Local Systems' Strategies Copying with Globalization: Collective Local Entrepreneurship

Covi, Giovanni

PhD in Economics Finance, Department of Economics, University of Verona

31 January 2014

Local Systems' Strategies Copying with Globalization: Collective Local Entrepreneurship

Author: Giovanni Covi

First Draft: 31st February, 2014

Abstract

The paper aims at investigating the possible trajectories of regional clusters (industrial districts or local systems) in order to depict feasible strategies to cope with globalization. First, same relevant stylized facts on the new structure of global market are presented in order to illustrate the new competitive framework the SME must face. Second, the concept of 'complete productive process' is introduced to characterize the special setting is necessary for the survival of the regional systems of SME. Said briefly, a local cluster needs to co-produce values, capabilities, institutions: its very identity. Since local systems are essentially 'cognitive systems', they need to go global not as single firm but as a system. To accomplish this difficult task they must resort to a collective and cooperative behaviour. The paper tries to fill this gap introducing the concept of 'Collective Local Entrepreneurship', a reference point, a device to whom anchor the strategic pragmatism necessary to regional clusters to cope with globalization. The renewal of the local 'ecosystems' within the international networks (at all different levels) appears to be a general objective. A strong public-private partnership emerges as a strategic commitment. In this perspective the paper tries to capture, as a conclusion, the potential dynamics of the four evolutionary trajectories, which the regional clusters are called upon to deal with.

KEYWORDS: Industrial clusters - innovation - knowledge - industrial policy - entrepreneurship.

JEL CLASSIFICATION: L 22, L 26, O 33, R 58.

GIOVANNI COVI
giovanni.covi@univr.it
PhD in Economics & Finance
University of Verona, Department of Economics

The final publication is available at Springer via: http://dx.doi.org/10.1007/s13132-014-0225-4

1. Introduction

A recent report of the OECD analysing the determinants affecting the creation of the competitive advantages for the Lombardy Region concludes as follows:

"Knowledge networks and innovation are essential features in modern competitive regional economies. This has been recognized over the years and more formal approaches have been developed to encourage more networking and the spread of innovation"[1].

This statement underlines the importance of innovation for the improvement of economic performances of the firm. Historically innovation has been categorized according to two types of innovation:

a) Radical vs Incremental Innovation

b) Product vs Process Innovation

This basic classification has been revised and enhanced by Pavitt, who found that mostly innovation is a cumulative process within firms because "since patterns of innovation are cumulative, its technological trajectories will be largely determined by what it has done in the past, in other words, by its principal activities. Different principal activities generate different technological trajectories"[2].

This concept expresses the idea that innovation is an irreversible evolving process due to the capabilities accumulated through a long development process within the enterprise itself and a cluster of enterprises. It follows that a healthy business environment is needed to create a continuous stream of capabilities; this is even truer nowadays since globalization has altered the fundamentals of competitiveness. According to Pavitt's definition, innovation is a path-dependant process conditioned by the collective memories and the intrinsic factors coming the environment surrounding the activities and relationships of a firm or cluster of firms. The concept of a "healthy business environment" can be also seen from the Marshallian point of view of " industrial atmosphere", that is a common space shared among interacting agents such as its industry, its people, and its organizations, therefore by the community belonging to this local space[3]. The creation of competitive advantages, and therefore the performance associated to a cluster of enterprises is linked to the exploitation of that specific know-how belonging to a particular space.

[1] OECD, *Boosting Local Entrepreneurship and Enterprise Creation in Lombardy Region,* Paris, November 2012, p. 84; http://www.oecd.org/cfe/leed/SBA Lombardy Report_final report.pdf

[2] K. Pavitt, "Sectorial patterns of technological change: toward a taxonomy and theory", *Science Policy Research Unit*, University of Sussex, Brighton, 1984.

[3] The concept of path-dependency is also the starting point of the evolutionary theory of the firm (R. Nelson and S. Winter, *An Evolutionary Theory of Economic Change*, Harvard University Press, Cambridge, Mass, 1982).

Given the peculiarities of each community, different trajectories are pursued leading to a creation of those "differences" that Porter assumed to be the basis of competitive advantages.

The successful innovation in this context is derived by incremental steps and not by a big jump (radical innovation), because small-medium enterprises don't have the necessary resources to develop radical innovations at the very basis of the process defined by Schumpeter as "creative destruction"[4]. According to this view innovation in the large-size firm is mechanically planned and it doesn't flow naturally as in the small-medium enterprises may happen.

It is here that the concept of Local Collective Entrepreneurship takes place, that is, a way for the small-medium enterprises to overcome this lack of resources and being able to compete in a globalized world.

To explain the idea and its economic policies' implications behind the above mentioned concept, before all, is necessary to present the characteristics useful to make the reader fully understand the recent phenomenon called " the globalization of markets".

