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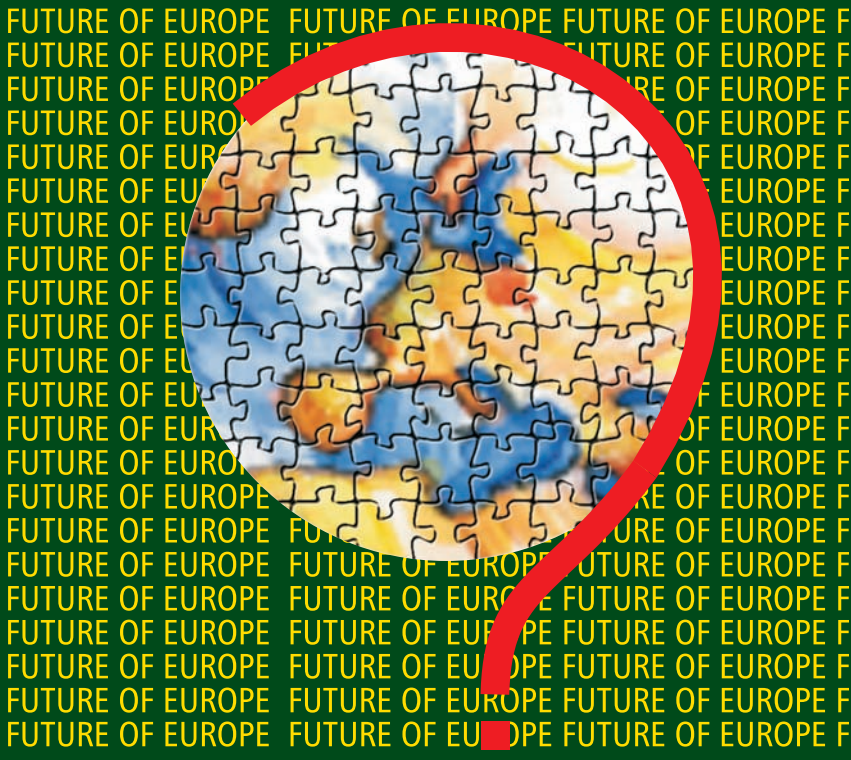
— Reflections on Social Capital, Innovation and Regional Development:

The Ostuni Consensus



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Wyższa Szkoła Biznesu—National-Louis University
Nowy Sącz 2007

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PREFACE

In 2004 the Wyższa Szkoła Biznesu—National-Louis University has decided to establish a New European Publication Forum defined as Recifer Eurofutures Publication Series—REUPUS.

The first two volumes of the New Series were published in 2005:

Europe—the global challenges
Europe—the strategic choices

Now in the beginning of 2007 I have the honor and pleasure to introduce to the Third Volume of the REUPUS Series:

Europe—Reflections on Social Capital
Innovation and Regional Development—The Ostuni Consensus

The volume is opening a new perspective in the discussions related to the Future of Europe—the perspective of an important paradigm shift in the domain of regional development and regional policy.

Let me express my words of appreciation and gratitude to the eminent Authors and Editors of the volume for the open-minded and very often brainstorming contributions which create the intellectual and pragmatic framework of the New Volume.

Krzysztof Pawłowski
Rector of WSB-NLU

Nowy Sącz
January 15th 2007

INTRODUCTION

"...eppur si muove!"

By Mikel Landabaso, EU Commission and part-time Professor at the Vrije Univesiteit Brussel, Antoni Kuklinski, Professor of the WSB-NLU and President of the Polish Association for the Club of Rome, and Carlos Román, Professor of the University of Seville.

After a bunch of academics and regional planners got together in Ostuni (Puglia, Italy) during the first week of July 2003 in a Summer School organised by the e-Business Management School—ISUFI and the University of Lecce in order to discuss and exchange on the contribution of social capital to regional economic development and innovation in the context of less favoured regions, we envisaged the idea of editing a book, with the contributions of participants and other authors willing to join the group. Invited authors were asked to summarize their thinking on the topic of social capital and its role in promoting development. These contributions make the chapters of this book. In all over twenty academics and policy makers from more than ten countries from Europe and the U.S.A. and from two international organizations, the OECD and the European Union, contributed to this effort that tries to draw a state of the art on the topic.

Some of the contributions have a more rigorous academic approach than others, which tend to use a more journalistic style. There are also clearly different opinions and distinctions in the way the issue is tackled in the different chapters, not least because of the mixture of planners with academics together. We have taken the view that given the tentative and prospective nature of this book all contributions could help in one way or the other to better understand issues related to the discussion on the economic development relevance of social capital and therefore we have taken them all on board with minimal interference in their edition.

The "Ostuni Declaration" enclosed in the last chapter of this book symbolises the consensus reached on this topic as well as it illustrates the limitations of our research efforts so far. The authors coincided in that building social capital, broadly understood as developing effective regional governance institutions and policies and more specifically, the ability to form and nourish appropriate networks and interactions among regional stakeholders, are all necessary conditions for a sustained and sustainable development path in less favoured regions. They also agreed that conventional economic theory and policy practice till now had underestimated the influence these intangibles may have on regional growth prospects. Moreover they all acknowledged our own limitations in understanding, measuring and using this concept and the difficulty experimented in influencing economic debate and policymaking with these notions.

In this sense it is worth mentioning that the inability of properly measuring, let alone agreeing to a widely accepted operational definition of social capital, has made those social scientists advocating for the relevance of this concept for regional economic development subject to numerous criticisms: too vague a concept to be operational for policy making, "a World

Bank invention for Third world countries", a new fad of sociologists concerned with community development trying to invade the economic development arena, a new academic fashion with little policy relevance, a descriptive notion with little or no useful analytical content, etc. The authors were aware of these critiques and even partially shared aspects of them. They nevertheless emphasized the need to continue searching for answers and policy tools in this area because they felt that much of what lies ahead in improving our understanding of regional development trajectories and economic competitiveness is to be found in connection with these concepts.

Why Ireland, Sicily, Epirus, Algarve and Extremadura while receiving similar per capita rates of regional aid over the last fifteen years have had such different policy impact in their development trajectories and convergence efforts towards the European GDP per capita and employment averages? Do current econometric models and growth functions with all the refinements and 'residuals' we can fit in explain satisfactorily these different economic behaviours and give us ground to identify the best way ahead in policy making to solve developmental problems faced by less favoured regions?

The contributions that follow are a honest attempt at exploring further this fertile ground for regional economic development. They often come from regional development specialists that have a soft spot for a multidisciplinary approach to understanding economic development, in the best political economy tradition, which incorporates geography, sociology, institutions, culture and politics into it. One of the good things about them is that they do not apologize for doing so. Another one is that they believe that economic science, understood as a social one, is there to help change the reality, in particular that of those that need it most and not just an abstract academic exercise.

In the knowledge-based economy, regional diversity is an asset. Policies aimed at empowering regions to exploit it strategically in order to face up to the challenge of globalisation are critically important for their economic well being. Surely building the collective capacity to establish a shared vision about the future, jointly exploiting scarce resources in a synergetic way and pooling expertise and commitment together is a way forward for less favoured regions willing to offer new economic opportunities to their citizens. Social capital is a notion that is placed at the crossroads of these efforts. Understanding it better to be able to nurture it and use it appropriately is necessary for these efforts to fructify.

There is "something" about the economic development relevance of social capital which is clearly not satisfactorily explained yet but we nevertheless are tempted to say, after being summoned to reject this notion by the jury of guardians of economic orthodoxy in mainstream economics, "*...eppur si muove!*".

In this sense, it is worth even rapidly sketching what would be the academic route and causal relationship that might lead some of our more orthodox colleagues to pay more attention to social capital and regional governance issues within their own scientific framework.

One way of approaching this problem might be the following: within new growth theory the main explanation for increasing returns to production factors, which is key to explain cumulative processes of economic growth, is knowledge spillovers. The latter has been progressively recognized to be spatially bounded, not least because of the "tacit" and "sticky" nature of certain types of knowledge and the territorial nature of much of the process of knowledge accumulation and learning, once the circular and systemic model of innovation, rather than the linear model, is considered to be a more realistic reference of what goes on in reality in the business world. The latter is particularly true in the case of less developed regions, with relatively lower rates of formal R&D investments and personnel, and where innovation is less "radical" and science-based, as it may be the case of leading regions where most of the "excellence" R&TDI infrastructures, universities, high-tech industries are located and which are by far those that concentrate the

highest number of patents (e.g. out of 213 regions in the European Union, 50% of the total patent applications to the European Patent Office were applied for by inventors from 20 regions from 1997–2002, with 13 concentrating half of all high-tech patents, and the top ten regions account for a third of R&D expenditure in Europe with 30 regions being responsible for half of it (Eurostat 2004)).

Within this framework, "intra-regional knowledge spillovers are considered to arise when actors involved in the innovation process such as universities, the business sector and the government sector tie close links leading to fertilizations and feedback relations" (Greunz, L. 2003[1]). In short, knowledge spillovers are generated and further developed within efficient regional innovation systems, which facilitate "links" and "cross-fertilization" among the key innovation players, not least by connecting SMEs to a responsive R&TDI knowledge base. Thus, public-private cooperation, business networks, university-enterprise connections and clusters can be of outmost importance in generating these spillovers and therefore in increasing the knowledge generation, diffusion and absorption capacities in a region. From the policy perspective it also means that action oriented, open, consensus-based and participative strategic planning processes led by regional authorities with a sufficient degree of autonomy/power and acting within a "development coalition", to use Asheim's term, can become key ingredients of the process of generating knowledge spillovers.

In other words, an innovation-friendly business environment underpinned by sound regional governance structures and the availability of social capital—understood as "the collective capacity of key socio-economic players in the region (e.g. companies, authorities, research centres, business support agencies, universities, etc.) to form and effectively use networks or other forms of cooperation on the basis of shared interest, trust and reciprocity in order to enable and accelerate the process of regional learning and knowledge-based development" becomes essential for developmental efforts to fructify. Why not then try to understand better how the interactions between knowledge spillovers generation, regional governance and social capital operate? Why not try to integrate further the organizational, institutional, cultural and political aspects associated with this process into our economic theories about regional development?

If the chapters that follow shed a little extra light on these notions, even if they may open more questions than give answers, they would have succeeded in their attempt.

The book is divided into two parts. The first one deals with regional development models and policy issues in connection with the concept of social capital. It reflects a variety of views, sometimes competing ones, about the challenges ahead for regional policy and the best policy options at hand. It also takes stock of recent trends and policy proposals by the OECD and the European Union, as well as providing empirical evidence of policy experiments directly connected with the notion of social capital.

The second part focuses on the relevance of social capital for innovation through its significance for innovation networks and clusters, as well as its possible contribution to the creation of efficient regional innovation systems and learning regions.

Mario Pezzini starts this first part by stating the need for a paradigm change in the formulation of regional development policies in face of the globalization process, based on OECD recent research efforts in this field. He argues that it is necessary to change from an inter-regional redistribution and gap-reduction approach towards policies that focus on exploiting underutilized resources at the local level, in view of the fact that "the drivers of national competitiveness have become more local".

[1] Lydia Greunz, Doctoral Thesis « Knowledge spillovers, innovation and catching up of regions » presented at the Faculté des Sciences Sociales, Politiques et economiques—Section des Sciences Economiques, Université Libre de Bruxelles, DULBEA, CERT, Belgium 2004.

In order to do so he advocates in favour of radically changing current policy practice from cost reduction subsidies towards regional empowering through public investments in innovation and social capital. He claims that the main objective of regional policy should be to create an adequate institutional and economic environment for new economic opportunities to flourish by improving organizational skills, institutional capacity, community participation and democratic local management, which are recognized as key ingredients of economic development success. In this sense, he sees the uneven distribution of and capacity to valorize local collective goods such as, for example, multicultural integration, inter-firm relations and access to natural and cultural resources as a main explanation for differences in regional economic development trajectories.

He goes on suggesting fertile policy grounds for different types of localities. With respect to rural areas, which often suffer territorial disadvantages such as peripherality and low population density, he suggests to develop strategies that identify new higher value added market niches for local quality products and strengthen local capacity to coordinate several economic and institutional actors to supply and promote local collective or public goods such as the joint commercialization of natural and cultural heritage amenities.

Regarding moderately urbanized regions, he underlines the importance of developing cluster relationships among local SMEs in order to compete with new industrializing countries on the basis of innovation rather than costs. In order to do, he argues, it is necessary to facilitate access to a local pool of skilled labour, jointly attract buyers and suppliers, reduce marketing and R&D costs, develop mutual financial guarantees for bank loans, establish quasi-public business services, etc...through collaboration and networking.

Finally, he claims that metropolitan regions are confronted to problems of governance in order to exploit area-wide development opportunities and avoid unhealthy competition among multiple jurisdictions and administrative layers. Better regional governance would facilitate facing the challenges posed by social cohesion and security, environmental quality and appropriate land use, which act as bottlenecks for the development prospects of these areas.

Thus, Mario Pezzini sees social capital in the form of regional and local networking and improved governance as one key ingredient of the new generation of regional policies, which aim at facing globalization by regional empowering.

Andrea Mairate, in his chapter, reviews the recent reform of European Cohesion Policy by identifying its future challenges within a historical perspective, from a marginal redistributive policy to a policy which is at the centre of the *European* model of society understood as a form of regulated capitalism capable of regulating markets, redistributing resources and shaping new forms of governance among public and private actors. He examines a number of key questions associated with the reform proposals put forward by the EU Commission regarding the policy rationale, its remit as well as the new governance rules.

He also deals with the fundamental question of whether cohesion and growth are conflicting objectives, or on the contrary, they are mutually reinforcing. He argues among other things that the efficiency of Cohesion Policy is "conditional upon the implementation of adequate national policies as well as developing adequate institutional capacity, as evidenced by striking differences in growth performance, for example, between Ireland and Southern Italy despite large magnitudes of structural transfers". He adds that cohesion policy has the potential to stimulate economic growth and positive spillovers for the EU as a whole, thus contributing to the Lisbon agenda. Nevertheless he points out that despite potential synergies, there are, however, differences in the policy rationales as the Lisbon agenda does not have any territorial focus or specific governance structures. In this sense he argues that the recognition of the potential of the regions, both in economic and institutional terms, would, therefore, permit a better integration of the Lisbon objectives within the cohesion policy framework.

In terms of future challenges he claims that if EU support is to ensure genuine value added in the next period, the limited amount of funding should be used 'to support innovation and experimentation at the 'leading edge' of regional development, for example to operationalise new models of regional development such as regional innovation systems and sustainable development strategies'

Finally he identifies partnership between the Commission, national and regional authorities as well as other public or private organisations as the chief institutional innovation of cohesion policy. He advocates in favour of partnership on several grounds; as a means to allocate resources more efficiently, because it brings all key stakeholders, helps identify problems and achieve consensus on how to respond to them and as a means to promote multi-level governance in the European Union by upgrading the participation of regional and local authorities and strengthening collaborative policy networks. In his view EU cohesion policy has had the uncontested merit to propel regional and local mobilisation in poorly developed areas—from Greek, Irish and Portuguese regions and municipalities to the North of Europe in Scotland, Sweden and Finland.

He concludes that there are important implications associated with the new governance methods proposed in the European Cohesion Policy reform, with a more strategic direction of the policy and enhanced accountability arrangements.

Antoni Kukliński, in the follwing chapter, makes a proposal for a new model of regional policy, which shifts from what he calls socially, minded regional policy towards a globally minded regional policy. It is, in a sense, a similar basic statement as the one made by Mario Pezzini in the first chapter of the book but argued from a different perspective.

He argues that the former is based on the doctrine of diminishing interregional disparities which states that for political, social, moral and economic reasons the society and the state should not tolerate movements of the spontaneous market forces which generate and multiply long-term disparities between more and less developed regions. Within this model he refers to the dilemma of lagging behind versus catching up regional psychology faced by regional elites, which risk losing cohesion policy assistance as victims of their own success in their developmental efforts.

The latter model is based on the idea that regions must be an efficient actor on the global scene: "a regional to be or not to be" dilemma. He adds that regions should be considered as quasi-firms and must internalize and develop the important experience of multinational corporations in the field of strategic planning.

In his view "there is no doubt that social capital should be recognized as an crucial element in the construction and implementation of the new model of regional policy" and outlines and explains the five key elements of this model: 1) the network vision of cohesion as a system of flows of persons, commodities, and innovations which measure cohesion as a process of integration of the European continent into one organic totality having a clear identity in global scale, 2) the organic vision of cohesion policy which encourages endogenous development and respects regional diversity, 3) the holistic vision of cohesion, 4) the extraverted vision of cohesion policy and 5) cohesion policy as a long term strategic vision.

He concludes that the globally minded regional policy is the only rational choice based on long term strategic and geopolitical considerations.

Jean-Marie Rousseau follows focusing on the importance of societal relations and the value of local exchanges in economic development by claiming that the best way of achieving sustainable development involves a commitment from all parts of the social spectrum and that less favoured regions should find their own way forward away from a technological determinism paradigm.

In order to sustain his claim Rousseau utilises among others recent EU data from the Innovation Scoreboard and an OECD confidence index to make comparisons between the Ireland

and Portugal and establish a causal link between innovation capacity and social capital "of a certain kind". In his own words, the climate of confidence among local partners often comes down to the possibility which individuals have of weaving relationships and spinning contracts at their own pace, of finding their own dignity thereby and of mutually bestowing credibility on their political, public and private institutions. Thus, by ploughing over and cultivating a broad field of exchanges and partnerships, this social capital which boosts confidence and mutual trust among local actors seems most suited to bringing effective solutions to local problems.

He argues that the way forward for less favoured regions is away from an "assisted" mentality which gives priority to policies based on traditional physical infrastructures towards innovation promotion policies based on intangibles which focus on building social capital in the form of a) an ability to internalise a regional strategy and renewal or revival of local identity, b) a capacity to coordinate, participate and link up the threads of interrelationships and of interactive and smart connections, and c) acceptance of a culture aimed at reinforcing human capital, investing in knowledge and the thirst for creativity in each and every firm.

He concludes by referring to the need for further devolving responsibilities for economic development to the local and regional levels, improving regional governance and institutional capacities, promoting innovation policies with a special focus on SMEs and entrepreneurship and cultivating "the resource of resources: people" in order to play an active part in the "new geography of talent" in the making.

Angel Arboníes basic statement is that we are not using the appropriate economic development models to grasp the main issues of the knowledge economy, where regional trajectories rooted in history and culture, over and above narrow economic interpretations or standardized formulas do matter.

He starts by saying that in order to understand a socio-economic learning system we have to approach it from three broad dimensions: 1) a multidisciplinary one where innovation is seen from a scientific, technological organizational and social perspective, 2) an institutional one and a 3) community dimension, where values, proximity and culture are taken into the picture. On this basis he rejects economic determinism and argues that the concept of innovation systems as learning systems offers opportunities for progress to all types of regions and areas, not only those with a high concentration of technology-intensive enterprises.

He says that there are a number of "viruses" in regional development policies which constrain the creation of knowledge regions, and he challenges some of the assumptions that have traditionally shaped regional development policies. Ha also proposes antidotes for the identified viruses.

The first virus refers to fragmented policies. In this sense, he says that the political process inside a region often makes problems related to unemployment, entrepreneurship, training, education, health care, etc, be dealt with by socially-oriented departments, while others like technology, industry, innovation, tourism, transport, infrastructures, etc. are dealt with by technically-oriented departments. Thus lacking in integration and coherence in the approach. The second one relates to the confusion that many decision makers are suffering by assuming that knowledge and information are one and the same thing, which drives them into massive "digitisation" and little attention to "information use" that can develop into economically useful knowledge. The third one refers to competitive advantage, understood as the fight for survival through inter-regional competition in a zero sum game. The fourth one refers to focus on tangibility and measurement, which tends to underestimate the importance of intangibles in innovation promotion policies. The fifth refers to the obsession with narrowly defined growth rather than "value creation". The sixth one deals with the problems created by a narrow definition of sustainability, in the absence of social considerations. Finally he points out the problems

associated with a narrow definition of innovation, exclusively in terms of leading edge discoveries and science instead of a broader definition which encapsulate incremental progress.

He concludes by stating that regional development "needs to cope with complexity not fragmenting problems but addressing them using principles of self-organization, creation of spaces of possibilities, system thinking, proportionality, interdependence, emergence, experimentation, etc."

In her chapter, **Benedicte Mouton** works from empirical evidence gathered over nearly a decade of regional development experimentation through the European regional development fund's innovative actions: the regional innovation strategies (RIS) and, more recently, the regional programs of innovative actions.

She starts by describing the RIS methodological approach, which was further developed under the regional programs of innovative actions in a number of cases, and whose main objective was to establish and/or strengthen the main foundations of an efficient regional innovation system through a strategic planning exercise based on public-private cooperation. This approach was based on the idea that a bottom-up and consensus-based strategic planning process, developed through interactions among public and private regional actors would maximize synergies and cooperation among the different players and institutions which conform a regional innovation system. It was thought that this could be achieved through the consensus and open discussion induced by the process of elaboration of a shared vision for the region (strategic objectives) and the design of the means to achieve them (actions plan). That is, in Asheim's words, a regional development coalition working towards the creation of a "learning region" by jointly committing intellectual as well as economic and political commitment into a shared effort.

Based on these pilot actions, she concludes that social capital is a key success and failure factor in building regional innovation systems. In those regions where good regional governance structures and adequate political and community commitment existed and were appropriately mobilized through direct participation and open discussion, public and private partnerships and networking among firms and between firms and the regional knowledge-based infrastructure flourished. In those regions were there was a lack of trust among institutional actors and absence of a good public-private collaboration track record progress was scarce or non-existent.

In her own words, social capital is seen here as a regional partnership process in which priority is given to the networking of actors (knowledge base, firms and intermediaries) and in which the role of regional governments is to create an environment favorable to the regional innovation system, playing the role of catalyser, broker and animator in order to "open minds rather than to open roads".

Carlos Román follows by criticizing conventional economic development or growth models by their inability to capture the complexity and interactions among the different factors of economic development in a given region, arguing that in all cases a key factor is the ability of a society to self-organize and valorise their resources, regardless their nature, and to build the appropriate institutional framework. He stresses the fact that there are no one-fits all solutions for economic development, whose understanding requires a different paradigm much more open, systemic, wide, multicausal and flexible, in which social capital plays a critically important role.

He argues that collectively learning to develop may be much more important than having the resources to do so. He claims that once a certain level of development has already been reached and connections with the international market established, some features of economic culture become crucial in such a way that economic development may depend basically on the social aptitude to self-organize and to create value for endogenous resources regardless their nature, to acquire information (technological, commercial, managerial, etc.) and to use knowledge. He also

adds to the list the ability to build the proper financial framework, the attitude to face innovation, to act and to assume business risks, the existing institutional framework and the capacity to design, implement and evaluate economic policy as well as the existence of rules of behaviour based on trust, and aimed at the establishment of social and economic commitments that can be sanctioned, both positively and negatively. In all this, he argues, social capital is key.

In this sense, he provides a new definition of economic development-oriented social capital: "The ability of a society to organise itself, of its ability to acquire information (technological, organisational, commercial, etc.), use its knowledge to incorporate this information into its economic processes and manage such processes" and goes on to explain the importance of measuring, rather than strictly quantifying social capital.

In order to do so he proposes a new methodology based on four aspects: Associational activity indicators (general and of businesses), Trust (interpersonal and generalized), Rules and institutions (private and public), and Actual results, which are developed into a list of 50-odd indicators. He explains that these should be combined to create a composite indicator that gathers monotony, unity, homogeneity, transitivity as well as time and space comparability. Furthermore, he adds, the latter should be weighted, contextualized and connected with economic development process (innovation, production, income, employment, cohesion, etc.).

Frank Moulaert and **Jacques Nussbaumer,** in their chapter start by discussing briefly some basic issues in the theory of capital and its reproduction, where the concept of capital is defined as "a social-relational concept implying historical forms of interaction". The continue by using an eclectic synthesis of the 'theory of capitals' as the basis for an analysis of the reproduction of the so-called Social Region, understood as a model of regional development following a community-based logic of social innovation, solidarity and participatory creativity.

They argue that regional 'reproduction' tends to become driven by globalization dynamics and that competitiveness has become the driving force in mainstream regional policy, which ranges from 'globalization determinism' to 'complementary strategies', while voluntarist 'third positions' are only marginally part of this debate. The latter refers to a social logic to regional development, as is for example done in the so-called Social Region and it is based on a completely different logic: a community-based ontology which does not abandon efficiency and competitiveness but integrates it with other norms of social reproduction such as cultural development for its own sake, various forms of creative activity, satisfaction of all basic human needs, solidarity and reciprocity.

Within this concept, "the basic feature that is at the core of the analysis is not the market economic activities that develop on a territory, but the regional and very local communities in which economic activities are embedded". In this perspective, they claim, local institutions are at the core of the analysis and by mobilising various forms of capital and not only business or commercial capital, the social region approach recognises that the preservation, reproduction and valorisation of social, human or environmental capital should become important fields of investment for the future of the region. Therefore, the concept of social innovation, stressing innovation in social relations and institutional capital, is central to the social region approach.

Following from the above logic, in their view, "tenders for innovation actions should not only cover the design of new technologies or management structures but also innovations in public administration, neighbourhood management, social services, artistic practice, ecological lifestyles, etc." They conclude that higher education should follow this suggested new trend and also train 'innovators' for these different types of capital.

In the second part, we start by making a brief reflection on the definition and regional development relevance of the concept of social capital from the policy as well as from the regional

governance perspective. For the former, practical experience in the filed stemming from pilot actions funded under the European Regional Development Fund is utilized.

Mario Marinazzo, in his chapter uses the concept of Regional Innovation Leadership, which draws from knowledge management, learning and leadership literature in organisational sciences, in order to propose a practical regional development tool under the name of "knowledge hub" for regional innovation. The latter being a knowledge management initiative focused on acquiring, creating, using and distributing knowledge that may be useful for innovation in a region through, for example, the development of clusters, cutting-red tape which prevents innovative business behaviour, identifying new regional leadership and adapting policies to each specific regional knowledge base.

He defines regional innovation as the region's "... ability (...) to initiate and to sustain significant change to work effectively with the forces that shape change..." and identifies regional government bodies and entrepreneurial communities as those "forces". He also holds the premise that devolution and empowerment—helping regions to help themselves-are critically important to develop successful regional strategies in today's globalizing learning economy.

Like many other authors participating in this book he stresses the importance of developing a learning organization within a region, by fostering close interaction, discussion and trust-based cooperation among the key institutional actors involved in the promotion of innovation at the regional level. In order to do so he characterize a "knowledge hub" as a means to link the intellectual capital components—human, structural and social—with the networking-learning-decision making cycle in a given region in order to maximize its innovation potential. He makes a point in criticizing defensive traditional regional policies, which "delay" rather then "avoid" structural change instead of leading head on regional change through innovation. In order to do so he proposes a detailed list of tasks the "Knowledge hub" should perform, which can be read as an operational road map for such an institutional setup.

He concludes that the social and cultural conditions, rather than the technological ones, are key to the proper functioning of a "knowledge hub" which focuses on operational processes which allow for the proper exploitation of regional knowledge for economic development.

Lydia Greunz in her chapter focuses on the relationship between knowledge spillovers innovation and social capital. She argues that knowledge has become a production factor and, mainly due to globalisation, more than ever, innovation is a necessary condition for economic growth, and this, in turn has fundamental implications on the manner the innovation process is organised and interconnected to production, markets and external sources of knowledge. She claims that above all, the quality and quantity of social capital have become major determinants of the innovation performance and explain why location matters in the global economy.

She starts by dealing with the question of how and why the linear model of innovation has evolved towards an integrated linkage and feedback model, knitting together actors involved at different steps of the innovation process. She follows by focusing on the role of geographical and social proximities and takes up the question why these proximities influence the knowledge creation capacity and innovation. Finally she estimates a simplified version of the integrated innovation model which aims at assessing whether looping and feedback relations among institutional sectors actually characterise the innovation process of European regions and identifies, for European less favoured regions, the leverages that should be stimulated by adequate policy measures in order to enhance their innovation performance.

Regarding the former she states that the fact that proximity matters emerges as a logical consequence of the interactive linkage model of innovation. Thus, the density of relationships and interpersonal networks and the frequency of interaction between firms and the science

infrastructure, between producers and users, between firms and local authorities etc. crucially depend on spatial and social proximities. It follows that knowledge spillovers and externalities are geographically bounded, since knowledge is often tacit and personal, and even when knowledge is explicit and can be codified it is often sticky and context dependent. These considerations imply that, in opposition to information, the marginal cost of knowledge "transmission" rises with distance. She concludes that these considerations imply that social capital is the material of knowledge spillovers.

Following an estimated econometric linkage and feedback model of innovation for an extended sample of 153 European regions she draws a number of very interesting lessons in terms of policy making, notably a call for a structural systemic policy approach that stimulates synergies between institutional sectors and encourages private-private and private-public co-operation. She claims that "Even if such policy efforts aiming at developing bridging social capital and thus an institutional framework based on trust and co-operation may take time to show up their effects, they are essential for the implementation of an innovation system able to nourish sustained economic growth".

She concludes by stating that "the development of "intangible" competitive assets based on innovation can probably only be achieved by an encompassing regional development strategy that builds upon regional specificities and needs, upon clearly defined objectives which effectively respond to the (techno-)globalisation and the knowledge based economy through collective learning, with social capital as a major underlying success factor".

In the following chapter **Knut Koschatzky** further explores the relationships between social capital and networking and asks the critically important question whether social capital reflects just non-market processes and has thus social but non-economic effects, or whether by social capital accumulation also economic effects can be generated. He addresses this and other questions related to regional innovation through networking by using empirical data from Slovenia concerning innovation networking and from Baden and Alsace regarding innovation cooperation across regions.

He starts by assessing the different dimensions of social capital given in the literature to conclude that social capital is constituted by general components like trust, norms, values, attitudes and understandings attained through the process of social interactions, and therefore it has a strong collective feature. This, in turn, explains why, in his view, although social capital can be regarded as a public good it has more the character of a club good, since networks might not be open to everybody and groups are able to control the access of other individuals to the group.

Koschatzky argues that social interaction is the most important means in social capital accumulation and that networks can be regarded as social capital's infrastructures. In this sense, networks, as an input as well as an output for social capital building, can be regarded as an externality to the network participants and thus social capital by itself is also able to generate positive or negative external effects. It follows the key objective of public intervention should concentrate on the promotion of positive externalities by promoting cooperation aimed at network formation understood not just as a mere form of social and organizational interaction, but as social processes which facilitate collective learning, knowledge and competence building. He stresses in particular the importance of innovation networks and provides a new and interesting definition of these organizational arrangements.

He goes on exploring the output function of networking and tries to answer the question whether spatial and cultural proximity within and between innovation systems triggers network formation and whether the concept of social capital can be a useful approach for explaining different network patterns using the three regional case studies. On the basis of these empirical

evidence he concludes that only limited opportunities exist for direct policy intervention since social competencies and behaviors can not be influenced by policy measures in the short run. Within those, he argues that the stimulation of network building, the promotion of key persons as network moderators and the production of success stories might contribute to the objective of increasing the social capital stock of regions and to make use of this social capital for innovation and regional development.

Edward J. Malecki states that conventional economic theory and policy practice generally have underestimated the influence intangibles such as social capital, institutions, policies and networks may have on regional growth and development prospects. He also argues in his chapter that it is networks that provide access to knowledge, and it is networks that are the mechanisms by which social capital and other forms of capital are generated, reinforced and sustained.

For Malecki a great deal of regional development is cumulative and "higher order capabilities", such as knowledge externalities and non-traded interdependencies, which are immobile and non-purchasable, are generated within interactions among firms. These capabilities determine the absorptive capacity of a region to learn new capabilities in a cumulative way. In other words, they are the pre-condition for a less favoured region to become a learning region.

This is why, in his view, inward and outward networks play a vital role in this cumulative causation process, since they work through hard infrastructural links to other places and through a web of networks of individuals, firms and public and private institutions. He also states that it is perhaps best not to rely on social capital as the primary basis for development differences and distinguishes between three types of networks: ecology, community and strategy networks, paying special attention at the role of "gatekeepers". Within this framework, he goes on analysing the factors that determine 'the rural penalty' underlining the importance of a region's capacity to retain and attract "talent" as well as for compensating for the factors that make technological change biased towards urban areas in the first place.

He continues by comparing on the one hand, the US.A. and Canadian policy experience regarding "learning regions", where formal institutions and research infrastructure comprise the principal mechanisms of development , and on the other hand the European experience where social capital, interpersonal networks, and local culture are more central to a supportive environment for learning regions and entrepreneurship

He concludes that when networks are organic and systemic, rather than mechanistic and constructed for a specific purpose, social capital and trust are built, and learning takes place efficiently, which leads to further development along a path of sustainable development. He sees these networks as an essential piece of regional development policies which, in his view, must be knowledge-oriented and help to build competencies, which determine the ways firms acquire, absorb and use knowledge

Richard J. Nunes, Manuel Heitor, and **Pedro Conceição** in their chapter, say that recent positivist interpretations of '*vision*', '*knowledge*' and '*social capital*' are the direct response to a new economic paradigm calling for market responses by firms and regions based on differentiated, higher-value added products contingent on innovation, understood as a broad social and economic activity.

They argue that in order to comprehend the features of knowledge-induced growth, it is important to recognize the relative importance of infrastructures and incentives, as well as considering the increasing significance of institutions in the development of 'social capital'. This is because "learning" societies will increasingly rely on "distributed knowledge bases", as a systematically coherent set of knowledge, maintained across an economically and/or socially integrated network of agents and institutions.

In their view social capital is the act of risk management between economic agents and institutions for political or economic purposes, which also is competitively expressed through a desire for autonomy, as opposed to one solely founded on cooperative networks for community-wide benefit.

They also reflect on the localization pattern of innovation-based development using the Portuguese example, which drives them to conclude that geography and institutions matters, well above sometimes that traditional economic factors (e.g. wage levels) for new investments in today's knowledge economy.

They also reflect on the relationship between innovation measurement through surveys and social capital, stressing the importance and the difficulty of measuring the dynamics and flows within a regional innovation system and not only its outputs at microeconomic level.

They conclude among other things that understanding negative social capital, as well as contingent learning, which determine non-innovative behaviour and successful knowledge-based development, is equally as important as the multi-dimensional considerations of innovation measurement methodologies.

Phil Cooke argues in his chapter that SMEs, by exploiting social capital, can overcome barriers caused by small size by collaborating with other SMEs, in the form of "formal and informal partnerships based on mutual trust, exchanging favours, and, judging reliability, credibility and reputation as safeguards against opportunistic behaviour". He refers to social capital as a protean concept for defining 'the missing ingredient' in successful practice that economics cannot explain: Social capital is defined as the application or exercise of social norms of reciprocity, trust and exchange for political or economic purposes. In this sense, he adds, it came to prominence linked to growing interest on network structures in socio-economic life and theorisations of embeddedness that sought to restore the social dimension to economic analysis.

After investigating the theoretical context for social capital his paper deals with empirical testing into the role of social capital aimed at eliciting measurable responses on changes in SME performance by turnover, profitability, and employment during the 3 years in the twelve standard U.K. regions. He draws very interesting results concerning the comparison of les favoured regions vis a vis more advanced regions concerning the type and use of social capital between these two regional typologies. In this sense he shows that the social capital employed by the more advanced regions is a) less 'social', more 'professional' , b) less locally focused, that c) high-trust' relations are more important for business performance and that d) Inter-firm collaboration is rated most beneficial in the latter type of regions. Moreover, he points out that knowledge-intensive businesses are more engaged in social capital relations than average, "though such networks are by no means confined to regional or local scales".

He goes on redefining social capital for SMEs as business social capital, in terms of it being 'a predominant feature of market interaction in which SMEs trade seriously with a relatively small network of others whose reputation they trust as reliable, giving rise to a pronounced condition of exploiting traded interdependencies.'

He continues by assessing firms in innovation network programmes in Denmark, Ireland and Wales drawing conclusions about the relative valuation of international over domestic innovation support programmes.

Finally he draws a number of very interesting conclusions regarding a number of features of the social capital notion; the *ubiquitous nature* of the use of social capital by SMEs, "deployed in different ways and to different degrees dependent on the kind of transaction convention or market"; its *non-monetary* form that drives him to the conclusion that "social capital in the world of the real economy is a kind of entry-ticket to doing business". Most importantly he states that "according to our results, not only are the most competitive *regions* the most pronounced

exploiters of social capital, but also good-performance areas in all types of region contain innovative firms that are high social capital users, both locally and globally". Finally, all the above leads him to conclude that policies that aim to build up social capital for SMEs through encouraging and incentivising collaboration and networking, produce results whereby significant portions of the surveyed SME population ascribe improvements to business performance, innovation and knowledge exploitation to the newly-formed social capital.

Stuart Rosenfeld in his chapter reflects on the social imperatives of clusters. He argues that there is good reason to believe that in today's economy, un-traded interdependencies, i.e., social capital, create economic advantages, which may be a key force for clustering. Moreover, he claims that in clusters with high levels of social capital, knowledge and innovation is transferred much more readily, because social networks developed within clusters help companies make more informed decisions about investments, services, and suppliers.

His chapter provides research results that assess the value companies place on social capital and un-traded interdependencies and investigates the value of cluster associations as structures for social capital and as sources of intelligence. Finally he expresses some concerns about exclusionary forms of associative behavior or negative social capital.

Regarding the former, he says that many companies place greater value on informal trading of information and knowledge locally, which work best in a social environment that supports reciprocation, than they do on formal business transactions. In this sense, surveys of companies' conducted in the United Kingdom, the northwestern region of the United States, and Australia's New South Wales found that learning and access to knowledge outranked the " harder" activities such as joint production or marketing in reasons for entering into networks.

Rosenfeld feels that that most regions believe that they need to create the social environments that encourage the associative behaviors within each "cluster" which is attributed to the paradigmatic case of the Italian industrial districts. In order to do so "cluster councils" are being developed which provide, among others: "real" services at reduced costs to members; lobby for influencing political decisions; provide access to knowledge and networking opportunities; facilitate networking; and conduct research or planning for members which can help them identify market opportunities or address common problems. In this sense, in the U.S., the "Green Book," an analysis of cluster activities, claims that 89 percent of all cluster initiatives have a facilitator to manage the activity, with the majority of the initiatives surveyed financed by government with only less that one in five was financed by industry.

