

## **Industrial districts and waves of industrialization: A rich and contested terrain**

Marco Bellandi<sup>1</sup>

*Abstract:* The paper discusses Italian and international advances in industrial district studies using two explanatory tools. First, it distinguishes between ‘the’ industrial district as a set of models of industrial organization and local development and industrial ‘districts’ as empirical cases with close relations with the models. Second, it uses a historical frame to delineate three waves of industrialization in which industrial districts have performed a prominent role. During the first wave industrial districts were seed-beds for the first industrial revolution. The second wave corresponded to the re-emergence of industrial districts and similar forms in the developed countries during the second half of the twentieth century, after the golden age of mass production. The third wave is a matter, not of historical evidence, but of contemporary tendencies which combine the weakening of the second wave with new areas (in sectoral, territorial, and organizational terms) for industrial districts, and similar, at the beginning of the twenty-first century. Recent studies are classified according to their interpretations of these three waves. Reflection on the strengths and weaknesses of ‘the’ industrial district as an useful interpretative tool is a linking theme in the paper.

*Keywords:* Industrial district; clusters; local and regional industrialization and development

### *1. Three waves of industrialization characterized by a visible role of industrial districts<sup>2</sup>*

The concept of industrial district (**ID**) gained a new lease of life with the interpretative efforts undertaken after the end of the 1960s and aimed at understanding seemingly distinctive paths of industrialization in certain Italian regions. In that period the development of many localities was consolidating around sets of small and medium-sized firms, highly specialized and embedded in a local division of labour. In the 1970s, modern and specialized machinery was already in use in many of the small firms in the more rapidly growing areas, and labour conditions were improving. Their final products, which constituted the core of ‘Made in Italy’, were acquiring strong positions in national and international markets. Generally, persisting dependence on the strategic control of big firms was not apparent. These facts were at odds with the traditional view of industrialization as based on the central role of big firms. Rejection of a simplistic interpretation of the vitality of these sets of small firms as the sole result of production decentralization strategies by big manufacturing firms gave rise to a series of studies. The empirical inquiries conducted by economists, sociologists, geographers and historians were complemented by a search for appropriate frames of interpretation. Among these, recovery of Alfred Marshall’s analysis of industrial districts and external economies played an increasing though controversial role. Becattini (1979)<sup>3</sup> may be considered as officially inaugurating the Italian debate on the ID and its empirical counterparts, that is the “industrial districts” (IDs). They are, various types of localities of industry where ID features predominate. These studies soon intersected and started to

---

<sup>1</sup> Department of Economic Sciences, University of Florence, [marco.bellandi@unifi.it](mailto:marco.bellandi@unifi.it). This paper is part of the materials produced for the PICTURE sub-project, within the Interreg III - Regional Framework Operation: DISTRICT, Developing Industrial Strategies Through Innovative Clusters and Technologies ([www.district-rfo.org](http://www.district-rfo.org)). Useful comments and suggestions from Roberta Capello, Gabi Dei Ottati, Margherita Russo, and Fabio Sforzi, and English washing by Adrian Belton are gratefully acknowledged. The usual disclaimer applies.

<sup>2</sup> The frame of three waves could be seen as a variation on “the second industrial divide” or “new competition” themes. But I am not aware of papers on the three waves, and the image came to me while preparing a project for an international publication on industrial districts with Giacomo Becattini and Lisa De Propris, due to produce its results in 2008. A first presentation on the three waves was made with an address to the *22nd Industrial Marketing and Purchasing Group Conference*, Milan, Università Bocconi, 7-9 September 2006. I would like to thank Francesca Golfetto and the other conference organizers for the opportunity they gave me to address a large and specialized audience. This helped me to coalesce my ideas.

<sup>3</sup> Re-published various times in various languages.

interact with new international research on flexible specialization or neo-artisan production and, later, on the competitive advantage of nations, new competition, new regional worlds, innovative *milieus*, regional systems of innovation, cities and systems of cities, learning regions, proximity in organizations, entrepreneurial networks, new economic geography, clusters, local social capital, and local economic development in developing and transition countries and regions.<sup>4</sup>

These aspects are quite well known in the Italian and international literature.<sup>5</sup> In what follows I shall illustrate and reflect on recent advances in ID studies.<sup>6</sup> These intersect with the matters recalled above and enable me to discuss in perspective the strengths and weaknesses of the ID as an interpretative tool. For this purpose, adopted here is an expository frame which itself is the result of recent advances. It is used to distinguish three waves of industrialization in which IDs have performed a discernible role, and to classify recent ID studies according to their relevance to interpretation of one or the other of these three waves.

During the first wave, IDs were the seed-beds and first-comers of the industrial revolution. The second wave is the core of the debate just recalled on the re-emergence of IDs within developed countries during the second half of the twentieth century after the golden age of mass production. The third wave is now ongoing with the IDs and the new industries of the beginning of the twenty-first century.

## 2. *The first wave. Industrial districts as the first-comers of industrial revolution*

The recovery of Alfred Marshall's notion of the ID is the subject of a small but significant strand of contemporary study and reflection. This recovery has two main aspects. One concerns the meaning of the ID in Marshall's thought, and the relation between the ID in Marshall and the notion of ID as it has been resumed and developed in recent decades by Becattini and others. The second is the empirical aspect: that is, IDs in the nineteenth century and before. Were these exceptional cases or did they play a more profound role in the industrialization paths leading to and substantiating the first industrial revolution?<sup>2</sup> The two aspects are closely interrelated.

### 2.1 *The ID and Marshall*

Recent advances on the relation between Marshall's thought and the ID are partitioned here under three headings: the IDs at the core of Marshall's thought on market development and capitalism; institutional and evolutionary support for the realization of external economies; the de-coupling of external economies from the ID.

a) The hidden centrality of IDs. Marshall's early studies on the IDs of his time profoundly, and persistently, shaped not only his views on industrial organization, but more generally his conception of capitalism and market mechanisms.<sup>7</sup> In particular, significant passages in his early writings, like the

---

<sup>4</sup> This part of the introduction is based on an entry written with G. Becattini on "Industrial districts" for J. Beckert and M. Zafirovsky (eds.), *International Encyclopedia of Economic Sociology*, London, Routledge, 2006, pp. 342-344.