2. Globalization and Its Implications: Four Stylized Facts

Many empirical researches, during the 80s, have highlighted the fact that the rate of growth of the per-capita income in different countries tends to diverge or to have only a conditional convergence after taking account of systematic structural differences[5]. Each economic system pursues its own growth path. The rate of this growth, in addition, is independent to the initial level of the per-capita income of these countries. The driving force that is the element that explains the divergence between the growth rates, is no more considered the physical capital, but the technical and organizational knowledge, the learning ability and the human capital, all invisible assets. In fact as Nonaka and Takeuchi summarize, knowledge is the most important or strategic factor of production, so managers must now focus on its production, acquisition, movement, retention and application[6].

[4] The only possible innovations (and the majority of them) are incremental. This suggests some economic implications: the marginal rate of growth, which depends on the previous "radical innovations" is decreasing and it is reaching its minimum point, meaning that the prospects of growth for economies, firms and individuals are far more constrained than twenty years ago.

[5] R. J. Barro and X. Sala-i-Martin, *Economic Growth*, McGraw-Hill, New York, 1995, p.27

[6] I. Nonaka, and H. Takeuchi, *The knowledge-creating Company: How Japanese Companies Create the Dynamics of Innovation,* Oxford University Press, New york, 1995.

This is the first stylized fact: the concept of richness is changed since the first industrial revolution, now the focus is put on who owns the technical knowledge to produce the goods, and not on who owns the goods[7].

The second stylized fact deals with the importance of cooperation between firms as source of competitive advantage.

While the *conventional economics* assumed that the economic systems were governed exclusively by the Market (through the mechanism of price adjustments between supply and demand), and competition was considered as a Darwinian mechanism that selected the most suitable (efficient) firm to survive; and while *the business economics* considered the managerial hierarchy (hierarchy control) the best way to organize the firm; the new industrial economics considers *cooperation* among the economic agents in the productive process an important mechanism as long as the other two mechanisms in determining the firm performance.

This means that instead of being one unique *best way* to organize the industrial operations, there is a global economy based on differences, there are different competing systems, which own different competitive advantages.

The third stylized fact concerns the process of innovation and its determinants.

Innovations and their diffusion don't follow an instantaneous process. They are long-term costly processes that are the result of many attempts and errors. The diffusion of innovation doesn't belong to the market, even when it is possible to acquire a patent. It requires from the firm the capabilities to acquire knowledge and apply it, adapting to its own needs. It is a laborious and costly process of learning, and its success depends mostly on the accumulation of knowledge gained by the firm during its past history.

A country, technologically follower (catching-up), is therefore disadvantaged, not having as a background a history of accumulated knowledge. Thereby first of all, it has to "learning to learn"[8].

Then during its initial phases, the technical and scientific services external to the firms become fundamental: services concerning technical information and production engineering, quality control, marketing, product design, and those training activities oriented not only to teach a profession, but oriented to create mental attitudes of learning by doing.

---

[7] L. Pasinetti, *Structural Change and Economics Growth: a theoretical essay on the dynamics of the wealth of nations*, Cambridge University Press, 1981, p. 314; K. Arrow, "The Production and the Distribution of Knowledge", in G. Silverberg and L. Soete (Eds), *The Economics of Growth and Technical Change*, Edward Elgar, Cheltenham, 1994.

[8] J. E. Stiglitz, "Learning to Learn, Localized Learning and Technological Progress", in P. Das Gupta and P. Stoneman (Eds), *Economic Policy and Technological Performance*, Cambridge University Press, Cambridge, 1987.

The fourth stylized fact, and the most important, concerns the role played by the *local resources and local views* in the achievement of the firm's objectives.

The learning capabilities tend to be "local" for all the meanings this word can express. In the sense that the technological innovation is mostly contiguous with products, industrial processes and technology located in a specific area; it uses intangible resources located in this area, and previously not exploited. The capabilities to exploit the marketing potentiality of a product are not those theoretical of the globalized market, but those belonging to the share of what the entrepreneur may see from the perspective of its factory[9]. Nevertheless taking into account that if an integrated network of information and relationships external to its local environment exist, the window of opportunities the entrepreneur can access let him look at the other part of the globe (if an expert manager is watching). In this sense, the product or process diversification strategies are for their own nature "local" and involving local actors with the ability to access to external knowledge[10].

3. The Globalized Market is Always Evaluated by a Local Perspective

These four stylized facts above enunciated are important because they detect the real nature of Globalization. There is, in fact, a paradox that has to be clarified to avoid any misunderstandings.

The paradox is the following: if it is true that, on the one hand, thanks to the spread of the information technologies and to the increasing number of networks that let the relevant information flow, globalization allows firms to access to new production, business, and financial opportunities at transnational level; on the other hand this doesn't imply a world-scale levelling of the conditions of competition; this doesn't imply a trend homogenization of the corporate, regional and national differences of productivity and competitiveness. It doesn't determine, in other words, favourable conditions to the reduction of the gap between the different rates of growth between countries and regional economies.

