1998; Cantwell and Janne, 1999), including the advantages deriving from the utilisation of in-house produced technology or from possessed brands, when activities may be separated from the headquarters and exploited at international level, better if combined with other location-based advantages (Kogut, 1985). However, MNCs increasingly internationalise their knowledge development activities by plugging into existing pools of knowledge, setting up new plants or facilities, in particular locations. The internationalisation process thus appears to be supported, not just by the intention of using the existing in-house knowledge, but by the desire to acquire and absorb external strategic knowledge (Lorenz and Mahnke, 2002), setting up explorative R&D in foreign countries (Kuemmerle, 1998). However, can we evaluate the entry of multinationals in the district analysed? Why did MNCs arrive in these districts? Which model of entry did they use? How did the entry of multinationals change the model of knowledge governance within the districts, and the flows of knowledge spillovers that typically characterised the model of the IDs?

The impact of these processes is clearly ambiguous and difficult to judge. Depending on the specific conditions in which they emerge, these processes could be looked upon in two ways. On the one hand, as the negative side of globalisation, which reduces the

competitiveness of some industries and localities, characterised by high costs (and high wages) or, on the other hand, they could be considered a necessary adjustment and adaptation to the globalisation process itself. In the first case, these tendencies could be seen also as a potential threat to local learning and, thus, to the locally "embedded" competitive advantages of districts (Porter, 1990), which base their development on endogenous forces (Asheim and Cooke, 1999). Instead of blaming the MNCs for the erosion of the district model - overwhelmed by the superior performance of "global nodes", thus MNCs or transnational firms, in terms of productivity, profitability, and power (Amin 1993; Amin and Robins, 1990) - in the second case, the process of delocalisation (or partial territorial relocation of industrial district) is understood within a slow but inevitable path of "district disclosure", which is organised by local agents in order to avoid 'lock-in' tendencies in the local economy. Thus, delocalisation is a necessity for districts to be able to stay innovative and competitive also in the future.

In any event, these processes will have consequences for the relative importance of local vs. non-local conditions (Isaksen, 2003) and relations for future regional development (Bathelt et al., 2003, MacKinnon et al., 2002). In what follows we shall look closer into these tendencies, which will undoubtedly be reinforced by the ongoing process of globalisation, and especially we will pay attention to the consequences of the entry of FDIs into local economies, in order to scan the capacity of selected industrial districts to keep on with disclosure process, and to continue to upgrade the knowledge bases of local-district firms in order to retain their competitive advantage.

This paper will present a theoretical framework for investigating these tendencies and will use case studies from the Third Italy and Scandinavia as empirical illustrations. Our contribution will especially focus on what has recently been called local 'buzz' (Storper and Venables, 2003) - i.e. local creativity deriving from a process of agglomeration of knowledge and information). It is here argued that relations of proximity are still necessary for industrial districts (and other forms of local clusters) in order to stay innovative and retain their competitive advantage, but global 'pipelines', access to external knowledge and information, are becoming a key factor (Bathelt et al., 2003) for supporting and strengthening such local 'buzz'.

The Scandinavian case

Jæren [1] is a regional cluster of specialised production with a traditionally high degree of inter-firm co-operation. This co-operation was until recently institutionalised through TESA (technical co-operation), a competence network that was established by local firms in 1957, with the aim of promoting technological development among member firms, which were mostly small and medium sized, export-oriented firms producing mainly farm-machinery. This has, among other things, resulted in the district today being the centre of industrial robot technology in Norway with skills in industrial electronics and microelectronics far above the general level in Norway. Main characteristics of the original cluster include a high degree of local ownership and thus local strategic control and a labour market characterised by high union density, low external mobility, cooperative industrial relations, and of course a high degree of inter-firm cooperation, based on the presence of social capital. Thus, this cluster has traditionally represented a local institutional structure characterised by positive complementarities (i.e. incentives towards long-term investment strategies in human capital arising out of ownership, participative industrial relations and inter-firm cooperative relationships).