<sup>5</sup> For Italian studies on these concepts and debates see, among others, Bellandi (2003), Garofoli (2003), Capello (2004), Fortis and Quadrio Curzio (2006). In English see Becattini et al. (2003), Becattini (2004), Belussi et al. (2003), Cainelli and Zoboli (2004).

<sup>6</sup> Note that, apart from a few strictly necessary exceptions, I refer in this paper to works published (or re-published) in 2003 and thereafter.

<sup>7</sup> "On the one hand, the *locus classicus* of Marshallian capitalism was undoubtedly the industrial district, the place where his most typical analytical devices – external economies, the life-cycle of the firm, the representative firm – worked most effectively. It is true that his general views on the mechanisms of industrial organization enabled him to understand the merging tendencies of corporate capitalism and industrial concentrations which impended over the changeable world of small firms and internally mobile communities. However he never got to the bottom of the problems raised by the complicated relationship between socially embedded industries on the one

*Economics of Industry* and the *Pure Theory of Domestic Values*, suggest that English IDs characterized by the presence of small firms empirically bore out the hypothesis that economies of the division of labour cannot always be explained in terms of the control of large firms. Here Marshall attained compelling confirmation of the importance of appropriate contexts for sharing social experiences and productive knowledge.<sup>8</sup>

b) The support for external economies. For Marshall, the economies arising from an increase in the scale of production depend on a combination of specialization with appropriate solutions for coordination, motivation, and cognitive support. In the case of internal economies, the solution is the unification of strategic power over decisions and management within a large firm. Internal economies require a high degree of efficiency in business management, and they are influenced by various aspects (a company's difficulties of expanding in its particular markets, peculiarities of time and place, and broad tendencies in market and productive forces). Likewise, external economies, when applied to industrial organization, are always 'internal' to some pertinent organizational context, as exemplified by the localized industries of successful industrial districts (Marshall 1920, p. 271-273). The aggregate resources of the context should be large enough to support a high degree of division of labour within and among firms. Social institutions (e.g. custom), private (e.g. business) associations, and public action (Marshall 1920, 467-469), may complement market mechanisms in supporting the external organization of firms, governance of the division of labour among them, and consequently realization of the economies related to the collective scale of production. Among the market, the firm and the state, a variety of organisations are at work, partly managed through deliberate choices taken by interdependent agencies and partly conditioned by a sea of evolutionary constraints (Marshall 1920, pp. 243-249).<sup>9</sup>

c) Decoupling from the ID. The idea that economies of the division of labour may be realised by specialised firms in an industrial district appears early in Marshall's writings, whereas the distinction between 'external economies' and 'internal economies' comes quite late, probably not much before the first edition of the *Principles of Economics* in 1890. From the second edition of 1891 onwards, Marshall suggests a de-coupling of external economies from a narrow association with the localization of industries and the concentration of many small businesses. District external economies are still seen as 'very important', and Chapter X is still devoted to them. But other types are also considered, depending "on the aggregate volume of production of the kind in the neighbourhood; while others again, especially those connected with the growth of knowledge and the progress of the arts, depend chiefly on the aggregate volume of production in the whole civilized world" (Marshall 1920, p. 266). The decoupling of external economies from the ID increased the risks of their association with theories of perfect competition (economies external to the firm but internal to the sector) or with mechanistic theories of localization (external economies of agglomeration). These risks were not reduced by Marshall's concern to keep a 'general' standing for his theory of value in relation to the increasingly dominant neoclassical theories. On the other hand, with this decoupling, the role of 'place' in increasing returns was potentially extended from a single locality of industry to different interlinked territorial levels, much as 'time' has different interlinked scales. Marshall applied this view to the description of market and productive tendencies in *Industry and Trade*; but, contrary to what he was able to do with the time scale, he did not give an explicit systematic account of the interplay among different interlinked places and territorial levels within market economies and capitalist development.<sup>10</sup>

---

side, and their potentially rootless financial superstructure on the other" (from the "Introduction" by G. Becattini, M. Dardi, and T. Raffaelli in Becattini et al. (2006), p. xviii).

<sup>8</sup> See Loasby (2004), and "The industrial district and development economics" by G. Becattini in Raffaelli et al. (2006).

<sup>9</sup> This point has been drawn from "Internal and external economies" by M. Bellandi for Raffaelli et al. (2006). See also Bellandi (1982) and Part IV (d) of Raffaelli et al. (2006), in particular R. Martin on the "Localization of Industry".

<sup>10</sup> This point has been drawn from the entry on "Internal and external economies" written by M. Bellandi for Raffaelli et al. (2006). See also "Industrial district" by G. Becattini in Raffaelli et al. (2006).

According to some well-known views (e.g. Harrison 1993), Marshall's was a 'neo-classical' district driven by market mechanisms and private entrepreneurship exploiting a given technology, as opposed to the ID as re-conceptualized in Italy, with its socially-embedded and evolutionary features. The above outline suggests that such a sharp separation is at least questionable, in that contemporary discussion on the ID outside the precincts of neoclassical economics and methodological individualism has deep roots in Marshall.<sup>11</sup> It is true, however, that a partial basis for the 'neoclassical' interpretation is not absent in Marshall's *Principles of Economics*, and that contemporary approaches to the ID have provided a more explicit and specific explanation of socially embedded and evolutionary features than appears in Marshall.

## 2.2 Historical IDs

The hidden centrality of the ID for a great economist like Marshall, so alert to the empirical side of industrial organization, recalls that IDs played an important role within the first industrial revolution and throughout the nineteenth and early twentieth centuries. This was acknowledged early on in contemporary studies on historical IDs, for example in Sabel and Zeitlin's (1982) account of historical alternatives to mass production.<sup>12</sup> Recently, the work of historians has enlarged to produce more detailed knowledge "documenting an extraordinary range of districts" in the Triad.<sup>13</sup>

Cases of IDs are not exceptions. Some of them have declined; some have been the homelands of great companies at the helm of the factory system, like the Widnes chemical industrial district with the formation of the United Alkali Company (Popp et al. 2006); many have survived in subordination or in marginal niches; some have become great cities, like Birmingham and Lyon, where nonetheless lively vestiges of the old identity have survived in famous industrial quarters (e.g. the jewellery quarter in Birmingham); a few of the historical IDs have been able to preserve their identities thanks to various adaptations.