[9] Spender in the attempt to define what knowledge is, underlines the theoretical contrast between Positivism and Pragmatism (Peirce, James and Dewey), who focus on a more immediate and less universal concept of knowledge. In fact as Spender states: "Functional criteria replace logical tests, and the positivist presupposition of a logical, seamless and knowable universe is abandoned since no practice engages more than a fraction of the universe" (J.C. Spender, "Making Knowledge the Basis of a Dynamic Theory of the Firm", *Strategic management Journal*, Vol. 17, Special Issue: Knowledge and the Firm, Winter 1996, p. 49).

[10] "The switch to pragmatism replaces the positivist reality presumed mirrored in our perceptions with the local reality of our experience"; (*Ibidem)*. P. Maskell, "Toward a Knowledge-based Theory of Geographical Cluster", *Industrial and Corporate Change*, n.10, 2001.

The convergence of the rates of growth would be now in place, if the old economic model resulted to be valid, that model conceiving the factors of production – and above all technology and organization – as factors easily transferable as goods.

In a world above described by the four stylized facts, this process of happy convergence is excluded: there is no invisible hand able to determine it.

If the crucial factor in determining the firms' and systems' performance is constituted by intangible technical and organizational skills that are firm-specific and sometimes also country-specific[11]; and if the crucial factors are the characteristic and individual capabilities often not codified (tacit): it is easy to conclude that these elements are hardly exportable and transferable[12].

This statement holds not only for the small medium enterprises, but also for the multinational corporations. It is false imaging that the American or Japanese multinational corporations are unrelated to specific and historical conditions of where the head quarter is located; it is false imaging that their top management is able to dominate and control the global network of the economically relevant information as they would be human being perfectly rational at the centre of a Panopticon. Even the multinational corporations decode the global information through codes historically, culturally, socially, and institutionally determined. The validation of this statement comes from the different style of management and from the deeply different strategies adopted by the American and Japanese multinational corporations.

Here we go to highlight a fifth stylized fact, the epicentre of the discussion: the local dimension is a link of crucial importance among the production processes because it strongly influences the evolutionary trajectories. Each production process rises in specific places – at national and even more at regional levels - which have conceived different systems of values, of culture, of institutions, of rules, of mentality, and of relationships making each local dimension be unique inside the global production network and the global stream of knowledge. Is for all these reasons that the regions began to be taken seriously at the beginning at the nineties' and in some country - as for instance in Europe Germany - the Federal Government assumed a more active role in pushing its Landers to a interregional competition for public funding intended "to bundle and fully

[11] The OECD Report highlights that " the determinants of innovation within firms are internal factors such as education, experience, and qualifications of the workforce alongside skills, training, cultural ethos and human resource tacit knowledge", (OECD, *Boosting Local Entrepreneurship and Enterprise Creation in Lombardy Region,* Paris, November 2012, p. 86; http://www.oecd.org/cfe/leed/SBA Lombardy Report_final report.pdf).

[12] On the conceptual distinctions of tacit-explicit knowledge, individual-group knowledge and knowledge-knowing, and the many discussions about these issues, the contribution of S.D.N. Crook and J. S. Brown (2005) is particularly compelling.

develop their endogenous technological potential … expected to help forward the technological competitiveness of the country as a whole"[13].

But this strong path-dependency of the local networks - as acknowledged first by Pavitt but widely admitted - can have its drawbacks, specially in times of strong changes in global markets structures currently underway. As underlined by Rullani:

In this process of transformation, a *path dependent behaviour* tends to dominate against the needs of an innovative adaptation to the economic conditions. Local networks, left to themselves, could be paralysed by political vetoes and evolutionary inertia. To escape from *lock-in* it is necessary to have a good understanding of the possible alternatives, and follow the general interest and change the external relationships (with the market, hierarchies and virtual networks) [14].

4. The Complete Production Process

The first implication derived from these premises and from the stylized facts is the essence itself of the production process that changes compared to the standard stereotype.

Simplifying drastically the analytical aspects - developed by the large literature on "clusters", the "industrial districts" and the "local development"[15], we can try to catch the difference introducing the concept of "complete production process" which is the outcome of the theoretical debate on late 80s on the Italian Industrial Districts.

As defined by Becattini e Rullani - the "Complete Production Process" is a process " in which the production activity of goods is taken jointly with the aware or unaware activity of reproduction of those human and tangible factors of the production itself"[16].

The important difference respect to the standard definition is that the complete production process includes as a necessary step the co-production of its prerequisites, that is, the system

[13] The prototype models of this industrial policy in Germany are BioRegio and InnoRegio and many other programmes designed to enhance Innovative Regional Growth Poles, Interregional Alliances, High Risk Research and, in general, the so-called, " cluster based technology". D. Dohse, "Cluster-Based Technology Policy. The German Experience", *Industry and Innovation,* Vol. 14, N.1, 2007, p.85. A detailed compilation of regional policies can be found in Lorenzen (2001).