Regarding the potential weaknesses of social capital, he argues that two restrictive characteristics of social capital can reduce its value to a cluster: membership limitations and insularity (parochialism), or lock-in.

He concludes that the social attributes of clusters are vital to their success and that companies value the knowledge and learning associated with inter-firm relationships. In this sense, he claims that social capital often proves to be the difference in competitiveness of clusters that are "overachievers" and those that are "underachievers" which exist but lack synergy.

Following a number of OECD conferences analysing the role and impact of social capital as an instrument of cluster policy, **Sergio Arzeni** and **Dina Ionescu** argue that social capital can play a critical role in shaping inter-firms relations within local clusters and in contributing to the identity of clusters.

They start their chapter by asking if social capital impacts on cluster performance. In this sense, they state that evidence from recent empirical studies suggest that social capital might play an important role for inter-firm relations at local level and it could thus be instrumental for clusters of firms. In their view, since "innovation in clusters is based on collaboration, proximity

and networks and spurs through a process of mutual learning, emulation, positive role models, and personal contacts" and "much of this exchange is of a social nature", social capital building seems to be a necessary ingredient to successful cluster building, although they call for caution not to overemphasise the role of social capital in cluster formation. In this sense, they recognize that both the lack of data and problems of definitions are major impediments to grasping the significance of social capital as an ingredient of cluster development. The above drives them to conclude that there is no one model of social capital and no one type of impact on cluster performance.

Regarding the question if clusters with high levels of social capital perform better, they try to respond by exploring a number of contributions in the literature. They tend to support the idea that social capital represents one of the key promotion instruments of clusters because it improves the framework conditions for business through, amongst others: associative activities among the business community, links between university or research institutions and the private sector, attraction of investment to cluster activities through local development agencies (real estate, consulting, training, mentoring), offers direct financial support to clustering firms, and encouragement of linkages among companies, industries, firms and supporting institutions. In short, they conclude that social capital seems to be a significant variable for SMEs and clusters because it produces untraded benefits in the form of formal and/or informal partnerships, networks and cluster based initiatives where mutual trust, credibility, reputation and the exchange of personal favours can contribute to the SMEs profitability, turnover and innovation rate.

Having said that, they also alert about the negative features social capital may reveal in a cluster such as exclusion of outsiders, limited mobility, poor socio-economic advancement and lack of adaptability to change.

Finally they deal with the question if social capital can be built in clusters through policy intervention. They state that research has shown that social capital is difficult to construct, and that it the appropriate policy approach may vary depending if it refers to remote areas or transitional economies

They conclude, among other things that "clusters should play a key role of intermediaries as builders of social capital within the economic region and both, public-private partnerships and social capital must not be forgotten if local economic development should take place".

In the following chapter, **Bjørn Asheim** argues that the importance of social capital stems from the fact that it is a key strategy in promoting cooperation within firms, in networks of firms and in regions in the context of a globalising learning economy in which innovation is based on interactive learning. The latter implies that enhanced cooperation through social capital building is necessary in making firms and regions competitive through innovation.

In this chapter, Asheim claims that in the so-called coordinated market economies in particular, in which Nordic countries are a paradigmatic example, innovation plays a central role in attaining and sustaining competitive advantage. Moreover, a broader understanding of innovation as a social, non linear and interactive learning process makes socio-cultural and political-institutional structures necessary prerequisites for regions in order to be competitive in the post-Fordist learning economy. Thus, social capital, which captures the role that social, institutional and cultural aspects play in influencing economic performance, becomes a critically important concept for regional development.

He goes on exploring the meaning of micro-level learning organizations and its linkages with social capital formation. Asheim says that firms in the learning economy are basically "learning organizations" which choose organizational modes such as inter-firm networking and intra-firm horizontal communication patterns in order to enhance their competitive position through continuous innovation. Thus, flexible and participative internal firm's organization as well as clustering, networking and inter-firm cooperation are all means by which such learning

organizations are able to gain competitive advantage. The reason being that these organizational structures facilitate the diffusion and effective use of informal or "tacit", non R&D based knowledge, as well as "disembodied" know-how, which in a learning economy has a more central role to play in securing continuous innovation.

He concludes that in the case of "learning firms" as well as with "learning regions", innovation based on interactive learning points to the importance of cooperation, which reminds us of the significance of non-market and non-economic factors such as social capital, trust and institutions. He clearly states that in order to follow a learning-based strategy of endogenous regional development concerning socio-cultural and socio-economic structures, it is necessary to have some form of public intervention as well as public-private cooperation, stimulating cluster creation and network formation through the building up of social capital on a regional basis.

In the final chapter, **Paolo Pasimeni** presents a different perspective on the subject: he tries to shift the point of view, thus the starting point and the premises of the analysis, by focusing on a selected group of developing countries (Middle Esat and North of Africa Mediterranean Countries).

He highlights the fact that many forms of social capital exist and that the effects it has can be very different. He argues that in these countries, as well as in some European Less Developed Regions, to a lower extent, social capital can have positive effects on the equality level of an economy, while having not necessarily positive effect on innovation. He focuses on the ambivalence of the concept of Social Capital, and says that it should be considered and managed as a *vox media*.

His point is that even if social capital is an important factor affecting innovation and economic and social development, it is always a product and a part itself of the culture of a nation or region. It has much more to do with culture than with economy, but it determines the economic performances of a system, so it is economically relevant.

In an innovation-oriented system, the presence of social capital reinforces the trend, allows a more efficient and easier coordination of efforts, fosters cooperation, organises and in some way regulates competition, and improves knowledge sharing. When an innovation system does not exist or does not function, the general tendency is to maintain the *status quo*, and a strong social capital will reinforce this tendency, making more and more difficult to promote change in such a context.

Part I:

Regional development models, policy issues and social capital

MARIO PEZZINI

TRENDS AND POLICY CHALLENGES FOR OECD REGIONS

Introduction

By loosing national ties and enforcing international competition, globalisation confronts regions both with development opportunities and with threats not previously known. On balance, it is expected to bring gains to economies in their totality, but it will nonetheless pose severe problems of adjustment to a good number of regions. How to exalt the former without being limited by the latter? Regional success and decline increasingly result from an uneven distribution of and capacity to valorise local collective goods (multicultural integration in metropolitan areas, well-established inter-firms relations within clusters, accessibility of natural and cultural resources, etc.). Still, opportunities related with these collective goods are often unexploited and must struggle with economic, social and environmental challenges. Territorial policies should contribute to building and maintaining growth engines; facilitate individual and organisational learning to up-grade local skills; and supporting diffusion of new technologies and innovations. But in order to do so, a paradigm-shift is required.

This paper focuses on OECD Member countries and does not pretend to represent the all spectrum of regional trends and policy challenges, in particular those taking place in developing countries whose singularities would deserve a specific consideration. Within the cases of the most industrialised countries, the paper intends to describe an on-going change of perspective in territorial policies, more focused on the competitiveness of places, than on ensuring a traditional support to sectors or income re-distribution. The paper will first summarize the main trends affecting regions in OECD Member countries and focus on the comparative advantages as well as on the obstacles to development of rural, moderately unrbanised and metropolitan regions. Then, the paper will put forward suggestions for designing territorial policy more capable to face the challenges of economic integration and to achieve a balance between economic growth, social cohesion and effective governance.

Main trends affecting regions across the OECD member countries

Territorial disparities are significant and persistent[1]. While OECD countries converge, regions converge very slowly or don't. In the medium term, the positive effects of trade seem not to have produced a more balanced development within countries as not only endogenous growth, but also exogenous-led growth is very sensitive to both local conditions and proximity to markets. A large number of opinion-makers have predicted that foreign direct investments would have enhanced convergence. In reality, if foreign direct investments have actually played a crucial role in the economic growth of several countries, they have often had uneven localisations and linkages within countries[2]. As a result, on average, a single sub-national region produces a quarter of national GDP, while other areas, some bordering the most successful ones, are worsening their relative position.

However, many analysts and policy-makers are persuaded that several regions could reverse their trends and could better contribute to national wealth by providing additional margins for growth. In turn, such a "development reservoir" would produce more balanced development and better cohesion within countries or macro-regional ensembles, such as the European Union. In fact, unexpected cases of regional success in economic development have renewed "a bias for hope" in regional policies. While some regions have confirmed their role as growth engine and others are still lagging behind, there are regions that have strongly contributed to a change in perception of economic geography, in some cases because they have unexpectedly declined after decades of good economic performance, but in other cases because they emancipated from historical backwardness or recovered from long lasting crisis. Several small and medium-sized cities, supposed to lack the scale for developing a competitive economy, have succeeded by relaying on clusters of small firms. Some rural areas have considerably increased employment by valorising their amenities. Some urban areas, which were severely hit by structural changes, have experienced a rebirth sparked by the high-tech innovation spilling over from universities and R&D facilities.

In many cases, local development opportunities seem largely unexploited and policies could help in better promoting local investments as well as attracting external investments. This could take place not only in lagging behind regions; but in a large amount of cases, including successful regions, where development opportunities may remain untapped, too. In order to develop this point, let's make some examples of strengths and weaknesses for regional development by type of regions. For the sake of a synthetic analysis, let's refer to a simplified typology, based on broad types of areas, mainly identified by density of population, and distinguishing rural, moderately urbanised, and metropolitan regions. The reason for such an extreme simplification is due to both considering a wide range of international cases and dealing with the limited availability of internationally comparable sub national statistics.

[1] Among a well-known literature, this result has been highlighted by the OECD work on regional development. OECD is conducting a series of reviews at national level on the territorial policies. The countries reviewed up to now are: Italy, Corea, Hungari and Czech Republic, as Unitarian countries; Switzerland, Canada and Mexico as federal countries. On-going reviews concern Japan, France, Luxembourg and Finland. At the same time, OECD conducted thematic reviews that included regional case studies. Teruel (Spain), Tzumerka (Greece), Sienna (Italy), and Morevska Trebova (Check Republic) were the rural regions considered. As for moderately urbanised regions they included: Comarca centrals valentiana (Spain), Champagne-Ardenne (France), and Bergamo (Italy). The on-going metropolitan regional reviews cover Athens, Busan, the greater Helsinki area, Øresund (Copenhagen and Malmo), Vienna/Bratislava, Melbourne, Montreal, Mexico City.

[2] For instance, in Mexico, the increase in regional disparities in per capita GDP from 1986 on, largely reflects the diverging trends in the northern Border States, which benefited from major investment from the United States, and the southern states, which are still underdeveloped. In Hungary or in Czech Republic, the transition has been especially favourable for Budapest or Prague and their surrounding areas, which attracted the largest share of foreign direct investments.

1. Rural regions

Rural problems[3] are particularly evident in terms of employment opportunities in agriculture and the public sector. Despite farming is still important in shaping land use, employment opportunities in agriculture are declining, not only in relative, but also in absolute terms, among other things because of the exceptional increase of productivity during the last decades. The modern supply-chain production of commodities includes relatively few farm producers (among other things to minimise the costs of managing business alliances) and lead to concentration of commodity agriculture in relatively few places.[4] One is tempted to state that commodity agriculture is no more the backbone of rural regions. Moreover, in a climate of fiscal constraint, decline is affecting public sector employment that had been the main component of rural employment growth.

Transition to new economic sectors and activities is therefore a priority, and many member countries opt for policies of adjustment helping diversifying economic activities, commercialising natural and cultural amenities, finding market niches for local products.

Although crucial, unemployment is just one of a wider spectrum of problems affecting rural areas. Closely related is the significant ageing of the population due to a) out-migration of young people as they do not only lack employment opportunities but also adequate access to educational and leisure facilities, and b) in-migration of retirees, at least in some places. Furthermore, the resulting demographic structure is often not appropriate to support provision of local public services. Moreover, most rural regions have difficulty establishing the necessary critical mass of facilities, producer services and infrastructures to support entrepreneurs starting up in rural regions. Finally, in many cases the above problems are related to each other so to produce an additional and crucial obstacle to development: a vicious circle looking regions in a sort of permanent under-development and connecting unemployment, lack of services and rural exodus.

However, despite important economic and demographic challenges, rural regions are not necessarily synonymous with decline. Sustained as well as sustainable development has been observed in a remarkable amount of cases. Why? Transport infrastructures or the vicinity of a major urban centre are often mentioned as important factors. For sure they allow containing the consequences of weak economies of agglomeration by providing access to services of larger cities. Moreover, they allow attracting urban dwellers demanding for amenities, as improved transport links make recreation in rural areas feasible. Still, accessibility does not appear as a sufficient condition for rural development and sometimes it is more the source of population leakages than of economic linkages. In many cases, endogenous resources such as financial, human and social capital drive development. In particular, the most intangible aspects (entrepreneurship, cultural endowments, participation and partnerships) may make the difference. But given that almost each region has different combinations and levels of capital endowment what really counts is as much the availability of one form of capital, as the ability to properly exploit it. In other words, what is difficult is to transform stocks into flows: develop strategies that valorise natural and man-made

[3] The session identifies and discusses some of the key trends in rural regions, as they appear from the territorial reviews conducted by the OECD in Teruel (Spain), Tzoumerka (Greece), Moravska-Trebova (Czech Republic), Champagne-Ardennes (France), and Siena (Italy), from the horizontal work conducted by as well as from the statistical work on rural indicators and factors of growth.

[4] Of course, some rural places still own their growth to the new ways in which agriculture produces commodities. In some regions, farmers still assure income and even employment development by signing contracts with a major food company to deliver precisely grown products on a pre-set schedule. However, such a successful move to a "supply chain" organisation changes not only *how* agriculture does business but also *who* does business and *where*. In absolute terms, it implies reduction of employment and surface in agriculture.

assets, strengthen the economic environment, invest in human resources, improve the institutional capacity, etc.

If strategies are key for development, which ones are the most effective? Some of them are more traditional. They have to do with exploiting natural resources or with taking advantage of major public expenditures. Some regions succeed well in exploiting wood, oil, minerals, or hydro-electricity[5]. Other few regions succeed hosting settlements that, although beneficial to society, generate a certain number of nuisances (prisons, dumps, waste recycling plants, etc.): in low population density they affect a smaller number of people. The greatest problem is that these traditional strategies have limited chances to be replicated in other places. More sustainable and forward-looking forms of development deal with valorising rural amenities and strengthening industrialisation in rural hubs. While the latter is a case that has much in common with patterns of development in moderately urbanised regions and will be treated extensively later on, let's concentrate on the former. A large part of successful rural regions has been able to valorise public or quasi-public goods such as a clean environment, attractive landscapes and cultural heritage (including food). Their increasing value has to do with both a growing demand on the part of urban dwellers for rural areas and a local capacity to co-ordinate several economic actors to supply and promote local collective or public goods. Potential economic opportunities range from developing green tourism packages; promoting local products, attract residents (secondary homes) or permanents (active or retired) to the area together with building synergies among all the above factors of growth. This applies not only to old but also to new countries.

In the latter cases and under certain conditions, farming can continue to play a role and remain a tool for rural development. Farmers are often engaged in creating, maintaining and valorising distinctive places and products, ensuring green credentials for marketing or directly contributing to the regional tourism supply. The point is that in all successful cases farmers are actors of a restructuring process that encompass agriculture as one component and not the dominant element of a comprehensive and place-based strategy for rural development. Furthermore, it is important to dispel the outdated notion of the "full-time farm business" with the household wholly dependent upon agricultural income. Multiple income sources for farm households are now widespread. In other terms, the health of the farm and non-farm economies in rural areas is inexorably linked. This is why the established notion of a separate national economic sector seems blurred and farmers should come to be seen and valued for their role as "rural entrepreneurs" and "local environmental managers" as well as for their role as food producers.

Prospects for development may not be limited to valorising natural and cultural resources or networking small firms, but cover a much wider set of possibilities. The above notes cannot pretend to be exhaustive. However, they help stressing a crucial point: together with increase connectivity due to information technologies, an increased and diversified social demand on rural areas has widened the range of regions considered as having marketable values. This demand has to do with higher disposable incomes, more sophisticated consumer preferences and a growing interest in ecology. Market segmentation has opened up niche opportunities for a variety of agriculture-related, industrial and service activities in rural areas. However, the new demand on rural areas may face a diminishing supply, resulting from rural exodus and the perverse effects

[5] As a matter of fact, the rural regions with the fastest employment growth in OECD countries are often remote places that are highly dependent on one of these resources. The discovery of oil in the North Sea was a boost for the economy of the highlands and the islands (Scotland). Sometimes, technological progress changes the fate of regions: new mining techniques allowed a county like Elko (United States) to venture into low-grade gold extraction. In other places, for example Soyn and Fjordane (Norway), the production of hydro-electricity generates sufficient income to ensure high levels of investment in infrastructure and services. The difficulty in all this type of places is to manage the effects of the price fluctuations of the resource (which induce rapid economic booms and declines) and to retain value added.

of the present sectoral policies. Independently from the original endowment, some areas may face obstacles in capturing new opportunities and require pro-tempore policy intervention to facilitate the design and implementation of development projects.[6] In turn, this requires a re-examining of the approach to rural policy. The focus of intervention to promote rural development and employment should be the regional economy (for example as defined on the basis of functional regions) so to develop new and distinctive economic functions. In short, a shift from a sectoral to a territorial policy approach.

2. Moderately urbanised regions or the "urbanised countryside"

Many industrialised countries base a part—some a considerable part—of their structure on regions where small towns constitute the main settlement basis and small firms the main economic basis. These regions are often growing at the expense of rural areas, offering a critical mass of services and infrastructures that populations need, while the smaller size of their cities saves them from some typical big-cities nuisances and they may even attract urban citizens. With improved communication and increased personal mobility, small towns are extending their catchments area in a way that bolsters their service industries and makes them more attractive as a place to live. In short, if until the 1960s the policy debate was dominated by larger cities growing fast and population tending towards increasing concentration, a more indistinct pattern has developed subsequently, including urban sprawl[7] as well as dispersal of population down the urban hierarchy to smaller towns[8].

Some of these regions have specific advantages and can provide useful suggestions to policy-makers. The proportion of moderately urbanised regions with employment gains is greater than the proportion where employment has dropped. Employment gains often correspond to areas were industrialisation and specialisation still represent an asset. Many of these areas relay on the conception of intensive activities, flexible production processes, and modern technologies to target fairly narrow market segments and capture a particular part of the world market. In these activities, small firms seem not to be disadvantaged as co-operative relationships among them provide both the appropriate scale and the flexibility to respond more nimbly by shifting production to change and instability. Other moderately urbanised regions have succeeded by becoming rural hubs, i.e. small capital of areas with a relevant endowment of natural and cultural amenities. These successful cases suggest development patterns that could inspire a wider set of areas. In fact, several regions do not valorise their natural and cultural resources as they could or have agglomerations of small and medium-sized firms that, although close to each other, are simply juxtaposed and face high transaction costs in business-to-business relationships. They do not fully exploit the advantages of proximity in order to specialise, develop a local pool of skilled labour, attract buyers and suppliers, and reduce costs by sharing activities such as marketing and technical services[9].

However, independently from the capacity to exploit existing comparative advantages for competitiveness, they share some important challenges. One at least deserves close consideration.

[6] Other areas may have almost pure public goods—the best-known examples being those concerning natural endangered species—for which a real market is and will be difficult or impossible to establish.

[7] Decline of population in the inner cities together with growth of suburbs.

[8] Note that 32% of the OECD population lives in moderately urbanised regions, and the proportion rises to 60% when intermediate and predominantly rural regions are combined.

[9] In these agglomerations, subcontracting to potential competitors for orders that exceed a firm's capacity is also rare because of mistrust about reliability and standards.

It is related with globalisation and, in particular, with the effects of the new competition emerging from countries such as the "big players" (such as India, China, Brazil and Russia). In these countries, and differently from what first happened with the small Asian dragon, technological capacities may facilitate impressive increases in productivity without proportional growth in wages, given the unlimited supply of labour ensured by latent unemployment in rural areas. The consequent permanent increase in new countries' firms competitiveness affects in particular labour intensive or light industries, i.e. the sectors in which the above-mentioned countries have better comparative advantages. As a result, many moderately OECD urbanised regions that are specialised in the same sectors can no longer hope to compete on the basis of prices.

In this context, small firms in OECD moderately urbanised regions (as well as in all locations in which they do not depend from large firms for what concern their investments decisions) are compelled to be quicker in innovating than "big players" firms in copying, but they may face obstacles in pursuing a knowledge-based strategy. They are increasingly forced by fierce competition to exploit any possible advantage in terms of quality and design of manufactured products to forge new competitive assets, to refurbish the image of their brand names, and to capture new market niches where quality is the uppermost consideration. However, many regions may face obstacles in reviving their industrial output, promoting innovation, and upgrading skills on a permanent basis. Holders of university and post-graduate degrees are proportionately less numerous in moderately urbanised regions than in urban regions. Additionally, the reduced size of most business is not easily conducive to investments in research. Last but not least, the competitiveness of local firms depends as much on individual investments as it depends on the overall capacity to produce and use innovation of the cluster (suppliers, customers, sub-contractors, etc.) to which individual firms belong.

In short, there is a need to put in place territorial innovation-led policies. Even when small firms are competitive and able to use and even produce innovations, they require a whole range of skills and incentives for innovation that the market is not always capable to provide. They require that the whole local filiere to which they belong has ample access to global knowledge. In order to help small firms doing both developing clusters relationships and adopting innovations, several tools have been put in place. Supporting business training, easing restrictions and regulations that stifle new SMEs investments, providing mutual guarantee systems for bank loans to individual firms[10], financing business start-up programmes have often played and important role. In particular, business advisory services seem to have had a crucial function to promote co-operation among SMEs in a number of areas, including investment in R&D. Together with encouraging networking, investment in quasi-public business services have helped drawing local firm into high-quality information circuits. However, an appropriate assessment of the respective advantages and disadvantages of these tools still need to be made.

Moreover, small and medium-sized towns need to better cooperate in order to be capable to provide the specialised services that their economic fabric requires. Moderately urbanised regions lend themselves to developing specialisation of and horizontal networking between towns located close to each other so to enjoy facilities and services that they would never be able to afford on their own. In reality, these towns are often isolated and cooperation and networking are rare. Co-operation must at least initially focus on a few carefully selected objectives and implies a form of governance where capacities and policies can be shared by several local entities, without the need to create an additional administrative layer. The main transports network often by-pass moderately urbanised regions. This is a problem because while infrastructure alone cannot

[10] It is the consortium, and not the bank, which decides whether or not to provide a guaranty for a given company, after examining the loan application and discussing it with the applicant. If the business is not in a position to repay, the co-operative takes over the liability to the bank.

necessarily create growth, a lack of accessibility can slow it. Development policies should carefully consider secondary systems that provide links to high speed networks.

3. Metropolitan regions

Metropolitan regions are confronted with important opportunities as well as with pressing challenges. Because of their extraordinary fluidity, complexity and diversified economic base, they often enjoy robust comparative advantages linked with polarisation effects and have experienced a rebirth sparked by the high-tech innovation spilling over from universities and R&D facilities. Spillover generates more efficient knowledge transfers, a larger and more specialised workforce, and better markets for high tech goods and services. Nevertheless, there is no linear correlation between size of cities and economic performances, i.e. cities with the same dimension may have completely different results. In fact, some metropolitan areas are severely hit by structural changes, have been exposed to a significant loss of activity, and in the case of some port cities, of maritime commerce as well. Moreover, often unexpectedly the phenomenon of urban distress continues to grow. A mix of poverty, crime, homelessness, and drug abuse is concentrated in some distressed neighbourhoods. In ten countries, with about half the total population of the OECD, the proportion of people in large cities living in distressed areas is approximately 10 percent of the national population.

In order to further enhance the competitiveness of metropolitan regions and at the same time address the challenges they face, comprehensive and multi-sectoral strategies should be considered. Among other things, a particular attention should be given to problems of governance. With few exceptions, these areas are fragmented into various administrative jurisdictions. Under certain circumstances, fragmentation may incite competition among multiple jurisdictions, and in turn competition may have a positive impact on welfare as it can provide incentives for municipalities to deliver services cost-efficiently or to diversify their supply. Experiences show however that exacerbated competition among metro-jurisdictions can also result in a complex policy environment in which consensus is difficult to reach on important medium and long-term goals concerning social cohesion and security, environmental quality and appropriate use of land. Moreover, poor coordination among metro-jurisdictions can weaken local actors' capacity to recognise and exploit untapped area-wide development opportunities as this capacity often requires dialogue to combine different forms of knowledge and clarify demands.

Policy responses to fragmentation vary throughout OECD countries. Some countries[11] have favoured municipal mergers on the grounds that amalgamations should reduce the per capita cost of municipal services through economies of scale and that a unitary tax system should allow a more efficient and equitable sharing of costs within the amalgamated city. On the opposite side of the spectrum, other countries are experimenting strategies such as redistributive grants and tax-base sharing, which are fiscal solutions. Equalisation mechanisms have often been supported because, without dismantling current administrative boundaries, they insure a sharing of the costs of public services whose benefit extends to the whole metropolitan area, stem inefficient location

[11] The most significant amalgamations took place relatively recently in Canada (Halifax in 1996, Toronto in 1998, and Montreal in 2002), it is premature to assess thoroughly their real impact. Still, the results obtained so far appear mixed. Cost reduction or quality increases cannot, as yet, be detected, a task made more difficult by persistent transitional cost increases. Moreover, while the amalgamation process could probably lead to reduced fiscal competition and less social segregation along geographical boundaries, groups strongly hostile to amalgamation argue that the process may have a democratic cost. Finally, it is difficult to achieve a perfect match between functional and administrative boundaries simply because functional areas evolve constantly in time and space.

choices motivated by differing tax bases, and contribute to an equal ability of municipalities to fund basic public services. An intermediate solution is the creation of metropolitan co-ordination and planning agencies (sectoral or multi-sectoral). Agencies devoted to a single public service can take advantage of scale economies in public transport or water while metropolitan bodies perform a wide range of functions such as economic development and co-ordination. Some authorities are composed of directly elected officials while others are appointed. In addition to grants from upper-level government, some can levy their own taxes. A main issue for the multi-sectoral metropolitan agency[12] is their accountability especially when the institution has increasing responsibilities and fiscal revenues. No one fits all solution is available between amalgamation, tax sharing and agencies but farther work to identify different scenarios seems promising.

The lack of horizontal co-ordination between different local jurisdictions is not the only barrier to the well functioning of metropolitan regions and three additional problems need to be mentioned. First of all, insufficient vertical collaboration among levels of government limits the effectiveness of policies as more coordination could spread the risks of a project among several actors and gain additional financial resources. Secondly, lack of coordination at the central government level between national sectoral ministries limits policies effectiveness as it may put in place conflicting objectives and produce perverse effects. Thirdly, the reform of urban public finance is lagging behind the required institutional changes. At a time when major investments are required to enable metropolitan areas to compete in the global economy, decentralisation of expenditure responsibility has often produced unfunded mandates, i.e. upper levels of government demanding certain expenditures from the local level without introducing the corresponding means to finance these expenditures. This may be due partially to a reluctance of national or regional governments to allow municipal governments access to revenue sources other than the property tax (which may have inherent political and social limitations), partially to a reluctance of national governments to increase intergovernmental transfers, or partially to above mentioned problems of metropolitan or intergovernmental co-ordination.

In short, fragmentation among metropolitan jurisdiction, lack of vertical and horizontal cooperation among and between levels of governments, and often inappropriate finances and fiscal autonomy for cities may weaken the comparative advantages of crucial regions.

The emergence of a new paradigm in territorial policies

The trends analysed in the first session have some implications for policy-making. In fact, as territorial disparities within countries are significant and persistent and as their reduction does not seem clearly correlated to growth, it is not surprising that concerns of equity maintain interests for territorial policies. What is more interesting is that the demand for territorial policies comes also from concerns of competitiveness: the persuasion that regional policies can play a major role in a strategy to foster growth by mobilising unused regional resources. Let's analyse more in detail these implications for policy-making concerning as much the strategies as their implementation.

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[12] Examples of a metropolitan co-ordinating body are the *Montreal Metropolitan Community* (CMM) that the government of Quebec created in 2000 in Canada, the *Metro Council of Portland* (Oregon, US) the *Stuttgart Regional Association* (Germany). In the United Kingdom, the *Greater London Authority* (GLA) is made up of a directly elected mayor and a separately elected assembly that took over control of a number of existing government programmes such as police, fire, transport and economic development.

Changing strategies

Economic growth alone does not seem sufficient to reduce regional disparities and catching-up has proved a difficult process. Even in a climate of increased economic integration, after years of continuing high growths at the national level and improvement in the macro-economic environment, adjustment in the economic base of regions does not seem to happen spontaneously. Moreover, lowering all labour costs, increasing flexibility through national policies, and implementing regulatory reform to increase competition in product markets, do not seem to be sufficient. Finally, international economic integration is increasing the interdependence of nations, thereby modifying the traditional policy instruments through which governments influence the process of economic and social change, while simultaneously exposing territories to challenges for which they are often ill prepared. Exchange and interest rates are less and less susceptible to manipulation by administrations. So-called "competitive de-valuations", already inappropriate, are now impossible, for example within the new European monetary framework. Fiscal policies as well may progressively be bound to converge. In addition, national barriers to competition are being dismantled and regulations homogenised. In short, together with the persuasion that the drivers of national competitiveness have become more local, the limits to policy making explain why signs of increased expectations with regard to territorial policies are not only at the core of OECD activities, they are also evidenced in the World Bank's World Development Report 1999/2000.

These recent expectations renew criticism towards past policy-making in the field of territorial development. Traditional territorial policies, concerned with the centrally managed re-distribution of income to counterbalance less developed regions' gaps (in fiscal revenue, employment and infrastructures) and bring about geographically balanced economic development have often experienced disappointing outcomes and do not seem an appropriate answer to the new conditions engendered by globalisation. In many cases, an originally large amount of subsidies, scattered in a great deal of localities, became too diluted to sustain economic take off and modify the economic geography. A more selective re-distribution, concentrating assistance in a limited number of priority regions, faced obstacles, too. It frequently caused rent seeking wars, and even exhausting competition among regions, without necessarily resulting in as attractive a return as predicted for the winners. Moreover, this policy was exposed to a significant risk of public failure, as the knowledge of central administrations adopting a top-down approach is often incomplete and not sufficient to identify and shape development projects as well as to appropriately select priority regions. Finally, more general doubts about long-term effectiveness of subsidies (including lower taxes) have been raised, based on the possibility that income-transfers lead to passive behaviour and stifle entrepreneurship as well as on the likelihood that subsidies may help attracting, but not necessarily to deepening the roots of incoming investments.

An increasing number of countries are looking for a paradigm-shift in policy-making, grounded in the analysis of both the failure of policy driven by compensation to correct structural problems and the findings briefly summarised in the first part of this paper. The latter state that the drivers of national competitiveness have become more local. Moreover, they suggest that in many regions there is an unexploited reservoir of development opportunities and suggest that policy could help improving regional capacity to make full use of local immobile assets and to attract mobile resources. In order to do so, a series of factors are required in policy design: a) an emphasis on improving the 'competitiveness' of regions, and hence to understand the comparative advantages of each region; b) a switch from sectoral approaches to place-based integrative development strategies; c) attempts to divert resources from programs that focus on subsidies to programs for investments that up-grade human and social capital, and valorise innovation as well as diffusion of new technologies. The aim is to reduce structural hurdles by addressing the problems of the

local business environment so to provide a viable basis for growth rather than masking regional disparities with cash transfers. In this perspective, territorial policies should not exclusively address regions lagging behind. Under-developed areas should be helped in exploiting untapped potentials as well as already existing "poles" in preserving and improving their competitive advantages.

PARADIGM SHIFT IN REGIONAL POLICIES

	Traditional territorial policies	New trends
Objectives	Balancing economic performances by temporarily compensating for disparities	Tapping under-utilised regional potential for competiveness
Strategies	Sectoral approach	Integrated development projects
Tools	Subsidies and state aids	Soft and hard infrastructures
Actors	Central government	Different levels of government including private sector & NGOs

Two elements of the above strategy merit being underlined. First of all, the conviction that subsidies and state-aids are not able to trigger long lasting development and may even hamper it by creating distortions and a possible rent-seeking war (particularly in the framework of the European enlargement[13]). In order to stimulate the local economy and help attracting investments, it is better to build local public and collective goods that address market failures and improve quality of life, valorising endogenous resources and providing the conditions for self-sustaining growth at the local level. Specific targets of a public investment competitive strategy include i) the development of agglomeration economies, and in particular of clusters that provide means to increase productivity and achieve critical mass for small firms development; ii) efforts to link university with local economic actors in the context of regional strategies for innovation (including the promotion of services provided by research institutes, science and technology parks, technological centres, etc.); iii) the support for local immobile resources in rural economies and for positive rural urban linkages. The second element concerns the conditions needed to design, implement and monitor policies, including public participation and accountability. Governance should abandon a rigid top-down perspective in order to adopt a combination of fiscal federalism and partnerships and involve different actors national/local as well as public/private.

[13] Countries could try to compensate advantages of new members in terms not only of wages and labour and environment legislation, but also of state aids, by increasing subsidies to prevent national firms from migrating. The results would be large public expenditures with no welfare increase.

Implementing the new paradigm

Together with changes in the main component of policies, the efforts of countries engaged in re-shaping territorial policies increasingly explore some solutions for problem solving. In fact, although certain economic and functional characteristics are obviously important assets in determining a region's overall performance, much of the explanation relays on intangible factors. For OECD regions it is important not to overlook the role of civil society in ensuring sound local governance. Two issues in particular appear to be crucial: enhancing spatial planning and designing and implementing a governance reform. Organisational skills, institutional capacity, community participation and democratic local management are all being increasingly recognised as ingredients of success.

Rethinking spatial analysis and planning

In many cases, policy-making continues to focus on administrative or macro-regions, which no longer reflects the present local nature of territorial development opportunities. Dividing the country along functional instead of administrative lines often reveals territorial dynamics and problems that were unknown before or hidden by inadequate statistical analysis. The functional organization of the countries overlaps with their administrative-territorial structure that dates decades or even centuries back, creating various gaps and inconsistencies in political decision-making. Even the traditional distinctions between people living in cities or in the countryside needs to be re-defined. Daily commuters from scarcely populated municipalities in suburban areas of Toronto or Zurich have values and behaviours that are much closer to those of inner cities residents than the values and behaviours of resident in small and medium sized towns in predominantly rural regions. In this context too, the crucial unit of analysis and intervention is a functional region, defined in terms of its local labour market or commuting zone[14]. Spatial planning, particularly when built on the basis of functional areas, helps establishing a coherent vision to structure policies affecting location of population and economic activities, relations between urban and rural areas, infrastructure development and polycentrism as well as appropriate forms of governance, in particular between different local jurisdictions or trans-border regions.

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[14] Some examples may help clarifying the above point. Many observers have often stated that Italy is condemned to a permanent dualism, with little margin for territorial policies. Recently, a trend analysis based on local labour market areas has revealed signs of economic and social dynamism in southern areas, especially along the Adriatic coast and in a few parts of Campania and Basilicata. In most cases, good performances are associated with the presence of manufacturing small towns and non-metropolitan areas where small and medium-sized firms are specialised in light industries and mechanics. In these, as well as in many other cases, the traditional administrative regions are often inappropriate to register such crucial phenomena as clusters. In Canada, while disparities at the provincial level are declining, they are persisting among different types of regions, *e.g.* between metropolitan areas and non-metro-adjacent rural areas. This has been revealed by the use of data on Communities. Most of the economic growth has occurred in the urban fringe along the US border, especially Central Canada (Ontario and Quebec) that has been the prime beneficiary of international trade by developing significant industrial clusters. Even in Switzerland where territorial disparities between cantons are relatively stable, the use of functional, rather than administrative, units of analysis suggests that metropolitan areas have slightly higher growth than other parts of the Country. This, again, not only poses problems for the analysis, it requires the design of appropriate forms of governance, and in particular of co-operation between different local jurisdictions.

Designing and implementing a governance reform

Across OECD there is a wide variety of institutional arrangements depending on the size, the geography, the institutional architecture of countries. Still a common feature that emerges is that local and regional governments have been brought more strongly into the picture. In several countries a number of responsibilities have been transferred to the regional and local level. Together with the empowerment of local communities, devolution is often multiplying the number of actors and contributing to recognise the complexity of regional and local systems. In many European countries there are up to five levels of government and one should add to them the private sector, unions, trade associations, NGOs and the various partnerships. Increasing the level of institutional fragmentation also increases the need for governing structures to establish new forms of co-operation. At the same time, local institutions become more aware that the production of public goods and services can benefit from economies of scale and scope and that many of the externalities produced have an impact beyond the local context.

However, institutional flexibility and adaptation does not only concern local authorities. Local and regional policy-makers are increasingly invested with new mandates (policy design for economic development, regional planning, design and provision of producers' services, etc.) and have to cope with a wide range of issues. In particular, a capacity spending more inspired by subsidiarity principles, the reduction of the fiscal gap and a better matching of responsibilities, powers and resources, as well as an appropriate place-based fiscal equalization mechanism. The well known idea is that delegation of competencies, power and financial resources to local and regional authorities can increase their capacity to deal adequately with local development issues. However, decentralization does not so much transfer responsibility away from the national government as alter its responsibilities and require a Governance reforms. The role of the central government is to simplify financial and regulatory procedures, to ensure transparency, coherence, and guarantee equalisation of fiscal capacities among territorial units. Moreover, central government should integrate sectoral policies that are aimed at an impact at the territorial level. This implies efforts to improve central co-ordination of a wide range of policies through institutional arrangements for inter-departmental and inter-ministerial co-ordination, including 'policy proofing' to ensure that all such policies contribute to the over-arching goals, and that actual or potential conflicts are minimised.