This increasing knowledge has come with interesting variations in perspective on the role of historical IDs, which I group here under three headings.

a) The early reaction. During nineteenth-century industrialization, IDs were not just a losing alternative to the system of (ever bigger) factories, the industrial employment of masses of poor and unskilled workers from the countryside, the centralization of productive and marketing knowledge away from artisans, the strengthening of national institutions, and the strategic importance of national heavy industries. IDs reacted to the technological and market challenge raised by the increasing importance of the factory system and the tendencies towards mass production and mass marketing, not only by developing flexible mechanization, but also by incorporating and re-elaborating parts of the factory system (Sabel and Zeitlin 1997). Through these interwoven processes, IDs probably made a significant contribution to industrializing countries and regions, and to the development of related technologies and skills.

b) Variety of forms. Marshallian features can be recognized in many historical cases qualified as IDs, which were not just agglomerations of industrial activity, but "nations within nations"<sup>14</sup> characterized by one or a few localized industries and by an industrial atmosphere, made up of related

---

<sup>11</sup> Raffaelli (2003) illustrates the deep roots of Marshallian industrial organization in evolutionary thinking.

<sup>12</sup> A current of historical inquiry, before the revival of ID studies, acknowledged the importance of the regional dimension in European industrialization paths. See for example Pollard (1993, first published in 1953), and Pollard (1981). Curiously, this last book appeared in the same years as the beginning of the Italian debate on IDs, but unlike in Italy, Alfred Marshall's contribution on industrial districts was not considered.

<sup>13</sup> Zeitlin (2007). See also Lescure (2006), Sabel and Zeitlin (1997), and Wilson and Popp (2003).

<sup>14</sup> "If the local spirit of any place ran high: if those born in it would much rather stay there than migrate to another place: if most of the capital employed in the industries of the place were accumulated from those industries, and nearly all the income enjoyed in it were derived from own its resources: if all these conditions were satisfied, then the people of such a place would be a nation within a nation in a degree sufficient to render propositions, which relate to international trade, applicable to their case from an abstract point of view; ..." (Marshall 1919, pp. 13-14).

skills, entrepreneurial attitudes, and institutional support. Interesting cases were related to the predominance of small and medium-sized firms, to local institutional support for an evolving local division of labour among firms, and to good relations between employers and workers. The long-run historical evidence on the combination of local forces, industrial organization, and external resources and institutions, together with their path of change and adaptation, enables fruitful reflection on ID forms (Popp et al. 2006, Zeitlin 2007).

c) The seed-beds of industrial revolution. Although the institutional support for decentralized forms of districts (the ‘canonical’ forms) was richly varied in its architectures and functions, it was frequently related also to the pre-existence and transformation of old-regime city governments and local guilds (Guenzi 2006, Zeitlin 2007). Even if destroyed or superseded in the wake of industrial and political modernization, in the eighteenth and the nineteenth centuries, old-regime corporations and city governance structures seem to have been important sources of local knowledge for new forms of institutional support to decentralized organization within thriving IDs.<sup>15</sup> Furthermore, the old artisan corporation may be seen as providing the institutional support for realization of a core local external economy in manufacturing systems before industrialization: that is, the reproduction of a complex web of specialized technical competencies and their adaptation to slow but significant processes of innovation in products and technologies within delimited fields of trade. This core external economy was the key factor in the organization of craft production within many cities along lines that anticipated district processes: according to Guenzi (2006, p. 34), these features “were present in several artisan urban systems of various European countries in the sixteenth, seventeenth and eighteenth centuries”. This may even suggest that the accumulation of local productive knowledge through district-like processes furnished one of the key bases for industrialization take-offs, combining elements of continuity and discontinuity with respect to the old production modes.

Research on historical IDs and advances on Marshall’s thought suggest that it is possible to conceive a first wave of industrialization in which IDs performed a visible role. Deeper understanding of this role probably requires a combination of case studies and interpretation models on historical IDs with a territorial re-interpretation of tendencies and factors on trans-local, regional, national, or international scales.<sup>16</sup>

### *3. The second wave. Re-emergence of the districts in the developed countries after the golden age of mass production*

The force of local social and business relations, overlapping at the local level, is exemplified by Marshallian IDs characterized by small specialized firms, and where economies of the division of labour can be achieved without the extended hierarchical organization of big firms. This core concept was resurrected and developed at the end of the 1970s, and this aided understanding of the re-emergence of IDs in industrialized countries after the golden age of mass production.

Italy is the country which was most notably affected by this second wave from its early stages onwards. Italian industries had never been so largely organized by mass production and large firms as in the other ‘more advanced’ industrial countries. Various Italian regions retained the vestiges of powerful artisan urban systems, and some traditions of historical IDs survived in various forms. Furthermore, they had local political systems oriented to the support of specific public goods, and numerous inhabitants of rural areas with skills and attitudes consistent with active involvement in small light-

---

<sup>15</sup> Guilds have usually been associated with retrograde effects on early industrialization processes. Marshall noted the presence of such effects as an evil possibility, though not as a strict regularity.

<sup>16</sup> Industrial regions and systems of cities, rural industries, agricultural transformation, technological trajectories, development of trans-local and international trade, trade unions, educational systems, public policies and legal institutions, etc., in the eighteenth and nineteenth centuries. See Pollard (1981). For a longer-period view, Braudel (1977).

industrial firms.<sup>17</sup> The combination of competencies related to the nuclei of ‘modern’ industry with these regional historical factors, and the opening of windows of opportunity in national and international markets after the Second World War, and in particular from the 1960s onwards, define the general frame for understanding Italy’s primacy in the second wave.<sup>18</sup> It is not the intention here to conduct a new *grand tour* of the various strands in the literatures on these topics. Instead, I shall focus only on some points that I see as nodal for the recent debate.