The regional cluster, which still is very competitive and export oriented, has undergone considerable changes during the last ten years due to globalisation. During this period many companies have been bought up and transformed into subsidiaries of multinational corporations. Thus information gaps between strategic decision makers (foreign systems of corporate governance) and local firms have been created. On the other hand, some medium size firms have grown to reach the *status* of multinational corporations themselves. They have thus created a link between a local corporate innovation system and the structure of subsidiaries located world wide.

ABB's acquisition of Trallfa Robot in 1988, now called ABB Flexible Automation, which is Europe's leading producer of painting robots for the car industry, was the first major example of FDIs, while Kverneland, one of the world's largest producers of agricultural equipment is the main example of a local firm becoming a MNC. Today the company has production facilities in 14 countries, and has during the last fifteen years bought firms in Italy, Denmark, Germany, the Netherlands, France and Australia. Other examples of FDIs entry are the Swedish Monark take-over of Øglænd DBS in 1989, and subsequent integration into Grimaldis' Cycleurope in 1995, and the British company Williams Plc, now Kidde Plc, which

[1] This part is partially based on the empirical work of Herstad Severre J. that we thank.

bought up the NOHA group in 1998. The first and the last cases, i.e. ABB and NOHA, will serve as the main empirical illustrations of the diverging trends observed in the district analysed.

All of the companies in TESA have thus been more or less affected by the constant drive towards globalisation and "corporatisation". External firms have shown not much focus on regional and local issues. The "corporatisation" was a challenge for the TESA network. As the member companies become less independent, focusing on their multinational corporation, the centrifugal forces in the network become more and more stronger.

As a result of these tensions, all the firms belonging to, or in alliances with, large corporations, independent of national or foreign ownership, are no longer members of TESA. This means that the TESA network is in danger of being closed down, with potentially negative consequences for the local area. The individual firms belonging to international corporations have substituted (or attempted to substitute) the local innovation system with a clear in-house mechanism of innovation generation. External contacts have been developed with the national and international innovation system (Lundvall, 1992 and 1996; Nelson, 1993).

The entry of MNCs could not represent in principle such a problematic issue. Global firms may make available to local organisations pedestrian resources such as logistics, sales and marketing: competence that often organisations are able to develop only if they reach a certain size. So, MNCs may act as a connector between the local firm and other external knowledge sources, which the local innovation system at Jæren is not capable of supporting. A positive example is represented by the ABB case.

The most internationally well-known firm at Jæren is ABB Flexible Automation. At the time Trallfa Robot was bought by ABB, it supplied around 50% of the European market for painting robots to the car industry. If ABB had applied their normal restructuring strategy, the robot production at Jæren would have been closed down, and moved to Västerås in Sweden, where the production of handling robots takes place on a much larger scale. Instead, Trallfa was assisted technologically in the transition from hydraulic to electrical robots, the production capacity at Jæren was increased considerably, and markets expanded to include both the US and Asia. This means that ABB Flexible Automation today covers 70% of the demand for painting robots in the European car industry, and 30% in the USA. Generally, it is described as the most profitable ABB-unit in Norway. The factory at Jæren has been upgraded to a so-called "supplying unit" in the ABB system, and the production of other types of painting robots has in part been transferred from ABB factories in Germany to Jæren. The

reasons for the success story of ABB Flexible Automation has partly to do with locally embedded resources, notably the informal, tacit knowledge and practical skills of the work force, as well as the stock of accumulated codified knowledge possessed about painting robots at the factory at Jæren. It has however also to do with the ways in which R&D projects, skills, and scientific knowledge have been created and renewed (Nonaka and Takeuchi, 1995; Nooteboom, 2001 and 2002). ABB has supplied the patient[2] capital to the firm needs.