[14] E. Rullani, "The Industrial District (ID) as a cognitive system", in F. Belussi, G. Gottardi, E. Rullani (Eds), *The Technological Evolution of Industrial Districts*, Kluwer Academic Publishers, London, 2003, p.82*;* Similar concerns are expressed in A. Amin (1993). In tough Times of globalization the necessity of the local system to keep his *identity* is checkmated by the logic of chasing the market advantages and "break up some segments of the local supply-chain … and disrupt the pre-existing local bounds based primarily on trust", (*Ivi*, pp.82-83).

[15] For a review on this vast literature see: F. Belussi and G. Gottardi (Eds.)(2000), P. Cook (2002), F. Pyke, G. Becattini and W. Sengenberger (Eds) (1990).

[16] G. Becattini, "The Marshallian Industrial District as a Socio-Economic Notion", F.Pyke, G. Becattini, W. Sengenberger (Eds), *Industrial Districts and Inter-Firm Cooperation in Italy*, ILO Publications, Geneva, 1990, p. 31

should “coproduce, together with the goods, values, capabilities, institutions, raw materials, and the natural environment that are necessary to perpetuate it”[17].

Many implications can be discerned by this change of perspective about the nature of industrial operations. Here I limit the discussion only on two of them, the former belonging to a micro-level analysis and the latter to a macro-level analysis derived from the first micro-level consideration.

The secret of the firm’s success can be measured by its capabilities of managing the industrial operations implementing cooperative strategies more than competitive strategies with other agents of the value chain such as institutions, centres of knowledge production (universities, labs, etc.), markets (including that one of the intellectual and material work) that are functional to its objectives. Therefore the role of cooperation at the firm level (Inter-collaboration) and at the individual level (intra-collaboration) is of fundamental relevance for the flow of information and thereby for the improvement of the knowledge building process[18].

The micro-level implication can be extended to the macro level as follows: the different levels of local government - national but above all regional and municipal – locally impact the learning skills of individuals and even more of firms therefore affecting directly their “ individual intuition” which, according to Polanyi, is the place where all knowledge originates[19].

Therefore these different local government’s actors don’t have a subsidiary function (of remedy, as previously it was thought, to the “market failures”, to correct the “market imperfections”) but they enter into the production process with the status of real and proper factors of production. Keeping in mind the definition of complete production process, is no more correct to define these factors “additional”, because they enter fully into the group of factors of the traditional production together with land, capital and technology – giving birth to differentiated manifestations of social technology, to the variety of social organizations that currently are visible in the market.

These two implications explain at two different levels of analysis the fundamental concept of “collective knowledge” (Durkheim, James, Polanyi and Spender, Rullani), which is defined as the

[17] In other words “producing doesn’t mean only transforming a set of inputs (data) into an output (finite product) according to specific technical procedures, in a precise time space, but it also means reproducing the requirements both physical and human from which the production process starts”(*Ivi*, p. 28).

[18] These two concepts – inter-collaboration and intra-collaboration - can be defined respectively as the human interaction between individuals with different corporate culture and with different special capabilities, and as the human interaction between individuals with the same corporate culture and with different special capabilities. (Special capabilities are an example of those capabilities tacit knowledge related, that is, those associated with experience). J.C. Spender, “Making Knowledge the Basis of a Dynamic Theory of the Firm”, Strategic management Journal, Vol. 17, Special Issue: Knowledge and the Firm, Winter 1996, p. 50

[19] M. Polanyi, *Personal Knowledge: Towards a Post-Critical Philosophy,* University of Chicago Press, Chicago, 1962

interaction between implicit and social knowledge[20]. According to this concept firms are seen as "an organic or synergetic sense of collective identity" rather than "a mechanical sharing of knowledge". It follows that "the Physical reality, the positivist's reference point, is here replaced by the evolving body of pluralistic knowledge which comprises our socially constructed reality"[21].

5. Local Collective Entrepreneurship

In this new perspective, if the local economic systems are essentially cognitive systems, the relevant questions to be addressed became how should the "local" policies for innovation be settled? And even more what role and meaning should the community and entrepreneurship have in order to boost its development?

A starting point of view to investigate these two questions is the conclusion made by Spender, who, at the end of its analysis about the root and the meaning of knowledge as a dynamic process of knowing, states that "its (firm's) history is being constantly rewritten, there is variation and flexibility in the way the actors act and the firm is managed, i.e., there is no single 'best way' or universal prescription that applies"[22]. Moreover he adds, according also to Porter, that "an historical, path-dependent or novelistic analysis becomes unavoidable if we are to understand why things are as they are, and the case study becomes a necessary methodology"[23].

The answers are close to what I have highlighted at the beginning - in the introduction - that is, innovation is a path dependent process on the collective memories, intrinsic factors coming from the environment surrounding the activities and relationships of a firm or cluster of firms.