### 3.1 Nature and content of the second wave

Second-wave IDs arose and operated in difficult competitive environments. Coming after the golden age of mass production, IDs were constantly confronted by the concentrated economic and strategic power of large firms, powerful capitalists, and big urban systems. Or on the other hand, they were liable to dissolution within market relations. The ID concept fared no better, in that it had to break through entrenched scepticism among economists and policy-makers. The first general explanation of the second wave was proposed by M. Piore, C. Sabel, and J. Zeitlin, who identified a “second industrial divide”, with the re-emergence of flexible specialization and artisanal modes of production as a viable (but not necessarily dominant) alternative to mass production generated by increasing demand for variation in many consumer goods by growing numbers of well-off households.<sup>19</sup>

This perspective aids understanding of the wide array of market and productive forces supporting the re-emergence of IDs. On the market side, the neo-artisanal tendency includes, of course, the demand for a mass of customised goods raised by expanding segments of consumers who had satisfied their basic needs and had surplus purchasing power. But it also extends to the demands raised by a large pool of users for personal services, social services, and various artificial aids to remedy weaknesses and handicaps. On the production side, the changing nature of needs demanded that capitalist production exit from the ‘factory’ and return to ‘workshops’ within society to acquire artisanship, customised services, and ties with historical-cultural and environmental sources of distinctive experiences (Becattini 2004).

Although Becattini and other scholars sharing neo-Marshallian views on the ID were sympathetic to the notion of ‘flexible specialization’, they were never completely at ease with it, at least in its narrower meaning.<sup>20</sup> The reason is quite simple: such explanations were elaborated mainly along the productive and business axis, with the socio-cultural and territorial axis acting as support. The same applied to the concept of ‘industrial cluster’: that is, on Porter’s definition, an agglomeration of firms which compete but also cooperate.<sup>21</sup> From a Marshallian perspective, where IDs are primarily “nations within nations”, the latter axis had to be granted an interdependent but not subordinate status.<sup>22</sup>

---

<sup>17</sup> In a still unpublished paper Becattini recalls a comment by Alfred Marshall (1919, p. 107) in *Industry and Trade* at the opening of a chapter entitled *The industrial leadership of France. Individuality and refinement in production*: “There was a time indeed, at which the ascendancy among Latin nations belonged clearly to Italy: and, though crippled during centuries of internal conflict and of oppression by external force, she is throwing out flashes of genius, so reminiscent of the two ages in which she was the centre of the world, that she may ere long be again a chief leader: but the time is not yet”.

<sup>18</sup> References may be found in extensive bibliographies, such as in Tessieri (2001) or at the end of McDonald et al. (2002).

<sup>19</sup> Interpretative frames in a similar vein were proposed by M. Storper, A. Scott, and M. Best. ID and IDs studies received strong “ideological” support from these studies, as they came from prestigious American universities and interacted with Italian studies from the beginning (Brusco and Sabel 1981).

<sup>20</sup> However, these Anglo-American authors are not to be located within a narrow frame of interpretation.

<sup>21</sup> Many competent authors find it difficult to distinguish between ‘localities’ of industry, namely IDs, and ‘industries’ in a locality, namely clusters. The industrial core of the ID is a cluster with particular but not exclusive systemic features. For recent surveys on clusters see, for example, Cortright (2006), McDonald et al. (2002), Pitelis et al. (2006), Porter (2003), Sölvell et al. (2003). Examples of studies focusing instead on the socio-cultural and territorial axis are Moulaert and Nussbaumer (2005) and Rodríguez-Pose and Storper (2006).

<sup>22</sup> This is clearly illustrated by Becattini’s (2000) book on Prato, the renowned textiles district near Florence. Becattini recounts the history of a local society in the second half of the nineteenth century which combined

A. Bagnasco (2003), a key contributor to Italian ID studies from a sociological point of view, has recently proposed a synthetic view of the two axes within the second wave. In particular regard to the institutional, socio-cultural and territorial axis, he points out that the upsurge of international flows of people and communications in past decades has placed the traditional forms of regulation of production and social identity under strain, particularly those built around the nation state. This has brought about a rediscovery of “the importance of societal self-organizing capacities, which have often a small organizational size, with the image of ‘small cultural homelands’ where to look for reserves of meanings in a world which appears remote ...”<sup>23</sup>. In this phase, the industrial districts “are perhaps the first precocious examples of local *recentrage* of the social organization” (p. 99), where ‘*recentrage*’ stands for restoration of an open correspondence between (“to put in square”) the evolving core of a production system and reproduction of the social resources necessary for it to work (p.103).

International research has confirmed the presence of IDs in various industrialized countries.<sup>24</sup> Also important for an overall assessment of the strength of the second wave is the seemingly growing presence of nuclei of ‘district processes’ within localities, and forms of local development which do not comply with canonical district forms. This is the subject of the next sub-section.

### 3.2 Views on district processes and local development

District processes, as described by Becattini (2003), are based on the social and productive structure of the district, and help reproduce this structure in an enlarged way amid variations and adaptations required by external challenges and internal conflicts. A list of district processes includes: a) continuous re-articulation of the local division of labour; b) the constitution and variation of sets of specific public goods and services, c) the constitution of open political and industrial leadership, d) the reproduction and renewal of contextual knowledge, and a spiralling feedback with technical-scientific knowledge, e) the internalisation, among the district agents, of common motivational traits (generalized trust and entrepreneurial attitude); f) social and economic mobility.

The so-called ‘Marshallian industrial district’ (MID)<sup>25</sup> is an ideal-typical model of a ‘locality of industry’<sup>26</sup> exhibiting a steady path of development. The structure is characterized by a certain degree of local dominance by an industrial cluster (*local specialization*), a decisive but not exclusive role of locally embedded centres of strategy and decision-making in the definition of local private and public investments in technical, human and social capital (*endogeneity*), a structured plurality of autonomous centres of business decision-making (*de-centralization*).<sup>27</sup> The effective operation of this structure requires its incorporation into historically evolving conditions characterized by the right combination of local

---

economic growth and social cohesion amid external challenges and internal conflicts, finding an industrial organization consonant with its local forces, and stable but evolving access to a set of national and international markets. The book has been translated into English and Spanish, and a Chinese version is forthcoming.

<sup>23</sup> Bagnasco (2003, p. 96). Free English translation from the Italian.

<sup>24</sup> For recent publications providing an overview of quantitative empirical research studies and large-scale identification on IDs in Italy see: Banca Intesa (2006), Giunta e Bonacchi (2006), Ice (2006), Istat (2006), Panizza (2003), Signorini and Omiccioli (2005), Sforzi (2004). On recent research on IDs in the long run with large data bases, see Becattini and Dei Ottati (2006) and Becattini and Coltorti (2006). On applications to other countries: Benko (2006), Boix and Galletto (2006), De Propriis (2005), Ybarra (2006).