But a crucial aspect needs to be underlined to explain the governance reform that is required. Most of the knowledge needed to devise and to deliver local or locally relevant public goods is dispersed among many different local and national agents. This asymmetrical distribution of information and knowledge requires a high degree of co-ordination among administrations and improved co-operation between public and private bodies in policy identification, design and implementation. Thus, the capacity to involve all relevant actors, to mobilise all stakeholders affects the impact of policies. In other terms, good governance is not only a matter of efficient use of resources. It contributes to effective policies too, including in particular territorial development policies. Questions about what policies should be adopted cannot be answered without addressing at the same time questions about who should design and implement these policies and how.

Traditional policy-making is less and less capable to cope with the complexity of regional and local systems. Instead of pulling together all relevant actors so to share as much as possible the knowledge they have, the traditional methods assumes that everything is transparent, that policy-makers can decide in isolation, and that public officials in central administrations can implement decisions through hierarchical communication and rigid command. In this context, if something does not work it is explained by general arguments against the public sector or about the heavy burden of bureaucracy, rather than by the need to design a new policy approach.

The multi-level governance resulting from the process of decentralisation requires relations among actors less based on the old command/control approach, which for several reasons has revealed itself ineffective for regional development, and more oriented by vertical and/or horizontal co-operation where different levels of government have an equal base in committees, forum, monitoring bodies that are in charge for the implementation of joint projects. This could bring to produce new tools such as contracts[15], incentives (as in the so-called new public management approach) as well as enhanced vertical and horizontal partnership across level of governments. That in turn gives emphasis to increasing use of programme monitoring and evaluation procedures, both as a control and a learning mechanism. In short, new territorial development policies involve strengthening the technical and administrative abilities of personnel and processes in administrations. Conditional grants can create incentives for local governments to improve their policy making capacities.

[15] Countries like France and Italy have created contractual policy tools for the central government to have public action demands ascribed into subnational governments' local pool of knowledge and capacity.

A. MAIRATE

THE REFORM OF COHESION POLICY: OLD AND NEW CHALLENGES*

Developments in the European Union (EU) over the last two decades have increased the scope and relevance of cohesion policy. The Maastricht Treaty (1993) provides that it aims to reduce economic disparities among regions (or groups of regions) and social groups. Unlike other integrated economic areas, the European Union has at its disposal structural and cohesion funds to increase the potential for indigenous economic growth in poorer regions, and therefore promote long term convergence.

The proposed reform of cohesion policy—probably the most far-reaching reform since 1988,—is driven by broad political and economic developments,—the EU enlargement to 25 member states, the Constitutional Treaty—as well as specific budgetary issues.

The present paper examines a number of key questions associated with the proposals put forward by the Commission (CEC 2004), which relate to changes in:

— the *policy rationale*: what are the relationships with the Lisbon agenda?
— the *remit of the policy*: concentration or dispersion of EU assistance?
— the governance *rules*: what kind of co-ordination can be established at EU level?

The rationale for EU cohesion policy: continuity or evolution?

Cohesion policy as a factor of regulation

From a historical perspective, cohesion policy has evolved from a marginal redistributive policy—with the creation of ERDF in 1975—to a policy, which is at the centre of the *European* model of society. This model has often been regarded as a form of regulated capitalism capable of regulating markets, redistributing resources and shaping new forms of governance among public and private actors (Hooghe L. 1998).

A defining feature is that this policy does not intend to replace the market, but to correct market failures or even to enhance it. Markets work more efficiently if public policies such as cohesion policy provide certain collective goods, including transport and communication infrastructure, information networks, workforce skills and research and development and help building *social capital*, in poorly cohesive economies. There is, under current economic conditions,

* The opinions expressed in this article do not necessarily reflect the positions of the institution to which Author belongs.

a role for *positive* regulation (Hooghe-Marks, 2000) and this is best achieved at the European level than at national level.

Economic integration tends to affect the poorer regions of the Union by strengthening the concentration of economic activity in certain core areas. As the Padoa-Schioppa report (1987) put it, "there are serious risks of aggravated imbalance in the course of market liberalisation... adequate accompanying measures are required to speed adjustment in structurally weak regions and countries...Reforms and development of Community structural funds are needed for this purpose." This prediction was based on the assumption that the internal market would trigger efficiency gains due to increasing returns to scale (Cecchini report, 1988).

Cohesion policy has had important *redistributive* effects in favour of the less developed areas in Europe, contributing there by to reduce internal disparities among regions and social groups. But it also performed a key allocation function by focusing on human and physical investment to sustain economic growth in the long term. Over the last fifteen years, significant economic benefits in terms of growth were achieved in the cohesion countries as a result of increased economic integration. These economies have shown a remarkable macroeconomic performance, with positive growth differentials with the European average. The strongest impacts of cohesion policy were achieved in small open economies like Ireland and Portugal, partly due to productivity gains in the manufacturing sector and employment increases (CEC 2003, Bradley J. et al. 2002). Beyond these growth effects, there has been a revived debate about the need and effectiveness of the cohesion policy at EU level.

Trade offs between growth and cohesion

Recently, some critics of the cohesion policy suggest redistribution should take place only between member states and not regions (Sapir Report 2003). This option has serious policy implications as it would overhaul the current approach based on a mix of interventions in support to regions and States and its governance system based on regional partnerships. The underlying issue is whether cohesion and growth are conflicting objectives, or on the contrary, they are mutually reinforcing.

The Williamson hypothesis (1965) is useful to understand the EU experience, as convergence is a key feature of the economic dynamics of the (old and new) cohesion countries. Regional disparities in catching up countries follow the shape of an inverted U curve over the convergence path. Thus, the same forces which drive high growth in such economies are seen to generate first a widening then a narrowing of regional disparities in the distribution of income per capita levels. The higher national rate of growth in catching up economies tend to be generated by the emergence of a limited number of growth poles, which lead to the emergence of agglomeration effects, in the form of spillovers and economies of scale. Private capital and skilled workers are attracted by the new economic opportunities proliferating in the growth pole areas leading to 'cumulative causation' in productivity and growth (Myrdal 1973). Over time diseconomies, such as congestion and higher factor costs, tend to emerge in the growth pole regions. Capital is therefore likely to move to other regions where marginal returns are higher. Similarly, the concentration of knowledge spillovers may fall due to the diffusion of technological progress, particularly if there are significant improvements in major transport networks.

Policy decisions—particularly on the location of public investments—may also contribute to the rise and fall of regional disparities during the convergence process. In early stages, public investment tends to focus on growth pole regions (e.g. Lisbon), either because policy makers aim to maximise economic growth, or simply due to the emergence of increased pressure for public infrastructure (transport, water supply, etc.). In later stages of development, greater emphasis is

given to the objective spatial equity, by directing public investment to slower growing regions. This policy shift may be stimulated, by the need to reduce diseconomies, as well as improving the conditions to attract private investment.

These trade-offs between national growth and regional disparities, or in other words between efficiency and equity are present when making decisions about public investment policies, particularly when public finances and institutional capacities face constraints. Cohesion countries show some evidence of this trade-off, as those countries (Ireland and Portugal) experiencing higher aggregate growth rates have also seen a widening of internal regional disparities, while regional convergence is not necessarily associated with low national growth (Spain). However, it is not ascertained that shifting structural assistance to member states rather than regions, or concentrating it on the richer areas of the cohesion countries is necessarily optimal, as this would entail costs in the form of greater inequality in income per capita levels. These costs will, in addition, need to be compensated by mechanisms of inter-personal redistribution that operate within (not across) countries (De La Fuente, 2004).

The challenge posed by real convergence in the context of European integration will be drastically amplified both in terms of an extension in spatial scope and increased intensity due to the enlargement to new member States whose average GDP per capita is only 35% of the EU 15 level. The experience to date suggests that high long run growth requires an appropriate mix of national policies and conditions that that stimulates capital accumulation and helps ensuring an efficient allocation of resources. Public investment programmes supported by structural and cohesion fund transfers are a significant element in this framework. However, their efficiency is conditional upon the implementation of adequate national policies as well as developing adequate institutional capacity, as evidenced by striking differences in growth performance, for example, between Ireland and Southern Italy despite large magnitudes of structural transfers.

Can cohesion policy help implementing the Lisbon agenda?

The European Commission proposes to link the objectives of EU cohesion policy to the objectives of the Lisbon agenda, i.e. sustainable growth and competitiveness. Most programmes already contribute to achieving these objectives at different territorial levels, through their investments into major physical networks, research capacity, and innovation in SMEs, human capital, ICT and environmental infrastructure. At a more general level, cohesion policy has the potential—as discussed above—to stimulate economic growth and positive spillovers for the EU as a whole.

However, there are limitations on what cohesion policy can do to facilitate the Lisbon agenda. While structural and cohesion funds—and other EU policies alike—can play a supporting role in achieving the Lisbon objectives, they depend crucially on national public investment strategies and regulatory frameworks (e.g. structural reforms on product, capital and labour markets). In that respect, there has been slow and uneven progress (Kok report (2004).

Partly to compensate this delivery failure of the Lisbon agenda, the European Commission has proposed a new *strategic* framework in order to strengthen the link between the financial instruments and the policy priorities of the Union, through a more active contribution of the Funds to sustainable growth, competitiveness and employment. The political objective is to ensure a coherent approach to economic development of Member states interventions and regions on the basis of strategic orientations defined at community level.

Despite potential synergies, there are, however, differences in the policy rationales as the Lisbon agenda does not have any territorial focus or specific governance structures. The recognition

of the potential of the regions, both in economic and institutional terms, would, therefore, permit a better integration of the Lisbon objectives within the cohesion policy framework.

Cohesion policy under pressure: concentration or dispersion?

A historical perspective

Before 1988, European cohesion policy had weak resources at its disposal and almost no institutional form. Member states retained a large discretion in allocating resources and deciding whether to involve domestic actors in the design and implementation of regional development initiatives. With the 1988 reform, there was an overhaul of the policy framework. Funding for the regions was doubled in 1988 and increased by a further 50% in 1993. For the first time a coherent policy process was introduced: to receive funding, national governments and regions were required to design and implement multi-annual programmes in partnership with the European Commission, regional and local authorities as well as social partners..

Ten years after, pressures on cohesion policy arose as a result of budget consolidation or cuts in most member states, particularly net contributors to the EU budget. The reform of June 1999 (Agenda 2000) maintained the absolute level of cohesion spending (adjusted for inflation) but this constituted a relative decline to 0.31 percent of EU GDP in 2006. Concentration of expenditure increased from no less than 50 percent of the European Union's population covered by structural funds to about 43 percent. The objectives for cohesion policy were reduced to just three rather than six, and the first two are determined by criteria that limit dispersion.

Given that the total spending on cohesion policy amounts to less than half percent of total income in the European Union, the resources must be focused to make a difference with national policies.

Redesigning cohesion policy: old and new priorities

The future cohesion policy proposes a new 'architecture' with three objectives: convergence, competitiveness and territorial co-operation. Community intervention after 2006 would continue to focus on less developed states and regions, with special phasing out arrangements accorded to the most dynamic less developed regions, or regions which may lose their eligibility due to the 'statistical effect' of enlargement. The main innovations relate to the other two objectives.

The second objective was redesigned with a two-fold approach. On the one hand, it will provide support for regions (mainly poorest areas in richer countries) to help anticipate and promote economic change in industrial, urban and rural areas. On the other hand, it will contribute to support the implementation of structural reforms in the labour market and strengthen social inclusion in line with the objectives and guidelines of the European Employment Strategy.

The third objective is intended to promote a 'harmonious and balanced integration' of the EU territory by supporting cross-border and trans-national—levels building on the INTERREG initiative experience.

The focus of the reform is strongly on growth and competitiveness, linking cohesion policy to the objectives of the Lisbon agenda. However, the issue at stake is two fold. On the one hand, there may be a conflict between cohesion and competitiveness with regard to the broadening of the geographical scope of cohesion policy to bring all regions into the framework of cohesion policy. Territorial cohesion is still and 'undefined policy objective' and can be subject to different interpretations (Bachtler J.—Wishlade F. 2004). The most common understanding refers to

'balanced development' of the EU territory, which implies the inclusion of 'territorial specificities' to respond to particular problems of islands, mountain areas, sparsely populated areas and urban areas.

On the other hand, there is a shift in policy priorities from traditional types of measures to a stronger focus on innovation and knowledge-based activities, with a narrowing of the range of interventions in support for the Regional Competitiveness programmes. Although this has been subject to intense debate, there is a strong case for a tighter definition of future cohesion policy priorities under these programmes. If EU support is to ensure genuine value added in the next period, the limited amount of funding should be used 'to support innovation and experimentation at the 'leading edge' of regional development, for example to operationalise new models of regional development such as regional innovation systems and sustainable development strategies'

Concentration on the poorest areas of the Union is necessary to make a more effective use of the resources. But this may also limit the political impact of cohesion policy, which was designed to deepen multi-level governance in regional economic policy. To do so, the policy has to reach beyond the very poorest regions to maintain its legitimacy in Europe.

Governance: territorial partnerships, clearer responsibilities

The value of partnerships

Partnership between the Commission, national and regional authorities as well as other public or private organisations is the chief institutional innovation of cohesion policy. Structural programmes are designed and implemented within specific institutional settings, with variations from country to country in terms of composition and effectiveness of partnership arrangements. A radical innovation of this policy was that the implementation rules applied in countries where sub-national involvement in regional policy had been weak or absent.

Partnership is justified on several grounds. First, it has been seen as a means to allocate resources more efficiently, because it brings all key stakeholders, helps identify problems and achieve consensus on how to respond to them. But partnership has also been advocated as a means to promote multi-level governance in the European Union by upgrading the participation of regional and local authorities and strengthening collaborative policy networks. Instead of compartmentalising decision making, it envisages shared decision making across territorial levels.

Critics of partnership contest the merits of partnership for economic development. They also tend to emphasise that it is cumbersome to administer and does not facilitate effective decision-making. Institutional economics, which underpins the partnership philosophy, recognises, the central role of institutions in an economic development process (D.C. North, 1990). The experience of the Regional Innovation Strategies shows that regions with flexible co-ordination among public and private actors develop strategic capabilities enabling actors to pursue common interests (Landabaso M. 1999; Morgan K, 2004).

EU cohesion policy has had the uncontested merit to propel regional and local mobilisation in poorly developed areas—from Greek, Irish and Portuguese regions and municipalities to the North of Europe in Scotland, Sweden and Finland. It has also provided a basis for trans-national regional cooperation.

Changes in EU governance

The new reform renews a commitment to partnership among different levels of governments and maintains current patterns. However, there are some significant changes with regard to the planning framework and their implications in terms of co-ordination at EU level. It introduces new methods of governance in the context of cohesion policy, with three levels of decision-making: the European Council adopts the strategic guidelines for cohesion policy, which define the priorities for member states and regions; each Member State would draw up a policy document on its development strategy as a framework for operational programmes; EU and national strategic frameworks would be subject to an annual review on the basis of progress reports for each member state. The key question is what leverage the EU would have over Member States strategies and what options would be pursued. In other words, it is still unclear whether this process will involve something more than 'soft co-ordination' which underpins the EU employment policy or the Lisbon agenda as the outcome will depend on the negotiations at the Council.

The reform also introduces a more transparent sharing of responsibilities between the European Commission and Member states has been proposed in response to growing criticism from some Member States on the complexity of the delivery systems. The corollary will be a stricter application of subsidiarity and proportionality principles in the implementation process of structural programmes. A streamlined approach has been proposed with regard to the number of objectives and programming stages, the abandonment of 'micro-zoning' in Objective 2 areas, clearer rules for financial management and proportionality of control and evaluation systems.

In sum, there are important implications associated with the new governance methods proposed, with a more strategic direction of the policy and enhanced accountability arrangements. The debate on the scale of financial resources involved may affect the degree of ambition of the reform but it is unlikely to overhaul the general framework and its key principles.

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ANTONI KUKLIŃSKI

TOWARDS A NEW MODEL OF REGIONAL POLICY

Introduction[1]

In this paper I will try to outline 3 theses[2]:

In the experiences of the XX century the model of socially minded regional policy—was the dominating phenomenon.

In the experiences of XXI century the model of globally minded regional policy will be the dominating phenomenon.

The transformation from the old to the new model is taking place in the great Sturm und Drang Periode of the years 1980—2020.

This historical turning point can be described as a quartet of mutually interrelated transitions:

— from Fordism to Post Fordism
— from Modernism to Post Modernism
— from the Keynesian Welfare State to the Schumpeterian Workfare State
— from industrial to information society

These transformations are embedded in the processes of globalization[3] which are changing very deeply the global competitive arena[4] and the relative position of Europe in the landscape of the XXI century[5].

In the latest publication of the European Commission we find the following charismatic formulation[6]:

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[1] This paper is a follow up of my short presentation in the framework of the last panel of the Ostuni Conference—Rethinking Regional Development Policies. The role of social capital in promoting competitivness in less favoured regions, Ostuni, Italy July 2^{nd}-5^{th} 2003. I am very grateful to dr Mikel Landabaso for the inducement to prepare this paper. Naturally all the weaknesses of this paper are related only to the responsibility of the author.

[2] A. Kukliński, Regional Policy and the Information Society. Third EU/CEEC Information Society Forum, Brussels October 9th-10^{th} 1997.

[3] Compare: W. Krull, debates on Issues of our Common Future. Velbruck Wissenschaft, Gottingen 2000.
H. Bünz, A. Kukliński, (eds) Globalization. Experiences and prospects. Friedrich Ebert Stiftung. Warsaw 2001.

[4] Compare: J. Guinet, National Systems for Financing Innovations, OECD 1995.

[5] P. Lang, Union européenne et globalization des echanges. Acces International, Brest 2002
A. Kukliński, B. Skuza (eds) Europe in the perspective of global change. Polish Association for the Club of Rome. Warsaw 2003.

[6] European Commission, Third European Report on Science and Technology Indicators. Towards the Knowledge-Based Economy. Brussels 2003.
Compare also: J. Delors, Les responsibilities mondiales de l"Europe. Acces International, Brest 2002.

"Europe is facing a crucial period in its history. It is confronted with a number of major, and sometimes very conflicting, challenges and choices, and the various paths it decides to follow will crucially affect the future shape of European society and its role to the world."

* * *

"Europe's leaders already acknowledge hat the transition towards a knowledge-based economy involves a fundamental structural change, and that all the challenges facing Europe need to be reconsidered in the light of this new paradigm. At the Lisbon European Council of March 2000, they adopted a new strategic goal to transform the Union by 2010 into 'the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion'. However, in this transition to a knowledge-based economy, Europe is already lagging somewhat behind the US, and can learn a lot from the US experience. The aim should not be to imitate the US, but rather to seek to define the European way to the knowledge-based economy. As the Lisbon Conclusions state: 'The Union must shape these changes in a manner consistent with its own values and concepts of society'."

The challenge of the new paradigm must be recognized not only in the terms of verbal declarations but also in the terms of a deep transformation of the institutional structures and systems of policies designed and implemented in the framework of the European Union. In this intellectual and pragmatic climate we are trying to outline the following topical sequence of this paper.

- The XX century as the golden age of a socially minded regional policies
- The transformation of regional policies and the emerging model of globally minded regional policies
- The region as a framework for development of knowledge based economy and knowledge based society
- The new model and perception of regional governance
- The special role of social capital
- The new model of cohesion policies
- Regional policy as an instrument of transformation of the European space
- The research priorities

The intellectual equipment of the new model

Naturally this outline is not a comprehensive vision of all most important problems related to the transition from the old to the new model of regional policies. I hope however that even this modest inducement will be useful in our theoretical reflections and pragmatic discussions.

The XX century as the golden age of socially minded regional policies

The model of socially minded regional policy was developed by the industrial society and by the welfare state. Two ideological and pragmatic principles were incorporated in the construction of the Keynesian Welfare State:

— the principle of full employment and
— principle of social justice

These two principles were applied not only to the sphere of interpersonal relations but also to the interpretation of the regional scene—and especially to the relations between strong and weak regions.

The Doctrine of Diminishing Interregional Disparities (D.D.I.D.) was generally accepted as the theoretical and pragmatic foundation in the broad domains of regional policies and regional planning. The essence of this Doctrine may be formulated as follows:

For political, social, moral and economic reasons the society and the state should not tolerate such movements of the spontaneous market forces which generate and multiply long-term disparities between more and less developed regions.

The basic framework of this model was formulated in Europe and North America in the middle thirties—as an reaction to the tragedy of the Great Depression. The rapid diffusion of this model in the global scale took place in the years 1950-80. The most comprehensive analysis of this model was presented in the UNRISD—Mouton regional Planning Series (12 volumes) published in the years 1971-84[7]. This model was absorbed and transformed in an innovative way by the consecutive incarnations of the European Union in the last decades of the XX century. This model was an important inspiration for the European Union in the design and implementation of cohesion policies related to selected countries and selected regions.

In 2001 The European Commission has published[8] a splendid monument of conventional wisdom presenting the experiences and prospects in the field of cohesion policies. I would like to outline a view representing a critical approach in the framework of non conventional wisdom. In this perspective the cohesion policy has four features.

It is a structural policy, a mechanistic policy an introvertic policy and a fragmentaristic policy.

The structuralism of this policy is related to the assumption that the increase in the cohesion of the European Union is achieved via the implementation of the doctrine of diminishing international and interregional disparities.

The mechanistic character of the cohesion policy is related to the construction of a clearly defined system of strictly defined quantitative indicators incorporating such and not other fragments of European space. The advantage of this system is its clarity and objectivity. The disadvantage is the stiffness of the system in which a region meeting the criteria of selection in de facto terms cannot be excluded from the system even in case of long term consecutive practice of obvious waste of structural founds. In this situation some weak regions can de facto represent a view that the situation of the lagging behind region is better then the situation of the catching up region. The success of the catching up region is at the same time the exclusion of this region from the system of cohesion policies which in practical terms means the loss of a permanent stream of income "internalized" by the demoralized elites of the given weak region. This is the dilemma of lagging behind versus catching up regional psychology.

Introvertic character of the cohesion policy is explained by the assumption that the implementation of DDID is a more important challenge than the challenge of global competitiveness.

The fragmentaristic character of cohesion policy is related to the fact that this policy is embracing only some fragments of the European space losing the holistic perspective of the totality of this space as a fragment of the global space.

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[7] Compare: A. Kukliński, Regional Development—Regional Policies—Regional Planning. Problems and Issues. Regional Studies, Volume 4, 1970, Perganon Press.

A. Kukliński, General History of Regional Policies. A Proposal of a World Wide Comparative Study (in:) A. Kukliński and J.G. Lambooy (eds), Dilemmas in Regional Policy, Amsterdam, Mouton 1983, pp. 13-23.

A. Kukliński, Regional Policies—Experiences and Prospects. International Social Science Journal, UNESCO, May 1987, No 112.

[8] European Commission, Unity, solidarity, diversity for Europe, its people and its territory. Second Report on Economic and Social Cohesion, Volume 1 and 2, Brussels 2001.

Presenting these critical comments I am not forgetting that in the perspective of conventional wisdom the cohesion policy is a very great achievement of the European Union of the XX century.

The transformation of regional policy and the emerging model of globally minded regional policy.

The Sturm und Drang Periode of the last 25 years has produced an intellectual and pragmatic climate of constant erosion of the foundations of socially minded regional policy. This process of erosion found a constructive counterpart in the process of creation of a new model of globally minded regional policies well grasped in the title of a recent volume—"Regions, globalization and the knowledge based economy"[9].

The region must be a efficient actor on the global scene. This is the regional "to be or not to be". In this situation the globally minded regional policy is the only one possible choice in the conditions of the XXI century.

The region as a framework for the development of knowledge based economy and knowledge based society[10].

The Lisbon Agenda taken seriously and realistically is a great inducement to build up a new model of regional policy for Europe, the model of globally minded regional policy. In this context two types of interaction could be observed:

1) the region as a stimulating environment for the development of KBE and KBS,
2) the KBE and KBS as a driving force for the sustainable development of the region

The virtuous circle of mutual enforcement of KBE and KBS is also very important. I like the formulation concerning the knowledge economy growth into the knowledge society and vice versa. Let us quote in this context the hypothesis formulated by P.A. David and D. Foray[11]:

"The knowledge economy's growth into the knowledge society hinges on the proliferation of knowledge-intensive communities. These communities are basically linked to scientific, technical, and business professions or projects and, as said, are characterized by their strong knowledge production and reproduction capabilities, a public or semi-public space for learning and exchange, and an intensive use of information technologies. Only when increasing numbers of communities displaying those very characteristics are formed by citizens, users, and the uninitiated being brought together by a shared interest in a given subject, will the knowledge society really begin to develop. But the challenges outlined above are going to be all the harder to meet."

The follow up of this line of thinking we find in the challenging formulation of S. Boisier[12]: "Sociedad del conocimiento, conocimiento social y gestion territorial". I am convinced that the European Commission should organize a pathbreaking conference—"The Lisbon Agenda and the new model of regional policy for Europe".

The new model and perception of regional governance

In the last decades we found a general practice to replace the concept of regional government by a broader concept of regional governance[13] which *inter alia* is an integration of some elements of the classical doctrine of government and the new doctrines of management.

[9] J.H. Dunning (ed.), Regions, Globalization and the Knowledge—Based Economy. Oxford University Press, 2002.

[10] Compare the thought provoking contribution of M. Landabaso and J.M. Rousseau, Invention, creation: les etapes decisives (in:) Acces International, Brest 2002.

[11] P.A. David, D. Foray, An introduction to the economy of the knowledge society. I.S.S.J. No 171, March 2002.

[12] S. Boisier, Sociedad del conocimiento, conocimiento social y gestion territorial. Revista del Cesla, No 4, Warsaw 2002.

[13] Compare: OECD, Governance of the XXI century. Future Studies, Paris 2001.

Compare: H.J. Braczyk, M. Heidenreich, Regional Governance Structures in a Globalized World, (in:) A. Kukliński (ed.) European Space—Baltic Space—Polish Space. Part One, Hannover 1997.

In the classical regional development doctrine, the leading analogy of the region was a quasi state. Now we should consider regions also, or first of all, as a quasi-firms. This observation may be found in the path breaking paper of S. Boisier[14] introducing the concept of regional management in the following context:

"A vision of the region as a quasi-firm means applying some corporate procedures to the region mutatis mutandis, particularly those of the 'large corporation', one of the few contemporary organizations that uses the modern concept of planning effectively."

This point is very well taken. The region of the XXI century must internalize and develop the important experience of transnational corporations in the field of strategic planning[15]. This internalization is very important from the point of view of the construction of the new model of regional policy. Maybe a proposal could be considered to organize jointly with the European Commission and OECD a conference on regional governance as an element of the model of the new regional policy.

The special role of social capital

There is no doubt that social capital should be recognized as a crucial element in the construction and implementation of the new model of regional policy. Let as quote an important fragment of the Ostuni consensus[16]:

"First, it was agreed social capital is especially relevant for regional development. In this context social capital is a market-based social exercise based on trust, shared norms, and institutions. Second, it facilitates cooperation within and among groups as well as enlarges a capacity for collective action leading to mutual benefits. Third, it improves collective processes of learning and constitutes a key element of knowledge creation, diffusion and transfer—all processes critical for innovation and competitiveness. Finally, social capital cements value-based networks stimulating successful regional clusters as well as regional innovation strategies and policies. The issue is especially important for the less-favoured regions that have weak social capital and little understanding of science and knowledge, yet face fundamental economic, technological and social change."

The Ostuni post-conference volume will create a rich and comprehensive documentation of this point of view.

The new model of cohesion policies

The new model of regional policies is creating a strong demand for a new model of cohesion policies. Let us try to outline five elements of this model.

The first element is the network vision of cohesion as a system of flows of persons, commodities, and innovations which are the direct indicators in the cohesion of European space. This is a much more difficult and complicated way to measure cohesion as a process of integration of the European continent into one organic totality having a clear identity in global scale. We have to start time and money intensive studies analyzing the development of the cohesion of European

[14] S. Boisier, The Elusive Goal of Regional Development: Between the Black Box and the Political Agenda. Essays Series Document 95/30, Latin American and Caribbean Institute for Economic and Social Planning, Santiago de Chile, March 1997.

[15] Compare: A. Kukliński, World Society of Planology (in:) A. Kukliński, B. Skuza (eds), op.cit.

[16] Ostuni Consensus, The Ostuni Conference, op.cit.

space defined in this way. These studies will *inter alia* answer the question how quick is the disappearance of iron curtain[17] which has deformed so deeply the European space of the XX century. This is the matter not only in analytical terms but also and maybe first of all a new system promoting the cohesion of European space in the framework of institutional solutions created by the European Union.

The second element is the organic vision of cohesion policy which is building the unity of Europe on the foundation of the creative interpretation of the immense European wealth expressed in the diversity of European culture and economy. The organic cohesion policy will support the endogenous activities of the weak regions to overcome their weakness and achieve a new position in European and global scale. The organic cohesion policy should bring salvation to those regions which really want to achieve the salvation in the sense of overcoming the very heavy limitation created by the part experiences. This is the shift from lagging behind to catching up psychology. A documented and reliable will of the region will be the basis for the decision of the European Commission. The mechanisms of automatic support of all regions which fit into the framework of established quantitative criteria will simply vanish.

The third element is the holistic vision of cohesion embracing the whole territory of the European Union and in more distant future the whole territory of Europe from Atlantic to the Urals. The main historical task of this cohesion policy is the elimination of the developmental gap—separating the European center from the European periphery. This is the most fundamental problem of the cohesion policy of the XXI century[18].

The fourth element is the extravertic vision of cohesion policy, which is constantly trying to answer the question, how to improve the position of our continent in the dynamic pattern of ruthless darvinic global competition especially in the framework of the strategic triangle America—Europe—Asia. In this context we should formulate a thesis of global cohesion of the XXI century. In this cohesion Europe will be not transformed into a continent of new periphery in relation to America and Asia. The spectrum of the new periphery was consciously or unconsciously present in the minds of European leaders formulating the Lisbon Agenda[19].

The fifth element is the vision of the cohesion policy as a long term strategic vision. In the discussions and decisions related to the new cohesion policy it is not enough to apply the framework of medium term thinking. We have to use the framework of long term thinking for example for the years 2006-2025. Only in this context we can build up a grand vision of a real cohesion of the European space.

* * *

The XXI century will constantly create new European and global situations not known in the experiences of the XX century. Therefore we need a new cohesion policy which will not be a continuation of the cohesion policy known from the experiences of the XX century. The power of inertia of the old cohesion policy is very strong. But in same place we must start the movement in the direction of a new policy—*"In principio erat verbum"*.

[17] A. Kukliński, B. Skuza, op.cit, p. 144-146.
[18] A. Kukliński, B. Skuza, op.cit, p. 145.
[19] European Commission, Third Report, op.cit.

Regional policy as an effective instrument of transformation of the European space

The evaluation of regional policy must in each case answer the fundamental question—how effective is this policy as an instrument incorporated into the processes transforming the European space.

This question should be answered in relation to the experiences of the XX century. This question must be incorporated into the hypothesis concerning the transformation of the European space in the XXI century.

The research priorities

It is necessary to build up a list of fundamental problems which should be discussed via theoretical reflection, empirical studies and pragmatic recommendations. Maybe the following list of problems can be regarded as a starting point of our thinking in this field:

The measurement and evaluation of the efficiency of the model of socially minded regional policies designed and implemented in the framework of the experiences of the XX century.

The Lisbon Agenda as a stimulating environment for the processes, which create the model of globally, minded regional policies of the XXI century.

The role of the new perception of governance in the development of the new model of regional policy.

Social capital as a new approach to incorporate the social dimension into the new model of regional policy.

The new cohesion policy in the framework of the new model of regional policy.

The holistic character of the new model of regional policy and the challenge of the center-periphery gap in Europe.

The regional problem and regional policy in Europe in comparative perspective—The Atlantic Regional Policy Forum (see annex).

Naturally this list of problems in not comprehensive or unique. I hope however that the evaluation and development of this list will lead to the formulation of a Grand Research, Conference and Publication Programme which will create a valid intellectual equipment for the new model of regional policy.

The intellectual equipment of the new model

We have an immense wealth of publications and contributions related to the analyses and evaluation of the old model of regional policies. The intellectual equipment of the new model is in the process of *statu nascendi*[20]. But we have a long way to go to reach the goal of intellectual and pragmatic satisfaction in this field. The simple answer that the methodological and conceptual apparatus of the new regionalism[21] will do the job—is wrong. The new regionalism is definitely an exciting intellectual venture but it is still weak in pragmatic dimensions. Nevertheless the new

[20] Compare: D. Christopoulos, Regional Behavior. Ashgate Publishers, 2000.
See also the two contributions of S. Boisier quoted in this paper.

[21] Compare: B. Greenslade, Les regions un lien vital pour l'Europe future. Acces International, Brest 2002.
A.E.G. Jonas, K. Ward, A World of regionalisms? Journal of Urban Affairs, Volume 24, No 4/2002.

regionalism can be seen as a potential input into the intellectual equipment of the new model of regional policy.

Conclusion

Europe must assume the role of the grand global player of the XXI century. This is not an option—it is a necessity[22]. The European regions are expected to create crucial contributions promoting the global role of our continent[23]. In this context the globally minded regional policy is the only rational choice based on long-term strategic and geopolitical considerations.

This should be our final motivation in all activities related to the design and implementation of the model of globally minded regional policies.

S.M. Wheeler, The New Regionalism. Key characteristics of an Emerging Movement APA. Journal Volume 68, No 3, Summer 2002.

A. Gąsior-Niemiec, Europeanization and Myth—making. (New) Regionalism in Poland. Warsaw 2003.

[22] Compare: H. Bünz ,A. Kukliński, (eds), op.cit., p. 286

[23] Compare: J. Chobert, Europe et mondialisation: le role de villes et regions. Acces International, Brest 2002.

JEAN-MARIE ROUSSEAU

THE SOCIAL DIMENSION: AN ESSENTIAL FACTOR IN SUSTAINABLE REGIONAL DEVELOPMENT*

"*Me? I'm not only worried—I am angry!*"[1] This was more or less the tone of admonition which Margot Wallström, Commissioner for the environment, directed at the Presidium of the European Convention when venting her anger that almost thirty years of effort to get the idea of "sustainable development" accepted had led only to a weak-kneed form of words. No doubt President Valéry Giscard de Estaing paid due attention to this outburst, aimed at reinstating sustainable development as the third, 'environmental' leg of a tripod of which the other two legs are 'economic' and 'social'.

Ah, yes, the social dimension! On the surface a well-defended cause in its own right, but concealing, perhaps unconsciously, another proposition—namely that there is an alternative to the traditional view of economics as the science of relationships between things, one which will turn it into the science of relationships between people. This evident need to value the human contribution to economic development covers all the actors and all the local communities, which everywhere in Europe find themselves in what is often a pitiless race for progress.

Let us come back to earth and the realities of modern life: we have to concede that the successes of the new technologies on which we endlessly congratulate ourselves fall far short of a humanistic vision of society. They have not helped to stop the degradation of our environment caused by all our energy-consuming industrial activity. By hyping up the much-vaunted 'knowledge-based society' and giving technology an all-commanding status, we seem merely to be putting 'knowledge' at the beck and call of a technological 'machine' that feeds on its own logic. True, technology may promise to solve the problems that it has itself created, but it does so by asking us to apply ... yet more technology! The acceleration of technological change and the consequent material progress seem to confirm a new primacy of economics, of a mainly liberal bent as opposed to various forms of dirigisme, the latter now felt to be out-of-date if not downright anachronistic. The market economy continues to rest on the fiction that the self-interest of individuals and entities can take on the role of a universal law. However, the growing unworkability of all these models, not to mention the recent collapse of major swathes of the 'new economy', is starting to spoil many illusions. Is our way of life, within the society we believe we are building, at all

* The opinions expressed in this article do not necessarily reflect the positions of the institution to which he belongs. This was written in July 2003 at the time of the Ostuni Conference.

[1] Margot Wallström at the third annual "*Green Week*" meetings, 5 June 2003, shortly before the text of the Convention was due to be presented to the European Council in Thessaloniki.

helpful in finding a way out of our own mental prisons and the dead-ends caused by the very conditioning we ourselves have created?

And is Europe itself capable at the very least of casting some doubt on the relevance of development as a goal, given the 'real need' for cohesion and solidarity that it posits. Maybe even this concern can be kept alive by a firm belief in the individual effectiveness of the poles of excellence which it is devoted to encouraging. The temptation to make our economies as competitive as those of other leading world powers might be causing the more prosperous EU regions to cast off the ballast of the other regions they feel they are dragging along with them.

What about these less-developed regions in their turn? Do they really want to get out of their hole? Do they really have the will to overcome the narrow vision and conservatism of their local players? A good test might be to examine their real interest in applying or duplicating other people's best practices. They may genuinely desire to catch up with the others, but success could mean losing the manna that rains down from the European Union in the guise of 'cohesion policy'.

In the end, it seems that the best way of achieving sustainable development involves a commitment from all parts of the social spectrum. With this in mind, the European Commission sees a possibility of playing a decisive role without needing to wade in heavy- handedly at local level or to impose an administrative straightjacket, but by trying to stiffen sinews for a resolute effort to attaining a development destined to last.

Total solidarity, or reliance on small pockets of excellence?

Although the Commission's strategy mainly consists of strengthening the competitiveness of the EU economy at an interregional level, it is no less concerned to improve the performance of the less-favoured regions. The Union has its eye constantly on the goal of economic and social cohesion without ever neglecting to ensure, or giving up hope of ensuring, that the results will be lasting.

The amazing results of convergence policy

A comparative analysis of EU growth in terms of *per-capita gross domestic product* (GDP)[2] reveals the remarkable progress made by the so-called "cohesion countries"[3], in particular Ireland and Portugal, in what has generally been recognised since the end the 1960s as an amazing "rush to convergence", at least up to the beginning of the 1990s.

Starting in 1990, though, this process faltered and a 'fault line' developed between Ireland and its three 'companions in misfortune', now completely left behind. Continuing its vertiginous rise, by 1997 Ireland's GDP had broken through the ceiling of the EU average to reach a high-water mark already by 2001. This small country, which started out as one of the least-favoured in the Union (*ERDF Objective 1 status throughout the country*), has succeeded in triggering a particularly effective economic development process, although most observers have continued to ascribe this progress to fortunate geographical circumstances or opportunistic policies. The same critics who accused Ireland of not spending enough on physical infrastructure still look longingly at all those motorways, port facilities and other contributions to industrial logistics.