Knowledge of robot technology contained within the TESA network initially represented strong local specific capabilities or 'untraded interdependencies'. They were recognised by ABB as being extremely important (Asheim, 1999a and 1999b), thus explaining the decision not to relocate it. The complex synthetic nature (Laestadius 1998) of the activities of ABB Flexible Automation requires the integration of knowledge from such different sources as mechanics, information technology, chemistry and physics. Further, the degree of market pressure with respect to improving the product in a cost-efficient way is high, which in turn implies that generating and mobilising knowledge held collectively by the workforce is extremely important. Evidence from the company suggests that its knowledge base now has strong elements of tacit knowledge accumulated collectively and on a broad basis in the whole firm workforce. The company has developed multi-functionality, cross-disciplinarity and company-specific training in a context of long-term employment as a prerequisite for its competitive strength. The development of these organisational characteristics, to a large extent based on the existence of a well-functioning organisational "community model" (Soskice 1999; Wenger, 1998) of the local labour market and high levels of decentralisation and informal coordination among highly skilled workers, seem critical to the competitive strength of the company. This model is embedded in the regional institutional framework, notably in the participative industrial relations (Asheim, 2001; Asheim and Isaksen, 2002).

Learning interfaces in interaction with other organisations are limited - cooperation with ABB Västeraas as well as a few local spin-offs, high-precision/low volume component producers being the only exceptions. The firm, however, is connected to external sources of knowledge related to different component areas, such as chemistry and physics.

Thus, knowledge held in embedded firms is extremely sticky in that 'learners need to become insiders of the social community in order to acquire its particular viewpoint' (Brown and

[2] This firm represents a paradigmatic development of the Scandinavian model (Archibugi and Lunvall, 2001): i.e. the lack of exposure to financial short-termism and transparency of corporate control (Ruigrok and van Tulder 1995).

Duguid 1991; Lam 1998a and 1998b), implying an organisational stickiness. Hence, as long as the knowledge produced remains specialised and non-substitutable, the organisation, which represents a high place of specific learning, will endogenously resist relocation. Knowledge flows are visible between the local ABB unit and its corporate headquarters. They demonstrate the importance of the strategic integration. As long as the local unit can show satisfactory long-term results, it operates under few operational restrictions with a high degree of responsibility decentralised to local management, thus reducing the information gap between strategic decision makers and the learning processes where resources are allocated. This in turn implies that strategic decision making is based on first-hand knowledge of the organisation and its learning processes, rather than the latter being structured by a top down process.

A different case is that of the NOHA group. This firm is now specialised in high-volume production of relatively non-complex (and standardised) products, which through extensive automation projects in the late 80´s and early 90´s managed to attain superior cost-advantages over the competitors localised in low-cost countries. In this process the willingness of the original owner to allocate resources continuously to learning and technological upgrading, also through the use of the competence existing in the TESA network, played an important role, which resulted in a vital accumulation of specialised, sticky knowledge concerning process development and automation. As the product in question is durable and replacement demand is therefore low, a broader market access and a deeper market penetration were considered the right firm strategy needed to exploit economies of scale and scope. This was, originally, successfully achieved through specific cooperation with external distributors in Europe, Asia and the Middle East. The producer was early involved in a limited internationalisation process, by being owned by a holding company that expanded with similar or complementary activities to other places in Norway as well as to the rest of Scandinavia. However, during the 1990s the firm's distribution system was increasingly integrated with those of its competitors. This created a loss of competitiveness, resulting in escalating distributive costs and reduced market penetration. Thus, the company had to look for a new corporate partner. But, later on, this new partner was in turn acquired by a global corporation.

The firm was subjected to an international restructuring with the injection of pedestrian and general resources. However, the implications for the future development of the company remain unclear, as there seems to be substantial tension between two distinct business systems of the home and the host country. Our data shows that the local company,

after the take-over, has no financial leverage to internally develop new processes and new products. Thus, the future development of the firm will be determined exogenously by the parent company: now the local firm has no more linkages to access to external sources of knowledge. This indicates the presence of a hierarchical governance structure, illustrating what Lazonick and O´Sullivan (1994) call 'value extracting strategies' through prohibiting investments in autonomous process and product innovations. The MNC which has acquired the local firm has moved substantial volumes of production to Jæren, but this seems to be more the result of trying to obtain scale economies than a strategy for new knowledge creation at the Jæren plant. The firm governance is obtained on the basis of an arms-length financial system. So, short term profitability is pursued at the expense of strategic learning, innovations and long-term investments in capital equipment and human capital.