<sup>25</sup> The term and the model were proposed by Becattini at the beginning of the 1990s. This essay has been recently re-published in Becattini (2004). I shall return to some controversies related to MID below.

<sup>26</sup> A locality of industry is a territory shaped by a local society and by one or a few evolving industrial clusters rooted in the same local society (i.e. local production systems). “Industrial” denotes a system based on the systematic and professional activity of a set of competent producers helped by various forms of accumulation of capital. For more references on this see Bellandi (2003, chaps. 4 and 6).

<sup>27</sup> To be noted is that, contrary to some simplified representations, the model does not adopt a “romantic” or “localist” view of local development as being 100% specialized, endogenous, decentralized (that is, consisting of very small local firms): 100% would be only a limit condition, not an “ideal” one.

forces<sup>28</sup> and external conditions<sup>29</sup>. Market and institutional actions by district agents upon and within this incorporated structure propel the potential external economies. Their realization brings about increasing returns for local business and resources which fuel district processes supporting development and change in the same structure.

In short, the model defines the possibility of development of human capacities in a locality (Sforzi 2005) as partly but significantly governed by local decision-making, and as yielding returns which foster both new industrial investments in local capacities and welfare, workfare and social cohesion in the locality.

Outside ideal-typical conditions, local development may be more generic, less endogenous, more centralized, and the district processes may be less robust and articulated. Variety is useful and even necessary in face of various types of external market conditions, technology, institutional infrastructure, and cultural tradition, and against possible discontinuities in local and external conditions. However, beyond certain thresholds of sectoral dispersion among the agglomerated activities, dependency on external strategic control, and business centralization, clustering and economic development in a place are merely the effects of the variable location choices of more or less dis-anchored companies and/or state departments.

The explicit definition of the MID model in dynamic terms – that is, in terms of paths of local development – results from various more or less recent studies. It provides an up-to-date referent for reflection on the analytical and normative status of the ID. Before turning to this topic, in 3.3, let us recall some of the recent advances related to the ‘from the ID to local development’ perspective.

- Local development outside IDs intersects with a variety of phenomena and related studies: for example: high tech clusters, technological districts, and high culture clusters in larger urban areas, rural local systems, and the development, transition and renewal of the old poles of big companies.<sup>30</sup>
- The dynamic perspective also includes models of adaptation and adjustment mechanisms in IDs (or other types of localities of industry, and their clusters) which have to cope with discontinuities in their development paths.<sup>31</sup>
- The just-mentioned strand of studies illustrates that IDs can be compared with other types of localities of industry and models of local development, and that the industrial clusters at the core of the economic activities of IDs can be compared with other types of clusters.<sup>32</sup>

Thus, paths of local development take various shapes and are broader in range than IDs *strictu sensu*. In some periods and countries, powerful industrial regions have been largely characterized by the

---

<sup>28</sup> In particular: cognitive proximity within a pool of complementary competencies; shared attitudes towards a role for trust in local exchanges; entrepreneurship as the expression of life projects featuring a community of local producers.

<sup>29</sup> In terms of market and technological tendencies, regional and national institutional pivots, national and international legal frames. Market and technological tendencies are those that I referred to previously when discussing flexible specialization. I shall return to the external institutional side in 3.3.

<sup>30</sup> E.g. Belussi et al. (2003), Best (2006), Camagni et al. (2004), Cooke and Lazzeretti (2007), Di Tommaso et al. (2004), Gilly and Perrat (2005), Lazzeretti and Petrillo (2006), Moreno et al. (2005), Perugini (2006). For perspectives on banking and local development see, e.g., Alessandrini et al. (2005) and Signorini and Omiccioli (2005).

<sup>31</sup> Some recent studies are Becattini et al. (2003), Popp et al. (2006), Lombardi (2003), Belussi et al. (2003).

<sup>32</sup> Compare Becattini et al. (2003), Crouch et al. (2004), and Popp et al. (2006). Following his reflections on societies “out of square” and “local *recentrages*”, Bagnasco (2003, p. 107) writes: “The possibility of exporting and complicating economic analysis of districts with application to other and more complex types of local systems corresponds probably to the fact that the local *recentrage* of the society is much more diffused and, say, structurally embedded in society in the globalization age... This is evident in the case of cities’ – free English translation from the Italian.

presence and evolution of interrelated paths of local development, with IDs among them.<sup>33</sup> Many other regions are arenas or contested terrains where different types of capitalism overlap. Upper-level favourable institutional pivots have been and are necessary for local development, for various reasons. This is one of the most critical aspects, since upper-level institutions are rather easily subject to the strong voice and ideological power of more centralized, if not monopolistic, forms of capitalism.

### *3.3 The theoretical and normative status of the ID*

Since the outset, the recovery of the ID has aroused controversy, even among scholars sympathetic to the ‘thing’. One major difficulty is translating the ID as a concept and model into IDs studies. Consider for example the MID: if this is taken not only as a model but also as a rigid rule for the identification of empirical districts, the set of the IDs would shrink, also in Italy, to a few almost mythical cases. Indeed, the large-scale statistical identification of IDs (see note 24) has always focused only on proxies for structural characteristics. Hence, cases on the list of ‘statistical’ IDs may have lost dynamic capabilities even though they still comply in terms of their aggregate structural characteristics. Or, instead, the list may not include cases which comprise vibrant district processes but do not comply with the statistical thresholds defined for one or more of the proxies for the structural characteristics.<sup>34</sup>

Zeitlin (2007) has recently examined such mis-identifications: a model more comprehensive than the MID would be needed to cover the entire set of such cases, and the possibilities of entry into, transition within, and exit from the set (see also Popp et al. 2006). The results reported above in 3.2 go in precisely this direction: the explicit definition of a circle of dialectical relations between structural characteristics and district processes, instead of the original coalescence into a block of requisites; the generation of different models of localities of industry, clusters, local development paths on a basis comparable with the axes defining the MID; and explicit consideration of the role played by regional and national dimensions. It is true, however, that gaps and limits still hamper the constitution of a rigorous comprehensive ‘theory’ in terms of both analysis and normative applications. There follows a list, obviously not exhaustive, of interpretative problems still unresolved by studies on the second wave.