[2] See Table 1 for the development curves of some Member States of the European Union.

[3] Ireland since 1973, Greece since 1981 and Spain and Portugal since 1986.

The "slow sugars"[4] of competitiveness

Is it not possible that such spectacular growth, now becoming suspect, might precisely be the result of the bold political option of encouraging "intangible" investment? Might it not be that the choice of developing human capital has in the end, despite appearances, been the clincher that has positioned the Irish regions on the right launch pad for attaining the knowledge-based economy? If so, the spotlight which the European Commission's DG Enterprise has been throwing on this evolution every year 2000 with the help of the *MERIT* Institute (Maastricht University) using the innovation scoreboard, in spite of its imperfections and inevitable trial-and-error approach, may assist us in measuring and understanding the march of the European Union countries. This tool comprises 17 indicators under four heads: "*human resources*", "*knowledge creation*", "*knowledge transmission and utilisation*" and "*financial, productive and commercial aspects of innovation.* Along the same lines as this study, there is a BCG graphic[5] which compares and situates the 15 EU Member States according to their latest classification on the scale of innovation values and taking into account their performance between 1995 and 2000, in the form of a double-entry table defining four categories:

- in the first quadrant are the countries which, as well as being top in innovation, have shown proof of constant performance;
- alongside these, the second quadrant shows the countries which are still well-placed but have seen a slowdown in performance since 1995;
- the third quadrant embraces the countries situated at a still modest level but bold and promising in the energy they are putting into catching up with the leaders;
- the last quadrant includes the countries which are stuck at an insufficient level of innovation, where patchy attempts at catching up may even throw them further back.

This graphic locates Ireland in the category of the best-performing countries alongside the Scandinavian countries, demonstrating a dynamic fully in line with the growth of GDP as previously analysed, while Portugal is relegated to the bottom on both main axes and is seemingly suffering from putting all its investment into physical infrastructure.

Marrying the public good with private gain

Such territorial dynamism, which is increasingly being attributed to a certain kind of *social capital*, while new, is certainly not a panacea, but is starting to give particular significance to those regions that are able to seize on the reserves of competitiveness in their business sectors and, what is more, the attractions of their area. Here and there, therefore, it is being realised that there has to be a balance between a search for the public good and the interests of all members of a community and the need for businesses to make a profit—since they are generally more likely to want to see concrete rewards for their efforts.

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[4] *L'entreprise et son territoire*, Pierre Veltz, 2002-2020, Des territoires en mouvement, a forward study of DATAR, 2001 Programme: "*A local environment of entrepreneurs, both competing with each other and cooperating together, can enhance learning capacity. Such territories provide businesses with resources which take a long time to build up and are difficult to imitate or improvise: the 'slow sugars' of competitiveness, without which there is no sustainable development.*"

[5] See the *Boston Consulting Group*—style graphic showing strategic positioning with regard to innovation in EU-15, Table 2.

Even within one and the same region, the climate of confidence[6] among local partners often comes down to the possibility which individuals have of weaving relationships and spinning contracts at their own pace, of finding their own dignity thereby and of mutually bestowing credibility on their political, public and private institutions. By ploughing over and cultivating a broad field of exchanges and partnerships, this social capital which boosts confidence and mutual trust among local actors seems most suited to bringing effective solutions to local problems.

The OECD, in a study on a world scale based on a survey carried out by the University of Michigan[7] in 1996, has compiled a table comparing the degree of trust and confidence within about thirty member countries. The classification which resulted is particularly favourable to the Scandinavian countries (Norway at more than 65%), while it puts Turkey at the bottom with a confidence rating of 6.5%, i.e. 1/10th of Norway's score. The ratings of Portugal, last but one with a score of 21.4%, and France, second last but one with a score of 22.8%, are surprising but hint at hitherto unsuspected factors.

It might be a good idea, therefore, to relate these two indexes (*Innovation* and *Confidence*) in a matrix with double entries[8] in an attempt to establish a cause and effect relationship between human capital and social capital. The fact that the majority of the Member States of the European Union are strung out along a diagonal at 45° seems to show up a kind of correlation between *Innovation* and *Confidence*. Whereas Ireland still has an excellent position on both indices and Portugal is struggling at the bottom of both scales, can we not conclude without being over- hasty that there is a close link between human capital and social capital[9]? To be honest, a direct causal relationship does not leap immediately to mind, unless we are over-arbitrary in defining causes or consequences as between one type of capital and the other. However, by pushing this approach to its limits while keeping to the more economic types of data (per capita GDP and its evolution over the last 10 years), it is possible to argue that political choices can lead to social capital and human capital playing a decisive role in the groundwork for sustainable development!

The 'digital' takes over from the 'societal' order?

We have to concede that a large number of objections and arguments remain to be overcome regarding the exact impact of human and social factors on consolidating the growth and progress brought about by the emergence of the information society. At the same time, some are appealing to the appearance and multiplication of "clusters" to support their thesis that our culture is "going digital" in step with the globalisation of the economy. These theses, which have at least the academic merit of bringing a welcome degree of simplicity into our understanding of today's society, can however end up denying the importance of societal relations and the value of local exchanges in economic development.

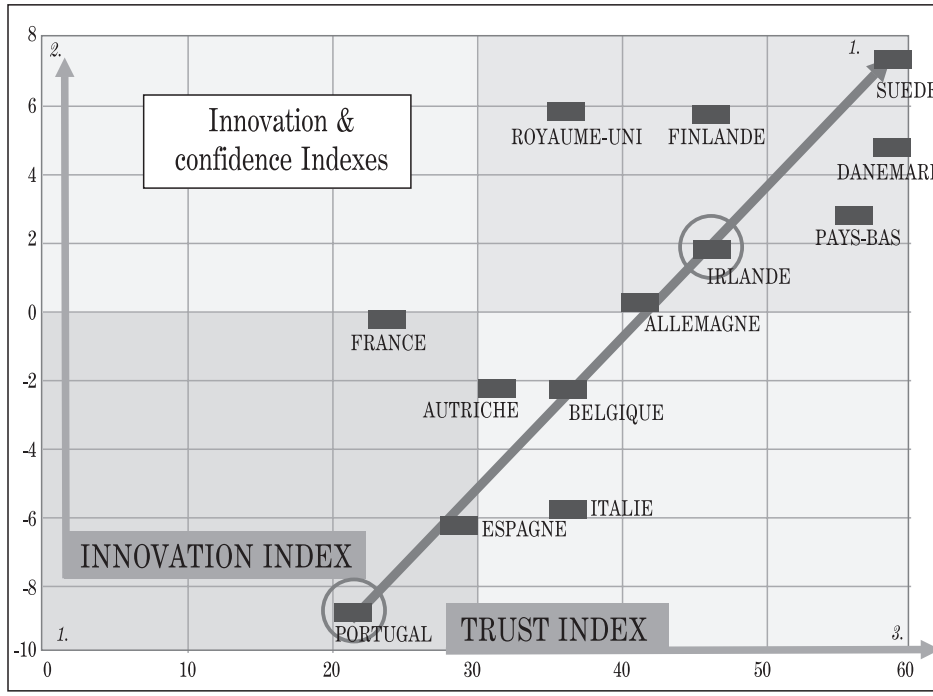
The name 'Silicon Valley' is resonant with echoes of information technology, electronics and the Internet, with planetary trade optimised in a globalised economy, and is felt to have become the very model of its kind, a genuine paragon of the prosperity and attractiveness attainable by

[6] According to James Coleman, *social capital* can be thought of as all the links (bilateral contacts, diverse connections, networks, etc.) that individuals, entities or groups maintain with their environment, inside a given territory. This involves confidence and reciprocity among the socio-economic components and brings different people into contact in an 'exchange space'.

[7] World Value Survey.

[8] See Table 3 showing "*Diagonal shape of innovation and confidence indices.*"

[9] In the same way than the *confidence index* does not entirely cover the idea of *social capital*, the *innovation scoreboard* does not claim to represent *human capital* accurately. And some of the elements of this *innovation scoreboard* include much more than just this concept, especially in the fourth category of indicators.



a successful region. A recent myth has it that the virtual world has transcended all geographical barriers[10] ... a little as though the idea of "digital" is increasingly in opposition to and independent of the societal constraints holding back people themselves. Even today, a century after Alfred Marshall, many economists continue to predict the ephemeral nature of societal concentrations and the impending abolition of distance. However, without denying the benefits of its digital element, the continued presence of the local and social dimension in this particular context reflects essentially a network-style structure. Everything in Silicon Valley, from the blossoming of inspired ideas to the phenomenal amassing of wealth, has contributed to causing the transformation of societal networks into digital ones.

But in the end the success of Silicon Valley, according to John Seely Brown and Paul Duguid[11], "*needs to be understood not at the level of the individual participants, but at the level of their joint interactions*." The two economists find that the Valley is above all "an interdependent ecology built around a particularly responsive kind of knowledge." It cannot be, they say, simply "*an entirely self-organised ecology of micro-organisms running wild.*" This suggests the conclusion that Silicon Valley, although it has capitalised on cultivating the more or less spontaneous outgrowths provided by the 'invisible hand' of the market, has benefited just as much from the 'visible hand' of local government and institutions... The institutional environment in which businesses are swimming doubtless owes its ability to achieve major commercial and economic performance as much to the capacity of self-organisation as it does to the judicious political choices by the regional public authorities and local intermediate bodies.

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[10] Kevin Morgan, "*The exaggerated death of geography: localised learning, innovation and uneven development* ", I.R.E. Conference at Stratford-upon-Avon, June 2002.

[11] John Seely Brown & Paul Duguid, "*Local Knowledge: Innovation in the Networked Age*", 2002.

Sustainable development or sustained 'marking time'?

None the less, little by little, the scientists' interest in the dependence of the advanced economies on non-physical infrastructure and the intangible side of RDT is being picked up on by some economists. Yet many European regions suffering from a development lag and obviously not having absorbed this culture so far, risk by inertia to remain behind. This seemingly "doubting" attitude of the less-favoured regions has been studied by Mikel Landabaso as *"the innovation paradox"*[12], referring to an obvious contradiction between the extreme need felt in these regions for more innovation and their relatively low capacity for absorbing the public funds available to promote it. The principal cause of this paradox does not lie, therefore, in access to public funds but depends primarily on the difficulty experienced by leaders at all levels in grasping what the innovation process in a region requires. In the best-case scenario, such funds are spent on physical infrastructure to improve the scientific base for which there has been no demand from regional businesses. The money is steered towards R&D institutes which have never taken a commercial view.

Watering the flowers of innovation everywhere

Knowing how to get from a supposedly reassuring situation, based on increasing know-how and solid scientific infrastructure, to dynamic expansion supported by the application and development of the innovation system entails doing much more than simply reinforcing the R&D base. To stay the course of development as dictated by the knowledge-based economy, it soon becomes necessary to show a profit, i.e. to "market" the scientific base, by transferring know-how into businesses enterprises. But above all, with a view to really increasing the competitiveness of the regional economy, it becomes vital to pass through this stage and to stimulate and support innovation in as many small and medium-sized businesses as possible, just as if it was enough to irrigate these fields for them to become fertile and competitive as a result.

Concentrations of businesses and of active socio-economic forces like research and education, in the same way as the clusters mentioned above, are recognised today as being particularly characteristic of an efficient knowledge-based economy. Such communities, however, even if able to build up a high capacity for growth linked to the knowledge-based economy, do not leap ahead in their development unless they can count on a combination of social assets such as:

- an ability to involve as many as possible of the local actors in shared strategies with common objectives under the impulsion of the local public authorities;
- the incorporation of the components of the knowledge-based economy into a lasting institutional infrastructure which serves inevitably to strengthen cooperation through cross-fertilisation of public-private partnerships and interpersonal and inter-institutional networking;
- a lively knowledge-based economy geared to a learning process and system for validating new ideas, leading ultimately to the emergence of a collective intelligence that can overcome scepticism and internal resistance to innovation.

These were the three strategic priorities of societal dynamics underpinning the *Regional Innovation Strategies*[13], or *RIS*, launched in 1994-99 to galvanise the EU's least-favoured regions onto a development path. This was followed, from 2000 to 2006, by the *Regional Programmes*

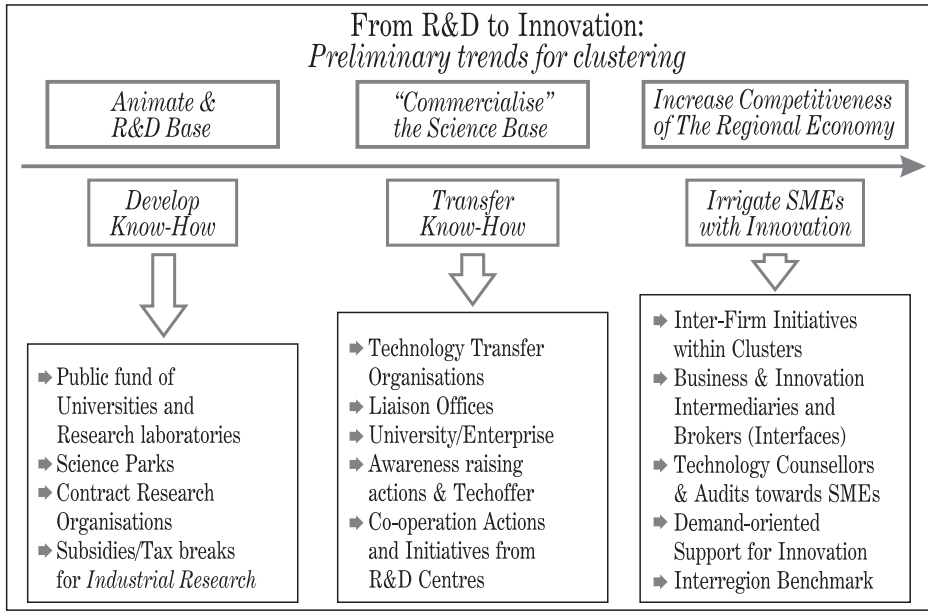
[12] Mikel Landabaso, Kevin Morgan, Christine Oughton, "*The regional innovation paradox: innovation policy and industrial policy*", Journal of Technology Transfer, Vol. 27, 2002.

[13] "*Les étapes décisives de la nouvelle économie*", Mikel Landabaso and Jean-Marie Rousseau, *Mondialisation et économie, ACCES INTERNATIONAL, BREST 2002*, pages 172 to 180.

of Innovative Actions, part-financing by the *ERDF* to the tune of € 3 million per region, which were designed to help all the European regions meet the challenges of the future in three areas:

1) developing regional economies on the basis of knowledge and technological innovation, so as to assist regions to develop their competitive assets;
2) the information society at the service of regional development, with the aim of helping to open up regions by reducing their handicaps and promoting their assets;
3) regional identity and sustainable development, with the aim of raising living standards and improving the working environment of the population, as well as promote the integration of small and medium-sized businesses into the single market.

Right from year one, more than 100 regions—out of 156 in the European Union—sent in a proposal and more than 80 secured part-financing from the *ERDF*. In 2002, there were more than 50 new applications, of which roughly 40 received funding. In 2003, applications came in from 15 regions, probably contributing to covering almost 87% of the European territory in only three years, i.e. slightly more than half the allotted period.



Objective 1: assistance for ever and ever?

But these EU projects and programmes have so far been launched and encouraged only on an experimental basis. The related budgets (€400 million for all the *Regional Programmes of Innovative Actions* over the whole of 2000-06) seem quite minor compared with the Structural Funds total (€213 billion), most of that being allocated to financing heavy infrastructure. This situation has so far not given rise to much debate in the context of the future of the European Commission's cohesion policy, although we can be pleased to note that GDP in the Objective 1 regions has gone up by €1.33 for each euro previously invested. Convergence is clearly on track, but it is also true that there is no cause for great rejoicing, if only because major disparities persist on a regional scale and have even worsened within Member States.

The 48 poorest regions of the European Union, accounting for 18% of the total population, i.e. 68 million people, have a GDP of less than 75% of average Community GDP and, in this respect, belong to the Objective 1 regions under the *ERDF*. In a Union enlarged to 25 Member States from 2004, the ratio between the 10% richest regions and the 10% poorest regions will rise from 2.6 (EU-15) to 4.4 (EU-25). This explains the apprehension increasingly felt by the *EUR-15* regions under Objective 1 that they could be suddenly excluded from *ERDF* assistance by a simple statistical effect. Only 30 of these 48 regions will still have a per capita GDP below the threshold of 75% of the new average as from 2004. Only 18 will be left in a Union of 27 countries as from 2007! When all is said and done, this marked hesitation of some regional public authorities, and even sometimes national governments, to resolutely climb out of the trap of underdevelopment, to take the risk of no longer receiving the Community munificence, is it not quite understandable? Surely this threat justifies to a degree the general outcry from these Objective 1 regions? Why should they give up the right to "*cover everything in concrete and asphalt*", bravely putting up with the rewards in terms of growth? Don't tell us that the *ERDF* encourages some regions to remain in a comfortable "assisted" status and that they would be wrong to bend their ingenuity to eliminating such a secure income?

The perverse effects of 'assistance dependency': "NEGA-development"!

Despite all the efforts of the European Union to boost the development level of the Objective 1 regions, this local passivity designed to keep the population in a state of dependence risks winning out, to justify maintaining and prolonging this state without hope of ever finding an exit. In terms of the three strategic priorities set out earlier, this negative attitude amounts to deliberately cultivating a culture of defeatism. Such a more or less calculated fatalism can only lead to "wait-and-see" policies or a criminal degree of negligence which we can call *"NEGA-development"*. This arises from the following behaviours and attitudes:

a) *"Negligence"* of the regional public authorities towards their duty of "*internalising a regional strategy*", a refusal to stimulate technology, reluctance to try out 'drawing board' theories in the real world, scruples in developing or drawing out local skills, hesitation between taking a direct hand in defining and launching a regional development policy and leaving it to outside consultants, preferring to bring in external skills;

b) *"Evading"* the responsibility of recognising and encouraging "*smart and interactive connections*", by failing to bridge the chronic misunderstanding between the academic world and the business sector, at the same time as trying to develop technology 'supply' rather than heeding the 'demand', i.e. the needs expressed to varying degrees by business, by regarding the process of cooperating with and listening to the public as a threat or painful duty rather than as a synergistic resource, by too easily giving up the inclination or attempt to establish a climate of collective intelligence, by only reluctantly accepting hesitant cross-overs from lab and university to private-sector applications, by failing to encourage intellectual creativity or fill the yawning gap between universities and their urban environment ("town and gown");

c) *"Grudging"* in attitude towards "*knowledge development*" and, in this connection, towards "*irrigating the field of SMEs*", by under-investing in human capital and concentrating solely on physical infrastructure, by systematically neglecting knowledge strategies, by refusing to translate scientific results from universities and research centres into economic successes, by completely

failing to draw new resources from recombining existing reserves of technology in order to develop new ideas and produce original applications and models for imitation;

d) *"Anomie"*(according to the sociologist Emile Durkeim) across the whole community in the end, along divergent axes where non-policy-making leads ineluctably to a moribund population, business sector or whole region, because any initiatives are nipped in the bud; the people are left passively waiting for something, spectators only, eternally aid-dependent.

Accompany development to make it last!

Choosing between siege mentality and societal awakening

Those Objective 1 regions determined to remain mired in a state of 'suspended animation' are condemned to slowing down any progress likely to pull them out of their condition of dependency. Instead of attempting to attain or accelerate convergence with other high-performance regions, they prefer to see themselves as under siege from the new candidates for Objective 1. By contrast, the opposite course to such circling of the waggons would see those regions eager to catch up their accumulated lag by adopting responsible and healthy measures derived from lessons of the past, resolutely making use of three solid vectors of progress and their three capital assets:

- an ability to internalise a regional strategy and renewal or revival of local identity, i.e. a recourse first of all to what we could call: *"Social capital"*
- a capacity to coordinate, participate and link up the threads of interrelationships and of interactive and smart connections, by building in the second place on a generalised idea of the whole process, also in terms of: *"Social capital"*
- acceptance of a culture aimed at reinforcing human capital, investing in knowledge and the thirst for creativity in each and every firm, i.e. ultimately exploiting what can also be called: *"Social capital"*

To paraphrase the philosopher Jean Guéhenno, who said "*what price happiness if we are not allowed our dignity*", we ought to be afraid of losing any hope of saving the less-favoured regions if we persist in doling out substantial aid only for physical endowment and heavy infrastructure.

By avoiding asking these regions to do something for their own salvation, we are also robbing them of the capacity they might have to meet the challenges of the future and raise the living standards of their people.

We ought to be rejecting this kind of badly organised "charity", which insults those who are marginal and lagging behind in their development, by refusing to muddy its source; it is as if we wanted a two-tier Europe to continue with two different levels of development and as if the well-off regions did not have to ask forgiveness from the others that have been rendered needy, by an insolent prosperity made worse by its scale. We would then be admitting that this climate of dependence maintained by Community grants helps to keep these regions in their backwardness. Only then will we realise that, for these regions permanently stuck in their poverty, there is a long road to travel from "Nega-Culture" to following appropriate and liberating strategies.

These regions have to learn how to "*unbutton their minds*" and "*jettison their institutional inertia*" by developing mechanisms which can induce local businesses and institutions to take a proactive attitude towards jointly looking for solutions. Mutual interest and shared commitment must converge to reshape (literally) the economic landscape.

Policies attaching special interest to improving the social climate should always be preferred to the seedy and deleterious use of those smoke-and-mirror devices we call tax relief, or to utility endowments which more or less amount to real estate. A proper collective intelligence,

accompanied by a search for consensus through wide-ranging consultation of local actors, is the precondition for success at every step. In our modern democracies, the commitment of the regional public authorities to motivating local actors for socio-economic development should take the form of supporting and backing the local institutions. Action in this form by the Community and national authorities should begin, in a spirit of subsidiarity encouraging local contributions, by freeing the regions and their local authorities from direct intervention and interference from outside. Such an approach will come from a renewal of confidence to which the European Commission can fully subscribe based on new strategies emerging from the regional level, and designed to:

- support the public authorities and the local people in their desire to proceed to internalise their own development and start a process leading clearly to a recovery of local identity;
- generalise the expansion and dissemination of intelligent and interactive connections within regions, with a view to spreading the knowledge-based economy into local businesses—in particular SMEs—while at the same time avoiding "*cathedrals in the desert* "caused by too many local *"fiefs"* and institutions with no link to the local context;
- provide a real impetus to promoting a culture open to entrepreneurship, i.e. a culture deliberately looking towards knowledge and preparing for the future by turning this knowledge to account.

"The resource of all resources: people"

The true goal of the modern economy should be "*the full development of the resource of resources, i.e. people*." This at least was the policy recommended by the economist François Perroux, often against and in resistance to the ideologies of the last century. Given the increasing material riches of our society, in which man's sole motivation was piling up wealth to the detriment of his social and moral development, which no-one at the time seemed to comprehend, he denounced the rising alienation of the individual.

Whereas formerly, depending on political planning or market forces, we experienced shifts in population towards where businesses were to be found, the advanced economy to which Europe aspires seems instead to entail a movement of businesses towards the regions where the skills are to be found. A new "geography of talents" is ready to channel socio-economic development towards competitive and attractive regions. In an economy increasingly based on the quality of products, increasingly trusting in human skills and the capacity of institutions to cope with expanding technological innovation, competitiveness rests above all on the relevance and leverage of the interrelationships between people and their interfaces. Perhaps it is going too far, like the British economist Joan Robinson, to compare the excesses of the capitalist economy and the "*invisible hand* "to "*the grip of the strangler*", but ought we not also to denounce, on the one hand, the vainglory of economic freebooters and the inanity of localised competition, and on the other the unequal struggle faced by regions reduced to always holding out their hands without hope of getting back on their feet.

At a stroke, our European regions might see themselves as more than a stock of passive resources and their more clear-sighted leaders might see the interest of actively multiplying and interlinking the local networks of relationships. From the 1950s to the 1980s, the European Community did more than just initiate such new practices and values. In the mean time, this process has so accelerated that the EU-15 is currently inviting new countries to apply for membership, most of them barely emerged from oppressive political régimes, and to share in our values and the promise of wealth.

And yet we cannot help admitting that, aside from dictatorships, many democracies are also capable of uprooting the ideals of partnership and freedom on which they claim to be built. Such democracies, whether old-established or just about to flower, run the risk of stifling at birth their collective imagination and the activating potential which led to them being founded in the first place. From generation to generation, there are societies in decline which rest on eroded foundations, resigning themselves imperceptibly to the idea that correcting social inequalities and defective political consultation can only be achieved through the efforts of individuals or general growth. But these contradictions nonetheless suggest ways of escaping what might be mistaken for a crisis of the culture. We should be studying how to build up our European regions from the inside, by relying on the proactive contribution of a people enjoying their freedoms and living up to their responsibilities. Our regions might well then discover the value of developing a spirit of interregional solidarity and European cohesion, measuring up to past and future enlargements and heading for a sustainable Europe.

ANGEL L. ARBONIES

VIRUSES IN REGIONAL DEVELOPMENT CONSTRAIN THE CREATION OF KNOWLEDGE REGIONS

Introduction

Economic models have made a very important contribution to the economy, but good science always recognizes its limitations. However, we are living in times of fusion and mutual influence between different disciplines.

As we observe phenomena and make sense of them, we inevitably deal with assumptions which are repeated from time to time; these become installed in our minds and we do not question them. One myth of the classic economy is that of people's egoism when making decisions in life. Is this because the economy is attracting egoistic people to the profession or it is the discipline itself that is turning them into egoists?, asks Stiglitz[1] in an amusing article[2]. The Nobel Prize winner suggests that when dealing with people, we need to study the people and the economies as they are, not as we want to see them.

Is it time to review the bases of progress?

Smith and Kahneman[3] are among the economists who are carrying out *natural experiments.* The problem with experiments is that you can never control them completely. People provide the experiment with thinking and behaviour that are not rational for economists. Therefore, in the opinion of scientists, experiments are never impartial. One of the discoveries of natural experiments is related to the altruism and egoism of individuals. The experiments constantly show us that individuals are not so egoistic as the economists would have it, except for the group of economists themselves.

Economic growth can be described at a macro level, but the level of explanation does not only reside at this level. To understand economic growth and to design development policies we need to take the analysis to the level of companies and people, where life occurs, where individuals and firms live, learn, decide, behave in a certain way, sometimes innovative, creating spirals of virtuosity, or on the contrary failing to do so.

History is a tool for learning not to repeat past mistakes and trying to make new mistakes, avoiding the pessimism of self-fulfilling prophecies. In fact, regions and communities need to

[1] http://www-1.gsb.columbia.edu/faculty/jstiglitz/press.cfm

[2] El Pais Semanal. 23 Junio 2002.

[3] http://www.nobel.se/economics/laureates/2002/

change some trajectories based on their history to create new conditions emerging from local culture.

The worst thing is when the problems are approached from a perspective of rescuing the region in a paternalistic way. Indeed, we need to use all the ways of learning: history and culture, the conceptualization of the new situation, the preparation of new answers (not canned answers), and most importantly, experimentation with new policies.

In this article we challenge some of the assumptions that have shaped measures of regional development based mainly on the classical economy theory that is embedded in most economic policies for development. For this purpose, we propose to highlight the assumptions of many regional development policies implicit in economic language that creates the "virus" which as part of their very nature are in fact counterproductive to some of the original, well-intentioned purposes. For each case we will propose some antidotes for changing the point of view, while offering some possible approaches where we can.

Knowledge economies

If we are entering the knowledge economy era, we all need to transform the way we make progress. For less developing countries the good news is that they can go directly to the new set of economic policies, without first passing through the policies of the industrial era. As they do not need to create infrastructures for analogical communication because they can go straight on to digital infrastructure.

There is a hope for third countries as knowledge and sustainability are rooted in local cultures. Therefore, the days when solutions were imposed from one standardized economic formula are coming to an end. Nowadays processes related to knowledge, creation, learning and innovation have a social impact just as significant as economic initiatives (OECD, 2001. "The well-being of Nations: The role of human and social capital").

New economic policies should avoid the mistakes of the past while taking into account a new perspective. The knowledge society is open to opportunities for more people and more countries. If some countries and regions think actively and autonomously in their future, they will have a chance.

- **Knowledge economies are suggesting a review of the regional systems of innovation.**

Generally speaking, innovation systems have been described as the sum of infrastructures. In fact, most of the innovation indicators refer to the input, or effort, but system relations have hardly been studied. However, Lundvall (1992), Henton, Melville and Walesh (1997) and others have recently contributed with new perspectives based on close observation. Likewise, the observation of some situations is very revealing, especially when the factors explaining the entry of new regions, cities and countries to top level competitive areas are not explained by the conventional theory.

These authors point out the characteristics appearing in the latest conceptual works and experiences.

— New cognitive dynamics in the knowledge regions.
— The importance of proximity, not only geographical, and the importance of shared cultural identity to explain successful experiences.
— The importance of the creation, growth and maintenance of these collaboration and interchange networks.
— The important role of public-private collaboration to tackle problems.

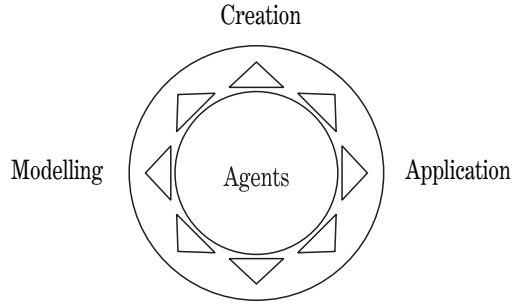
The development of Information and Telecommunications Technologies has increased the size of the playing field and the number of players. Countries and regions that in other circumstances would not have a relevant role to play in the international battle for competitiveness can meaningfully reduce the distance with respect to other leading regions, provided that they work intelligently.

At a conceptual level, we can see that Information and Telecommunications Technologies are not merely another business sector to develop. Is a perspective of social and economic changes involved as there are new forms of creation and interchange of knowledge. Table 1.

According to Lundvall (1992), regions, countries and nations need to have learning capacity, and the key for the most developed regions is to be found in the quality of the creation-diffusion-knowledge application process.

Table 1

NEW FORMS OF CREATION AND INTERCHANGE OF KNOWLEDGE

	INDUSTRIAL SOCIETY	**KNOWLEDGE SOCIETY**
Knowledge sources	Few and concentrated	Many and decentralised
Accessibility to sources	Limited	Unlimited
Knowledge flow	Few and fragmented	Big interconnected flows
Diffusion	Sequential	Circular
Time until application	Relatively long	Very short
New forms of creation and knowledge interchange with the participation of all the agents in the knowledge value chain are required.		
		
Diffusion		

A socio-economic learning system suggests three important dimensions:

Multidisciplinary dimension / Integration. Knowledge leading to innovation and being applied to improve living and working conditions is integrated. They never come from just one disciplinary domain. Innovation always incorporates scientific, technological and management knowledge, apart from others related to social sciences.

Institutional dimension. Every city, region or country has a structure, a group of organisations dedicated to the process of knowledge creation and innovation. The academic world, especially universities, consultancy firms, technological research centres, public and semi-public agencies, specialised mass media, associations representing firms, chambers of commerce, etc, belong to this

system. These institutions are also affected by changes in the Knowledge and Information Society. Many of these agents do not perceive the changes mentioned in Table 1 and attempt to sustain the schemes of industrial society.

Community dimension. If knowledge shared is the force behind learning capacity in regions and countries, aspects such as values, proximity and culture are essential as they help to build up the concept of "community". This concept has nothing to do with political or administrative limits, provinces, states, or nations, as it goes beyond this. In spite of being a highly abstract concept, the community is one of the most important ingredients for generating trust, which is the basis for knowledge interchange. Henton, Melville and Walesh (1997) explain the creation of prosperous communities on the basis of this sense of community and they also describe the emergence of "civic entrepreneurs".

There appear to be many reasons for taking about Innovation Systems reconsidered in the Knowledge Society. Table 2.

Table 2.

Innovation Systems in Industrial Society	**Innovation Systems in the Knowledge Society**
Political or administrative limits	Communities: Culture, proximity and trust
Key role of public administration	Public administration is another agent of the system
Emphasis on infrastructures	Infrastructures + connectivity
Territorial proximity	Cultural proximity. Identity
Based on the diffusion of scientific and technological knowledge	Based on contextual knowledge. Integration
Technology as the leading process	Population and enterprise necessities as the leading process
Institutional co-operation	Social networks of knowledge workers
Top-down and sequential process	Complex process

All cities and regions are themselves attempting to become knowledge entities creating new capacities. Local authorities all over the world are somehow trying to convert their region into an excellence area, attracting knowledge for their prosperity with three different kinds of measures in mind:

a) Attraction and development of knowledge-based organisations and firms (including academic institutions, research centres, etc.), with an intensive dedication to R&D, skilled labour, etc.
b) Promotion of the Information and Telecommunication Technologies sector, demand and use development.
c) Creation of regional or local clusters for co-operation in some sectors (many of them include traditional economy sectors such as textiles, tourism or agro-food).

Many schemes have in mind a dream of becoming a knowledge spot in the world, imitating the popular phenomenon: the emergence of some outstanding areas and corridors with a high degree of prosperity. In fact some areas of the world have gained tremendous prestige as knowledge creators. Among these areas/clusters are Silicon Valley, Route 128 in Boston, Cambridge (UK), Austin (Texas), the Information Technology Corridors in New Jersey and other popular areas in which there are important industries with an intensive dedication to R&D and highly qualified human resources.

But the concept of Innovation Systems as Learning Systems may be more appropriate for all types of regions and areas, not only those with a high concentration of technology-intensive enterprises. An emerging concept therefore appears offering more possibilities to be used by all type of regions and which for the purposes of this article we will call Knowledge regions. Using a fractal thinking, the same applies, for Knowledge Cities, Knowledge Countries, Knowledge Corridors etc. etc.

Viruses in regional development

Virus 1: Fragmented policies

Policy makers are confronted with a harsh reality which firmly constrains their intervention as more often than not they are representatives of departments, agencies or bodies that are structured as the result of a negotiated process of resource allocation within politically elected parties. It is not rare for political negotiations to concentrate on the number of departments, the budget of the departments and the person responsible for these areas. Sometimes the solution for negotiation comes with the creation of new departments to allow room for coalitions and traded—off negotiations, fragmenting more the problems. These negotiations are impeccable and democratic but are causing some of the future problems of fragmented policies.

There is a hidden assumption that *individual problems*, unemployment, entrepreneurship, training, education, health care, etc, should be dealt with by socially-oriented departments, while others like technology, industry, innovation, tourism, transport, infrastructures, etc. are dealt with by technically-oriented departments. Although the intentions are genuinely integrative, the usual behaviour is for the need for fragmenting problems to be assigned to a specific department and its corresponding budget for action.

Antidote 1: Fractal thinking

Economic policies need a holistic perspective. Fractal structure is the image of integration where parts and wholes are identical in nature. In knowledge societies the importance of individuals, firms, counties, councils, regions, communities, nations and world are interdependent parts.

Innovation is turning into ecosystems of innovation as an evolving system that needs to engage in self-organizing dynamics where individuals, firms and organizations must absorb new knowledge. There is then a need for pooling this knowledge for different purposes, and finally there is a need for exploiting it for the benefit of all.

The antidote to fragmentation is to create a body with the sole mission of having a systemic understanding and maintaining the monitoring of the whole. We propose, for any kind of government, the creation of a virtual structure to attract, capture, share and exploit knowledge. Knowledge Clusters[4] can play this role as Arbonies and Moso (2002) show in the experience of the Basque Country in Spain.

Virus 2: Information and digitally-oriented infrastructures

One of the most important viruses that many decision makers are suffering from is the confusion between knowledge and information. Most measures for reaching the knowledge economy are concentrated on information, not on knowledge.

[4] www.clusterconocimiento.com

This virus is very common because information technologies tend to be pervasive. Easy and cheap communication, speed of processing and the huge capacity for storage make the idea of organizing massive information flows very attractive. With this obscure lens before them, decision-makers concentrate on information flows and on massive investment in *digitalization*, transmission and storage of information. But intelligent information management has to do with quality, not quantity.

The real question is what you actually do with the information. The paradigm of information distribution for economic policy is based on the assumption that "once information is there people will use it". Information can be formally transmitted but knowledge and understanding require the meaning and implication of people and communities.

One derivate and variant of the information virus is the search for best practices. Some successful programmes are exported or imported from one geography to another. The assumption is that the success resides in the programme itself, ignoring context. But we all know that the success resides in a cocktail made up of content (the programme), the agents (willingness, motivation) and the context.

Best practices should be a matter of inspiration. Some kind of departing point for a case study, something like "look how this region has resolved a situation; what can we do in our situation?"

Firms and organizations need information, but third-generation KM goes beyond the information paradigm involving a systemic understanding of the socio-cultural and innovation dynamics in a given environment.

Antidote 2 : Knowledge and context

First things first: avoid any standard policy created to rescue a region, without involving the regional agents. Involvement means *real* involvement with power to influence final decisions, not just consulting, questioning or interviewing local agents.

Knowledge comes when a community decides that something makes sense for people. For instance, preserving a local language can be meaningful for some communities who can collectively promote the language creating economic activities: translation, publishing, research, media, etc. The real question is to build something meaningful, not something impeccable from a management point of view. The probe of any policy is questioning if the objectives are within the community's aspiration.

The operative suggestion is very simple: For any programme make sure that more than 70% of the budget is in the hands of agents. (usually this is the opposite)

Virus 3: Competitive advantage

Scientific management war vocabulary has dominated the firm and government management scene. The underlying assumption of this school of management is that in order to survive you need to compete in a zero summa game. If someone wins, someone has to lose.

This is a powerful and pervasive virus that is rooted in the actual way of doing management. For some reason predation is the metaphor we like for strategy. But nature and economy are evolutionary systems and evolution is mainly built on collaboration.

Antidote 3 : Collaborative advantage

We need to go from just business benefits and competitiveness to specific and relevant contributions to society, as society also contributes to business benefits. If we follow fractal

thinking, we can see knowledge as beneficial for personal development, for business productivity and innovation, and for regional attractiveness in mutual and cooperative relations.