This contrast between two quite distinct business systems - the Norwegian, here influenced by the Jæren industrial culture, and the UK mode of firm coordination, typically framed within a pure liberal market economy - might explain why key personnel has chosen to leave the company after the take-over. Differences in management styles, innovation strategies and industrial relations have isolated this firm from the local innovation system. This may also produce in future the disintegration of the specialised knowledge held locally by the firm and, possibly, a future local endogenous development through spin-off and new firms formation by the firm's dissatisfied blue-collar workers and technicians.

Considering the pattern of evolution of this Scandinavian specialised cluster in mechanical engineering, several critical points can be identified.

Firstly, the "cluster disclosure" to external knowledge through the internationalisation of the corporate governance can often be seen more as a means of access to increasingly critical pedestrian resources (such as logistics and sales services), rather than as a result of reduced local "embeddedness". Some strategic aspects of the firm "knowledge governance" still remain based on a localised process of knowledge accumulation and exploitation and renewal of its specialised capabilities. Clearly, as in the above-mentioned ABB Flexible Automation case, inter-organisational innovative synergies among the various MNC units have occurred, among the firm's R&D laboratories, and this has increased the R&D-strength of the local unit. Knowledge transfer among MNC units is a much more complicated matter than it is often perceived (Foss and Pedersen, 2002). Again the "embeddedness" might be concealed by the fact that there is now a reduced dependence of the companies from on local supplier and subcontractors. Thanks to its relation with the MNC headquarters, the local company is now able to utilise specialised capabilities located outside the Jæren cluster. ABB

has now developed an extensive European network based on long-term relations with component producers. But this does not mean, by itself, that "local specialised knowledge" in the Jæren cluster has become 'ubiquitous' or that intra MNC knowledge trade has substituted it, nor that the local firms analysed are becoming less embedded in the territorial system.

Secondly, in the understanding of the type of relationships created by the entry of MNCs and the district, the most relevant variable seems to concern the characteristic of the corporate governance in the home region of the parent company. In turn, this invites us to dwell upon the interfaces between the entry of FDIs and the existing "local" business, financial, institutional, and learning system.

Thirdly, the entry of MNCs in local districts should be used to enrich our understanding of the role of MNCs as knowledge infrastructures. MNCs constitute a possible learning interface between potentially divergent "knowledge architectures" of different foreign and local companies. But, knowledge creation and accumulation can also be linked to societal differences in industrial relations, finance and education (Amable, 1999). In particular it can be hypothesised that, with regard to the structure of industrial relations and education systems, there exist structural barriers to knowledge transfer that cannot be overcome by formal structures of ownership (Lam 1998a; Wenger, 1998).

The Northeast Italian case

In order to analyse the impact of globalisation processes on the industrial district model in the Italian case, we have selected one, to our knowledge, of the most advanced cases of the Northeast area: the Montebelluna district[3]. Montebelluna is a district specialised in sport-system shoes, and the entry of multinationals during the 1990s has been quite significant.

This district is localised at the heart of the Veneto region, north of Treviso, in the foothills of the Dolomites, and it is placed within an industrial economy strongly characterised by the presence of the ID model, whatever criteria we utilise to identify it[4]. The Montebelluna district[5] is considered one the most innovative districts in Italy, because it is formed by dynamic evolutionary firms, which have introduced important radical innovations in the past. This has given rise to the international dominance of the district in the

[3] This work is partially based on a EU project "West-East industrial districts relocation", coordinated by F. Belussi and internationally organised by the institute Guglielmo Tagliacarne in Rome.
[4] See for instance Anastasia and Corò (1993), and Anastasia, Corò, and Crestanello (1995).
[5] The area of the district is composed of many adjacent municipalities, which include both the "historical part of the district" (Caerano, Cornuda, Crocetta, Pederobba, Montebelluna, Maser, Nervesa, Trevignano, Volpago, and Giavera,) and a "fringe area".

technologies for the production of ski boots, and, in relation to that, the district has faced a widespread success on the international markets outlets (Belussi and Pilotti, 2002).

The Montebelluna district is formed by about 400 firms - 300 producers of footwear and 100 producers of clothing - employing about 8000 workers (6000 units in footwear and 2000 in clothing).