- Could IDs be helped to emerge and replicate? Is the presence of favourable socio-cultural and territorial conditions a necessary basis for any plausible strategy of local development? If this is the case, are such conditions to be identified with those supporting the development of IDs in some Italian regions (the so-called Third Italy) in the decades after World War II?<sup>35</sup> The conjunction of studies on historical districts with those on contemporary IDs clearly shows that different specific combinations are possible, and variety is also featured by ‘Third Italy’ cases.<sup>36</sup>
- Local reserves of socio-cultural and territorial factors (cognitive proximity, trust, diffused entrepreneurship) come under strain along transition paths within mature IDs (e.g. Dei Ottati 2003). This strain, and the weakening of ID structural features, may be temporary, and may not impede the (re-)gaining of a satisfactory path of local development. What is still unclear is how the alternatives arise within transitional paths.
- However, recent studies have helped to condense previous research materials and to focus on possible solutions. The architecture of locally specific public goods is a source of inertia but also of resilience for a district facing a discontinuity. This is the field and the object of local industrial

---

<sup>33</sup> The image of the industrial region, including a set of industrial districts and large towns with interrelated sets of specialized activities, is not ignored by Marshall, as has been recently underlined in “The industrial district and development economics” by G. Becattini in Raffaelli et al. (2006).

<sup>34</sup> White noise in ‘statistical’ IDs identification is amplified by ‘policy-driven’ identification (e.g. in Italy at the level of regional governments). White noise is much greater with clusters, since these are subject to world-wide attempts at statistical or policy-driven identification. The diffusion of critical assessments (see for example Asheim, Cooke and Morgan 2006, and McCann 2006) is partly related to this burgeoning noise.

<sup>35</sup> See Rullani (2004) and Bellandi (2006) for various views on the replication problem.

<sup>36</sup> On recent, more or less critical, re-appraisals of the Third Italy, compare Becattini and Coltorti (2006), Becattini and Dei Ottati (2006), Dunford and Greco (2005), Garofoli (2003), and Trigilia (2005).

policies<sup>37</sup>, where strategic public and private agencies, local and non-local, meet evolutionary forces, local and non-local.<sup>38</sup> The striking of appropriate balances between embeddedness and autonomy, and between leadership and participation, is crucial for the fruitful management of transitional problems in local development paths (but also in replication attempts).<sup>39</sup>

- Difficulties and paradoxes of policy and politics which arise at general and a-temporal levels of discourse find solution within conditions evolving in historical time, as S. Brusco argues.<sup>40</sup> From this perspective, step-wise processes of learning and discovery, mobilizing interrelated networks of stakeholders, are of key importance (Rodrick 2004, p. 4).

#### *4. The third wave. Districts and new industries at the beginning of the twenty-first century*

At the beginning of the new century, new and old industries are finding new local bases in new and old industrialized countries. This may be seen as the result of an accelerated phase in the globalization process characterized by a set of significant but contradictory tendencies and conditions. Reflection and debate impinge here on both IDs and the ID.

##### *4.1 New bases of district processes in an age of struggling old IDs and thickening global networks*

Some global tendencies have menacing implications for old (world) IDs. In particular:

- International production fragmentation raises significant threats to manufacturing in second-wave industrial districts, especially when combined with emerging local contradictions.<sup>41</sup>
- Neo-Fordist and neo-technological tendencies find new sources of cheap labour and cheap land and thus expand the dominance of global value chains led by big MNEs.<sup>42</sup>
- Furthermore, in new industrializing regions, some of them in countries of enormous demographic size and with powerful state structures and traditions, global value chains combine with local forces and strong public hand.<sup>43</sup>

---

<sup>37</sup> Bellandi and Di Tommaso (2006), Brusco (2007) and McDonald et al. (2002) include references to policies for IDs and clusters. More on cluster initiatives in Sölvell et al. (2003). On Local Economic Development initiatives: Ceglie et al. (2006), Nadvi and Barrientos (2004), Möhring (2005). On European Union commission related policies: Bellandi and Caloffi (2006), Bellini and Landabaso (2005), Viesti and Prota (2005).

<sup>38</sup> Many public goods specific to local development require direct action by, or the support of, public and collective agencies (together with customs and conventions). The action of public players must be embedded. If some degree of autonomy from private players is not preserved, the risk of economic and cultural capture is high (Rodrick 2004), whereas too much autonomy means separation and lack of the knowledge needed to give effective features to the public goods.

<sup>39</sup> Participatory methods, till? democratic legitimacy of decision-makers, help local development. Conversely, entrepreneurial action at a systemic level requires centralization (transitionally, at least) into the hands of some public-private agencies managing the development of many operational aspects (with risks of private capture and prevalence of sectional interests): Amin (2004), Pitelis et al. (2006), Schmitz (2004), Sabel (2005), Rodrick (2004).

<sup>40</sup> A collection of academic writings by the late Professor Sebastiano Brusco, edited by some of his former students, is forthcoming (Brusco 2007), and will include an important section on policy (an early expression? in Brusco 1982). These writings have still much to say, and we are only sorry that it is no longer possible to enjoy the advice of such a master.

<sup>41</sup> For threats at home see Giovannini (2006). On international value chains and local systems see Pietrobelli and Rabelotti (2006), Schmitz (2004), Tattara et al. (2006).

<sup>42</sup> The neo-Fordist tendency renews classical industrialisation: the standardisation of components and the automation of processes for the mass production of goods with global success and restricted differentiation. The neo-technological tendency concerns the forces propelling investments in information processing, communication, learning, and innovation in an increasing number of economic and social fields.

<sup>43</sup> On the Chinese competitive challenge at the beginning of the new century see Di Tommaso and Bellandi (2006) and Enright et al. (2005). On China and other Asian countries: Chandra (2006), Nadvi and Halder (2005), Saxenian (2005).