Evolution is based on selection, but also on collaboration. In fact, the naturalists say that for every act of depredation in nature there are ten acts of collaboration. But the predation act is the most noticeable. *Coo-petition* is the answer taking the two perspectives against the dichotomy as the usual way of thinking that always pushes us to choose between two sides, but systematic thinking allows us to use both extremes of something contradictory in appearance.

Virus 4: Tangibility and measurement

The perfect excuse for avoiding some policies is that they are not measurable and therefore difficult to control. "The responsibility of managing public funds is so great that we need to be sure that the policy will be measurable and will have real benefits"

But in fact, if closely analysed, many economic policies end up measuring inputs not outputs, therefore measuring the quantity of the effort and not the results. This a very important argument for politicians who explain activities in terms of budget dedication.

There is also a tendency to avoid any policy based on intangibles which although it is interesting and reasonable does not offer the creation of tangible symbols like buildings, research centres and infrastructures.

There is a fool search of new policies, but the clue resides on integration. Many policy makers still want to find something really new. "Tell me something I do not know". Few believe in integrating different instruments.

Antidote 4: Social capital measurement

The intelligence of a region is based not on the number of nodes but on the connexion between them. Prosperity is based on Social Capital, and Social Capital can be measured as an indicator of development potential. On the other hand, by carrying out exercises in social capital measurement, agents take a look at collaboration and more often than not discover common areas of interest.

In operational terms the suggestion is: Measure the social capital of the community and promote public debate on indicators, priorities and visions.

Virus 5 : Growth

The policy makers constantly present in the media indicators of Growth, Emplyment, GNP, Income distribution, and a solid battery of indicators that try to tell us how are the economy doing. More often than not people is interested not in indicators but in the translation of the measures to day to day life and business. People do not want growth, people want value. Value goes beyond economic welfare.

Accumulation of goods is never people's only aspiration. Francisco Javier Carrillo (2002) talks nicely about capital systems. From the very beginning of humanity, value creation has been a process of transformation of inputs into an output that is more valuable for people.

We have created value from the process of collecting what nature gives to us, from the process of agriculture and farming for putting nature to use, the industrial process of using machines to industrialize and distribute goods using capital and labour. The most noticeable change is that in industrialization finance capital is added to sustain the production of goods.

Antidote 5: Value creation

But now we are entering the knowledge society era. This is the very first time in history that we have used knowledge and the *way we know* to create value. The way we create knowledge is what is the valuable *thing.*

The value creation system is not just an input-output process with financial capital. The value creation process nowadays needs to bear a new set of capitals in mind: human capital, relational capital and structural capital, while incorporating other referential capitals such as identity. Firms, cities, regions create value from commerce in goods, from identity creation, from human interactions and relational cooperative actions. What is valuable to possess identity, a network of relations, human capital, and money.

In practical terms communities must establish what is valuable for them in broad terms.

This is where fractal structures begin because what is valuable comes from a never-ending dialogue between individuals and organizations. Therefore, value creation is a broader view of people's aspiration without compromising economic growth.

Virus 6: Sustainability

The virus is not sustainability itself, but the use of the word. Sustainability has been corrupted to become a kind of sustaining things are they are. At the best of times it is a synonym of environmental matters. But the environment is not just trees, beaches, seas or animals. As humans, we are part of the environment, but, just occasionally, we place the people in the system.

Antidote 6 : Wide sustainability

Sustainability must be associated with a profound respect for cultures, languages and ways of doing things, including respect for the ecological system. But we need to be included as intelligent agents.

The wide sustainability concept means respect for diversity and local culture. Many times the intention is to apply recipes without understanding local conditions and furthermore without local agents intervention.

Virus 7: Technology and innovation

Innovation is the commercialisation of something new, in broad terms. "*Broad*" means that innovation can be a minor but valuable way of doing of perceiving or using things and processes. But when they talk about innovation, policy-makers are mainly thinking of scientific and hard discoveries.

The virus is in the idea of searching for a "gold mine" that can solve problems forever in one shot. This is a virus that can have fatal consequences for development mainly for developing countries.

Firstly, some local agents desist from pursuing any kind of "innovation activity", because the virus infects the idea of innovation as something very expensive. And secondly, because once agents have arguments not to innovate they look for comfortable areas of production or distribution but leave innovation to others. The final picture is a net of firms desisting from innovative activities and concentrating in some comfortable spaces in the value chain.

If we analyse some innovation case studies, e.g. Cooper (1979), we will see that only 2% of new products come from the invention of something which provides the market with something really new in terms of doing things differently.

Antidote 7: Limits of knowledge

Challenge your knowledge, but challenge your own mental limits. Many of our limits are built under the assumption that we cannot do anything beyond this line. But sometimes we can. Many times we will notice that innovation is a fusion of knowledge with the ability to capture a need of the buyers that is not currently fulfilled.

The complete cure for knowledge cities, regions and worlds.

As many viruses learn to survive in different environments, sometimes a complete change of conditions is needed. We need the tablets and pills for relief, but for knowledge regions is needed a model for addressing this complexity reframing the way of doing regional development in the knowledge era.

Complex situations, paradoxically, need just a few simple rules in order to be coped with. It is more a matter of being systemic, because like living organisms within the systems they are also intelligence and life, which means interdependence, feedback and a sense of wholeness.

The few principles to enter a new generation of economic policies for knowledge development are as follows:

1. Understand patterns of behaviour, meaning and identities issues of the community and put them in the picture of knowledge.
2. Reframe the concept of knowledge including these issues, specially aspirations as a cultural input.
3. External help should be directed to find collaboration and cooperation of different local agents, mainly those involved in capturing, disseminating, and exploiting knowledge.
4. Once a down—top diagnosis of needs and actions are identified the main effort should be directed to have proportionality avoiding the unbalanced power of some academic, business or political elite.
5. Financial funds should be put into the field not in the facilitation structure
6. Measure social capital as the indicator of community health
7. Regional development needs to cope with complexity not fragmenting problems but addressing them using principles of self-organization, creation of spaces of possibilities, system thinking, proportionality, interdependence, emergence, experimentation, etc. etc. .....
   ..... but this is another history and the beginning of a new article.

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BÉNÉDICTE MOUTON

SOCIAL CAPITAL FOR REGIONAL INNOVATION PROMOTION: EMPIRICAL EVIDENCE FROM INNOVATIVE ACTIONS OF THE EUROPEAN REGIONAL DEVELOPMENT FUND (1994-2003)*

Introduction

This article aims at presenting some results of two experiences supported by the European Commission in the field of regional innovation. Since 1994, the European Commission, with the Innovative Actions of the European Regional Development Fund (ERDF), has created a small laboratory on the issue of regional innovation strategies based on partnership and bottom-up methodologies, both related to the concept of social capital[1]. In fact, innovative actions were designed as a 'software' that would eventually, if successful, run in the 'hardware' provided by the mainstream funds of the European Regional Development Fund.

Two different "animals" supported and studied in this laboratory will be presented here: first, the Regional Innovation Strategies (RIS), launched in 30 regions between 1994 and 1999, for which we will try to explain success and failure factors, enriched by lessons learned from similar experiences called RITTS[2]. Then, the Regional Programmes of Innovative Actions, supported during the period 2000-2006 with bigger budgets and a wider geographical coverage, will be presented. Finally, some suggestions will be proposed on possible ways to improve regional development based on innovation by valorising regional social capital.

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* The responsibility for the accuracy of the analysis and for the judgements expressed lies with the author alone; this document does not constitute a policy position of the EU Commission.

1 Social capital is defined here as "networks together with shared norms, values and understanding that facilitate cooperation within or among groups", OECD 2001.

2 Regional Innovation and Technology Transfer Initiatives, supported by DG Entreprise of the European Commission. Between 1994 and 2002, more than 70 projects have been launched in the EU regions.

Regional Innovation Strategies have been a successful experiment for regional policy

The objective of RIS projects was to create the most favourable regional economic and institutional environment to foster innovation in SMEs. The methodology used was based on a strategic approach (what do we need and can do to foster innovation in our region ?), based on an analysis of the regional innovation system (how innovative are our firms and what are their innovation needs? how well our universities, research centres and innovation support organisations work with each other and respond to the development needs of our firms? how might the situation evolve in the future regarding innovation trends? how are other regions doing with their innovation promotion policies ? etc.) and the elaboration of a strategy and an action plan to promote innovation done by and for the region (what are the most appropriate innovation policies for our region in view of our own strengths and visions?).

This RIS approach is based on the idea that strategic planning, developed as an iterative process built on interactions among regional actors, allows each of them to progressively adapt its behaviour (agenda, objectives and actions) to the others' voluntarily. This maximises synergies and avoid duplications in the absence of a top down "dirigisme" by a central planning authority. This can be achieved mainly through the consensus and open discussion induced by the process of elaboration of a shared vision for the region (strategic objectives) and the design of the means to achieve them (actions plan). This shared vision can progressively become the common reference by which the economic development relevance of each actor's agenda can be assessed. Moreover, through enlightened self-interest, becoming an active partner and approaching one's agenda to the shared one can have direct economic benefits in the form of public incentives and enhanced business opportunities, through 'clustering' of business activities, for example[3].

In practice, a RIS project consisted in the following steps:

1. A consensus building and awareness phase, based on discussion among key regional actors. During this phase, the steering committee of the project is created, the management is clarified, working groups are organized according to key sectors, technologies or key innovation-related issues for the region (financing, IPR, etc.). Consultants are selected and communication tools (web site, newsletters, logo, etc.) are designed. It is a vision and partnership creation phase, to be developed on a continuous rather than one-shot basis. It is crucial to the success of the project since creating a momentum is difficult and even more difficult is maintaining it. As stated by an Irish RIS manager, "regional partnerships for innovation are central to regional competitiveness but building these partnerships demands care, courtesy and patience." When the dialogue has been limited, the success of the project has also been limited, as seen in French regions for instance.

2. The second step consists in an **analysis phase** where the innovation needs of firms are identified, as well as the supply available in the region. The needs analysis is based on technology audits, sectoral working groups, postal or email questionnaires sent to firms and face-to-face interviews with entrepreneurs. The experience showed that it is often difficult for firms to express their needs for innovation and more and more, technology/innovation

[3] As an illustration of the above, in the German area around Altmark, Harz and Madgeburg, 350 firms participated to the RIS, along with 12 universities and R&D organisations, 10 innovation providers, Chambers of commerce and industry, associations and administrations. Their joint work led to the launch of 25 pilot projects for innovation in the region.

audits of SMEs have been used successfully to carry out this needs analysis. The R&TDI supply analysis (covering universities, R&D centres, technology transfer organisations, service providers to firms, CCI, existing supply networks, etc and their policies) is also carried out with face-to-face interviews, discussion groups and desk analysis based on already existing studies. In some cases, this analysis was made difficult due to a strong reluctance from supply organisations to provide a self-critical view of their actions. The international trends in the key technologies or sectors, which are economically and technically significant for the region, are also scanned and foresight exercises are launched. Finally, a complementary benchmarking analysis of what other European regions are doing is also done, in view of possible exchanges of good practice.

3. A third phase consists in elaborating a regional innovation strategy and an action plan, on the basis of the previously mentioned analysis and a partnership discussion. Launching "flagship" projects has proved to be particularly positive as they contribute to illustrate in practice the small-scale translation of the new ideas identified in the RIS, for the sake of credibility, which is a crucial issue, in particular, for the private sector.

4. Some of these actions and **pilot projects were fine-tuned, tested and launched in RIS+** projects also supported by the ERDF. In this fourth step, the idea was to reduce the waiting time between the end of a RIS and its full implementation, when financial support is missing or late, thus filling the gap between expectations and the time necessary to make things happen. They aim at developing projects emerging from action plans of RIS or RITTS in view of mainstreaming them into the structural funds, launching feasibility studies or small demonstration projects to validate methods or innovation promotion tools. They also stimulate exchanges of good practice with other regions.

To summarise, the first mice of this laboratory, the RIS, can be considered as regional innovation systems to which three pills are given:

- A "Governance" pill, which is a mix of bottom-up and consensus building approach
- An "innovation" pill, making regional actors think about innovation for their region
- An "interregional" pill, making them look at other regions and exchange with them in view of learning but also to be hooked up to international sources of knowledge.

To expand on the medical comparison of a laboratory, instead of building highways or bridges, comparable to powerful injections (which are necessary for the weakest), RIS stimulate the immune system of regions by improving the capacity of regional actors to anticipate, understand and react to the innovation needs of their firms.

In terms of results, what is it possible to observe at this stage ? First, mice react in very different ways: regional innovation strategies are very context-dependent. Then, some mice do take advantage of the treatment. Successful RIS have two main impacts: on the way innovation policy is made in the region (process) and on actions undertaken to foster innovation (policy outputs). On the one hand, the consensus created in the RIS is transformed in lasting and strong partnership, sharing the same vision of "innovation" (being the successful production, assimilation and exploitation of novelty in economic and social fields). This affects positively the amount of money available for innovation support, in particular in the European Regional Development Fund mainstream programmes for objectives 1 and 2 regions. In Castilla y Leon for instance, the expenditure of regional public sector increased to an accumulative annual rate above 11% after the RIS. Business expenditure on innovation increased by an annual rate of more than 15% in the second half of the 1990's[4]. It even has an impact on national policy in some cases, like

[4] Total expenditure on innovation went from 1.4% in 1995 to 1.7% in 2000. At the same time, research workers and technology staff increased from 3.4 out of 1000 people in active population to 5.0. The objective set by the regional

Ireland, where the RIS launched in the Shannon area set a headline for national policy. On the second hand, RIS contributed to improve the efficiency of the regional innovation system thanks to a better understanding of firms needs and a better coordination of the supply of innovation. This resulted in having less fragmented systems.

When we look not only at the process but also at the impact on policy measures for innovation, we see that support to cluster / firms networking and cooperation between SMEs and research base are the most common activities induced by RIS and RIS+. In fact, this issue of improving coordination and networking is the most visible element of RIS, underlining the understanding by regional actors of the importance of social capital for the development of their region.

Concerning less successful RIS, the mice on which RIS had no effect, we notice lock-in problems blocking the treatment. These problems relate to several difficulties linked to the institutional context, like in France or Portugal and in regions where regional governments feel threatened by the process itself and the results of analyses, showing the inefficiency of what they had been supporting for several years. This was also the case of key suppliers such as universities and R&D organisations. Problems were also due to the failure to find the right champion and to maintain the team over time that led, often, to an over reliance on consultants for the strategy elaboration. A study approach, rather than an applied one, based on a limited understanding of innovation with an excessive technology-push vision, hindered any real appropriation of the process and outputs by regional actors.

Finally, when we compare RIS regions, when the treatment was successful, to other group of regions that did not go through this process of strategic reflection and partnership, we see that their appetite for innovation is bigger. Others have difficulty to absorb public funds for innovation, as the regional innovation paradox shows: regions that have the biggest need to help their firms become more innovative have the biggest difficulty in using public funds for innovation promotion. The example of Castilla y Leon shows that the RIS helped this region become the second Spanish objective 1 region in terms of R&D expenditure per capita, despite the business population consisting of SMEs, the importance of agriculture and its relative specialisation in other traditional production sectors.

In conclusion, this first set of experiments, with more than 30 RIS and 25 RIS+[5], reinforced a real networking of actors within regional innovation systems (between firms, between key public and private actors) and outside, between regions, thanks to an improved transparency and understanding of RDTI support organisations and policies, and a better identification of the innovation needs of firms, SMEs in particular. They contributed to change the way innovation was perceived and to bring innovation as a higher priority in regional policy agendas. Considering their limited budgets (half a million Euros for 18 to 24 months with 50% of the budget coming from the European Commission), the outputs of some of these projects go well beyond expectations, even though no direct impact on SMEs innovation uptake has been yet measured at this stage.

government is now to go from a regional RDTI expenditure that accounted for 1.76% of GDP in 2000 to 2.4% in 2006 (Juan Vicente Herrera Campo, President of Junta Castilla y Leon, Foreword of the Regional scientific research, technological development and innovation strategy 2002-2006).

[5] For more information on these projects, see www.europa.eu.int/comm/regional_policy/innovation/index_en.htm, www.eriknetwork.net, www.rinno.org, www.innovating-regions.org

The high interest for the new generation of Innovative Actions Regional Programmes shows the added value of this type of processes based on social capital

The experimentation continued with the Innovative Actions Regional Programmes of the period 2000-2006. Bigger in terms of budget (6 million euros of which 50% to 85% coming from the ERDF, 400 million euros in total) and more numerous (126 regions in 2001, 80% of total EU regions), these programmes deal with both strategy and implementation and focus on three themes: knowledge and technological innovation, information society and sustainable development/regional identity.

Compared to the previous RIS, these programmes, by their number and geographical coverage, bring a critical mass in terms of observation but considering the importance of regional contexts in this field, this makes their observation more complex. No results are yet available but we can already make a few observations:

Regions expressed a high interest for this type of programme. They apply on a voluntary and competitive basis, which means that they have to present a good programme to be selected. It seems that both the process and the three priority fields explain this high interest. When we ask the regions selected in 2001 what they want to work on, in priority, they chose technological innovation and knowledge (representing 44,6% of the total budget for 2001 and 2002), then information society (37,2%) and finally sustainable development and regional identity (12,5%).

Within the first field (knowledge and technological innovation), regions work in priority on clusters / business networks (29% of budget) and improving the relationship between SMEs and knowledge base (21%). The next most important fields are services to firms (19%) and creation of new firms (15%).

Concerning support to clusters and business networks, three main types of activities have been launched by the regions: identification of new business networks, improvement of use of ICT tools to facilitate exchange and support to existing clusters, such as automotive sector in Spain (Cantabria and Aragon), chemical/plastic sector in Sachsen-Anhalt or fashion and biotechnology in Tuscany.

To support cooperation between knowledge base and SMEs, activities chosen by the regions consist in stimulating the demand for RDTI in SMEs, optimising the existing supply offered by universities and R&D organisations, as well as supporting concrete projects between them. Studies on innovation financing and support schemes were also carried out.

Finally, social capital is a key success and failure factor in regional innovation systems

The RIS experience showed that the process is decisive. Successful RIS are based on inclusive, iterative process involving public and private regional actors. Less successful RIS are due to weak regional partnership and lack of political commitment. This relates to social capital stimulation and it is even more important than money, as the regional innovation paradox shows. On this basis, our hypothesis is that social capital is a key element to explain RIS success and failure. It also explains probably the high interest of regions for innovative actions programmes supported by the ERDF.

Social capital is seen here as a regional partnership process in which priority is given to the networking of actors (knowledge base, firms and intermediaries) and in which the role of regional

governments is to create an environment favourable to the regional innovation system, playing the role of catalyser, broker and animator. The role of the other actors of the system is to contribute to policy-making and to the improvement of the efficiency of the system. In Innovative Actions programmes, we can see a significant financial participation of the private sector (15%, which is higher than in the ERDF mainstream operation programmes of the ERDF). This involvement is also visible through the participation in steering committees and even more actively in working groups.

Suggestions for future regional actions

Working on regional partnerships, by fostering and valorising social capital through supporting networks of firms and of knowledge base with firms is still necessary in most regions. In that way, it can be said that the treatment experimented since 1994 in the Innovative Actions of the ERDF has proved to be of interest, as long as it is based on the two following elements: needs of firms and a consensus building process. This is particularly true for regions where it has not been done yet, such as in the new member states or unsuccessfully done (after having understood why).

Finally, three policy priorities can be suggested, on the basis of the empirical evidence of RIS and Innovative Actions:

- Improve regional partnerships for policy

The objective is launch regional innovation strategies designed as collective processes to elaborate the most adequate innovation policy for the region based on public-private partnerships. It should involve all relevant regional stakeholders such as regional authorities, representatives of business (big firms, SMEs, networks and associations), intermediaries, universities and other R&D institutions, financial sector, etc. an in-depth analysis of demand-supply match in terms of innovation should be undertaken (analysis of the actual needs of SMEs, benchmarking, sound regional SWOT analysis). A strategy should be elaborated on the basis of this analysis and discussion with the regional stakeholders. Finally, an action plan with budgets and timeframe should be designed to implement the strategy. In all phases of the process, the participation of the relevant regional stakeholders should be ensured, as it is a key success element. This should be done through the setting-up of regional innovation forums and working groups, the development of flagship projects, awareness campaigns on innovation, etc.

- Support innovation-driven clusters and improve linking knowledge base to businesses

This objective can be reached through the following actions:

— Identification and strengthening of clusters to enhance SMEs competitiveness through knowledge flows between them
— Addressing collective needs of local innovative SMEs and other relevant actors
— Improvement of relationship with research base (better access for firms, networks of suppliers, intellectual property rights policy, new firms creation)
— Support of the creation of suppliers and intermediaries networks

- Facilitate learning through exchange of good practice and benchmarking

The first two lines of action are based on business needs and the active participation of all key innovation stakeholders within the region. But there is also a need for a set of tools to compare individual experiences, having in mind that dealing with knowledge as a resource for regional development is dealing with complexity, by nature, and with strong regional context dependency. That makes our task of helping regions learn from one another quite difficult. There is a need for networking activities between regions and a need to further analyse and understand social capital

processes at regional level. The objective is to strengthen existing interregional networks such as ERIK (www.eriknetwork.net) and IRE (www.innovating-regions.org), as well as databases and benchmarking initiatives such as RINNO (www.rinno.com) and the Regional Innovation Award of the ERDF. In these various forums, thematic studies are carried out to develop indicators relevant for evaluating and comparing regional innovation policies, RTDI statistics are collected at regional level and dissemination tools are developed to diffuse good practice and interesting data. Seminars, conferences and specific working groups are also organised to connect people and share tacit knowledge. Staff exchange schemes, as well as tutoring or twinning schemes between regions are also supported.

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WHY SOCIAL CAPITAL? WHAT SOCIAL CAPITAL?*

Introduction

Following its boom in Political Science Social Capital has been hailed in scientific literature as the missing link and a magic bullet to understand and solve most of the problems associated with economic development. This is a big and new mistake because these types of solutions simply do not exist.

Nevertheless, social capital deserves much more attention than it has received until very recently. We have to keep working because we still need to better apprehend its role in some specific processes of economic development; namely its spread and backwash effects; its direct and indirect impacts, and its short and long run consequences.

The following pages consider social capital from the economic development point of view. Their orientation is not centred on "making democracy work"[1], but making the economy work.

Economic development-oriented social capital

With respect to social capital, a sort of disenchantment seems to pervade the work of many social scientists, which is in direct opposition to the optimism seen a very short time ago.

No more that five years ago, some academic researchers and institutions wondered if they had found the "missing link"[2] or a magic bullet to solve some of the main problems of economic development. Nowadays, things seem to have changed and it is not a mere coincidence that Robert Putnam, one of the founding fathers[3], has published a book under the discouraging title "The Decline of Social Capital".

He may have seen too many people bowling alone[4] or playing chess at home with their computers. But it is true that trade unions, political parties and other social organizations are losing militancy all around the world. On the other hand, new information and communication

* Special thanks are given to Paula Rodríguez Modroño for her help in developing the Social Capital Indicators proposed in this text.

1 See Putnam, Robert; Leonardi, R. and R. Nanetti (1993).

2 See Grootaert, C. (1996).

3 The other founder fathers are considered to be Bourdieu (1986) and Coleman (1988).

4 Expression used by Putnam, R. (1995).

technologies are connecting people. Anyway, it is too soon to know the final balance of these forces with respect to the creation and destruction of social capital. What is true is that we do not know enough about the nature, functions, types, methods of measurement and types of impacts of social capital on economic development.

But we are learning very rapidly, probably because we are working hard. As a matter of fact, over 3.000 thousand articles on the topic have been published in the last six years. Nevertheless, we have to admit that we are at the beginnings. We even have some problems accepting a single label and we refer to social capital in too many ways. I will use this expression[5] for the remainder of this discussion, but with the conviction that concepts are more important than words and the awareness that we are dealing with a very relevant matter. Why?. Why do I believe that it is so important to study the role of social capital in any process of economic development and, particularly, in promoting competitiveness in less favoured regions? Let me present the chain of reasoning of my *rationale*:

1. The traditional economic theory of development (or growth) does not offer a satisfactory explanation of the process of economic development. Its separation from reality is too big.
2. The main epistemological reason is the inadequateness of the prevailing scientific paradigm: the *mechanistic-Cartesian* one. It is too limited to face the complexity of the real world and too obsessed with the search of master formulas, disregarding non "arithmomorfic" parts or reality (even if they are relevant), as well as the specificities of each particular case (such as economic culture, among others).
3. Lessons of experience teach us that there is not a one single determinant factor of economic development, not even a single combination of factors, rather there are a great deal of possible combinations.
4. The *ad-hoc* combination of factors is dependent on the specificities of each real case, and mainly on:
   a) The level of economic and social development already attained (particularly the economic culture and social capital). That is to say: *what you are.*
   b) the extent of economic connections with the outside world. That is to say: *where you are.*
5. In all cases a key factor is the ability of a society to self-organize and valorize their resources, regardless their nature, and to build the appropriate institutional framework.
6. Consequently we have to move to a different paradigm much more open, systemic, wide, multicausal and flexible. And the first actions to be faced are:
7. To understand properly what social capital is, to apprehend its nature, to define it, to identify its different types and forms, to analyse its shortcomings and possibilities and, above all, to uncover its role in economic development processes and, particularly, the way it helps innovation and increase competitiveness in global markets.
8. To measure social capital using quantitative techniques as well as qualitative ones, under the assumption that to evaluate is much better than to simply measure.
9. To select the appropriate type of social capital needed in each particular case.
10. To promote its creation or development by means of a sort of public-private complicity.

It is hard to say which of these tasks is more difficult than the others (fortunately the last one is not a social scientist's responsibility).

To start with, we should state that most authors accept that the three main features of social capital are present in a working definition such as: *a system of social relationships based on trust and working according to well-known rules.* Is this the social capital we are looking for

[5] The first author that used this term was Lyda Judson Hanifan (1916) and did not appear again until the fifties with some urban sociologists (Seely, Sim and Loosley, 1956); in the sixties with Homans (1961) and Jacobs (1961); and the economist Loury (1977) in the seventies.

as a relevant factor for economic development?. I am afraid it is not. We need something else. Something that is, and has been, really decisive in any process of economic development, because if we understand social capital in such a broad sense, we could find that all social groups, from the Roman Empire to the Ku Kux Klan, have or have had some social capital, regardless of their level of economic development (which understanding and attainment of is our main goal).

As a matter of fact, our concern with establishing which factors are determinants of economic development is as old as Economic Science itself. It is not just a coincidence that the full title of the seminal work by Adam Smith was "An enquiry into the nature and causes of the wealth of nations" or in other words, of the economic development of nations. A great deal of our time has been spent studying economic development, but we still find it quite difficult to explain why this process starts in certain areas, at certain times, continues at different rates and reaches different levels, faces different obstacles and produces results that are extremely variable from one country, region or sector of the population to another.

As one might expect in the course of history, many theories explaining the process have been advanced, from precious metals or a whole range of natural resources—including weather or geostrategical location—to population size or size of territory, i.e.: the size of a country's market, not forgetting its openness to the rest of the world or, alternatively, its isolation. More recently, attention has been turned to entrepreneurship and other practical aspects such as: the development of business partnerships, the promotion of industry clusters and networks or the existence of an innovative environment.

However, for the past few years, the focus has narrowed down to information and knowledge. Thus, the list of causes has grown steadily over the years, so long in fact that is has ceased to be of any practical use most of the time: there are just too many factors that seem to require attention and action. Then again, this is logical enough, since in actual fact everything is, in some way, related to economic development.

Neo-classical economists, with their proverbial need of measuring, weighting, quantifying and modelling everything, tended to oversimplify the problem. They almost supposed that if something could not be easily measured in quantitative terms, it was not relevant. They disregarded anything that was not quantifiable and assumed, into the bargain, that economic development could be roughly equated to output growth (which is rather more measurable). They also assumed that the development equation could simply be extrapolated from the production function, in other words, from a function with only three relevant variables: land, labour and capital (or, even more simplistically, two: capital and labour). They then established mechanistic cause-and-effect relationships between the quantities of such three, or two, variables and the quantity of end product produced, considered itself as a dependent variable. Too nice and easy to be true, but that is the way it was and somehow the way it still is. Any other potential factors were treated as remaining constant, lumped together under the time-honoured "*ceteris paribus*" clause, or the equally elegant one "*rebus sic stantibus*", and were considered exogenous (this was even done, until the late sixties, with technological change) or were simply filed under the somewhat ignominious heading: "residuals". All this is quite sad because it is not just an academic question. It is an academic issue but one that affects lives of human beings.

In fact, the most important distinction in the Social Sciences is not the distinction between quantifiable and non-quantifiable, but between relevant and irrelevant (additionally, in the last analysis, everything that exists is quantifiable). I do not want to be misunderstood; I am not proposing that we "measure less", I am proposing "to measure more". I am just proposing to measure, insofar as we can, what really matters.

Fortunately, today no one in the economic development field thinks that the only thing that counts is the quantity of factors of production available. Quality, accessibility, space and time also

matter as well as the way in which they can be used and combined, the institutions that shape the context in which resources are combined, and the culture. The economic culture, I insist. At any rate, despite widely divergent geographical, historical, institutional and cultural realities, some elements appear to be common to any economic development process:

KEY FACTORS OF ECONOMIC DEVELOPMENT

Despite the great variety of historical, cultural, geostrategic, etc., circumstances, some elements seem to be always present:

5 *CENTRAL ELEMENTS*

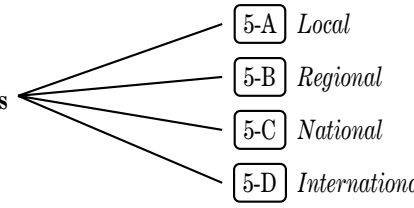
1. Natural resources,
2. Labour (labour force and entrepreneurs) and
3. Capital (physical capital, financial capital, etc)

get together

a) *in the Economic Units of Production with a given*

4. Technological level

b) *within the context of an specific*



Let me hasten to declare that this diagram does not add anything new, nor does it solve our problem, it simply attempts to organise the information that is already available. It is a very academic diagram... but it may suggest something. It suggests that, instead of ruling one or another factor out of the equation of economic development, it may make more sense to use a mix of all the factors, varying the combinations according to the relative importance of each or the exact weight to be given to each in the light of the objective, subjective, institutional, geostrategic and cultural characteristics of each specific economic area, region, etc. That is to say, in the light of what the reality is and where it is. That, however, would force us to stop using models and equations as universally applicable master formulas, whose scientific nature places them above any ideology. Apart from the implications that this would have for policy considerations, the absence of a single development model could have all sorts of important repercussions. For instance, it would mean that for certain economic areas (cities, regions and even more countries) the development process might not be as dependent on the quantity (and quality) of the conventional production resources, as on their own ability for economic development.

Of course, it is important to have raw materials, energy and plentiful labour (depending on the circumstances, the latter, in particular, can become a drawback instead of an advantage). It is important to have infrastructures (here again the type of infrastructure matters, because transport and communications infrastructure is not the same as telecommunications infrastructure. Infrastructure is not the same as infostructure). Even the availability of financial capital may not be enough (think of the oil-producing countries of Middle East).

Learning to develop may be much more important than having the resources to do so. Of course, every case is unique, but when a certain level of development has already been reached and connections with the international market established, some features of economic culture become crucial in such a way that economic development may depend basically on the social aptitude to self-organize and to create value for endogenous resources regardless their nature, to acquire information (technological, commercial, managerial, etc.) and to use knowledge. It may depend on the ability for economic management (private or public) and for building the proper financial architecture (take for example the case of the countries that received financial aid under the Plan Marshall, after the Second World War) and on the attitude to face innovation, to act and to assume business risks. The existing institutional framework and the capacity to design, implement and evaluate economic policy as well as the existence of rules of behaviour based on trust, and aimed at the establishment of social and economic commitments that can be sanctioned, both positively and negatively, are also critically important. For all this, once again, we need to count on a system of social relations based on reciprocal trust and ruled by well-known norms. That is to say, we need Social Capital. And, more precisely, for economic development purposes, what we need is Economic development-oriented social capital, labelled as civic, synergetic, community, relational, intangible, tacit, local, joint, networked, etc. and considered as quantitative and qualitative sum of individual human capital, that is[6],

THE CAPACITY OF A GIVEN SOCIAL GROUP TO

1)

ACQUIRE	**INFORMATION**
Generate	Technical
Purchase	Energy-related
Lease	Organisational
Transfer	Commercial
Plagiarise, etc. (!)	Financial, etc.

2)

INCORPORATE THAT INFORMATION INTO ITS OWN ECONOMIC PROCESSES
Design, production, distribution, post-distribution, redesign processes

and

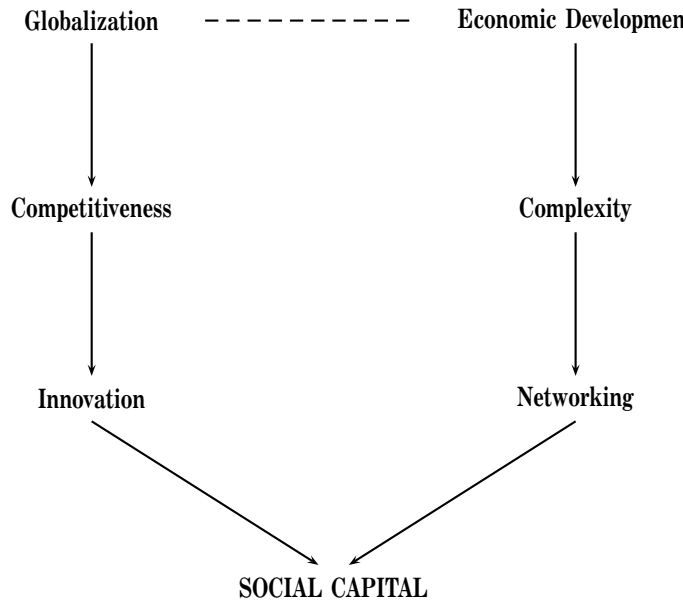
2)

MANAGE THOSE PROCESSES

which means transforming information into knowledge and knowledge into action.

This is unavoidable when the economy gets more and more complex and when the need to be more and more competitive must be met:

[6] Román, Carlos (ed.) (2001).



The next question is: is any type of social capital adequate for our economic purposes?. Well, the social capital we are referring to may be formal or informal, but must be open, not closed, and concave, not convex. It may be bonding, but it has got to be necessarily bridging[7]. It has to be strong, not weak, and it has to be basically local, although possible global connections may be established. And at least three main requirements must be met:

1) Economic agents must interact in accordance to an established code of conduct, whose primary objective is cooperation in the common interest and whose rules may be explicit or implicit, but are consensual and well known.

2) The principle on which norms of behaviour are based is trust (*vertravenprinzip*), by virtue of which individual action in the present can be expected to produce a collective result in the future.

3) There must be a public-private institutional structure that facilitates and encourages joint action, provides adequate tools for each operation and applies rewards and sanctions.

These three elements give us a workable enough concept of Social Capital to be able to see how it manifests in terms of socio-economic behaviour that can be empirically observed.

It is clear that the goal of cooperation among economic agents, firms, etc. is mutual benefit (specific or unspecific, short term or long term) and is, therefore, based on self-interest. It is not ethical but practical: one thing is done so that another will happen. For this very reason, trust is an indispensable requirement, since an actor does something in the hope of obtaining something in exchange. We are facing conditional and reciprocal trust that may be bilateral (I will, if you will) or multilateral (I will, if we will). This type of trust is also transitive: if some agents trust other agents who, in turn, trust still other agents, the latter also have the trust of the first agents.

The norms that govern behaviour are very diverse in nature, scope and form. In some cases, they operate as general trading principles and in others as specific detailed rules that amount to a virtual code of conduct. Norms and rules may be explicit or implicit, written or unwritten and with or without legal force, but they are pre-established, known and have a broad consensus.

[7] For an explanation of these dimensions of social capital see, for example, Granovetter (1995) or Woolcock and Narayan (2000).

That's why rule-breakers face penalties, whether they are legal, economic or social. Of course, free riders may exist, but they are anomalous.

As regards the third requirement—the existence of an institutional structure that facilitates joint action and provides adequate tools—available experience provides more than ample evidence that horizontal networks work better than vertical hierarchies. Perhaps, this is an issue that take us beyond just a strategy for building Social Capital and into the arena of the political organisation of society (capitalism versus feudalism, democracy versus dictatorship, etc.), but for our immediate purposes there is no doubt whatsoever that the more evenly power is distributed, the easier consensual participation in decision-making becomes. Information flows more smoothly between peers, trust is easier between like-minded agents, cooperation encounters less opposition among people who share common interests and connection is much easier to achieve when needs are similar. We could say that homogeneity and compatibility go hand in hand. Once again, the economic structure and the institutional superstructure have to be coherent.

How to measure social capital

And now let us face the problem of how much social capital are we talking about. As expected, in the traditional scientific literature it is difficult enough to find a properly developed theoretical base, conceptual framework or comparative methods that can be used to define social capital, let alone to quantify it[8]. But the peculiar and "*sui generis*" essence of social capital does not allow us to postpone its measurement and evaluation. Its intangibility, its collective nature or its inalienability does not pose bigger problems, just different ones. Provided that we use the adequate epistemological approach and the right units of measure.

First of all, we should accept that when we measure social capital, each piece of data in isolation means nothing, just as each little piece of oil on the canvas of an impressionist painting has no significance. But if we take all of the pieces together, from a certain distance, the whole reveals all its beauty and, in our case, all its meaning.

Information technologies currently allow the processing of great amounts of quantitative data, up to a volume that was unthinkable just eight or ten years ago. On the other hand, it is not enough to identify measurement with plain and sheer quantification. In other words[9], in addition to the quantitative analysis of the greatest possible amount of real conditions, we have to undertake its qualitative analysis by means of techniques whose final result may have less mathematical

[8] Social scientistsï reluctance to deal with a subject so far removed form the classical and neo-classical traditions is, in a certain way, understandable. Indeed, social capital is, by definition, a collectively owned community asset and for this very reason sits uneasily with the principle of individualism, which to a large extent dominates scientific, and therefore, economic thinking.