Since the end of the 1970s, Montebelluna has been recognised worldwide as the world centre for the sport shoe, and even the review *Newsweek,* in February 1979, dedicated an article to it, defining Montebelluna as the capital of the "snow industry".

This district is no longer a canonical (Marshallian) industrial district, where production is fractionated into a myriad of small and medium size firms, and where activities are organised on the basis of a districtual division of labour[6].

This district is now a technological district, and Montebelluna is an area of extraordinary international concentration of competencies and production capabilities: a globally specialised area which directly or indirectly produces a large share of the total worldwide output of a distinct range of products. As reported by local sources (Osem, 2001), at present 80% of motorcycle shoes produced in the world, 75% of all ski boots, 65% of after-ski boots, 50% of technical mountain shoes, and 25% of in-line skates are manufactured in Montebelluna.

The starting process of globalisation began in the mid 1980s, with the intensification of export flows and the entry of MNCs. In the mid 1990s the Montebelluna district was already very open to international markets: about 70-80% of ski boots production was exported, and at the end of the 1990s, considering all the diversified range of products, half of its total production. So, 1,100 billions of lira[7] were exported in EU countries, such as Germany, France, Spain, and the UK, and in the US and Japan. Many large local companies had opened commercial offices abroad and an intense exchange of external relationships, commercial and productive contacts, characterised the daily work of local firms (Aage, 2002).

After the important date of 1989, the East European countries provided a unique opportunity to develop international supply chains, based on the manufacturing of simple phases like shoe assembling. It is difficult to evaluate directly the impact of the delocalisation processes on the district. Official data of export trends in the province of Treviso show that in

[6] The district firm poulation is based on *final firms* (branded and non branded final producers), *specialised suppliers* (machinery producers, model makers, designers, upper producers, die makers, sole producers, injection specialists, mould firms, producers of levers, shoe laces, etc.), and devoted to labour-intensive phases *subcontracting* (leather cutting firms, boots assembling firms, upper sole sewing, partial shoes assembling, etc.).
[7] Data provided by the Chamber of Commerce of Treviso.

2001 local firms exported about 430,292,000 euros towards Rumania (ISTAT, 2002). These operations are in relation with the shoe and sport clothing segment of supplying intermediate components for Rumanian subcontracting firms or Rumanian FDIs. Interestingly, they correspond to about 35% of the total output produced in the Montebelluna district.

The construction of international supply chains, mainly organised through Rumanian firms, has clearly exerted a big impact on local subcontracting and on the firm population of the district. Between 1979 and 2000 the number of shoe producers declined from 511 to 304. Final firms in the district are now only less than 170, but the number of local subcontracting firms is still significant, and the decline of activity has been mainly concentrated in the so called "tomaifici" (producers of uppers). In the meantime, large groups emerged in the district, and in 1989 the multinational Benetton group entered with the acquisition of Nordica, one of the largest leading local firms. The statistical trend of local employment shows only a relatively small decline. For instance from 1997 to 2001 the local employment in the sport system passed from 9,830 to 8,782 units.

The district is still rich in manufacturing activities, specialised suppliers, designers and other activities connected with the filière of the sport-system, and has not become a "hollow district", which only governs externally delocalised production activities. However, it must be noted that for 8,782 employees that are working in Montebelluna, in the external belt of subcontracting activities, decentralised mainly in eastern countries, there are about 60,000 workers (estimation based on the Montebelluna "boot museum", calculation). It is in fact striking that last year the local association of entrepreneurs defined Timisoara as the 8th province of the Veneto region. In addition we have to consider that this district is located within an area of full employment, with the lowest unemployment rate in Italy (about 1.8-2.0% of the active population).

So, the process of district restructuring has not ended up with long term and unemployable manpower. Globalisation has enriched the district with the necessary market labour flexibility, without counting that many small local owners of subcontracting firms, which suddenly lost their "outsourced" orders, have opened up new workshops in Rumania, or work in the district as super-controllers of the quality of Rumanian subcontractors (our interviews).