- Finally, in the old/post industrialized countries, the continuous increase of inter-regional and international flows of persons and information may undermine the local accumulation of social experiences and identities, i.e. the levers of local *recentrage*.<sup>44</sup>

In face of the challenges raised by these tendencies, and the difficulties suffered since the end of the last century by many IDs in Italy and in other countries of old industrialization, strong doubts have again been expressed by various economists on the prospects for the reproduction of district forms and processes.<sup>45</sup> Considering the emergence of district processes and forms in new industrializing countries, and the increasing number and weight of resources devolved by international organizations to support so-called ‘local economic development’<sup>46</sup> in some of those countries, this may not be the end of the ID and of IDs as such: they may disappear from post-industrialized countries and reappear in new ones!

Moreover, the resilience of second-wave districts has been frequently undervalued in the past. And this may be happening again.<sup>47</sup> It appears that some second-wave industrial districts are adapting their organization in order to extend district processes to a trans-local and trans-international scale. Furthermore, MNEs are also able to rely on developmental anchoring strategies whereby internal corporate processes are complemented with external processes of knowledge exchange and institution building which extend to various local systems and clusters with contextual innovative capabilities in related fields of production.<sup>48</sup> Therefore, although it is true that ‘old’ IDs in post-industrialized countries are facing major challenges, and those which do not react with energy and creativity will be doomed,<sup>49</sup> many may still survive, and even progress if appropriate changes are made to their mix of structural characteristics and district processes, and with the application of appropriate transition mechanisms. Nor can one exclude the emergence, within post-industrialized countries and regions, of new IDs, or of forms of local development with certain ID features accompanying the growth of new industries, or of new variations on industrial traditions.

---

<sup>44</sup> In fact local *recentrage* in an age of increased global flows must be put in a multi-scalar setting. Differing views on this point have fuelled recent debates: see Amin (2004), Asheim and Herstad (2005), Corpataux and Crevoisier (2005), Gilly and Perrat (2005), Rullani (2004), Rodríguez-Pose and Storper (2006), Scott and Storper (2003). Zeitlin (2007) stress that multi-scalarity was important in the first wave as well.

<sup>45</sup> On Italian debates concerning industrial decline, dwarfism (*‘nanismo’*), sectoral maturity, and the like, see, for example, de Nardis and Traù (2006), Onida (2004), Signorini and Omiccioli (2005), Solinas (2006), Varaldo (2006).

<sup>46</sup> See note 37. To be noted is that when industrial development economists have examined the experience of second-wave IDs, they have usually preferred to focus on clusters, that is, on the market and technological axis alone, the reason being that the ID is too exigent in terms of socio-cultural requisites and cannot be easily applied to the conditions of developing countries.

<sup>47</sup> The mainstream is dominated, as always, by neoclassical economists in the high quarters of theory, and by the ‘the big firms do it better’ view among industrial economists. And the ‘super city return’ view now has wide currency among regional economists and sociologists.

<sup>48</sup> References in Bellandi (2003, chap. 5), Capello (2004, sect. 7.3). Italian trends are discussed in Garofoli (2006), De Propriis et al. (2005), Mariotti and Mutinelli (2006), Signorini and Omiccioli (2005). The late Professor Sergio Vaccà, whose recent loss we are mourning for, illustrated masterly the way for a bridge between the world of big MNEs and the world of IDs: Vaccà (1996).

<sup>49</sup> In the past years of crisis in Italian industry, some IDs have done better and others worse: see Banca Intesa (2006), Ice (2006), Fortis et al. (2006). This is partly due to sectoral differences (e.g. De Arcangelis and Ferri 2005, and Russo 2007), and partly to organizational factors and strategies (e.g. Chiarvesio et al 2004). Globalization also has an impact, with various effects, through large immigration flows into IDs: references in Solinas (2005). These differences have prompted new attempts to define typologies of district-like forms: e.g. Paniccia (2003). The earliest attempt regarding second-wave Italian IDs is Garofoli (1981). For a general typology of U.S.A. clusters see Porter (2003).

#### 4.2 *The third wave as a research perspective*

Is the above-mentioned reaction enough to conceive a third wave of industrialization characterized by a visible role of the ID and the IDs on a worldwide scale? Hopefully, it will be possible to gain a clearer idea on this in a few years time. I mention in conclusion some related research perspectives.

a) Agents and bridges for international trans-local projects. The internationalization of IDs raises difficult problems in terms of both practice and interpretation. Medium-sized district firms seem to have the means necessary for good performance in face of the internationalization challenge.<sup>50</sup> They may help the IDs where they operate by breaking the ice, building bridges, and favouring the collective learning needed for smaller firms. However, the risks of un-anchoring, with the leader firms separating their destiny from their IDs, are not to be underestimated.<sup>51</sup> Public policies should support private internationalization strategies favouring cluster-to-cluster cooperative relations embedded in the local forces, based on a shared set of trans-local public goods, and aimed at co-realising and/or co-selling sets of differentiated product lines for various markets.<sup>52</sup>

b) Local strategic planning. Embedded (or at least, anchored) entrepreneurial action at a systemic trans-local level requires (transitional) centralization into the hands of some public-private agencies managing the development of many operational aspects. One cannot dismiss the risk that an elite of public and private agencies at the trans-local level will become a centre of power pursuing sectional interests increasingly separated from the communities of people and producers involved. For this reason, too, participatory methods and democratic legitimacy should be preserved, although the ways in which they can effectively steer the systemic change and transition of complex industrial and technology systems are not yet well understood. In fact, the quite recent surge of methods of strategic planning and local economic development, applied within cities and districts in a transitional state, can be seen as practical attempts to combine different principles and levels.<sup>53</sup> Cities – that is, larger urban systems characterized by a fractious dynamism – have something to teach districts. Bridging different and sometimes distant localities and clusters is more difficult than local economic development *per se*. But it is a frontier on which the destiny of many localities, as units of development faced with the dilemma between de-industrialization and protectionism, depends in the present age of trans-local and international threats and opportunities

c) Regional systems of IDs and cities for local productivity. New frames of international division of labour, even in the perspective of cluster-to-cluster collaboration, are ill-founded without a revamping of local productivity. Public and collective investments are needed, and they should be made in infrastructure so as to produce or reproduce high craft skills and R&D competencies able to liaise with traditional sources of local creativity, and management competencies able to drive internationalization processes (possibly with the help of new firms specialized in knowledge services).<sup>54</sup> The constitution and maintenance of some of these competencies require a high level of urban infrastructure. The territorial scale and urban quality of an industrial district are rarely adequate to this purpose. A regional

---

<sup>50</sup> See Coltorti (2004) and Cainelli and Iacobucci (2006), Tattara et al. (2006). To be noted is a possible change in the use of terms: medium-sized firms, district ones as well, cannot be strictly conceived as locally ‘embedded’: the core of their relational ‘capital’ tends necessarily to extend outside the local homeland. So, when they still maintain a strong local connection in terms of knowledge exchange and institutional building, they can be seen as ‘anchored’ (from P. Veltz) more than ‘embedded’ in a single place: Corpataux and Crevoisier (2005). For an extension to anchored people: Amin (2004), Rullani (2004). Particularly interesting cases, from the perspective of IDs’ internationalization, are ‘trans-local’ firms anchored to more than one locality, ‘possibly’ acting as bridges between localities.