In addition, something that is part of our reality, but is intangible, immaterial, difficult to measure and extremely complex in terms of defining all the causal links it entails, is an excellent candidate to be designated by some letter of the Greek alphabet and added to the conventional researcher's "things-to-do" list.

What is more, it is an asset that is in such a class of its own that, as well as being collectively owned and impossible to ascribe to the individual, it is inalienable, and it has a value, but not a price, because there is no market for it.

Furthermore, social capital, viewed as an economic resource and a factor of production, violates one of the fundamental pillars of marginalistic thinking: the law diminishing returns, because the more use is made of it, the greater a) its availability, b) its returns and productivity and, what is more astonishing, c) the multi-factor productivity, i.e., the productivity of the factors of production that combine around it. In addition to all these facts, we should consider some other strictly political explanations.

[9] "*Methodological diversity is both a strength and a challenge of research of social capital. The analysis cannot be conducted strictly within the economic paradigm using quantitative methods. Nor can it be investigated solely through anthropological or sociological case studies*" (Christiaan Grootaert and Thierry van Bastelaer, 2000).

exactitude, but this does not mean at all that they are less precise[10]. We should pay less attention to quantification itself than to the reality we want to quantify. The focus of the needed change lies here in overcoming insufficiencies of conventional instruments not by the replacement of the old toolbox, but by its extension and updating (i.e.: econometric models cannot be replaced, but it should be clear that they will help to understand only some part of reality). To say it more firmly, the analysis instruments of the neo-classic approach are absolutely irreplaceable and absolutely insufficient. The evaluation of social capital requires the use of:

A) Direct observation, content analysis, SWOT, Delphi, Surveys, Enquiries, In-depth interviews, Logic frameworks, Case Studies, Expert Panels, Simulations/Testings, Focus groups, etc.

B) in addition to the specifically tailored Social Capital indicators we are proposing *infra*.

The pertinent data should be

1. Arranged in the following four blocks:
   - — Associational activity indicators (general and of businesses)
   - — Trust (interpersonal and generalized)
   - — Rules and institutions (private and public)
   - — Actual results
2. Combined to create a composite indicator that gathers monotony, unity, homogeneity, transitivity as well as time and space comparability and
3. Weighted, contextualized and connected with economic development process (innovation, production, income, employment, cohesion, etc.).

Economic development-oriented social capital indicators

1. Associational Activity indicators

1.1.- General associations

- Number of associations by purpose (political, cultural, arts, sports, religious, neighbourhood, social welfare, etc.), legal form and type of members (young people, elderly people, race, etc.)
- Number of members in these associations (by type of association)
- Number of hours of involvement per person per year in social activities (family, working meetings, informal meetings, meetings with friends, etc.)
- Number of hours of involvement per person per year in solidarity, volunteer and cooperative initiatives
- Number of volunteer actions by type (economic and non economic)
- Composite indicators of social mobility and social polarisation

1.2.- Associational activity of businesses

- Number of associations by type (business, professional, unions, etc.)
- Number of co-operatives (and number of members)
- Number of members of associations (by type)
- Number of members of associations by duration of members (temporary/permanent)
- Average duration of associations (Time scale)
- Average number of associations to which companies are affiliated
- Average number of formal and informal collaborators of a company by type of collaborator (other companies, education centres, R&D&DT centres, business asso-

[10] Additionally, we cannot forget that a great part of all quantification we use is merely conventional, the quality of available statistics is often very low, etc.

ciations, public administrations, NGOs) and by geographical area of the collaborator (local, regional, national or international)
- Frequency of contacts with main collaborators of companies (Scale from daily till less than once in a year)
- Degree of importance of different reasons for collaborating (access to information, access to resources and services, access to qualified personnel, institutional presence, improvement of financial capacity) (Scale from unimportant to very important)
- Degree of satisfaction with collaborators (other companies, education centres, R&D&DT centres, business associations, public administrations, NGOs) and by geographical area of the collaborator (local, regional, national or international) (Scale from unsatisfied to very satisfied)
- Level of importance of different obstacles to collaborate (time costs, expenditures, cultural reasons, language, distrust, lack of experience in collaborating, problems in profit-sharing, ignorance of potential benefits from collaborating) (Scale from unimportant to very important)
- Frequency of collaborations with other companies for solving problems affecting the local business sector (Scale from never to very often)

2. Trust

2.1.- General Trust
- General level of trust in society (Scale from distrust to high trust)
- Level of trust in relatives and friends (Scale from distrust to high trust)
- Number or court cases
- Number of offences by type (against public and private properties, order, ecological, contraband, tax fraud, etc.)
- Number of minor reporting for noise, waste, double-parking, etc.
- Number of mutual aid or solidarity initiatives
- Level of free-riding (Scale from none to very high)

2.2.- Trust in the economic system
- Level of trust in external collaborators (Scale from distrust to high trust)
- Level of trust in employees (Scale from distrust to high trust)
- Level of trust in business partners (Scale from distrust to high trust)
- Level of trust in trade unions (Scale from distrust to high trust)
- Level of trust in business associations (Scale from distrust to high trust)
- Level of trust in the financial system (Scale from distrust to high trust)
- Number of legal claims on economic grounds
- Level of community assessment of the business sector (Scale from negatively judged to positively judged)

2.3.- Trust in government and public institutions
- Level of trust in government (local, regional and national) (Scale from distrust to high trust)
- Number of reported bribery offences and number of known bribery offences
- Number of crimes committed by government employees by type: corruption, misuse, embezzlement, fraud, favouritism, etc.
- Volume of commissions to government employees
- Number of disputes with the public administration
- Political involvement of citizens (voting rate, number of meetings and political action, number of letters to the Ombudsman and political representatives)

3. Rules and Institutions

3.1.- Formal and informal rules in the economic system

- Availability of working protocols (formal and tacit)
- Importance of different styles of dealing with internal conflicts in companies (democratic vs. authoritarian) (Scale from unimportant to very important)
- Importance of different modes of interaction with collaborators (working sessions; attendance of congresses, courses and trade shows; tele-based contacts; ICT contacts) (Scale from unimportant to very important)
- Level of informal norms for civic engagement and reciprocity, classification and strength of instilled values (Scale from none to very strong)
- Level of condemnation of opportunistic behaviours in the business sector (Scale from never to always condemned)
- Level of fair competition in the market (Scale from unfair to highly fair)
- Type of sanctions for failing to observe the established norms (Scale from none to very strong)

3.2.- Public rules and efficient institutions

- Level of assessment of the efficiency of public administrations (local, regional, national) in:
  - — solving conflicts
  - — providing relevant information for the economic activity of businesses
  - — providing services to the private sector
  - — establishing rounds of talks with the private sector for the design of economic policies

  (Scale from inefficient to highly efficient)
- Level of assessment of the efficiency of education centres (local, regional, national) in:
  - — providing relevant information for the economic activity of businesses
  - — providing services to the private sector
  - — establishing rounds of talks with the private sector for the design of courses

  (Scale from inefficient to highly efficient)
- Level of assessment of the efficiency of R&D&DT centres (local, regional, national) in:
  - — providing relevant information for the economic activity of businesses
  - — providing services to the private sector
  - — establishing rounds of talks with the private sector for the design of research areas

  (Scale from inefficient to highly efficient)
- Level of assessment of the efficiency of business associations in:
  - — solving conflicts
  - — providing relevant information for the economic activity of members
  - — providing services to members

  (Scale from inefficient to highly efficient)
- Level of assessment of the efficiency of trade unions in:
  - — negotiating with businesses and public administrations
  - — establishing round of talks with the private sector and the public sector for the design of strategies in areas such as workers education and training, working conditions, etc.

  (Scale from inefficient to highly efficient)

- Administrative efficiency index (average time on administrative formalities and average transaction costs)
- Level of expectation as regards protection of property rights, risk of expropriation and nationalisation and risk of contracts being cancelled by government (Scale from never to always)
- Level of political and social stability (number of changes in the executive during the term of the legislature, terrorist activity, political assassination, revolution, coups, union or labour disputes, etc.)
- Composite indicator of strength of democratic institutions (independence of judiciary, etc.)
- Indicator of judiciary's ability to enforce contracts (Scale from none to very high)

4. Results

4.1.- Transfer of information and knowledge

- Frequency of companies exchanging valuable information with their collaborators (Scale from never to very often)
- Degree of importance of business collaborations for acquiring information (Scale from unimportant to very important)
- Degree of importance of social relations for acquiring information (Scale from unimportant to very important)
- Degree of importance of being affiliated to business associations for acquiring information (Scale from unimportant to very important)
- Degree of importance of the transfer of information with collaborators for the overall performance of companies (Scale from unimportant to very important)

4.2.- Innovation

- Number of new products or services introduced as a result of collaborations
- Number of changes in the products or services as a result of collaborations
- Number of new production or management processes introduced as a result of collaborations
- Number of changes in the production or management processes as a result of collaborations
- Degree of importance of collaborations for innovating (Scale from unimportant to very important)
- Degree of importance of collaborations for being able to expand sales to new markets (Scale from unimportant to very important)

4.3.- Actual economic actions

- Number of contractual co-operation arrangements among companies (e.g. joint venture agreements, strategic alliances, cooperative ventures, etc.) by type of collaborator (other companies, education centres, R&D&DT centres, business associations, public administrations, NGOs) and by geographical area of the collaborator (local, regional, national or international)
- Number of joint activities in collaboration with other businesses or institutions by type of collaborator (other companies, education centres, R&D&DT centres, business associations, public administrations, NGOs) and by geographical area of the collaborator (local, regional, national or international)
- Degree of importance of collaborations for being able to develop new lines of activity (Scale from unimportant to very important)
- Degree of importance of collaborations for improving the overall performance of companies (Scale from unimportant to very important)

- Degree of importance of formal business/professional networks for improving the overall performance of companies (Scale from unimportant to very important)
- Degree of importance of formal social networks for improving the overall performance of companies (Scale from unimportant to very important)
- Degree of importance of informal social networks for improving the overall performance of companies (Scale from unimportant to very important)
- Type of effect of co-operating in the overall performance of the collaborators (Scale from negative effect to positive effect)

Summary and Conclusions

In addition to the "uncomfortable" nature of Social Capital it happens to be difficult to build, easy to destroy and very difficult to rebuild. Nevertheless the above mentioned public-private complicity must result in the creation of linkage structures[11], direct and indirect actions, stimulus and sanctions, removal of obstacles and, above all, the participation of economic agents in the design, monitoring, evaluation and feedback of economic policies and programmes.

Contrary to the principles of conventional economic thinking, there is no single economic development model that is applicable at all times or places. There are multiple development strategies and each of them involves specific combinations of different tactics.

The choice of an ad-hoc strategy (meaning the most compatible one with the objective, subjective and institutional characteristics of the particular area) is conditioned mostly, but not exclusively, by two factors. One internal: the development level achieved (*what it is*) and another external: the level of connection with the environment (*where it is*) for areas with average development levels and high integration levels:

a) The increasing complexity and diversity of the economy render it necessary to improve the internal articulation of the economic fabric.

b) Competitive insertion becomes a key objective that demands an on-going innovative tension.

To both purposes the availability of social capital becomes crucial. The latter is considered as:

"The ability of a society to organise itself, of its ability to acquire information (technological, organisational, commercial, etc.), use its knowledge to incorporate this information into its economic processes and manage such processes".

The provision of social capital must be accomplished in an atmosphere of public-private collaboration in order to ensure its suitability and appropriateness.

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[11] By means of different types of research institutes, laboratories, observatories, development agencies, technological exchange centres, business clubs, chambers, forums, foundations as well as firms networks, clusters, partnerships, joint ventures and the like.

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REGIONAL PRODUCTION AND REPRODUCTION: THE SOCIAL REGION

Introduction: regions in the global economy[1]

The purpose of this paper is to use an eclectic synthesis of the 'theory of capitals' (Bourdieu, 1977; Ekins, 1992; O'Hara, 1997, 1998; Moulaert and Nussbaumer, 2004) as the basis for an analysis of the reproduction of the Social Region, i.e. a model of regional development following a community-based logic of social innovation, solidarity and participatory creativity. But before addressing this analysis, we would like to briefly dwell on the place of regions in the global economy and on some basic issues in the theory of capital and its reproduction.

The starting point is that regions in the Western world have gone through a cycle of development and restructuring that has made them very vulnerable to globalization dynamics and that, therefore, their reproduction tends to become driven by these globalization dynamics. This means that competitiveness and the factors guaranteeing it have become the lead criteria in regional socio-economic development and regional policy. The latter is quite visible in regional development policy based on so-called Territorial Innovation Models (Moulaert and Sekia, 2004) that orient regional institutional organization and innovation strategies exclusively towards market economic efficiency.

Regions in the global economy: pressures and opportunities

The purpose of this section is certainly not to provide an overview of the literature on the various dimensions of the globalization dynamics and how these interact with urban and regional development. Still, features of a globalizing economy and society are generally recognized as: (i) a global political, monetary, financial and commercial order of which the UN, NATO, WTO, World Bank, IMF, G8, GATS are some of the most influential organizations, with lesser roles to play for national regulatory institutions; (ii) a strategically predominant role of private corporate players such as Transnational Corporations and Banks, private lobbies and think-thanks who set the tone and mainstream practice of global capitalist investment within an increasingly free-market economy. At the ideological level globalization is supported and inspired by market fundamentalism

[1] A more extensive version of this paper will be published as Moulaert and Nussbaumer (2005).

arguing that only free market competition within a global economic space can lead the world toward a more prosperous future.

But there is much less consensus on the uniqueness of these features with respect to previous stages of internationalization in capitalist development (Hirst and Thompson, 1996); nor is there agreement on how the interdependency between major players in economy and society on the one hand, and globalization as a process on the other hand should be analysed. Agents with a 'globalization' agenda should certainly be included in the cohorts of major players to be analysed as part of the agency of contemporary socio-economic development; but other agendas serving other major players with a more local or regional focus, or following a different ontology than that of capitalist market competition and economic excellence, are only exceptionally analysed as to their impact on the 'course of the world' which may be more significant than is generally accepted. In fact the ideological impact of 'market fundamentalism' (Mouzelis 1997) makes discussions about other ways of organization and communication between socio-economic players politically incorrect.

In any case, in mainstream policy debates, whenever the questions 'How to cope with globalization?' or 'Is there an alternative for globalization?' are asked, standpoints seem to float between 'globalization determinism' and 'complementary strategies'. Globalization determinism takes globalization and its criteria of functioning for granted: no major new initiatives are possible and no capital can be mobilized unless norms for productivity, competitiveness and efficient organization are respected. Following 'globalization determinism' smaller initiatives remain only possible within the folds of the global machine: local development initiatives, cultural projects, community support systems,... Strategic complements refer to strategies that manage to allocate the surpluses of a well-functioning economy 'to do other major things', like maintaining a high-level social protection and education system, the funding of various third sector activities, etc. (Moulaert and Ailenei, 2005).

Voluntarist 'third positions' are only marginally part of this debate: weak are the voices that make a plea in favour of a social logic to regional development, as is for example done in the Social Region. The latter is based on a completely different ontology, i.e. a community-based ontology which does not abandon efficiency and competitiveness but integrates it with other norms of social reproduction such as cultural development for its own sake, various forms of creative activity, satisfaction of all basic human needs—and not only those needs that fit the terms of market exchange—solidarity and reciprocity.

Most regions with a strong regional economic policy build their strategic development agency (such as leading entrepreneurial initiatives, innovation and investment policy) on those assets needed to win the competition battle—institutions, networks, educational systems, policy-making systems are all moulded according to the requirements of a competitive region, as expressed in the various Territorial Innovation Models and the New Regionalism in economic policy—for critical surveys see Moulaert and Sekia (2003) and Lagendijk (1997). This policy approach to regional development agency is defended in line with the globalization determinism spelled out above. Unfortunately, the arguments put forward to defend such an approach are short-sighted, among others because the loss of precious assets for regional development is not taken into account. Among these losses we reckon:

—The loss of historical memory. The pursuit an improved competitive position often includes a contemporary perspective on socio-economic assets and their development. Policy and strategy lessons learned from history are lost too easily.

—The loss of lessons from 'old' practice and tacit knowledge. Particular types of economic, artisan, technical, institutional knowledge and practice are delved in under the mountain of the New Global Economy. Precious human capital is left idle.

—The loss of 'economic diversity'—at least in 'imagineering the new economy'. The 'new' activities based on high tech, new business services, advanced human capital and organizational models is presented as 'the economy'. No attention is given to the 'older' activities or the new small-scale initiatives that still represent the majority of jobs in most countries.

—The 'end of solidarity' feeds in with the predominant liberal ideology, which puts individual development and aspiration following market-economic criteria high up in the hierarchy of 'social ethics'. This leads to the rebuking of solidarity and the communitarian logic, which are not only essential for sustainable societal development, but also for economic progress.

Our Social Region perspective, explained in section 3, deals with the revalorization of these 'lost assets' by taking a broader societal perspective.

Regional production and reproduction: some concepts and dynamics

In our approach to regional production and reproduction we use several concepts from the literature a) on the reproduction of the capitalist economy, its institutions, its State (Jessop, 1990) and b) on the reproduction of the economy and society from a regulationist perspective (Boyer, 1986). But there are also links with social reproduction as used in sociology, such as the role of praxis in the reproduction of social relations and structural patterns, or the role of institutions and routines ('tacitly enacted practices') in reproducing familiar forms of social life as stressed by Giddens (Cohen, 1996) and the role of ideology and mental constructs in social reproduction (Elliott, 1996).

In this paper we analyse regional reproduction at a meso-level, i.e. by addressing the reproduction of the various forms of capital especially through their interdependency, but also by referring to the role of strategic agency—especially innovation in the various types of capital—ideologically supported by views of regional development (examples of views: market competition, pervasive technological innovation, e-region, regional solidarity, community-based development). But regional reproduction also involves the reproduction of the production system, in the understanding that production is not just a matter of production for the competitive market economy, but serves the production of goods and services following the ontology of community development with economic diversity as well (Gibson-Graham, 2003). We will develop this normative approach to reproduction in section 3 when we present the model of the social region.

A theory of capital and its reproduction

We consider the different types of capital as regional aggregates and/or social relations, but devote equally energetically attention to the role of various traditional and innovative strategic behaviours, and to significant differences between certain types of capital. For example: social capital is not homogeneous across a region, but belongs to particular groups, environments or networks of agents.

The production system is open ended and includes existing activities, but shows also openings toward new activities that are essential to the reproduction of the regional economy. The production system is therefore viewed as incorporating 'economic variety', resulting from strategies needed to satisfy a wide diversity of needs.

The regional reproduction system then is the ensemble of dynamics and strategies guaranteeing the reproduction of a regional society and economy. The major focus is on the reproduction of the various types of capitals and the relationships among them. The particular nature of

the reproduction system will depend on the view of development and the ontology on which development strategies are based.

The various types of capital

To introduce the variety of capitals, we prefer to go back to the roots of 'old' institutional economics, following an argument by O'Hara (1997) who extrapolates Veblen's analysis of collective wealth and to Ekins (1992) who relates the reproduction of capital especially to environmental issues. O'Hara:

"Capital or wealth, generally speaking, is the dynamic stock of durable structures, whatever those structures may be" (p. 3)

O'Hara distinguishes between 4 types of capital: ecological, social, human and private business capital. Although this classification deserves some criticism with regard to its structuring criteria (collective or individual, private versus public ownership relationships—see previous section—combined with organisational and ecological considerations), this typology represents well the tensions between the four domains of development essential to the future of humanity. It also lays the grounds for a discussion on the concept of innovation that is broader than the one embodied in '[private] business capital'. Table 1 provides definitions of each of these categories of capital.

The analysis of the interaction between the various types of capital also shows the artificiality of the borderlines between them. 'Social capital' in particular receives a very broad content and is susceptible to alternative interpretation (Bourdieu, 1977; cited by Healey 1997; Putnam, 1993; Defilippis, 2001; Moulaert and Ailenei, 2002).

For a theory of multiple capitals to be useful for the study of regional reproduction, the history of the locality, the power relations and the spatial scales must be included in the analysis of the interaction between types of capital: capital has a history, spatial scales, and is embedded in power relations including the tensions between public and private, and collective versus individual control. Path dependency includes the development trajectory of the regional and local systems in all their dimensions and spatial scales (Moulaert et al., 1994; Moulaert and Leontidou, 1995; Moulaert, 1996). In other words, the concept of capital is at the very beginning a social-relational concept implying historical forms of interaction.

The logic of interdependent reproduction

The subdivision among capitals suggests a number of interesting discussions about the synergies, destruction and substitution that are possible in the world of various types of capital. It is well known that innovation in private business capital has destroyed a large part of environmental capital. For numerous local communities physical destruction was the price to pay for the development of their business capital. Many local communities accepted this often far-reaching destruction because business capital brought or promised jobs and income. But often this local wealth effect was of medium duration and after a few decades environmental destruction was followed by the failure of business capital.

Less well known and analysed are the positive trade-offs between various types of capital at the local level: for example, regions with a qualitatively outstanding social capital, or/and a good ecological system that have a higher level of wellbeing than other regions with a much vaster business capital stock and higher level of income (cited by O'Hara, op. cit.).

Table 1

Interaction between various types of capital

Influence: From ⟶ to	ECOLOGICAL CAPITAL	SOCIAL (OR INSTITUTIONAL CAPITAL)	HUMAN CAPITAL	BUSINESS CAPITAL
ECOLOGICAL CAPITAL "the stock of all environmental and ecological resources. It is a dynamic stock involving the biosphere, the gene pool, plant and animal species, the weather, the cycles of nature and the physical environment" (P.3)	Reproduction of ecological Capital—Ecosystem	Environmental impact on human interaction patterns and norm systems	Improvement of quality of physical and natural environment—Health fostering creative human capital	'Green' capitalism—Ecological production and consumption systems
SOCIAL (OR INSTITUTIONAL CAPITAL. "comprises those norms, mores, relationships and organisational arrangements which help to bond people together. Some minimal degree of trust, respect, dignity and communication between people are necessary with this form of capital" (p.5)	Administration and norm development vis-à-vis Ecosystem	Social dynamics Building of norm systems	Learning and co-operation processes	Valorisation of social dynamics in economic activities
HUMAN CAPITAL is usually related to those skills and knowledge that are capable of general application, although 'firm specific' human capital and 'learning by doing' are of considerable importance.	Improved knowledge and skills to reproduce environment	Knowledge impact on institutional capability—Improved Institutional dynamics	Skills and knowledge growth	Valorisation of human capital business system
BUSINESS CAPITAL this category includes the creation of durable structures within importance* corporations, such as machinery, factories, tools warehouse, buildings, and inventories" (p.10)	Investment in eco-economics	Codifying of institutional capital to economic logic	Training of manpower for economic activities	Investment in machinery, factories, etc.

Source: Moulaert and Nussbaumer, 2004

* The author refers to Tomer (1998) who suggests that human capital, at least the part 'organisational learning' could be considered as belonging to organizational capital.

The capital needed for local development is necessarily multidimensional. An innovation strategy for a local or regional community is only partially a business (capital) innovation strategy. Other forms of capital need regeneration and innovation. And the ultimate synergy would be that business capital becomes instrumental to the development of collective wealth in the Veblen sense. To improve the typology, we would prefer to change the content of O'Hara's private business

capital to business capital tout court, reserving the qualifiers private and public to property relations or relations of control exerted by private, collective or public interest groups, including the State (public) or not (private). [2] This would allow us to theorise and design a broader role for business capital and its relations to other types of (collective) capital.

The role of reproducing ideology and mental frames

Table 1 has been designed as if each type of capital had (partly) an autonomous logic, which it can (partly) valorise in synergy with other types of capital. This is a positive logic: human capital can illuminate the knowledge about the environment and therefore contribute to an improved ecological capital etc. Of course, these 'improvements' can only receive a solid orientation if backed up by strong views on the direction which regional development should go. Norms and objectives must be defined. In the social view of territorial development, which we will develop as of section 3, the dynamics of the various forms of capital must be existentially orientated and the trade-offs between the orientations evaluated. For example, a local community can choose to invest less in large-scale urban regeneration projects, and spend more resources on neighbourhood actions including decent primary schools, social services and individual (social) housing.

Of course, norms and directions of territorial development cannot be defined in an institutional vacuum. In the 'exceptionally nice' situation they can be the outcome of constructive negotiations between stakeholders—as in institutional planning approaches (Healey, 1997); in other situations they may be the outcome of socio-political and socio-economic struggle in which ideology plays a major role..

The role of strategic behaviour

There are at least two reasons why a solid model of regional reproduction should account for leading agency and strategic behaviour. First, the reproduction of capitals partly happens because of these behavioural dynamics; and second, if the objective is to build a model for alternative territorial development, it is necessary to understand the nature of the relations between the various types of capital and strategic behaviours. In economics, strategic economic behaviour (e.g. the innovative economic agent, the entrepreneur, the learning agent etc.) has been analysed from various points of view and by different schools of thought (see e.g. Hodgson 1999). Still most of these approaches refer to—albeit different—logics of economic rationality. Other social sciences accept the role of rationality—behaviour inspired by principles of rational decision-making, but stress much more the impact of behaviour as determined by institutional rules, habitus,... In these approaches, the latter are also dependent on ideology and mental frames that fit with or react against hegemonic ideology.

What is a Social Region?

The model of the social region has been built by use theoretical tools presented earlier. On the side of the critique of the TIMs, it offers an alternative ontology, shifting from the traditional premises of market competition as the key to understand regional development to the community

[2] These distinctions are detailed in Moulaert and Nussbaumer, 2004.

as the human organisation in which development takes place (Moulaert and Nussbaumer, 2004). On the side of the theory of capitals, it offers a field of application where the interdependence of the various forms of capitals prioritises the institutional dynamics of establishing appropriate governance and relevant strategic behaviour all in the field of governance and the creation of new activities.

The ontology of the social versus market-economic region

The social region takes into account the multiple dimensions of existential life. First, it refuses an abusive distinction between the various spheres of social life. Second, it rejects the reduction of development to the dynamics of market competition and business capital flows, without underestimating their importance in the contemporary context. The social region is at first a social concept, where market relations are considered alongside other types of interaction, which are appraised as to their contribution to the wellbeing and the wealth of populations. Considering the region through its human appropriation requires a shift in ontological and therefore theoretical positioning: the basic feature that is at the core of the analysis is not the market economic activities that develop on a territory, but the regional and very local communities in which economic activities are embedded.

The local community is at the basis of an alternative analysis and model of the region. Community development, inspired by the tradition of alternative practices of development, considers the human groups that are defined through geographical, social and historical criteria. Community is then to be understood as an intellectual tool that enables to analyse the human processes by which development is made possible (Fisher, Sonn and Bishop 2002). Compared to market-economic analysis, it takes the opposite perspective. Market is not the sole arena where social relations can develop and create wealth; many forms of capital are to be taken into consideration and actually participate in wellbeing. Therefore, it is not possible to think development only as the increase in financial (business) capital, but as a general improvement of people's well being. The primary objective is not that local community should develop market relations, but that the market relations should participate in local wellbeing through the valorisation of the various forms of capital.

In particular, basic needs are of primary importance. Actually, in many deprived local areas, unemployment and poverty have excluded part of the population from the market, because the market does not provide commodities for which the profit rate is negligible. The efficiency of market relations for need satisfaction would certainly be greater in a more egalitarian society (Moulaert and Nussbaumer, 2004). Still, in the social region approach, it is argued that the needs revealing process and the elaboration of strategies for meeting them are part of the local development dynamics. The social relations and the activities generated by the attempt to improve local wellbeing are to be seen as an important feature of development. In this perspective, local institutions are at the core of the analysis, especially those meant for establishing alternative ways of producing and allocating basic goods and services.

First, in the social Region, deprived areas are not considered as "black holes" that remain "outside" economic development analysis. In the market-oriented approach, the strategy is to introduce and develop market relations, which often fails because of 'path dependency'. In the social region perspective, these areas need to develop innovative ways of satisfying local needs, through a mixture of institutions applying market and non-market mechanisms such as LETS, cooperatives, informal relations and mutual-support associations.

Second, by mobilising various forms of capital and not only business or commercial capital, the social region approach recognises that the preservation, reproduction and valorisation of social, human or environmental capital should become important fields of investment for the future of the region. This qualitative approach to local assets is relevant both because human lives cannot be reduced to economic conditions and because it shows how sustainable economic development relies on the quality of local space in social and environmental terms. The idea is not only to bring development factors and capital "from outside" the territory, through state redistribution process (although it remains essential) or massive business investment, but to develop the local forms of capital, enabling people to become strategic actors of development. In the social region, we do not expect wealth to come from beneficial social "side effects" of successful economic activities, which are often only limited in time. Instead the empowerment dimension (Friedman, 1992) of the social region intends to give local people the tools of their own emancipation (Hillier, Moulaert and Nussbaumer, 2004).

The 'Social region' then claims to be an integrated approach of development where the existential dimension of human and social life is combined with an opened view on development. Modes of interaction bypass the contours of the market by far. Especially the potentials of cooperation, association and solidarity are to be explored further, in the vein of economic anthropology (Polanyi, 1944; Swedberg, 1987; Mingione, 1991; Kropotkin, 1902). Reciprocity enables individuals to use and develop their own skills, and then valorise them through mutual exchange. Although no monetary exchange is needed, the competence used as well as the social links created improve conditions of living. For example, vocational training initiatives can be an outcome of the community empowerment process, thus opening opportunities for people to develop their competence that can also be valued in a later step on the labour market. Again, access to market is not the key for development, but one of the outcomes of the development process. As Hirschman (1964) was already arguing, the development process depends more on the combination of development factors than on the factors themselves (Nussbaumer, 2002). In this regard, any attempt to create social relations meant to improve community wellbeing should be considered as a development initiative.

The specificities of the interdependent reproduction of capitals

The theory of capitals explained earlier is useful to analyse their interdependence within the social region. In particular, as no logic of capital is prioritized—as is the case in the TIM for business capital—the non-business capitals which have seldom been studied from a territorial development perspective—deserve special attention. The valorization of the ecological or human capital cannot be appraised by way of the traditional financial measure of return on investment. Still, these capitals participate in the reproduction of local wealth. Investment in human capital is not only considered in its role for the reproduction of business capital, generating skills for firms, but also as to the reproduction or preservation of other types of capital. In other words, many forms of investment in various types of capital are to be taken into account. This idea is not new: Gunnar Myrdal (1978) was already considering social funds as investment in the future of a society (Nussbaumer, 2002).

Of course, actors who are active in specific spheres of agency do not have an embracing perspective on the social region. Investment decisions in the various forms of capitals cannot be made on an individual basis only. For example, the role of institutions as instance of emergence of the various needs is important. At the regional level, the governance capacity is a key element for the regional guidance of the production and valorisation of wealth. The reproduction of this

governance capacity as institutional capital needs human, institutional as well as business capital (Moulaert and Nussbaumer, 2004). In any case, the reproduction of all capitals is dependent on two key factors: the human and institutional capacities that are invested. Social links are at the heart of the capacity to create wealth. As shown by the literature on TIMs, they are important for economic activities.

The role of strategic behaviour and new activities

Considering the role of the various types of capital, the importance of investment for their reproduction, and the many interrelations between them, the capacity to develop the social region and to increase its wealth needs relevant strategies. As the investment in one type of capital (for instance business capital in an industrial site) can have destructive effects on other types of capital (environmental), good governance practices—which can also be considered as investment in institutional capital—must be evaluated in their capacity to balance the reproduction of the various capitals in the region.

According to this view, several initiatives of alternative development are of great value, as they seek to improve human and ecological capital through local mobilisation. Although they often do not generate significant financial flows, their impact on the quality of the environment or local know-how deserves more attention. In fact, in a long-term perspective, they reproduce the local assets that are of importance for the location of economic activities.

In this perspective, it should be mentioned that many alternative development initiatives participate in the creation of new activities, facing basic needs. Still, this embracing view on wealth creation needs arenas for its publicity. Thus the institutional dynamics is essential in its capacity to improve cooperation and dialogue between various interests and needs. It requires a specific governance approach based on strategic choices concerning the nature and purpose of private, public and collective investment. The existence and quality of the relations between economic (business) actors, public sector and the civil society are at the core of the development of the social region. Especially the integration of representatives from civil society (social movements, actors of development) in the political arena is important. The literature on social and solidarity economy has revealed the importance of the relations between the actors of social economy and political actors (Nussbaumer, 2002).

Also the interaction between the various spatial scales is essential for the efficiency of strategic governance. The social region does not merely mean a bottom-up approach, but also requires a higher density of interaction between institutional levels. In order to address basic needs, the local level is definitely appropriate for revealing them and to establish a wealth creation process itself (Nussbaumer, 2002). But local initiatives depend also on strategic choices that are made at the regional and national levels, especially the financial, institutional and environmental resources that are to be devoted to social, human or ecological investment.

The Social Region and its Innovation Dynamics

However, if social relations are at the core of the analysis, forms of interaction that are alternative to the market should be recognised. Therefore, the concept of social innovation, stressing innovation in social relations and institutional capital, is central to the social region approach. The "social region" itself, embedded in its wider spatial scales, is to be considered

as a framework for the human and collective appropriation of space. This means that social relations, and their regulation through norms, habits and institutions are central for the analysis of development (Moulaert 2000, Nussbaumer, 2002). Innovation should therefore not be reduced, either to its technological aspects that some narratives of innovation seem to foster, or to a result of the pressures of economic competition, as mainstream economic models tend to explain. Innovation is relevant when it answer to needs, whatever its form. Innovation in human relations is always necessary, even in the application of new technologies. But from the Social Region point of view innovation may primarily consist of new institutional settings, or a redefinition of allocation processes inherited from the past. In this sense, innovation does not consist of the destruction of existing bonds, but involves a renewed appropriation of these bonds for the satisfaction of community needs.

Views of Innovation and Innovation Policy in the Social Region

Reproducing capitals of the 4 types as well as their interdependencies requires a new view of innovation strategies in tune with the community-based logic of development.

Innovation is in the first place institutional and social: social choices and institutional processes are adapted as to better reveal basic needs and coach the processes that should satisfy them. Basic needs are to a certain extent context and community bound; needs revealing processes are therefore generic to institutional innovation in a community context, we saw before.

What then does this mean to the innovation of other types of capital? Several consequences to be developed in more detail in later research are relevant here:

—Not only the market logic of competition, but the broader logic of community development will lead the innovation processes for the various types of capital. And human capital also serves to govern, to assist, to be artistically creative, to coordinate social services, etc. in order to improve the social cohesion (institutional capital) of local and regional communities. Will human capital become humane again?

—The end of technological determinism. Not technological, but social-institutional norms will lead innovation processes.

—The revalorization of ecological capital. The reproduction of ecological capital is no longer considered as an inevitable constraint for the survival of society and economy, but as a fully-fledged component of communitarian development.

—The organization of the innovation process: here lies a real challenge for the future of society and its communities. A multi-logic, multi-agent but community-oriented view of innovation should be translated into visionary innovation systems at all spatial levels. There is a need here for new Utopia that will inspire new approaches to innovation strategies, networks and policies.

Obviously this multi-dimensional view of innovation also has consequences for innovation policy. Innovation policy should become diversified; high technology is only one pillar of it, and much more should be done to foster innovations in other types of capital as well as synergies between them. It should become socio-politically and socio-economically correct to invest in a socio-cultural education centre or a network of organic food workshops; investment in high technology should only be one norm among many others. Tenders for innovation actions should not only cover the design of new technologies or management structures but also innovations in public administration, neighbourhood management, social services, artistic practice, ecological lifestyles, etc. Higher education should follow this suggested new trend and also train 'innovators' for these different types of capital. Training of other types of new strategic agency should be

fostered as well: social communication specialists, public-private network managers, neighbourhood work animators, social economy managers and interfaces etc.

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Part II:

Social Capital, innovation networks, clusters and learning regions

MIKEL LANDABASO

THE REGIONAL ECONOMIC DEVELOPMENT RELEVANCE OF SOCIAL CAPITAL*

Introduction

There is a growing consensus on the importance of social capital in promoting regional competitiveness, even though the definition of the concept itself, not to speak about the way it should be measured or utilised in policy making is still subject to debate in academic and policymakers circles alike.

According to OECD (2001) social capital refers to "networks together with shared norms, values and understandings that facilitate co-operation within or among groups". In a recent World Bank study (Grootaert and van Bastelaer, 2002) social capital is defined as "institutions, relationships, attitudes and values that govern interactions among people and contribute to economic and social development".

In general four main features of social capital can be distinguished: (a) Social capital is a market-based social exercise based on trust, reciprocity, shared norms and institutions; (b) Social capital can provide a relational infrastructure for collective action which facilitates cooperation within and among groups as well as enlarges a capacity for networking leading to mutual benefits; (c) Social capital can improve collective processes of learning and constitutes a key element of knowledge creation, diffusion and transfer—all processes critical for innovation and regional competitiveness; (d) Finally, social capital cements value-based networks stimulating successful regional clusters as well as regional innovation strategies and policies. The issue is especially important for the less-favoured regions that have weak social capital and little understanding of how to tackle the science and technology challenge posed by the knowledge-based economy, yet face fundamental economic, technological and social change, as concluded in the "Ostuni Declaration".

From the regional development point of view, social capital can be seen as collective capacity of key socio-economic players in the region (e.g. individuals, companies, authorities, research centres, business support agencies, etc.) to form and effectively use networks or other forms of cooperation on the basis of shared interest, trust and reciprocity in order to enable and accelerate the process of regional learning and knowledge-based development. In this sense, some authors (Heitor, M. 2003) argue that national or regional learning depends on the existence of social capital, which

* The responsibility for the accuracy of the analysis and for the judgements expressed lies with the author alone; this document does not constitute a policy position of the EU Commission.

is defined by networks and institutions which govern the interactions among the nodes of the networks, be it people or organisations (firms, universities, local government, etc.).

It is nevertheless important to underline that in our view "shared interests" is an integral part of the definition of social capital, which is a notion that can help convey a more "economic" significance to this concept, over and above the "civicness" which has traditionally been attributed to it. Shared interest, including a consensus on how to achieve a shared vision of the regional economy for the future, is as powerful as "trust" in cementing cooperation arrangements among different institutional actors. Moreover, trust is often the natural consequence of understanding each others agenda where development is not understood as a zero sum game of contending parties.