From what it has been discerned till here, it is clear that it is not possible to talk about *optimal regional policy or best practice* in general or absolute terms*;* for what I have stated, it would be a contradiction for two main reasons:

- In order to make the carried out considerations operative, it is necessary to define more specifically the term "local", because it can be appropriate to specify systems with really different dimensions: for example this term may refer to a whole country (if its economic

[20] J.C. Spender, "Making Knowledge the Basis of a Dynamic Theory of the Firm", *Strategic management Journal*, Vol. 17, Special Issue: Knowledge and the Firm, Winter 1996, p. 52
[21] *Ivi.* P.54
[22] J.C. Spender, "Making Knowledge the Basis of a Dynamic Theory of the Firm", *Strategic management Journal*, Vol. 17, Special Issue: Knowledge and the Firm, Winter 1996, p. 56
[23] *Ibidem.*

and social space is functionally integrated and relatively homogeneous), to a macro-region, to a region, to a district or municipality or company town. These are all local productive systems.

- The "optimal" policies, independently from the local scale, depend, ceteris paribus (particularly: the opportunities lying on the demand external to the local system), on the past history that has shaped very different learning and social cooperative capabilities.

Therefore the regional policy has to be built on the study of concrete cases, because it is an exercise of appreciation of differences, which Porter places at the base of every competitive advantage. Nevertheless this conclusion means that Local Policy has a suggestive and a general starting point, that is, it has to be built with a *strategic pragmatism*.

The Strategic Pragmatism differentiates itself from the ordinary pragmatism for the fact that it is aware of the necessary plans of action and it has the opportunity to establish them in order to achieve the predetermined tactical objectives.

The opportunity of establish them, therefore, is important because it defines the limits of the industrial regional policy, which can't fill a gap at other levels. The regional level needs a reference point at the national level for example for the policies concerning the construction of infrastructures, the relevant sectors for the national and regional prosperity etc.

But, all these moves risk to be insufficient - to be only tactic and not strategic - if it is not acknowledged to the state the role of first agent of mission-oriented innovations. As argued recently by Mazzucato in her *Entrepreneurial State*[24]:

> Most of the radical, revolutionary innovations that have fuelled the dynamic of capitalism – from railroads to the Internet, to modern-day nanotechnology and pharmaceuticals – trace the most courageous, early and capital-intensive 'entrepreneurial' investments back to the State … It is the visible hand of the State which made these innovations happen. Innovations that would not have come about had we waited for the 'market' and business to do it alone – or government to simply stand aside and provide the basic.

In other words, it is crucial to build a dynamic innovation 'ecosystem' on the basis of public-private partnership[25].

According to this premise, and if these plans of action are politically implementable at the local level, the following executive recommendations must be taken into consideration:

[24] M. Mazzucato, *The Entrepreneurial State. Debunking Public vs. Private Sector Myths*, Anthem Press, London, 2013, p.3

[25] For a review of the many successful cases of a proactive role of governments in innovation-growth-development of East Asian countries see R. Wade (1988), D. B. Keesing (1988).

1. Since, according to what I have stated, the human labour incorporates the true essence of knowledge, which regains a crucial role in the complete production process, the field of vocational education becomes a really important plan of action. According to the OECD report this is " a dynamic process and requires a dynamic equilibrium to exist between key players in the regional innovation system, in particular the triple Helix relationships between universities and research establishments, government and industry"[26]. There is therefore the need of a deep investigation in order to select the right professional profiles, anticipating the system's evolutionary trends.
2. The plan of action has to be cluster and labour oriented, and not only firm oriented. This means that the local policy has to strive for the common development of all the firms belonging to the same value chain, because it is the creation of unique and superior interactions between different firms and individuals that creates "the synergetic sense of collective identity", which leads the cluster to acquire those competitive advantages necessary to tackle the challenge of globalization.
3. The local policies have to strive for initiatives oriented to create cooperation among firms belonging to the same environment[27]. We can find here space for the creation of agreements, common and institutional rules that counterbalances the global competitive situation. These initiatives should orientate competitiveness among firms belonging to the same environment toward foreign firms belonging to a different national or inter-national environment so as to preserve the local cohesion and identity.
4. At the end, if the knowledge (as a process of learning) incorporated in the human labour regains its strategic relevance respect to that one incorporated in the machineries (or next to it), it is important to make sure of the employee's adhesion to the firm's purposes. This sense of belonging can not be taken as given a priori. It is the result of an aware adjustment that has to be rooted to prevent conflict and allow a conscious involvement.

[26] OECD, *Boosting Local Entrepreneurship and Enterprise Creation in Lombardy Region,* Paris, November 2012, p. 85; http://www.oecd.org/cfe/leed/SBA_Lombardy_Report_final_report.pdf. In addition, in this framework, we cannot be surprised if the countries that are at the bottom of OECDs' ranking of countries for R&D spending as a percentage of GDP are Greece, Italy, Spain, Portugal – the same countries that shows inferior growth performance in Europe in the last years; OECD (2013), "Gross domestic expenditure on R&D", *Science and Technology: Key Tables from OECD*, No. 1.