An obvious indicator of the performance of the district is the total output realised in Montebelluna. Despite the declining number of local firms and employment, data on production and output are still positive, showing a general trend of expansion. Including

clothing (but not the multinational Benetton), the output of the district of Montebelluna has passed from 1,992 billions of lire in 1999 to 2,834 in 2001 (Osem, 2001).

In the Montebelluna district we can find traces of the first outward processes of internationalisation already in the mid 1970s. At that time, two local firms (Lotto and Diadora), producing tennis and jogging shoes, a production far from the typical injection-plastic ski boot product, started to outsource the entire production to Far East subcontractors. They were following a competitive strategy that was a pure imitation of the path of the large multinationals like Puma, Adidas and Nike, which were occupying the market niche of technological simple sport shoes for tennis and jogging. This strategy was perceived as obliged by the fact the technologies used were quite stabilised, based on standardised machinery, and on a type of production that did not require particular high competence from the local labour force. So, the only relevant strategic factor was the cost of labour, that in Montebelluna was clearly much higher than in any developing countries in the Far East.

These two firms, however, were strongly rooted in the local context: Lotto was founded by the old owner of Caber, which was sold to new entrepreneurs, and Diadora was a firm producing ski boots that did not adopt the new plastic technology, and that focussed on its production of mountain boots. Local entrepreneurs speak of "equilibrated globalisation", to explain that the process of disclosure of Montebelluna is not at all antagonistic with the existence of the district and with the local "knowledge governance" of the most knowledge-intensive phases: design, innovation in components, prototyping of new models, new technologies of cycle coordination (Gann and Salter, 2000). This knowledge will never tend to become "ubiquitous", and in fact all R&D laboratories of MNCs entering the district are still in Montebelluna. When Salomon tried to move its research laboratory to Paris it encountered a decisive opposition from the local technicians who were from Montebelluna. Human capital in the district is still less mobile than is thought.

With the sale of Caber in 1974, we also find the first inward process of multinational entry in the district. Caber was bought by the American Spalding, which then transferred it to the Canadian Warrington, and in 1987 it was acquired by the French multinational Rossignol (owner also of the Lange firm at Mollaro, near Trento, founded by Bob Lange, the first conceiver of the plastic ski boot). One notes that, in turn, the Rossignol-Lange group has recently been acquired by Adidas (1997). In 1990 the Austrian group HTM, owner of the Head brand (ski boots and skis), acquired Brixia, a firm that in the past had bought the historical local brands of Munari and San Marco. In 1993 San Giorgio (ski and mountain boots) entered the Salomon group. In 1994, Icaro Olivieri owner of Canstar Italia, a firm

specialised in moulding and metal components for ski boots, snowboards, hockey rackets, and in-line skates, which also owned Canstar Canada in North America, sold his firm to the giant multinational Nike. In 1995 the Meran firm, which owns the Risport brand, was acquired by the Rossignol Lange group.

External acquisitions went on, during the 1990s, exactly when many local firms started to abandon the district. So "entry" and "exits" processes co-existed, but with different motivations. External multinationals were attracted by the existence of local competence and technological capabilities and tapped into the local district for absorbing the relevant accumulated tacit and codified knowledge of the district. Local firms used the international division of labour to produce cheaper items. They outsourced outside the district the more standardised phases of upper assembling and shoe montage, searching for cheap labour (in Eastern European countries, like Rumania, Hungary, and Poland).

However, some movements in firm governance were activated also from inside the district, or from other national firms. In 1993 Tecnica acquired one of the most prestigious German firms, Lowa, and this is a case of outward internalisation. In 1998 Diadora was acquired by Invicta, a large Italian (small multinational) firm from Turin. In 1997 two historical firms for winter production - Dolomite and Tecnica - merged. In 1998 Lotto was acquired by a group of Montebelluna entrepreneurs, with the support of a merchant bank from Luxemburg. In 2003 Nordica- which was part of the Benetton sport-system group – was sold to Tecnica, which has now become the biggest firm in the district for the production of winter sport items. The access to pedestrian resources such as logistics, marketing, and sale distributors, explains the continuous growth of firm size in the district.

However, this is not determining simply a shift of the competitive advantage of the district towards MNCs.