Others (Román, C. 2003) think of it as the ability of a given social group to access information (from internal sources, by buying, renting, transfer or copy) and incorporate it into its own production processes (from design and production to distribution and re-engineering), including their capability of managing such processes, through cooperation and networking. That is the collective ability to transform information into knowledge (and invention in innovation) and knowledge into action for economic development.

Still another more metaphorical way to look at social capital, which would give us a flavour of its (micro) economic significance, would be to define it as the trust-based cooperation relationship that would systematically solve the "prisoner's dilemma" to its optimum collective result. That is, the answer to this (denunciation) dilemma would probably be different and less predictable in a context where self interest is purely driven by market forces in an abstract world of isolated and competing individuals than in a context where other considerations related to interdependence and collaboration are embedded in a social and institutional framework which nurtures cooperation through networks and socially penalizes the breach of confidence (a social ecology). This is probably the reason why the "blurred" concept of social capital has come more and more to the forefront of economic debate, not surprisingly in the development economics field in particular, as we move from a perfect competition world of neoclassical economics to an imperfect world of economic policy where history, institutions, culture and politics also matter.

In this sense, some authors claim (Asheim, B. 2003) that "in the (successful) Scandinavian development model, the socio-institutional framework had a primacy in relation to changes in the techno-economic paradigm, which means that the promotion of co-operation was the dynamic force for societal change in contrast to competition driven by technological development", which leads him to conclude that in the particular field of regional development and innovation "a broader understanding off the innovation process as a social, non-linear and interactive learning process means a change in the evaluation of the importance and the role played by socio-cultural and institutional structures in regional development".

The debate on the importance of social capital for regional economic development relates, as stated in the Ostuni declaration, to a widely recognised need to rethink traditional redistributive regional policies as regional development policies which focus on growth opportunities by exploiting untapped regional potential wherever it exists. The latter rely not only on investments in tangible infrastructures but more and more on intangibles that have to do with the valorisation of entrepreneurial culture and innovation promotion through the generation, diffusion and exploitation of knowledge in a particular regional context, among others. In this sense, some authors (Arboníes, A. 2003) advocate for a shift in policy focus "from content to process and from infrastructures to connections, social capital being an indicator of collaborative capacities in a region".

This responds to the Lisbon and Gothenburg Strategies by highlighting the importance of sustainable development based on economic, physical, environmental and social capital as key elements of the mutually complementary 'hard' and 'soft' regional infrastructure. In this sense,

some authors (Pezzini, M. 2003) consider social capital as important as financial capital in promoting economic growth and think of regional competitiveness as the result of an uneven distribution and capacity to valorise local collective goods, including inter-firm relations and the valorisation of natural and cultural resources. Others (Kuklinski, A., 2003) go as far as to state that "social capital is the main engine transforming weak into strong regions".

Initially social capital was present mostly in political and social science literature. Subsequently, it was incorporated into economic writing as so-called intangibles became considered a crucial factor for economic development, which led some authors (Cooke, P. 2002) to state that social capital is a key missing ingredient of economic development that can be built up through efforts of policy makers. Hence, social capital is considered an asset, just as other traditional forms of capital. It is attained through the processes of interaction and learning that take place in society. However, unlike other commodities, it cannot be traded or exchanged (Maskell 2000) and, we could add, is fragile and requires permanent renovation.

In the precise context of clusters, for example, it has been argued (Arzeni, S. 2002) that innovation is based on collaboration, proximity and networks and spurs through a process of mutual learning, emulation, positive role models and personal contacts. That is social capital in the form of trust, collaboration and social-civic exchange are key to cluster development and firms within clusters benefit from many elements associated with social capital: lower transaction costs due in some cases to personalised negotiations, fewer bureaucratic procedures, lower information costs stemming from local and personal information flows, better co-ordination because of direct contacts and often trust-based relations among economic agents. In this sense, it is argued that social capital in clusters leads you to the "know-who" that allows you to build the "know-how" (Rosenfeld, S. 2003). In a "geographically bounded concentration of interdependent firms" this knowledge holds the key to potential business opportunities. In view of all the above it would be interesting to further explore and understand to what extent and in which ways social capital does create/strengthen the systemic relationships that generate synergies and external economies within clusters which help promote innovation and regional development.

More generally, it is argued that social capital can help in the creation of an efficient regional innovation system which facilitates the generation, diffusion and economic exploitation of knowledge in the form of new or improved economic activities (products, processes and services) in a region. In this sense, social capital demonstrates far-reaching externalities for economic performance. Authors point to at least two significant positive consequences of social capital for firms or localities. First, it enhances and accelerates a process of exchange and creation of knowledge and innovation (e.g. Landry et al 2001:74, Maskell 2000). Second, it significantly reduces inter-firm transaction costs, such as search and information costs, bargaining and decision-making costs, contracting and control costs (Maskell 2000). Social capital can be seen therefore as one of the crucial factors for gaining competitive advantage by regions. Moreover, recent analysis which try to evaluate social capital in different countries and regions (Rousseau, J.M., 2003) through a proxy of "confidence indexes" tend to demonstrate that it is precisely the more advanced regions and countries which have the biggest amounts of this type of capital while less favoured regions rate badly, suggesting that the causality runs from weak social capital to less development potential.

Social Capital and regional policy options

If social capital is potentially so beneficial, then the immediate question that appears is: can social capital be generated or reinforced through public policies? If yes, what kind of public policies? Until now, evidence from research and pilot policy actions such as RIS (Regional

Innovation Strategies) suggests public policy can contribute to social capital building (Mouton, B. 2003). One of the unexpected conclusions of the evaluation of these projects was that their «policy» dimension contributed significantly to promote public and private partnerships and business networks, as well as improve the institutional capacity of regional administrations in charge of innovation.

Networking among regional stakeholders and establishing a joint regional agenda in the field of innovation through social capital building is one of the most visible results of the RIS/RIS+. All regions involved in the programme decided to support clusters and business networks in their actions plans as a result of the RIS/RIS+ exercise, as well as promoting collaboration and exploiting synergies among the different institutions and policies of their regional innovation systems. For example, in Wallonia, 5 pilot clusters led by firms in collaboration with research centres and sectoral association were developed under RIS. In Yorkshire & Humber, 15 sectoral business networks were all animated by entrepreneurs and directly integrated into the activities of the newly created regional development agency. In Northern EU (Finland and Sweden), cross-border business meetings among firms of the two countries took place in order to operationalise the 'multipolis' concept. In Tuscany they developed a cultural heritage cluster involving private firms, universities and R&D laboratories. Finally in Halle-Leipzig-Dessau, a public—private dialogue in the chemical sector developed into co-operation between big firms and regional SMEs and the establishment of a network of 50 firms in the plastic sector, preparing the creation of a Technological institute for polymers.

One key lesson stemming from the RIS/RIS+ and the European Regional Development Fund Innovative Actions experiences that followed is the importance of the role played by "neutral partners" and "regional champions" in building social capital through the creation and dynamization of networks and joint actions at the regional level.

Regarding "neutral" partners it is worth mentioning the critically important role played by the European Commission in providing not only funds but also, most importantly, legitimacy to a group of individuals (social innovators) committed to changing things, which operated outside the established institutional framework. The EU launched an strategic planning process based on the condition of the establishment of a dedicated public-private partnership through a bottom-up process which liberated latent regional energies in the form of new ideas and shared political and financial commitment to a common vision. Thus it provided a window of opportunity for regional stakeholders to collaborate and do things differently while preserving their independence from established institutional and political inertia.

In terms of social capital, it is important to note that knitting collaboration links among regional stakeholders is more easily done when incentives are proposed and an institutional framework provided in such a way that the first stages in particular in the building of the new networks and relationships are "protected", while trust among participants is established and strengthened. Many such "development" networks do build on trust and trust by its own nature requires time and personal contact. Providing a framework for both conditions to happen is therefore essential. Empirical research (Koschatzky, K. 2003) has demonstrated that "innovation networks require a certain awareness of the need for co-operation as well as trust and a lot of time".

The EU Commission was able to do that precisely because it was perceived as a neutral partner with no hidden agenda or vested interest in the region. That is an institution playing outside the power games of the region which was capable of offering at the same time a financial incentive, a methodology and some legitimacy to start building collective action around a shared regional vision. It is interesting and surprising to see in how many regions different regional stake holders met for the first time under this common umbrella, discovered how many interest in

common they shared and identified opportunities for joint action. In regions so diverse as Galicia, Weser-Ems or Yorkshire and the Humber many business and public R&TDI institutions which were directly related to a particular value chain of an important regional production activity met for the first time ever, got to know each other and decided to start collaborating in their own (enlightened) self-interest as well as indirectly for the general regional good. In short, giving an institutional impulse by an appropriate "neutral" partner which stimulates a social capital building process not for its own sake but as a prerequisite for attaining a particular economic objective (the promotion of regional innovation in this case) is critically important.

In terms of regional champions, the most successful strategies and innovation action plans that ensued had in common the leadership of a committed individual(s) that enjoyed the legitimacy and respect (trust) by a large number of regional stakeholders to take action and think outside the box, carrying behind many other actors. Many of those that followed these pioneers at the beginning did it mainly for two reasons: first, in case there was something in it for them (financial return) and two, to avoid the opportunity cost of not being there if the (new) "thing" did work. In a sense it was a self-discriminatory process which ended up identifying the most committed and capable innovators in many of these regions. Moreover they were able to work, thinking outside the box, protected by the institutional framework provided by the Commission for a number of years.

In terms of social capital this may mean that the nodes of the networks which are established are not all of the same level or have the same significance. Some are the initiators which are instrumental and catalytic with very many connections and capacities to link, while others are rather followers with a secondary importance. That is, there is a hierarchy of nodes and different quality of the trust relationship among the participants that has to be taken into account when trying to stimulate social capital building. Thus identifying those that are critical for further growth as central nodes around which a net can be knitted is one of the first tasks a social capital policy should undertake. In this sense the active participation of leading industrialist in regions such as Shannon, Belgium Limburg or Cantabria, as chairmen of the RIS management committee carried with them a number of business partners and institutions that otherwise would not have participated in the operation, or at the very least would have been reluctant to take an active stance. Trust on champions set the grounds for other more horizontal types of trust building among regional stakeholders, which so far did not know each other in many instances. It is interesting to note that RIS was a fully publicly funded operation and therefore those regional governments that took the stand of being an equal partner with the private sector by delegating the Chair to a leading industrialist in the region took a risk that paid in terms of legitimacy for attracting active participation from other regional stakeholders. In fact it is also interesting to point out that many of these industrialists come from multinational companies and engaged in this 'civic' task of leading a regional innovation strategy, which is difficult and time consuming, out of a sense of regional belonging and willingness to contribute to their region's well being through their professional management experience. None of these busy people was paid to do the job, of course.

Regarding regional leadership, it is interesting to note that some authors (Marinazzo, M. 2003) use a "regional enterprise" metaphor to claim that regional policies "should shift the analytical unit fro innovation from products and processes towards the capacity of a region to train, recognise and nurture leadership capable of leading a region and its processes of innovation change".

Currently, RIS+ strategic reflections throughout the Union show that the provision of a regional framework for inter-firm cooperation is of paramount importance for the promotion of innovation in SMEs in particular. Innovation flows through the formal and informal regional networks created through social capital building. These networks help translate knowledge (codified

or tacit) into economic opportunity, while at the same time build up the necessary bonds and linkages among persons and institutions so as to exploit the synergies that catalyse regional innovation.

Regarding regional institutional capacity building, RIS and RIS+ provided a new institutional framework for a more efficient use of public and private funds. The RIS and RIS+ have often contributed to a better institutional co-ordination of public financiers of innovation, in partnership with the private sector. In Wallonia a new decree for technological centres, detailing approval conditions for these centres, including a charter on prices for services they offer. In Overijssel, a new official convention was signed by the regional development agency, the regional government and the regional office of the national agency for innovation (Syntens) for the promotion of innovation. In the Canary Islands RIS+ public-private partnership prepared a "Quality charter" for technology transfer offices in universities. Weser-Ems has created a number of sectoral competence centres in strategic fields for the regional economy by combining public and private efforts and concerns in a number of sectors, including information and communication technologies as well as traditional ones such as agro-food, tourism, maritime industry, etc.

Empirical evidence shows that social capital building requires a shift from a traditional top-down approach towards a more open form of governance involving all relevant stakeholders. The fruits of such partnerships should reach all policy fields relevant for economic, scientific and social development (an integrated approach) and acknowledge the desirability of a long term action horizon (a strategic approach). Evidence points to the fact that specific indirect policy measures are most effective in social capital promotion.

An analysis of content of the nearly 100 European Regional Development Fund Innovative Actions proved that regions themselves have a particular interest in measures designed to support cooperation between SMEs (networking and clustering activities) as well as improving cooperation between regional R&D institutions, especially Universities, and local companies, hence enhancing regional innovation systems. It follows that new policy efforts should be made to create mechanisms and structures through which regional stakeholders can (begin to) develop more and new purposeful conversations about joint solutions to common problems (Morgan, K. 2003).

Social capital and Regional Governance

Directly related to the social capital debate is the issue of appropriate regional governance for efficient regional development planning and policy delivery. In this sense, regional governments are progressively playing a more influential role in the conception and implementation of territorially based policies in the EU as well as in the USA (Landabaso, M. 2000). Innovation policies to foster the knowledge-based economy are a good illustration of this. Moreover, some recent GDP trends from EU countries point at decentralised national economies performing better than centralized ones, including a higher capacity to resist in economic slumps. It would seem that in the post-fordist era and under the pressures of globalisation, scale and labour cost are becoming less relevant competitive assets that the capacity to compete in niche markets through timely response to market demand, customisation and quality. In this new scenario, regional diversity is a competitive asset, which can be better exploited by a decentralised institutional system.

As recently stated by the OECD (Conclusions of the Chair, High level Meeting, Martigny, Switzerland, July 2003) "Both global economic growth and social cohesion require increasing the competitiveness of regions, especially where potential is highest. The comparative advantages that drive innovation and investment are as much a regional characteristic as a national one. For regions to succeed, they must harness their own mix of assets, skills and ideas to compete

in a global market and develop unused potential." In this sense, regional governments have an strategic position for harnessing these regional assets, and in particular, setting up public-private co-operation networks which are essential for knowledge-based economic development and creating a suitable climate for effective innovation adapted to regional SME needs. They are well placed to co-ordinate different elements (policies and institutions) of the regional innovation system in particular, beginning with a thorough analysis of the actual developmental needs of regional firms and the principal obstacles facing them, including raising awareness of the need for innovation in the first place. In short, regional governments are key players in these policies.

In other words, 'national' innovation policy for SMEs is difficult to implement without a very close relationship (co-ordination and synergy) with regional governments, which have a detailed knowledge of key R&DTI regional actors and the needs of the productive base. Inversely, it is essential that regional innovation policies be co-ordinated with the major national and international research and development systems, including, universities and major public research institutions and laboratories, as one of the main sources of knowledge.

A second characteristic is that such policies cannot be effectively developed without the direct participation of the private sector in planning and implementation and without the agreement and active support of other actors in R&TDI in the region, semi-public agencies, technology centres, universities and trade unions.

Finally, these policies must be based on new forms of institutional organisation that are more dynamic, horizontal and flexible, not only for the purposes of planning but also for project implementation. These characteristics are more easily achieved when a fair degree of trust and collaborative capacities exist among regional stakeholders. Thus social capital may have a direct influence on "institutional thickness", allowing for the design and implementation of more demanding and ambitious regional policies.

The public sector must provide leadership, rather than control, on these policies and must play the role of 'promoter' of and 'catalyst' for economic development. It must be able to co-operate closely with the private sector and others active in the region as an equal partner. It must also be capable of reacting and providing creativity and must allow for the amendment of policies and programmes on an on-going basis as lessons are learned from experience. That is why the institutions and agencies responsible for implementation must be given a considerable degree of autonomy and (political) trust and need to have a high level of professional experience in the field (development economists and technical experts rather than general administrators responsible exclusively for implementation and auditing).

To ensure that these policies bear fruit they require strategic planning based on wide consensus in a stable public-private partnership and a firm commitment from the principal R&TDI and business services providers (the regional "knowledge infrastructure") in the region so as to ensure that the policies will be sustained over the long-term and benefit from adequate resources.

There are no universal magic formulas for this type of policy (neither must they be affected by doctrinal fashions: yesterday technology parks, today clusters, tomorrow ...), instead specific policies are required for each region, which will be principally demand led and conceived using a balanced bottom-up approach. There are no best practices, but only good practices, from which lessons can, in certain cases, be learned that can then be adapted to suit the particular situation in each region.

Conclusions: tentative ideas for an on-going debate

The social capital debate is not anywhere near from being closed. In fact we are just scratching the surface with far more open questions than answers, and still a long ways from being able to operationalize this concept in such a way that we can sell the concept and associated policies to regional politicians in a "policy package" which they can buy, support and eventually fund.

Regarding open questions let us mention but a few. Some are related to the understanding that trust and reciprocity, which are at the roots of the social capital concept, are all "nice" and desirable civic values which deserve to be promoted in their own right. But how do they fit with the economic rational behaviour and (enlighted?) self-interest which are in the economic nature of SMEs, in particular in less favoured regions with relatively close markets and little inter-firm cooperation tradition and business networks/associations?. Moreover, do cluster relationships necessarily sit on trust and reciprocity or are they purely enforced by economic rational behaviour in view of expected advantages (e.g. lower transaction costs, cooperation as a strategy to deal with global competition) which may vary with the life cycle of the cluster?. Is social capital purely a "sociological" concept, understood mainly as "civic capital", as in the early social capital literature, or can we give a more economic and operational interpretation of such a concept along the lines of "relational capital" and "institutional thickness", in terms of creating/restoring the public-private relationships, networks and institutions through which knowledge and innovation my flow and thus contribute to an efficient regional innovation system, on the basis of shared interest.

Finally, is social capital as cholesterol? is there a good type and a bad type, in terms of economic development? The bad type (more of the "bonding" type) may prevent regional innovation and creativity and foster "defensive" conservative values and parochial attitudes in an ever increasing globalise economy subject to accelerated technological change. Clientelist governments, corporatists attitudes in business associations, "guild"-type sectoral approaches and short-sighted protectionist policies and barriers might be part of it.

The good type (more of the "bridging and linking" type) may facilitate regional change by promoting proactive adaptation to changing conditions through coalitions of key regional partners, sharing common visions, pooling scarce resources and exploiting synergies. Strategic planning exercises which are open, transparent and inclusive, institutions that provide appropriate environments for interactions (business fora, clusters, technology forecasting, etc.) among regional stakeholders, the promotion of a shared can-do culture supported by policy mechanisms that foster innovation and creativity, supporting public-private partnerships to build a common agenda for action, raising awareness about collective challenges and opening a bottom-up process of participation in policy design and assessment, might be part of it.

To sum up, the argument in favour of developing a public support policy to enhance social capital from the regional development perspective goes as follows:

a)if regional competitiveness in less favoured regions does depend critically on rising their innovation capabilities (and thus contribute to cohesion at EU level),

b) and if the latter is in turn dependent on their capacity to promote business networks and interactions among the R&TDI regional stakeholders, including linkages to external (global) sources through which knowledge exchange and innovation opportunities are created. That is on the existence of an efficient regional innovation system.

then understanding, using and measuring social capital is essential because it is widely recognised, as seen above, as the enabling factor for these interactive learning processes and closer co-operation and networking to occur at the regional level.

Social capital would then be both, what allows a regional innovation system to be knitted together filling the missing links (bridging) between regional players and institutions active in the R&TD field and the "oil" that makes the (regional innovation) system run smoothly and progressively faster. Thus accelerating the transformation of knowledge into innovation and regional competitiveness.

If social capital is mainly a question of building cooperation, public-private in particular, and trust among regional stakeholders that activate interactive learning and knowledge flows within a regional innovation system, then one way in which public policy could strengthen regional social capital would be to:

Provide an institutional framework for regional stakeholders to meet (a relational infrastructure), to get to know, understand each other and approach their agendas (incentives for networking) and develop a common vision on the basis of shared interests by providing them with a common task-challenge in the form of an innovation strategy—whose outcomes, in the form of action plans and projects, might be shared by all participants in a (plus sum) win win situation. Thus invest in an interactive strategic planning process as a means for building social capital, in which the public sector provides the financial incentives and the institutional framework that facilitate regional stakeholders co-operate on the basis of trust and reciprocity.

In conclusion, availability of social capital and good regional governance are key to regional development efforts and policies in the knowledge-based economy. Those regions that are capable of building social capital and establish and operate good governance structures, based on public-private cooperation and inter-institutional coordination, are likely to be much more cost-efficient in the use of regional policy monies. They will also be much better placed to build a knowledge-based economic development path for their regional economy.

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MARIO MARINAZZO

MANAGING KNOWLEDGE AT LOCAL COMMUNITY LEVEL TO ENABLE SOCIAL CAPITAL'S CONTRIBUTION TO INNOVATION

Introduction

This paper is developed in four sections.

First, it provides the concept of Regional Innovation Leadership, based on the concepts of Learning and Leadership in Organisational Sciences. Knowledge management foster the local community's attitude to learn and recognise and exploit innovation leaders.

Second, it draws on the main reasons supporting the knowledge management initiatives as conducive to regional innovation leadership.

Third, it provides the general framework of a knowledge hub for regional innovation.

Fourth, it gives some details about specific features of the knowledge hub for regional innovation in a less favoured region.

Regional innovation leadership

For the purpose of this paper, the term "region" and "regional" mean the space within which continuous exchange of information and ideas can take place between public and private organisations, which all share the same institutional, social and cultural context.

This space is broadly synonymous with the NUTS III level adopted by the European Union, or with other more detailed scales, at the level of communities at a sub-provincial and urban level.

The lesson which comes from the literature on business competitiveness increasingly highlights knowledge as ability to act effectively, and learning as the readiness to acquire this ability.

On the other hand, innovation is a social product, involving business and its regional environment.

Regional innovation stems from continuous feed-back cycles going through networking, learning and decision making fed by—and fostering also—intellectual capital[1].

[1] Marinazzo M. (2003) "A Knowledge Hub for Regional Development" in Passiante G., Elia V. e Massari T. (ed.) "Digital Innovation: Innovation processes in Virtual Clusters and Digital Regions", Imperial College Press, London (UK), 83-106

Paraphrasing the definition which Senge[2] proposes for leadership within an organisation, leadership in regional innovation can be defined as the region's "... ability (...) to initiate and to sustain significant change to work effectively with the forces that shape change...".

Regional government bodies and entrepreneurial communities are the main actors in the regional innovation processes, because of their role as "forces which shape change" and their tendency to react to competitiveness threats and external pressures.

This is the reason why regional innovation leadership has much to do with the regional community's ability to initiate and to sustain significant change to work effectively with Governmental bodies and entrepreneurs.

Under this point of view it is interesting to examine the most characteristic features of the positions which Senge refers to as "learning organizations", but applying them this time to a regional community:

- The *regional learning community* is a community in which individuals and groups continuously expand their ability to achieve the results they desire; in which new and expansive schemes of thought are nourished; in which individuals continuously improve competencies of "learning together".
- The *regional learning community* does not learn through a series of isolated episodes, but learns as it works to achieve the results it desires. In other words, it learns in order to improve its ability to successfully carry out actions.

In this sense, we should expect the regional community to share results to achieve; to "think" while acting; to be committed to learn; to continuously assess results, and ways to achieve them.

But "thinking", "learning", "assessing" in view of results to achieve have much to do with reflexivity, enabled by managing knowledge in the regional community.

Managing knowledge to enhance regional innovation leadership

Assuming the importance of knowledge and learning as fundamental assets to enable the regional community to face the dynamics of innovation in the globalisation age raises the question as to how the regional community should undertake specific initiatives in order to improve its performance in acquiring, creating, using and distributing knowledge that may be useful for innovation.

According to evaluations about less successful RIS (Regional Innovation Strategy) exercises[3], those regional communities failed to initiate and to sustain significant change to work effectively with Governmental bodies and entrepreneurs.

Actually, change was not initiated or sustained because (ibidem):

"...

- *Regional government authorities felt threatened by an inclusive, transparent and bottom-up process which opened the innovation policy discussion to a wide array of regional actors*
- *Regional government authorities felt threatened by the results of the innovation supply analysis and the evident miss-match between their policies and the SME innovation demand,*

[2] Senge P. (2000) "The Leader's New Work: Building Learning Organizations" in D. Morey, M. Maybury, B. Thuraisingham (eds.), Knowledge Management, The MIT Press, 2001, pp. 19-51. Reprint from Sloan Management Review 32(1) (Fall 1990).

[3] Landabaso M, Mouton B. and Miedzinski M., (2003) "Regional Innovation Strategies: a tool to improve social capital and institutional efficiency? Lessons from the European Regional Development Fund innovative actions", Paper presented at the conference of the Regional Studies Association "Reinventing regions in a global economy", 12-15 April 2003, Pisa (I)

which was largely ignored or unknown so far. This led to a limited diffusion of the diagnosis done in the RIS, preventing firms, which are the end target, to accept and share this diagnosis

- *Regional government authorities did not take into account and 'mainstream' the ideas and projects stemming from the RIS strategy into ERDF operational programmes...* "

A knowledge management initiative—a Knowledge Hub for Regional Innovation—focused on acquiring, creating, using and distributing knowledge that may be useful for innovation—looks like:

- the starting point of "... *an inclusive, transparent and bottom-up process...*"
- the best tool to support and monitor the demand-supply match in innovation services
- the "incubator" and "promoter" of innovating ideas and projects.

thus enabling leadership in regional innovation.

On the operational side, a knowledge hub for regional innovation is expected:

- to empower the capacity of public decision-makers to conceive and realise innovation programmes related to 'clusters'
- to reduce the bureaucracy involved in taking public decisions which are connected with innovation
- to recognise the leaderships which are emerging on either the public or private sectors
- to recognise the region's specific knowledge base, which is difficult to reproduce elsewhere, and which could be the object of private and public investment.

The knowledge hub for regional innovation: general framework

The knowledge hub for regional innovation aims to sustain, promote and point out—rather than manage—the processes linking the intellectual capital with the cycle itself (see fig. 1).

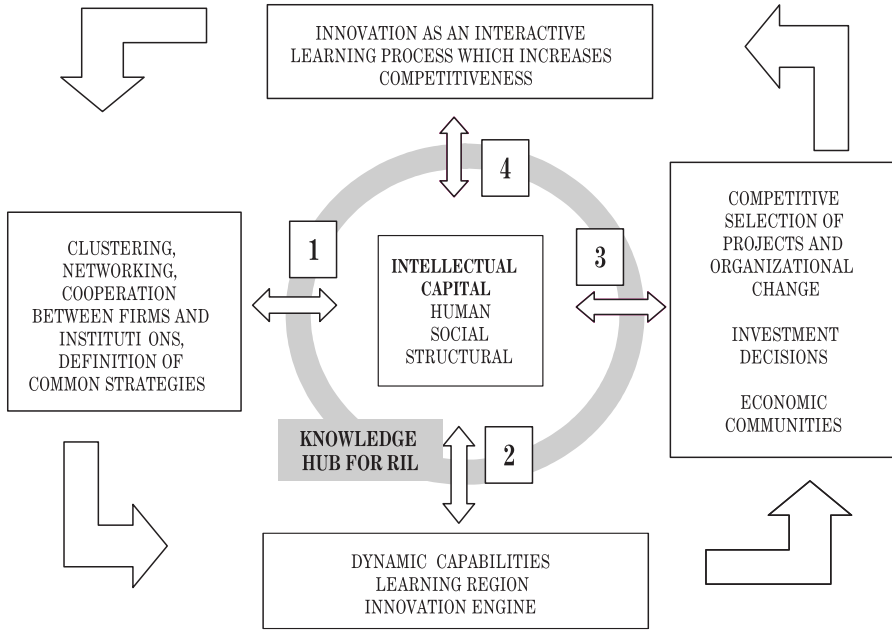
Processes linking the intellectual capital components [according to Senge[4]]—human, structural and social—with the networking-learning-decision making cycle:

- *Human capital* is the knowledge, skills, and experiences possessed by individuals. It comprises both explicit conceptual knowledge as well as more tacit knowledge.
- *Structural capital* includes the explicit, rule-based knowledge embedded in the region's work processes and systems, or encoded in institutions—like innovation policies—, or shared data bases of "best practices".
- *Social capital* is reflected in the ability of groups to collaborate and work together and is a function of trust. Effective networks of relationships characterised by high levels of trust are a valuable and often overlooked resource in the creation and use of knowledge.

The knowledge hub for regional innovation can be broadly described referring to its focuses and main related items (see Table 1).

The knowledge hub, supported by a partnership of local authorities, entrepreneurial associations, research institutions, education and training bodies and banks, will point its users in the direction of the services provided by the partners (one-stop shops for business; information on opportunities for public and private co-financing and investment in companies; financial services, etc...)

[4] Senge P. (2000) "The Leader's New Work: Building Learning Organizations" in D. Morey, M. Maybury, B. Thuraisingham (eds.), Knowledge Management, The MIT Press, 2001, pp. 19-51. Reprint from Sloan Management Review 32(1) (Fall 1990).



Source: Marinazzo M. (2003) "A Knowledge Hub for Regional Development" in Passiante G., Elia V. e Massari T. (ed.) "Digital Innovation: Innovation processes in Virtual Clusters and Digital Regions", Imperial College Press, London (UK)

Fig. 1 The Knowledge Hub supporting the cycle of Regional Innovation Leadership

Table 1

The Knowledge Hub for Regional Innovation: Focuses and related Items

FOCUS ON:	MAIN ITEMS
Knowledge sharing	Forums, discussion groups and on-line questionnaires
Regional innovation system	Case studies and reports on the most efficient practices emerging in the region
Regional innovation systems at a global level	Case studies and reports about best practices in sectors and clusters at a global level
Regional marketing	Information targeted at potential inward investors, and about the opportunities which originate from their investment
Competitiveness of local systems	Data and information deriving from statistical analyses and from studies and reports of a socio-economic nature, and regional competitiveness analyses
Sector / Cluster analyses	Data, information and analyses about production sectors of particular importance for the region
Regional innovation policies	Links to and highlights on innovation policies affecting the region

Activities for promoting and diffusing the awareness of the opportunities provided by the knowledge hub will also be carried out, and these will be in the form of conferences, seminars, and consensus-building initiatives.

Specific features and details depend on the region's special characteristics.

Access to services is selective, according to criteria of competence and responsibility in innovation-related institutions and organisations.

Feeding the knowledge hub and managing the social dialogue is up to a small team of experts and communication professionals from local institutions, business and university / research.

Fitting the knowledge hub for regional innovation to a less favoured Region

Devolution and empowerment are at the heart of change in governance at national and regional levels.

At regional levels key institutions, like governmental practices and innovation policies, do not change fast enough to keep pace with economic and cultural changes, just while the importance of "region" is growing in front of "state".

More and more local strategies and economic performances are the building blocks of business competitiveness, while less favoured regions lack in sharing values, setting up strategies and favouring innovation capabilities.

Old values, like help survival of declining businesses and diminish related local unemployment, drive so-called "innovation" policies—welfare policies could better serve these values—disregarding "schumpeterian" creative destruction processes.

Delaying—not avoiding—destruction hampers timely creation of new business models and new economic activities.

Support to FDI without selection criteria about sector and knowledge intensity attracts 'plants' rather than 'entrepreneurs' and 'knowledge workers', and medium—to low—knowledge intensity activities.

Old strategies, strictly organised around protection of local economic base, drive selection criteria: automatic support to research and innovation via taxation incentives spreads public financial resources on beneficiaries that too often exhibit opportunistic research projects and innovation requirements.

Summing up, innovation policies in less favoured regions seldom deal with change, thus hampering learning and ... innovation.

In order to help new values and related strategies to surface, the knowledge hub for regional innovation in a less favoured region should focus on:

- (see **1** in figure 1):
  - — Prospects for collaboration and clustering of business and institutions
  - — Hypotheses for knowledge spill-over
  - — Hypotheses for setting up and developing collective assets
  - — Collaborations via networks
  - — Knowledge exchange between heterogeneous production sectors
  - — Competitive advantages provided by collective infrastructures
  - — Regional clusters of greatest interest for potential investors
  - — Potential advantages for the region of inward investment programs

  - The most significant regional production systems, highlighting the dynamics of their competitiveness
  - Policies explicitly aiming to promote and support clusters, and their impact
- (see **2** in figure 1):
  - Results from ongoing monitoring of innovation practices, in order to support collective learning processes and sustain feedback on projects and programs.
  - Results from ongoing monitoring of inward investment programs
  - Efficient practices of public support for regional competitiveness, especially with regard to studies and evaluation reports on behalf of institutions at a regional, national and international level
  - Highlighting the need for education within the context of change strategies
  - Opportunities to meet up with partners and suppliers at a regional and international level to discuss innovation hypotheses
  - Opportunities to recognise and boost leaders in innovation-related problem-solving processes
  - Consensus building and conditions of mutual trust and transparent collaboration, even between rival firms, as well as between heterogeneous companies, in order to achieve the objective of providing a common solution to problems recognised by all partners
  - Competitive advantage procured through collaborations among local firms, or even between local and outside firms
  - Contributions from individuals and groups in driving innovation processes
  - "Distinctive" knowledge incorporated in local production processes, of particular interest for potential inward investors
  - Competitive advantage deriving from inward investments
  - Information on the main economic players in the region, on their production and their supply networks
  - Transformations of local sectors' knowledge bases in terms of:
- Explicit and tacit knowledge
- Balance between competitiveness and non-competitiveness of the context
- Innovation rate, intensity of obsolescence and knowledge processes.
  - Evolution of "distinctive" knowledge incorporated in local production processes
  - Competitive advantage for the local community deriving from innovative investment in a particular sector
  - Information, for each sector, on the main economic players in the region, on their production, on their markets and on their supply networks
  - Policies based on co-financing investment in innovation
  - Information on innovation policies promoted or managed at a regional, national and international level
- (see **3** in figure 1):
  - Translation into projects and programs of the ideas which came to fruition from dialogue and social discussion
  - Partnerships aiming to find operational solutions to emerging problems and opportunities
  - Projects and programs of particular relevance for innovation, and partnerships set up in order to carry out such projects and programs
  - Inward investment projects and programs of particular relevance for innovation, and partnerships set up in order to carry out such projects and programs
  - Opportunities for co-financing arising from innovation policies
- (see **4** in figure 2):

— The innovative performance of the local system (for example, according to the criteria and methods of the European Innovation Scoreboard Initiative)
— Dynamics of the competitiveness of regional business clusters.

Conclusions

This chapter has laid down a conceptual basis and some operational details about a knowledge hub for regional innovation as a new component of regional innovation infrastructures.

Its main aim is to promote the enrichment, exploitation and transformation of intellectual capital (human, structural, social) within the regions.

In order to achieve these aims, the initiative is directed above all at the operational processes and at the documented and documentable facts which accompany the production and marketing of goods and services, innovation policies building and delivering, and the supply of basic services (first and foremost Education and Training).

By focusing on operational processes, problems can receive potential solutions surfacing from dialogue and social discussion between "competent" people and groups. Focusing on operational processes also makes it possible to:

- select the explicit knowledge needed to sustain dialogue and argument about the problems which are identified;
- activate the necessary processes of production and local diffusion of explicit knowledge;
- contribute to building knowledge as ability to act efficiently in favour of regional innovation.

There are several conditions affecting the outcome of the Knowledge Hub initiative, and the most important of these are not technological: in fact, ICTs, as enablers of the Digital Economy, can also enable the typical functions of the Knowledge Hub.

The social and cultural conditions are overwhelming. So, the institutions should play a role that is vast, profound and convinced.

LYDIA GREUNZ

KNOWLEDGE SPILLOVERS INNOVATION AND SOCIAL CAPITAL

Introduction

It is not a new story that the wealth creation capacity depends on the ability to transform knowledge, ideas, and inventions into new products and processes. Schumpeter (1954) in his seminal contribution already argued that economic growth requires innovation—the generation of higher quality products at lower unit costs than had previously been obtainable. However, what has changed since the days of Schumpeter is that, nowadays, knowledge has become a production factor and more than ever, innovation is a necessary condition for economic growth, an evolution which has much to do with globalisation.

The ongoing process of (techno-)globalisation and the resulting speed of technological advances, continuously increase the competitive pressure, which has to be faced by local economies. This development has fundamental implications on the manner the innovation process is organised and interconnected to production, markets and external sources of knowledge. Above all, the quality and quantity of social capital have become major determinants of the innovation performance and explain why location matters in the global economy.

This chapter is organised as follows. A first section deals with the questions of how and why the linear model of innovation has evolved towards an integrated linkage and feedback model, knitting together actors involved at different steps of the innovation process. Section two focuses more extensively on the role of geographical and social proximities and takes up the question why these proximities influence the knowledge creation capacity and innovation. A simplified version of the integrated innovation model is estimated in section three. It aims at assessing whether looping and feedback relations among institutional sectors actually characterise the innovation process of European regions and identifies, for European less favoured regions, the leverages that should be stimulated by adequate policy measures in order to enhance their innovation performance.

From the linear to the circular model of innovation: the increasing importance of social capital

During the last five decades the model of innovation has gradually evolved from the linear to the integrated and networking model. The linear model, dominant from the 1950s until the

mid 1970s, evolved in the context of post war recovery and economic regeneration, when product differentiation and consumer's demand have not been a major concern. Nowadays, in the context of ongoing (techno-)globalisation and its consequences on competition and the race of technological advances, the linear "vision" of innovation has largely lost its validity. Rather than reflecting the actual way of producing and diffusing innovation and knowledge, today, it constitutes an exception, specific to some cases associated to radical innovation (Soskice, 1999).

Fig. 1: The linear representation of the innovation process

The linear model (Figure 1) views innovation as a straightforward path from the laboratory directly to the marketplace. Fundamental research realised by universities and government research institutes is considered as the starting point of the linear model of innovation. Industry only enters the innovation process in the applied and development research stages that lead directly to production and commercialisation. Each level in the linear model produces outputs that are transferred to the next level as inputs. Thus, knowledge flows are unidirectional, in the sense that later outputs do not provide inputs for earlier stages (Kline and Rosenberg, 1986). While the "linear vision" of the innovation process had its legitimacy in the "post world war II" period, when public R&D efforts were mainly intended to contribute to the foundation of scientific knowledge made available to the private sector through publications in peer-reviewed journals, it has largely lost its validity in the current context of increasing globalisation and the speeding up of scientific and technological advances. The incompatibility of the linear model with the present techno-economic paradigm has got a great deal of attention in the literature (Kline and Rosenberg, 1986; Lundvall, 1988; Dosi, 1988; among others).