[27] It is important to underline that inter-organizational collaboration has a direct impact on intra-organizational collaboration and ultimately to firm's performance; moreover "collaboration is a result of human interactions which can be only supported by IT…., but not replaced". N. R. Sanders, "An Empirical Study of the Impact of E-business Technologies on Organizational Collaboration and Performance, *Journal of Operations Management,* January 2007, p. 1343.

5. At the end, in time of markets' globalization, local systems (clusters, industrial districts) are forced to become 'open learning systems' to maintain their competitive advantages[28]. The knowledge of the local structures must be fed by the external long distance-linkages of global markets. Organisational capabilities are called to the forefront of the 'collective entrepreneurship' of the local systems, also if individual behaviours toward defection of enterprises are enhanced too by the new market-mediated relationships. If a previous shared identity (of a locality or of a firm) must be preserved, not all technically feasible solutions are permissible[29]. In any case some degree of 'hybridisation' with the 'virtual networks' that integrate by now a planet-wide economy is unavoidable. The successful "collective local entrepreneur" is appraised by his capability to hook these emergent, global, *cognitive value chains* and start-up networks of firms and begin a *co-evolution* (knowledge – tastes – goods/services – new knowledge/information – new tastes)[30].

6. Evolutionary Trajectories of Local Systems

Mixing together the findings of the fifth stylized facts on globalization – relevant for today firms' competition – and the characteristics of the 'Collective entrepreneurship', some topic questions emerge. Which is the best pattern of growth/survival for *individual firms* belonging to an industrial district? Are the competitive advantages of the local clusters jeopardized or enhanced by the globalization? Is the model of *collective entrepreneurship* still a feasible strategy in time of huge markets' internationalization?

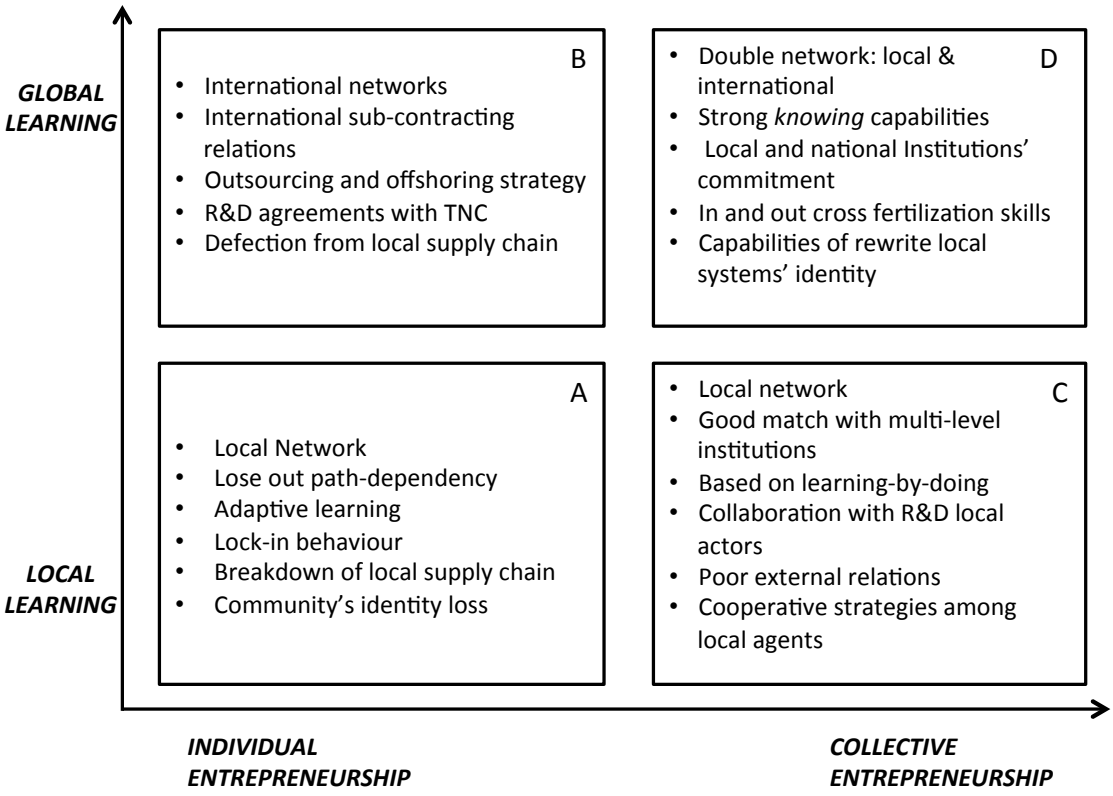
We try to answer to these questions with the help of Figure 1.