The acquisition of Nordica from Benetton resembles the case of the NOHA group discussed above. Benetton tried to integrate within its retailing systems the "sport products" of the district, but it did not work. Benetton could not understand the sophisticated market for sport items, nor the consumer preferences and attitudes (so, the exclusive retail chain for sport items never took off – sport people like to be exposed to the novelty of all producers, and they do not go to one shop that possess only one brand). But also the knowledge governance failed, and quality went down in Nordica. As a result, after losing a great deal of money, Benetton sold Nordica to a district entrepreneur (Tecnica).

Another important aspect of the globalisation process is linked to the inward processes that are represented by the activity of subcontracting by foreign multinationals that are

coming to Montebelluna to exploit the know-how in the production of sport shoes that has been accumulated here. As has been quoted by Durante (1996), many international brands provide orders for some specific projects (or highly skilled tasks) to the Montebelluna firms for the production of mountain-ski-winter-trekking shoes: Cabelas, Decathlon, Intersport (Mc Kinley), LL Bean, Eindl, Mephisto, Merrl, Raiche, Rockpor (Reebok), Timberland, Fila, Ambro, Mizuno, Asics, Mitre, Umbro, and Vasque.

All these large groups utilise the core competences of the district. This process has been called by Cafferata (1993) and Grandinetti and Rullani (1992) “diffused globalisation”, to contrast it with the “elitarian mondialisation”, based exclusively on the actions of large multinationals.

This long list of the main events in Montebelluna history allows us to focus our attention particularly on two aspects.

Firstly, a typical Italian district has been penetrated by some of the most important multinationals of the sector without disappearing. This is clearly in contrast with what occurred in the past in Manchester and Birmingham. The decline of districts is not irreversible.

Secondly, is there then a theoretical contraposition between the district form and the multinational model of firm? We witness here a curious merging between global a-spatial networks (Castells and Henderson, 1987; Castells, 1996): thus, multinational firms, and localised networks of producers, that is districts. On one hand, economies of proximity seem to be still relevant. Local systems based on knowledge and on the reproduction of scarce competences and capabilities are able to maintain their specificity, and to accumulate with time their competitive advantages. On the other hand, the model of multinationals, and the connected scale and scope economies, appear to be still relevant and endowed with penetrating power. In one sense the two models in the Montebelluna case are still co-evolving. Multinational firms that entered the district needed a territorial connection, and, in contrast, local firms left the district to multiply the advantages of non-district, long distance, local connections (Bell et al., 2001; Belussi, 2003a).

In our research (Belussi 2003b) we analysed the cases of the MNCs entering the Montebelluna district through qualitative in depth interviews to MNCs actors and to district agents. We will base our conjecture on the analysis of the cases of Nike, Htm, Invicta, Rossignol-Lange and Salomon, which represent the universe of MNCs entry in the Montebelluna district through FDI. This allows us to dwell upon some critical aspects.

Firstly, all managers interviewed[8] explained the entry of their multinational firm in Montebelluna with the aim of acquiring the local competencies related to the technology of ski boots production (very innovative specialised suppliers and subcontractors are located in this district). Two out of the five multinationals came to Montebelluna with the idea of enlarging their production range. They wanted to diversify their production, but they lacked the necessary competencies. So, multinationals used the Montebelluna competencies for realising only a few tasks: design and engineering, research on new materials, technologies, production techniques, realisation of prototypes, and high quality production.

Secondly, all five multinationals have acquired the entire ownership of the districtual firm that they have bought, and make use of the plant acquired without destroying the competences located there. They maintained and increased the role of the local firms and their R&D offices. They did not move the manufacture of their products to Montebelluna. They used the local plant as an engineering office for the conceptualisation of new products.

Thirdly, the tapping into the district has not worried too much the actors of the local district (firms and institutions). In the local environment we still find a high diversity of opinions on the matter, ranging from scepticism and fear to optimism on the role that multinationals may play for the "modernisation" and the further development of the district.

Fourthly, the multinationals attribute some shortcomings to the district: the absence of managerial capability by local firms (they are still very traditionally organised by a type of family-business), the weakness of logistic infrastructures, the lack of some professional figures, the inefficiency of the local road conditions, etc. However they give a positive evaluation of their experience: the localisation in Montebelluna has not given rise to a too high informative spillover, and they do not feel they are at a risk of being imitated by local firms (no more than would be the case if they were located elsewhere).