<sup>51</sup> According to an optimistic view, enlarged firms losing their district’s roots are crucial for the constitution of new clusters related to larger urban systems and networked with various places and agents at the global level.

<sup>52</sup> A typology of such specific public goods is set out in Bellandi (2006). See also Rullani (2003), Saxenian (2005), Sabel (2005), and Zucchella (2006).

<sup>53</sup> As discussed for example by Amin (2004), Bagnasco (2003), Garofoli (2003), and Sabel (2005).

<sup>54</sup> The bases of diffused local creativity are challenged but not necessarily marginalized: see on this Asheim and Herstad (2006), Bellini and Landabaso (2005), Lane and Maxfield (2005), Lester and Piore (2004), Mistri (2006).

milieu hosting dynamic regional cities and districts may offer a solution if the relations among networks of firms, research centres, knowledge services, high-level trade facilities, proactive local and regional policy-makers are able to develop through the management of conflicts and fruitful interactions.<sup>55</sup>

These perspectives suggest possible district reactions to the present phase of globalization which counter the shrinking of local developmental features (endogeneity, decentralization, productive specialization) even in old/post industrialized regions. This would mean that the MID is still thriving. Its gravitational strength seems to have diminished nonetheless; and this implies that a good number of old and proto IDs have adapted to the challenges and reduced the weight and centrality of manufacturing activities, and they are to be found orbiting quite stably and quite far from the core.<sup>56</sup> In new industrialized/industrializing regions, large-scale concentrations of manufacturing activities, pre-existing local forces, strategic planning, and trans-local collaboration with mature IDs may engender the convergence of several orbits around the MID core, albeit with the support of socio-cultural and institutional mechanisms still not clearly identified.<sup>57</sup>

## 5. Conclusions

Loasby (1998, p. 70), referring to Marshall and introducing an analysis of IDs as “knowledge communities”, wrote: “For Marshall, [the] principle of differentiation combined with integration was the key to understanding the working of economic systems. Industrial districts were particularly clear manifestations of an universal economic phenomenon, and so it is important to respect Marshall’s methodological principle of continuity and not exaggerate their distinctiveness as a form of industrial organization”.

**Fig. 1- Three waves of industrialization characterized by a visible role of industrial districts**

- ❖ *The first wave: IDs as first-comers of the industrial revolution in the nineteenth century UK, France, Germany, USA, etc.*  
Levers: the accumulation of local productive knowledge through district-like processes in pre-industrial manufacturing as a key basis for industrialization paths.  
Threats: the surging factory system, tendencies towards mass production and mass marketing, the strengthening of nation-state institutions.
- ❖ *The second wave: Re-emergence of IDs in the developed countries after the golden age of mass production in the second half of the twentieth century*  
Levers: neo-artisanal market and technological tendencies and the need for local *recentage* of the social organization meet local forces (surviving in niches of the mass production system).  
Threats: IDs re-emerge in-between the concentrated power of incumbent big firms (powerful capitalists, large urban systems), and the dissolutive power of market relations.
- ❖ *The third wave: At the beginning of the twenty-first century, new and old industries find new local bases both in industrialized and industrializing countries and regions*  
Levers: IDs, combining with the resurgence of regional cities at home and local forces in industrializing regions, extend district processes on trans-local and international scales.  
Threats: Neo-Fordist and neo-technological tendencies, finding new sources of cheap factors, expand the dominance of global value chains led by big MNEs.

Waves surfing (Fig. 1) seems to have confirmed the robustness of Loasby’s view, testing it on wide scales of time and place with regard to both of its implications: that IDs are clear manifestations of some basic forces shaping the development of industrial organization, on the one hand; and that the

<sup>55</sup> See Bagnasco (2003, chap. 3), Bellandi and Caloffi (2006), Bonaccorsi and Nesci (2006), Bröcker et al. (2003), Capello (2004, sect. 3.6), Cooke et al (2004), Dunford and Greco (2005), Rinallo and Golfetto (2006).

<sup>56</sup> Compare partly contrasting views on the nature of local development in these conditions: Amin (2004), Asheim and Herstad (2006), Giovannini (2006), Johannisson and Lindholm-Dahlstrand (2006), Rullani (2004).

<sup>57</sup> Scott and Storper (2003) advocate the inclusion of a true regional dimension within development economics.

same forces systematically exceed the limits of single IDs and of ID forms and processes, on the other hand.

The ID has acquired a more articulated status in recent studies. The MID has been explicitly put into the dynamic frame of a steady path of local development. But MID is not the ID, since MID is not an isolated pole but the core of a web of related models whose various combinations offer insights for comparison with different paths of local development, along either the market and productive axis or the socio-cultural and territorial one, if not along both of them. Some such combinations have been endorsed as defining 'new' models of ID with respect to the 'traditional' MID. In my opinion, however, it is not yet clear what an effective alternative to the MID at the core of the web could be.

Finally, the concept itself of a wave of industrialization characterized by the visible role of industrial districts relates to the possible convergence of a complex set of forces and conditions. The ID is a 'species' that, by adapting to various conditions and forms, finds niches in different ages and places of capitalism. But a wave is an age when the ID finds a good number of areas and arenas; and it features large and powerful old, post- and new industrialized regions. Opportunities are opened by the relative importance of particular mixes of general tendencies in market, productive, and social forces. A wave is produced when such opportunities trigger the action of compressed but powerful forces, such as those included in regional and local pools of trust, competence and entrepreneurship, and the action is helped, or at least not hindered by more or less deliberate, multi-level institutional and political pivots.