[28] F. Belussi and S. R. Sedita, "Localized and Distance Learning in Industrial Districts", in F. Belussi and A. Samarra (Eds), *Business Networks in Clusters and Industrial Districts*, Routledge, London and New York, 2010; M. R. Marcone, "Innovation as Strategic Resource in International Business Markets", XXV Annual Conference of Synergies. Innovation for the enterprises' competitiveness, Polytechnic University of Marche, 24th October 2013.

[29] B. Kogut and U. Zander, "What Firms Do? Coordination, Identity, and Learning", *Organization Science*, Vol 7, n.5, pp. 502-518, 1996, p. 515

[30] L. Pilotti, (2000), "Dalle Reti di Marketing al Marketing delle Reti e "Oltre", in *La Grande Danza che Crea nel Marketing Connettivo*, L. Pilotti (Ed), CEDAM, Padova

Figure 1 - Evolutionary Trajectories of Local Systems in Time of Globalization



The four mapped trajectories are identified according to: a) the nature of the enterprise, *individual* (of the standard case) or *collective* (following the nature of *local systems*); b) the central place of the *cognitive process* (local and/or global) as engine for multiply competitive advantages.

The point of view of the evaluator could be different depending on which is the place of the observer: the headquarters of a TNC (or a large enterprise), a classical market or a local system. Here, of course, the point of view we are interested in is that of the clusters (industrial districts) or local systems. Four possible evolutionary scenarios can be envisaged combining together the basic characteristics.

Case A synthetises what can happen to a local system if – under the impact of the disrupting competitive forces of globalization – the single enterprise of a local cluster choose to follow an individualistic strategy, breaking her ties with the local supply chain to go global. There are both positive and negative aspects in this kind of reaction. It's a positive behaviour if represent a rupture with the *burdens* of a lock-in situation of the local market, the prevailing adaptive business mood, effect of the long-lasting path-dependency modality of innovation in the local cluster. It is a negative move because is dictated by a purely individualistic motivation that contradicts the values (loyalty, co-operation, senses of belonging) shared by a social community and the past

history of the local system. That constitutes an implicit injury to the sense of identity of the community.

Case B anyway represents the possibility that – from the individualistic point of view of a single entrepreneur – the escape from A is a successful achievement (also if at price of a defection, and may-be a rupture, of the local supply chain). To be able to enter into same international network, to have access to international subcontracting chain, or join an R&D agreement with a TNC, means to be in a pole position in the race for value.

Case C represents the most relevant topic for our argument: that is the difficulties of the mature and well-structured cluster/local district to cope with globalized markets. The traditional endowments (social, institutional, relational, cognitive) are not more enough to protect the competitive advantages against global competing and learning systems. Their Achilles heel is their poor external (respect to the cluster) relations, their weak (or absent) interconnection with the virtual networks operating at long distance. And the greater trouble here is that the opening to the outside environment has not to be an individual move but a *collective move.*

Case D represents a short list of ingredients for success. The challenge is complex and risky. With a general formula we can say that the goal is to have the *capabilities* and the *resources* to "rewrite the identity" of their territory. To perform this task local clusters need special capabilities: of *knowing*, that is to have learned to learn in the sense of Stiglitz and Spender; they need not to be let alone, they need a new commitment by local and state institutions to shepherd a collective effort. The task aims at integrating inside and outside skills in search of cross-fertilization effects. The final and most important result – at the organizational level – is the provision of a double network: local & international.

Conclusions

All these hints define a precise direction the policy-maker should follow. The analysis has shown the relevant features of a healthy business environment contains: collective identity, sense of belonging, involvement, interaction, cooperation, knowledge as a process of learning and innovation, which are together multiform attributes of the *strategic pragmatism*. The wide variety of plans of action should allow the local policy to achieve what we have called "collective entrepreneurship".

In the age of globalization the local constraints imposed by geography and history are subjected to an evolutionary challenge[31]. They are not self-sufficient to guarantee the survival of the productive local systems. For the development and the prosperity of the local complete productive systems, it is necessary that the local communities rediscover, vindicate, and strengthen their values and their capabilities and skills through the implementation of great and virtuous pragmatic plans facing outward.

References

Amin A., "The Globalization of the Economy: An Erosion of Regional Networks?", in Grabher G. (Ed), *The Embedded Firm. On Socioeconomics of Industrial Networks*, Routledge, London

Arrow K. (1994), "The Production and the Distribution of Knowledge", in Silverberg G. and Soete L. (Eds), *The Economics of Growth and Technical Change*, Edward Elgar, Cheltenham

Barro R. and Sala-i-Martin X. (1995), *Economic Growth*, McGraw-Hill, New York

Becattini G. (1990), "The Marshallian Industrial District as a Socio-Economic Notion", Pyke F., Becattini G., Sengenberger W. (Eds), *Industrial Districts and Inter-Firm Cooperation in Italy*, ILO Publications, Geneva