Fifthly, the entry of multinationals has contributed to elevate the level of competitiveness among local firms, accelerating an exit process among the less competitive. The entry of multinationals has also accelerated a local reaction from the largest leading firms. Now many firms have merged and "small Italian multinationals" have been created (Madsen and Servais, 1997). In Montebelluna the entry of MNCs has also stimulated local entrepreneurs to adopt new models of firm governance. Let us quote here the cases of Geox

[8] The interviews were organised in the period between January 2001 and March 2002. Most of the interviews carried out with the local managers of MNCs were personally realised by Claudio Piva, who used a semi-structured questionnaire elaborated jointly. I would like here to thank him for his assistance. Some further reflections are in Piva (2002). For an agreement taken with the interviewees the results will be reported in an anonymous form.

and Stonefly: two high growth organisations, recently founded. They invented the high-tech niche for outdoor shoes, they make a strong recourse to patenting activity, advertising, dominance of distributive channels, etc. Clearly the presence in Montebelluna of firms like Nike, that with its headquarters in Oregon at Beaverton organises a planetary international supply chain of about 500,000 workers, cannot allow Montebelluna entrepreneurs to rest on their laurels. Anyway, this is nothing more than the salt of competition.

Conclusion

From our analysis three main issues emerge: The first question concerns the relationship between the endogenous development and the territorial specificity of competitive advantage, and, on the other hand, the existence of potential forces of territorial fragmentation, acting upon this structure. District disclosure is the striking aspect connected to the presence of globalisation forces which decentralize both the production of goods and of knowledge, within a productive frame where specialization functions as an attractor for building comparative advantages. Hence, is globalisation a necessary prerequisite for local learning, or does it contribute to disembeddness or to the ubiquitification (Maskell, 1999b) of the specialised knowledge possessed by local firms in districts or clusters? Our analyses clearly indicate that specialised knowledge and its related learning processes can still remain locally embedded, even if in some cases we have a change and a hybridisation with external sources. Local system embeddedness matters but also organisational embeddedness (Granovetter, 1995). So, firms in local systems evolve following different patterns and competitive districts still maintain a cohesive shape.

Secondly, the relative importance of local versus non-local learning is still a question related to the way in which "core learning processes" are activated and to the dynamism of local actors, and not a question of non-local learning substituting local learning.

Thirdly, the presence of foreign ownership in the form of MNCs entry in the district is *per se* problematic, but not a strong destructive force. When foreign ownership creates abundant supplies of patient capital, and the actual use of this capital is determined by local strategic management, as in the case of ABB, foreign ownership can vastly improve the competitiveness of local firms by enhancing and supporting local learning. Or, alternatively, as in the case of Montebelluna, MNCs can tap into the knowledge circuit of the district without dismantling its structure. Clearly centrifugal forces are at work, and the existence of long distance supply chains represents not only a "district disclosure" but a contrasting force to agglomeration and to the district "density". The experiences of MNCs in the two districts

analysed illustrate how the availability of pedestrian resources such as logistics, sales and marketing etc. are of vital importance to the local development. In this perspective, foreign ownership emerges as a prerequisite for sustained localised learning because MNCs are rich in those resources that typically industrial districts do not possess with abundance: managerial skills, marketing and communication capabilities, coordination capabilities, high ability to protect innovation, etc. Some "synergies" emerge rather than opposition between local learning processes and the global exploration and exploitation of knowledge. MNCs can feed the local units with the transfer of knowledge. Similarly, non-local learning interfaces are essential as firms increasingly find themselves in need of specialised knowledge. These learning interfaces complement rather than substitute whatever goes on locally - such as inter-firm learning or in-house learning. Leaving firm level implications aside, there is however no doubt that there are negative implications for the local cluster when delocalisation occurs. Established local inter-firm networks are broken as firms substitute them with non-local ones, reducing the growth ability of the area, but there are also other developmental opportunities of business related to the use of the international division of labour.

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