Becattini G, Rullani E. (1993), "Sistema locale e mercato globale", *Economia e Politica Industriale*, n.80, pp. 25-48

Belussi F. and Gottardi G. (Eds.)(2000), *Evolutionary Patterns of Local Industrial Systems*, Ashgate, Aldershot

Belussi F. and Sedita S. R. (2010), "Localized and Distance Learning in Industrial Districts", in Belussi F. and Samarra A. (Eds), *Business Networks in Clusters and Industrial Districts*, Routledge, London and New York

Cook P. (2002), *Knowledge Economies. Clusters, Learning and Cooperative Advantages*, Routledge, London

Cook S. D. N. and Brown J. S. (1999), "Bridging Epistemologies: The Generative Dance between Organizational Knowledge and Organizational Knowing", *Organization Science*, 1999, n. 10, pp.381-400

Dohse D. (2007), "Cluster-Based Technology Policy. The German Experience", *Industry and Innovation,* Vol. 14, N.1, pp. 69-94

Keesing D.B. (1988), "The Four Successful Exceptions: Official Export Promotion and Support for Export Marketing in Korea, Hong-Kong, Singapore and Taiwan, China", UNDP- WB Trade Expansion Program Occasional Paper n.2,

Kogut B. and Zander U. (1996), "What Firms Do? Coordination, Identity, and Learning", *Organization Science*, Vol 7, n.5, pp. 502-518

Krugman P. (1997), *Development, Geography and Economic Theory*, The MIT Press, Cambridge, Mass.

Lorenzen M. (2001), "Localized Learning and Policy: academic advice on Enhancing Regional Competitiveness Trough Learning", *European Planning Studies*, Vol.9, n. 2, pp. 163- 185

[31] For a master-defence of geography, "almost completely absent from the standard corpus of economic theory ", see P. Krugman (1997, p.VIII)

Marcone, M. R., "Innovation as Strategic Resource in International Business Markets", XXV Annual Conference of Synergies: Innovation for the enterprises' competitiveness, Polytechnic University of Marche, 24th October 2013.

Maskell P. (2001), "Toward a Knowledge-based Theory of Geographical Cluster", *Industrial and Corporate Change*, n.10, pp. 921-943

Mazzucato M. (2013), *The Entrepreneurial State. Debunking Public vs. Private Sector Myths*, Anthem Press, London

Nonaka, I. and H. Takeuchi (1995), *The knowledge-creating Company: How Japanese Companies Create the Dynamics of Innovation,* Oxford University Press, New York

OECD (2012,November), *Boosting Local Entrepreneurship and Enterprise Creation in Lombardy Region,* Paris, http://www.oecd.org/cfe/leed/SBA Lombardy Report_final report.pdf

OECD (2013), "Gross domestic expenditure on R&D", *Science and Technology: Key Tables from OECD*, No. 1.

Pasinetti L. (1981), *Structural Change and Economics Growth: a theoretical essay on the dynamics of the wealth of nations*, Cambridge University Press, Cambridge

Pavitt K., "Sectoral patterns of technological change: toward a taxonomy and theory", *Science Policy Research Unit*, University of Sussex, Brighton, 1984

Pilotti L. (2000), "Dalle Reti di Marketing al Marketing delle Reti e "Oltre", in *La Grande Danza che Crea nel Marketing Connettivo*, Pilotti L. (Ed), CEDAM, Padova

Polanyi M., *Personal Knowledge: Towards a Post-Critical Philosophy,* University of Chicago Press, Chicago, 1962

Porter M. E. (1991), "Toward a Dynamic Theory of Strategy", *Strategic Management Journal,* Vol.12: 95-117

Porter M. E. (1985), *Competitive Advantage: Creating and Sustaining Superior Performance*, Free Press, New York

Pyke F., Becattini G. and Sengenberger W. (Eds) (1990), *Industrial Districts and Inter-Firm Co-operation in Italy,* ILO, Geneva

Rullani E., "The Industrial District (ID) as a cognitive system", in Belussi F., Gottardi G., Rullani E. (Eds), *The Technological Evolution of Industrial Districts*, Kluwer Academic Publishers, London, 2003

Sanders, N. R., "An Empirical Study of the Impact of E-business Technologies on Organizational Collaboration and Performance, *Journal of Operations Management,* January 2007, pp. 1333 - 1345

Spender J. C., "Making Knowledge the Basis of a Dynamic Theory of the Firm", *Strategic Management Journal*, Vol. 17, Special Issue: Knowledge anf the Firm, Winter 1996

Stiglitz J. E. (1987), "Learning to Learn, Localized Learning and Technological Progress", in Das Gupta P. and Stoneman P. (Eds), *Economic Policy and Technological Performance*, Cambridge University Press, Cambridge

Wade R. (1988), "The Role of Government in Overcoming Market Failure: Taiwan, Republic of Korea and Japan", in White G. (Ed), *Developmental States in East Asia*, St. Martin's Press, New York