Intensified competition, driven by globalisation and liberalisation, calls for a quick and an efficient reaction and adaptation capacity, both in terms of innovation and production. The increased complexity of technology and knowledge makes it difficult for a single actor to successfully manage innovation. Regions, characterised by an integrated innovation and production system with flexible linkage, feedback and looping relations between actors involved at different steps such as the assessment of market needs, design and development, applied and fundamental research as well as the screening for external knowledge, quickly revealed as winners in the race of competition. Probably, the most prominent European examples are the Third Italy (Pyke and Sengenberger, 1992) and Baden-Württemberg (Braczyk et al. 1998).

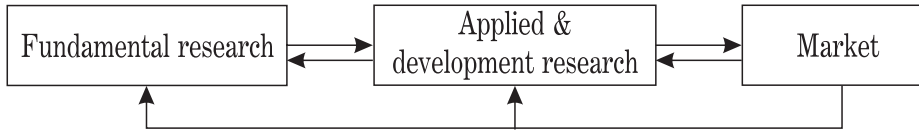


Fig. 2: Simplified representation of the linkage and feedback model of innovation

It has become evident that innovation can not any longer be viewed as a linear model, but should be considered as a non-linear, linkage and feedback process (Figure 2), knitting together actors involved at different steps in the innovation process (Kline and Rosenberg, 1986). Interpersonal networking strengthens the region's (pro-)reaction capacity regarding market changes, since it speeds up the multidirectional knowledge and information flows, new knowledge

combinations and, as a consequence, innovation. Thus, the innovation process is not any longer a purely technical issue but is largely and increasingly a social phenomenon. Bridging social capital is the medium that transports information and knowledge within an innovation system but also the channel of knowledge and idea imports form "the rest of the world".

Location in the context of globalisation

When the globalisation process has been in its early stages, a prominent view advocated that this process will gradually decrease the importance of geography and location for economic activity (Vernon, 1977; Barnet and Muller, 1974). Only a few years ago, Cairncross (1995) even predicted that globalisation induces the death of distance. With respect to these anticipations, globalisation has brought about relatively unexpected developments, namely the recognition that geographical proximity, while not sufficient, constitutes a prerequisite for innovation.

First, that proximity matters emerges as a logical consequence of the previous consideration regarding the interactive linkage model of innovation (Kline and Rosenberg, 1986). The density of relationships and interpersonal networks and the frequency of interaction between firms and the science infrastructure, between producers and users, between firms and local authorities etc. crucially depend on spatial and social proximities. Frequent, interpersonal contacts are simply easier to implement when actors are geographically near one to each other and share the same values, norms and codes of communication.

Second and closely related to the first argument, knowledge spillovers and externalities are geographically bounded. The point here is that, knowledge is not information. Information can be compared with "structured" data (Lambooy, 2000) for which the transmission cost is close to zero disregarding the distance. In opposition to information, knowledge implies the understanding of how something works in terms of behaviours, associations and mechanisms and involves "problem-definition" and "problem-solving" capacities. Thus, knowledge is often tacit and personal. Even when knowledge is explicit and can be codified it is often sticky and context dependent. These considerations imply that, in opposition to information, the marginal cost of knowledge "transmission" rises with distance. Consequently, knowledge spillovers tend to by highly concentrated at the geographical level.

Third, the main mechanism of high contextual, tacit or uncertain knowledge spillovers is face-to-face interaction through repeated and frequent personal contacts (von Hippel, 1994). Actual face-to-face interaction and frequent personal contacts can probably only efficiently take place in a context of mutual trust, common language, shared codes of communication and values. This observation implies that social capital is the material of knowledge spillovers. Since the constitutive features of social capital such as trust, norms and relations are easier brought together at a relatively small geographical scale, once again, space matters and geographical proximity constitutes a precondition for the emergence of knowledge spillovers and potential innovation.

Forth, the innovation process is cumulative in nature. As advocated by the endogenous growth literature, knowledge accumulation constitutes the primary element of economic growth and is the main source of increasing returns to production factors, through mechanisms of learning by doing and knowledge spillovers (Romer, 1986, 1990; Lucas, 1988). This implies that in regions, where knowledge accumulation is already high, additional knowledge creation may be easier compared to places where knowledge is scarce. Inducing increasing returns on production factors, continuous knowledge creation enables continuous high growth. At the same time, social capital, which may be viewed as the vehicle of knowledge spillovers, has also a cumulative nature. The transitivity

property of trust[1], a key component of social capital is the main mechanism of accumulation. In regions where social capital is already high, additional social capital accumulation is probably easier compared to regions where economic agents act in isolation. These cumulative mechanisms may be part of the explanation why regional disparities regarding GDP per capita in the European Union are rather persistent since the 1980s, especially at the regional scale.

Finally, the cumulative nature of the knowledge creation is becoming central in explaining the location choices of multinational corporations, especially with respect to their innovation activity (Cantwell and Iammarino, 2003). Even if this aspect is somewhat external to the endogenous growth literature, it can not be denied that environments characterised by an efficient, interdependent technological infrastructure influence high technology location (Engel and Fier, 2001). Provided that these attracted firms source locally and are tightly integrated in the region's production and innovation system, they may well contribute to the region's knowledge creation and growth potential.

In a nutshell, globalisation had, and continues to have, pervasive impacts on the manner the innovation process is organised and interconnected to production, markets and external sources of knowledge. Increased competition and the speed of technological advances call for rapid (pro-)reaction capacities of local and regional economies. Regions which succeed in this race of competition exhibit organisational configurations based on flexible linkages and feedback mechanisms among different actors which enable quick and efficient transmission of information, increased knowledge spillovers, new knowledge combinations and thus innovation. From this consideration it is clear that geographical and cultural proximities matter since they enable an increased frequency of interaction and has a potentially positive impact on the density of interpersonal networking. Especially as far as new, relatively uncertain and tacit knowledge is concerned, mutual trust, common shared values, norms and codes of communication are considered as necessary conditions for actual face-to-face contacts, the main channel of knowledge transmission. In other words, geographical and social proximities are necessary conditions for knowledge spillovers. Bridging social capital is not only the material that transports knowledge flows inside the region's innovation system, but also the vehicle that imports new ideas, knowledge and technologies from "the rest of the world".

Knowledge spillovers and externalities at the European regional level[2]

From the above considerations it is quite clear that, nowadays, innovation is a complex, territorial process characterised by various looping and feedback relations between actors involved at different stages and, thus, requires spatial and social proximities. While there exists a wide range of literature focusing on particular aspects of the innovation process[3], relatively little attempts have been undertaken to explicitly investigate feedback relations. This section aims at achieving a better understanding of how R&D activities of institutional sectors are mutually reinforcing and should enable us to:

[1] Agent A trusts agent B. Agent B trusts agent C. Since agent A trusts agent B and agent B trusts agent C, agent A also trusts agent C.

[2] This part of the chapter is partly based on Greunz (forthcoming in European Planning Studies). The editors of European Planning Studies are kindly acknowledged for their permission to borrow from the above mentioned article.

[3] Varga (1998) provides a detailed overview of the literature with regard to university research and regional innovation. Massard (2001) offers a summary of recent empirical analysis focusing on knowledge externalities and the geography of innovation.

— highlight the respective contributions of university R&D and business R&D to the knowledge creation at the European regional level;
— ascertain whether the innovation process of European regions is characterised by feedback relations between university R&D and business R&D activities;
— identify, for the less favoured European regions, the leverages that should be stimulated by adequate policy measures in order to enhance their innovation capacity.

However, at this stage it is worth noting that for reasons of limited data availability at the European regional scale, the estimated model is partial, in the sense that it does not cover all the previously described aspects of the linkage and feedback model of innovation. More precisely, we model the interaction between university, business and government R&D. Feedbacks from the market could not be integrated since data on this issue are not available.

The investigation is carried out by estimating the following simultaneous system of equations. The base equation (A) is the "Griliches (1979)-Jaffe (1989) knowledge production function"[4] which considers innovative output, proxied by patent applications to the European Patent Office (EPO), as a function of innovative inputs, namely business R&D and university R&D expenditures as well as the qualification level of the working age population.

$$\text{innovative output}_i = f(\text{university R\&D}_i, \text{business R\&D}_i, \text{qualification level}^i) \quad (A)$$

$$\text{business R\&D}_i = f(\text{university R\&D}_i, \text{government R\&D}_i, \text{structure of productive system}_i, \text{qualification level}_i) \quad (B)$$

$$\text{university R\&D}_i = f(\text{business R\&D}_i, \text{government R\&D}_i, \text{qualification level}_i) \quad (C)$$

Following Jaffe (1989), the potential interaction between university and business R&D is captured by extending the base equation (A) with two additional equations that allow for simultaneity between these two innovative inputs. On the one hand, equation (B) explains business R&D as a function of university and government R&D and controls for the structure of the productive system and the qualification level of the region's workforce. On the other hand, equation (C) considers university R&D as a function of business and government R&D and also accounts for the qualification level of the region's workforce. A positive and significant coefficient on university R&D in equation (B) would suggest that university R&D activities stimulate business R&D efforts. Similarly, a positive and significant coefficient on business R&D in equation (C) would indicate that business R&D activities feed university R&D efforts. If both aforementioned coefficients are positive and significant, this would provide some evidence that looping and feedback relations between the two institutional sectors are actually at work. While this kind of modelling approach has been applied by several authors in order to assess the extent of interaction between institutional sectors in the US (Jaffe, 1989; Feldman and Florida, 1994; Feldman, 1994; Anselin et al., 1997 among others), it has hardly been taken up for the case of European regions.

The model is tested[5] over the period 1991-1996 on an extended sample of 153 European regions, which covers the entire European Union before enlargement except the new Länder of

[4] Knowledge production fucntions have been estimated in recent empirical literature for the US (Jaffe, 1989; Acs et al., 1991, 2002; Anselin et al., 1997; Varga, 2000), Italy (Capello, 2001), France (Autant-Bernard, 2002), Austria (Fischer and Varga, 2001, 2003), Germany (Fritsch, 2002), Sweden (Andersson and Ejermo, 2003) and at the European regional level (Greunz, 2002, 2003a, 2003b).

[5] The system of equations has been estimated by full information maximum likelihood, two stage least squares and three stage least squares. The estimated coefficients obtained by the three estimation methods are statistically similar. The model has also been estimated allowing for different time lags. It appears that patent applications (equation A) are best explained by contemporaneous business R&D expenditures together with university R&D realised three years previous to the application. As far as business R&D is concerned (equation B), contemporaneous university R&D and government R&D with a time lag of five years is the best fitting specification. Finally for the university R&D

Germany and Luxembourg for which the necessary data are not available. At this stage, it should be mentioned that, despite the fact that our sample of regions is considerably more disaggregated than those used in related studies dealing with R&D expenditures, the investigated NUTS II level is not necessarily the most relevant. First, knowledge spillovers may occur at a smaller scale such as the NUTS III level or even smaller. Second, administrative units do not always coincide with coherent economic entities. However, the NUTS II level is the lowest spatial desaggregation for which the data necessary for our investigation are available.

Figure 3 summarises the most important findings. A first, not too surprising result is that the European region's innovative activity depends on both, private business and university R&D efforts. Since university R&D is relatively more concerned with the generation of fundamental scientific knowledge, its impact on patent applications is lower compared to private business R&D efforts which are primarily market-oriented. More precisely, on average, a one percentage increase of business R&D investment per capita generates a 0.76 percentage increase of patent applications per 1000 inhabitants. For university R&D expenditures, the elasticity is about 0.14. This result is relatively close to the one obtained by Jaffe (1989).

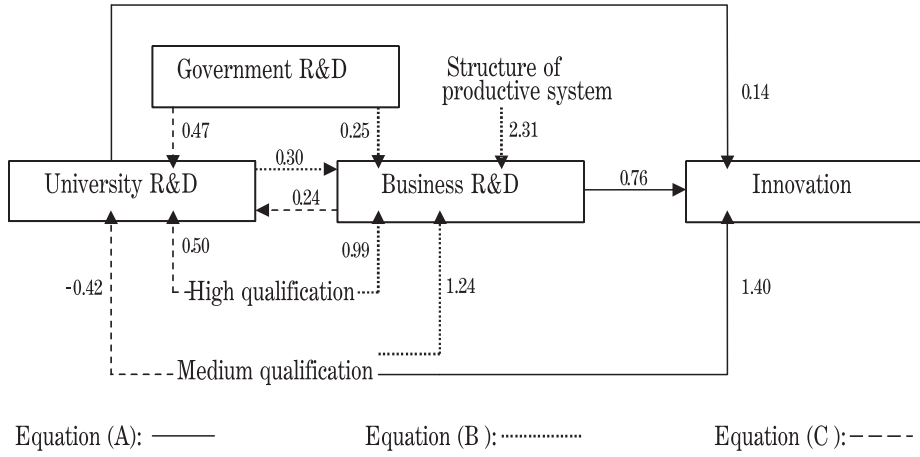


Fig. 3: Estimates of the innovation process of European regions

Note: the numbers reported correspond to the estimated elasticities which are significant at the 5 percent level and heteroskedasticity consistent. For more details see Greunz (2002, 2003b). Source of data: Eurostat.

A second, more fundamental result is the cumulative effect of university and business R&D efforts. University R&D induces business R&D and conversely, business R&D fuels university R&D. On average, a one percentage increase of university R&D expenditures per capita leads to a 0.3 percentage increase of business R&D expenditures per capita. At the same time, a one percentage increase of business R&D expenditures per capita generates a 0.24 percentage increase of university R&D expenditures per capita. This result is essential from a policy making point of view and suggests that knowledge spillovers occur among actors involved along the innovation process. Feldman and Florida (1994) and Feldman (1994) came to a similar conclusion for the US case. A third result is that business R&D activities depend on both, the region's endowment of highly and moderately qualified workforce while only high qualification positively influences

(equation C), the best fitting formulation is the one which considers as explanatory variables contemporaneous business R&D and tow years lagged government R&D expenditures. For more details see Greunz (2002, 2003b).

university R&D. Finally, both, university R&D and business R&D are significantly and positively influenced by lagged government R&D investments.

European less favoured regions and especially "objective 1" regions are characterised by poor innovation performances given their weak absorption and transfer capacities. Considering the results obtained on average for the sample of 153 European regions as a benchmark case, the main estimated distinctive features of the innovation process of "objective 1" regions may be summarised as follows.

Increased business and especially university R&D expenditures have *potentially* higher effects on innovation in "objective 1" regions than in an "average" European region. The question that naturally arises is how can this potential be realised? The estimates indicate that a direct increase of business R&D through public funding is likely to be inefficient. The main reason is that in "objective 1" regions, business R&D efforts do not fuel university R&D efforts. To put it differently, in "objective 1" regions, the feedback mechanisms from the business sector to the university sector are not sufficiently developed. However, the extent of knowledge spillovers form the university to the business sector is statistically the same as in an "average" European region suggesting that transfer facilities from the university to the business sector are in place. Therefore, a first leverage through which business R&D in "objective 1" regions could be enhanced is the strengthening of university R&D. This may be achieved by an increase of government R&D and an improvement of human capital. An increase of government R&D expenditures in "objective 1" regions has about twice the impact on university R&D efforts compared to the results obtained for an "average" European region. The marginal effect of an increase of the proportion of the working age population with high qualification on university and business R&D activities is statistically the same as obtained on average.

A second leverage to enhance business R&D efforts in "objective 1" regions is the development of a sufficient industrial base. In general, and compared to the European average, "objective 1" regions are characterised by a relatively high employment concentration in agriculture. Since for the agricultural sector, market and technological opportunities are weak, the growth potential of these regions is relatively low. Although this is not a new discovery, the estimates confirm that the industrial base of "objective 1" regions is too weak and insufficiently oriented towards high added value generating activities.

On the whole, the results lead to some fundamental implications in terms of policy making. The fact that feedbacks from the business to the university sector hardly occur in less favoured regions, call for a structural systemic policy approach that stimulates synergies between institutional sectors and encourages private-private and private-public co-operation. Even if such policy efforts aiming at developing bridging social capital and thus an institutional framework based on trust and co-operation may take time to show up their effects, they are essential for the implementation of an innovation system able to nourish sustained economic growth. The fact that the industrial base of less favoured regions is generally weak, insufficiently oriented towards high added value generating activities and characterised by low technological intensities suggests that the implementation of S&T policies alone may fail to hit the target. Once again, a systemic approach is required that integrates S&T policies into a global structural policy aimed at building up and reinforcing absorption and tangible and intangible transfer capacities.

Conclusion and final reflections

This chapter argued that the globalisation process, the increasing speed of technological advances and the resulting competitive pressure are the underlying features for the growing

importance of social capital regarding the knowledge creation capacity and the innovation and diffusion processes. Social capital can be viewed as a vehicle of knowledge spillovers and information transmission between actors involved at different steps of the innovation process. Since the latter can not any longer be vied as a linear model but has evolved towards a non-linear, linkage and feedback process the quality and quantity of social capital necessarily influences the efficiency of the innovation system since it determines the intensity of knowledge spillovers and information flows.

The globalisation process has also brought about a relatively unexpected development, namely the raising importance of location and proximities. This development results as a logical consequence regarding the manner knowledge and innovation is produced and diffused. Geographical proximity between actors involved at different steps of the innovation process potentially influences the intensity of interpersonal networks and the frequency of interaction, provided that social proximities are in place. At the same time, it can be argued that the accumulation of social capital is distance dependent, given that its constitutive features such as mutual trust, common shared values and codes of communication are easier brought together at a relatively small geographical scale. Both, the region's knowledge creation capacity and its endowment of social capital have cumulative proprieties and thus, partly explain the persistence of regional differences in terms of innovation and growth performances.

Based on the above considerations, a linkage and feedback model of innovation has been estimated for an extended sample of 153 European regions. Despite the fact that for reasons of limited data availability the model is partial, in the sense it does not account for feedbacks from the market, the estimates provide interesting insights into the mechanisms at work, especially regarding the interaction between the university and the business sectors. On average, the innovation process of European regions is actually characterised by a cumulative effect of university and business R&D. On the one hand, a one percentage increase of university R&D expenditures per capita induces a 0.3 percentage increase of business R&D expenditures per capita. On the other hand, a one percentage increase of business R&D expenditures per capita generates a 0.24 percentage increase of university R&D expenditures per capita. This result suggests that multidirectional knowledge spillovers fuel the innovation process of European regions. However, the situation is quite different in European less favoured regions and more specifically in "objective 1" regions. While for the latter the estimates indicate that university R&D fuels business R&D, no feedback from the business sector occurs. In other words, in "objective 1" regions, knowledge flows are unidirectional, in the sense that business R&D does not stimulate university R&D. For this reason, a direct increase of business R&D through public funding is likely to be inefficient[6]. Instead, the estimates indicate that the stimulation of business R&D activities could be achieved through an increase of university and government R&D, an improvement of human capital and a strengthening of the industrial base which is generally insufficiently oriented towards high added value generating activities.

With respect to these results it is obvious that a dichotomous approach is likely to fail the target. What is needed, is a systemic policy approach, approved and adhered to by regional stakeholders, which, first, stimulates synergies between institutional sectors in encouraging private-private and private-public co-operations, second, integrates S&T policy in an overall development strategy and, third, encourages the upgrading of human capital. The development of "intangible" competitive assets based on innovation can probably only be achieved by an encompassing regional development strategy that builds upon regional specificities and needs, upon clearly

[6] Another reason is the so called innovation paradox (Ougthon, Landabaso and Morgan, 2002). The latter refers to the observation that despite greater needs to invest in innovation, less favoured regions experience difficulties to absorb public funds since they are largely characterised by poor institutional and organisational capacities.

defined objectives which effectively respond to the (techno-)globalisation and the knowledge based economy through collective learning. A major underlying success factor is precisely social capital.

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KNUT KOSCHATZKY

SOCIAL CAPITAL AND COOPERATION WITHIN INNOVATION SYSTEMS

1. The different dimensions of social capital

The literature dealing with social capital can be characterised by a certain heterogeneity in definitions and approaches. How social capital can or has been defined depends on its disciplinary understanding. As could be anticipated by the wording, social capital was first developed in sociology and then imported into economics. Even within sociology, two main strands of argumentation can be identified. The collective view of Bourdieu (1979) on the one hand, and the more individualistic view taken by Coleman (1988). According to Coleman (1988, p.S98) "the conception of social capital as a resource for action is one way of introducing social structure into the rational action paradigm". Social structure can be expressed by obligations and expectations, information channels and social norms (Requier-Desjardins 1999, p.3). Besides Coleman, there are other authors like Charmes (1998) or Mahieu (1998) who emphasise that social capital is an individual and not a collective asset.

Putnam, who introduced social capital in economic theory, takes a different viewpoint. He describes social capital as "features of social organization, such as trust, norms and networks, that can improve the efficiency of society, facilitating co-ordinating actions"(Putnam 1993) or as "features of social life—networks, norms, and trust—that enable participants to act together more effectively to pursue shared objectives... Social capital, in short, refers to social connections and the attendant norms and trust (Putnam 1995). Also other definitions, collected by Aldridge *et al.* (2002, p. 10), stress the collective character of social capital and the importance of networking in attaining it. Social capital is defined as

- "the institutions, relationships and norms that shape the quality and quantity of a society's social interactions" (World Bank 2002);
- "...networks together with shared norms, values and understandings that facilitate co-operation within or among groups" (OECD 2001);
- "...features of social organisation, such as civic participation, norms of reciprocity and trust in others, that facilitate cooperation for mutual benefit" (Kawachi *et al.* 1997);
- "...the networks, norms and relationships that help communities and organisations work more effectively" (MacGillivray 2002).

Also Paldam (2000, p. 630) states that "social capital deals with cooperation in groups and networks within groups of people". He concludes that it is a micro concept, which may be aggregated to the national level (and thus to the regional level as well).

These definitions make it clear that social capital is constituted by general components like trust, norms, values, attitudes and understandings and is attained through the process of social interaction. Since social interaction plays an important role, the dimension of social capital is not only individualistic, but has a strong collective feature. Social capital can be regarded as public good, but since networks might not be open to everybody and groups are able to control the access of other individuals to the group, it has more the character of a club good.

In this respect, the question arises whether social capital reflects non-market processes and has thus social but non-economic effects, or whether by social capital accumulation also economic effects can be generated. If social capital does not only contribute to individual income generation (cf. Ballet/Mahieu (1998) who define social capital by the social income of each individual), then its club or even collective good character allows the conclusion that externalities are possible and social and economic benefits can be derived.[1] As also networks as a means of social capital accumulation can be regarded as an externality to the network participants (Koschatzky 2001, p. 120-144), social capital by itself is also able to generate positive or negative external effects. Negative external effects could be the result of bounded rationality, opportunism and free-riding effects (Williamson 1985, p.46; Collier 1998).

Another important aspect in the discussion of social capital refers to the differences between social capital and human capital. The term "capital" implies a certain proximity to physical capital. But whether social capital is more similar to physical capital or to human capital is differently treated by the different authors. According to Coleman (1988), social capital is the basis for forming human capital. Social capital is more closely associated with the family and the community, while human capital is the sum of the social capital stock over the whole generation. Lucas (1988, p. 17 f.) does not directly make a distinction between human and social capital, but discusses certain aspects of human capital which deal with individual aspects and with relationships within families, firms and organisations. He relates these aspects to individual productivities and thus indirectly makes a differentiation between the more group related social capital and human capital, which is a collective asset influencing the efficiency of the whole economy.

Due to its important role for social and economic development, the accumulation of social capital is object of government intervention (Aldridge *et al.* 2002, p. 51 f.). It has already been pointed out that social capital might not only produce positive but also negative external effects. Objective of public intervention could be the promotion of beneficial, i.e. positive externalities, e.g. by fostering social mobility or by the stimulation of learning processes, either on the individual or on the group level. With regard to cooperation and networking, policy measures could be directed to network formation and to a support trust building and learning processes within a single network and between different networks.

2. Social capital and networking

As can be seen from the different approaches and definitions discussed so far, social interaction is the most important means in social capital accumulation. Networking is an important element in social interaction. Social capital can be accumulated by means of networks and networks can be regarded as social capital's infrastructure. Networking is thus a basis of social capital formation. In an individualistic view, social capital might be understood as a measure of the amount of networks a person has built (Paldam 2000, p. 641). On the other hand, networks can also be

[1] According to Coleman (1988), social capital is—like other forms of capital—productive. Certain ends could be achieved that in its absence would not be possible.

understood as social capital accumulated by the individual participants of the respective networks. Networks are thus distinct from each other, depending on the amount and structure of social capital they represent. But networks are not the mere result of their incorporated social capital. They depend as well on certain input factors like shared value systems, norms and institutions. So they can be regarded as an input as well as an output for social capital building.

According to network economics, different organisational arrangements may lead to different kinds and forms of networks. Innovation networks are a specific form of networks and of social capital. They can be understood as all organisational arrangements between market and hierarchy which serve for information, knowledge and resources exchange and which contribute to problem solving and innovation by mutual interaction and learning between at least three network partners (Koschatzky 2001, p. 135). Due to the necessity of learning and knowledge generation in innovation processes, innovation networks contribute to a particular extent to social capital formation. Since their learning effects enrich the social capital base of a region or nation, those spatial entities in which innovation networks find fruitful grounds for development have better chances for further development than those were these learning effects could not be realised in a similar way.[2]

Within innovation systems, be they regional, national, sectoral or technological, systemic interaction and networking is the essential means for making the system work (Cooke/Heidenreich 2004). Regional innovation systems are "places where close inter-firm communication, socio-cultural structures and institutional environment may stimulate socially and territorially embedded collective learning and continuous innovation" (Asheim/Isaksen 2002, p. 83). In this respect, networks should not be understood as a mere form of social and organisational interaction, but as social processes which facilitate collective learning, knowledge and competence building.

In the theoretical and empirical innovation literature, many examples of advantages and prerequisites of innovation networking are given. Among others, major advantages are:

- acquisition of complementary resources and knowledge,
- enhancement and acceleration of (collective) learning processes,
- realisation of external effects.

Prerequisites for network building and network development are

- a common objective among the network partners,
- trust, shared values and a common understanding ("social capital"), and
- an absorptive capacity high enough to manage and maintain network relationships.

As a side effect of networking, experiences made within networks contribute to collective learning among those who made the experiences and can be regarded as an input factor for further network activities. Without any doubt, social competence as an important element of social capital enhances and accelerates systemic interaction and the resulting knowledge creation and innovation. Many examples of successful regional development strategies show that trust, norms and shared values are important catalysts for successful network relationships and that regional consensus building by sharing a collective vision, common trust and confidence are major success factors in regional strategy implementation (Zenker 2002, p. 216-218). Vice versa, the absence of consensus and trust (as important attributes of social capital) may lead to the failure of such strategies. These basic conditions do not only apply for regional networking, but for business and business-science networks as well.

Although networking and collective learning processes are not a new phenomenon, still many questions about the impact of social capital on network and learning have not been answered in a satisfactory manner. The purpose of the preceding paragraphs was to raise some of the

[2] Similar arguments can be found in the concepts of the learning economy and the learning region (cf. Gregersen/Johnson 1997; Morgan 1997).

important issues associated with social capital and networking. With regard to research but also policy implications, open questions touch the following issues:

— How should collective learning processes be organised? Is there a self-organisation process within networks (regarding input and output function)? Should the different network agents be looked at differently (e.g. firms, different types of firms, other organisations, individuals) and how?
— Which role do different forms of knowledge play in acquiring social competence to handle social interactions?
— Is embeddedness (social, regional) an important pre-condition for social interaction and networking? What about inter-regional/national cooperation?
— Is spatial and social proximity important in acquiring social competence?
— Which amount of "social capital" as an input is necessary for which forms of networking for initiating social capital building and collective learning processes?
— Besides networks, which other forms of co-operation could contribute to "social capital" formation (input function)? Which forms of co-operation are adequate for which circumstances?

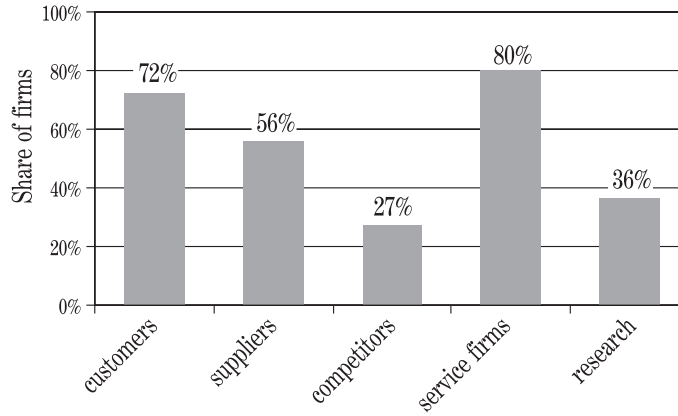
Within the limited scope of this paper it will not be possible to deal with all of these questions. Their purpose is to illustrate a research agenda which needs further attention in the future. Based on empirical findings, this paper deals with the output function of networking. It tries to answer the question whether spatial and cultural proximity within and between innovation systems triggers network formation and whether the concept of social capital can be a useful approach for explaining different network patterns.

3. Innovation networking in Slovenia

The empirical data used in this and the following section come from the European Regional Innovation Survey (ERIS). This survey was carried out between 1995 and 1997 in 11 European regions covering manufacturing industry, business-related services and public or semi-public research institutes. In total 8,600 questionnaires were collected (cf. Koschatzky/Sternberg 2000 for more details and results).

One of the ERIS regions was Slovenia. Slovenia is a relatively small economy with 2 million inhabitants covering a surface of 20,256 km^2. The country was the strongest developed region in former Yugoslavia: While she accounted only for 8 % of Yugoslavia's surface, 29 % of the federal republic's exports originated in Slovenia. After the fall of the iron curtain, a drop in production was noted in all branches. Economic collapse especially threatened traditional industrial sectors such as steel and heavy machine construction, the automobile industry, and the textile and furniture sector. Although the transition of the industrial sector is not yet complete, the number of business enterprises has obviously grown during the past years, especially in the areas of small enterprises and the service sector (Koschatzky 2004). Although the country possesses a noticeable research potential, the readiness for cooperation both in the research sector and between science and industry remained insufficient over a long period of time.

ERIS data uncovered a great significance of vertical cooperation within Slovenia's manufacturing industry, i.e. production and research-based collaborations in the value chain with customers and suppliers. 64 % of the companies covered by ERIS had increased their contacts with customers and 58 % of them had increased their contacts with suppliers after independence in 1991, whereas only 6 % and 5 % resp. of the firms had reduced their cooperation relationships. On the other hand, cooperations which are characterised by a high degree of freedom in partner search



Source: Bross et al. 1999

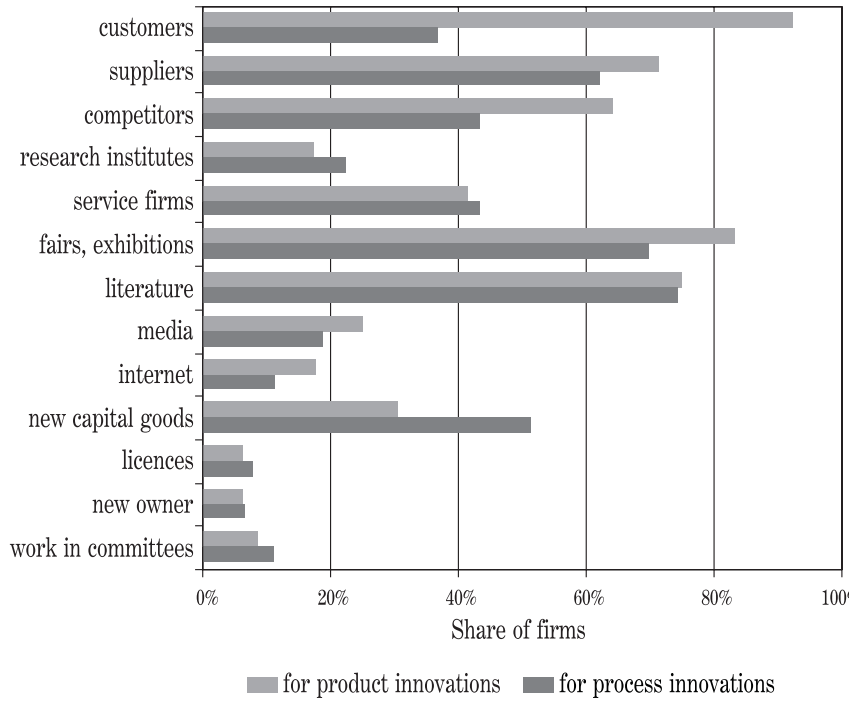
Fig. 1: Cooperation pattern of Slovenian manufacturing firms

are distinctly less significant for information and knowledge exchange: 36 % of the companies cooperated with research institutes and 27 % with other companies (competitors).

The survey results showed that there was a lack of horizontal linkages with research institutes. Although two universities with in total about 52,000 students, the academy of science and arts and approximately 50 other independent research institutes contribute to research and scientific development in Slovenia, research institutes were not rated the most important sources for innovation-relevant information. Most important information sources for product innovations are customers (92 %), fairs and exhibitions (83 %), literature (75 %), suppliers (71 %) and competitors (64 %). The prominent place of customers could be expected as they articulate demand. There is a relatively high importance of rather passive and informal transmission channels such as fairs, exhibitions and literature. The information sources for process innovations are also striking, since literature, fairs and exhibitions rank with 74 % and 70 % of answers more important than interaction with suppliers (62 %) and new capital goods (51 %). Like for product innovations, passive and informal transmission channels are much more used for process innovations, although they are associated only with limited opportunities for the transfer of know-how and experiences. While the importance of research institutes as information source in the innovation process is roughly half of service firms, their technological knowledge is utilised by a share of 22 % of innovating companies for process innovations.

An interesting fact is that former relationships with universities and industrial research institutes have been broken off since 1991. Whereas 11 % of the companies entered new cooperations, 14 % of them gave up their contacts. Changes in the originally linear innovation model could have caused the decrease in cooperative behaviour. Industrial research requirements were apparently not always satisfied by the formerly mandatory cooperation relationships, so that discontent has led to a breaking off of former contacts.

This short glance into the Slovenian innovation networking behaviour of manufacturing firms shows that, although intensively cooperating, trustful relationships to partners not integrated in the value chain had not been built up. On both sides, old routines developed in the time before independence still were at stake. Formal and less committing forms of cooperation were preferred. In the old (socialist) system, social capital with regard to trustful and open interaction was less developed. Besides, social competencies and the absorptive capacities of firms were low. Studies about the Slovenian economy come to the conclusion that even today the innovation system (if it



Source: Bross et al. 1999

Fig. 2: Sources of innovation-relevant information

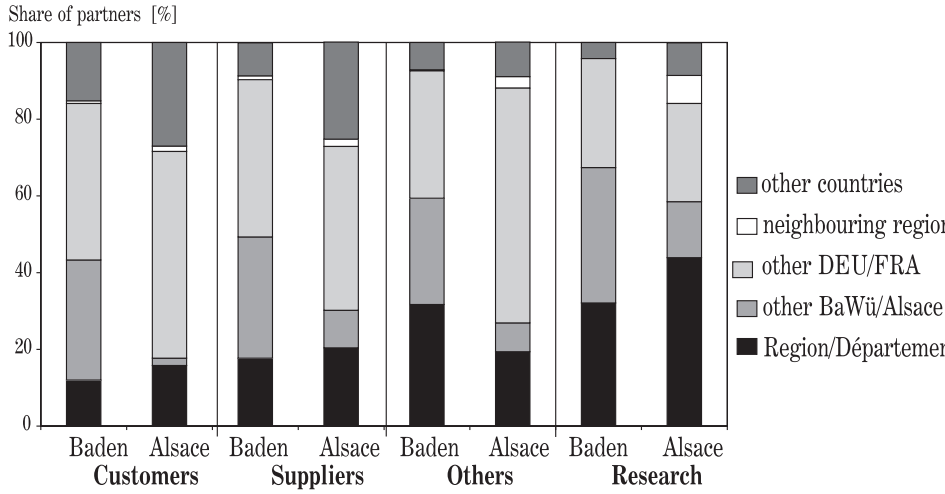
really exists) is still fragmented as a legacy of the former socialist system and that it will take many years until this fragmentation—caused by a social capital stock not adjusted to today's needs—is overcome (Špilek 2000; Stanié *et al.* 2002).

4. Innovation cooperation between Baden (Germany) and Alsace (France)

Also the bordering regions Alsace and Baden were subject of an investigation about innovation networking by the ERIS study (cf. Koschatzky 2000 for more details). Both regions have been selected here as an example that even spatial proximity does not automatically lead to close inter-organisational networking. While both regions are by no doubt characterised by organisational diversity (universities, research institutes, transfer agencies, strong industrial fabric), intense networking within each region and a well developed social capital base, there is only little cross-border innovation cooperation (cf. Figure 3). In view of the importance of cross-border innovation networking, which is not only an indicator showing that the two regions are growing together, but which also reflects the cross-border learning processes, only limited interaction intensity can be found between the two neighbours. Here, the Alsatian firms are evidently more open-minded than the companies in Baden. This becomes clear particularly through the research contacts: while 7.3 % of the surveyed Alsatian firms had contacts with research institutes from Baden-Württemberg, not one of the sample firms from Baden maintained such a relationship. The river Rhine still represents a distinct cultural and institutional barrier to contact for both

Baden and Alsatian firms. The amount of innovation-related learning processes between firms, or between firms and research institutes, is negligible. Both regions are strongly incorporated in their respective national innovation system; compared with each other, they represent individual, clearly distinguishable regional innovation systems for which the "opposite" plays almost no role at all.

For this case study it can be concluded that the intensity of networking between innovation systems does not only depend on the social ability to co-operate *per se*, but on the ability and competence to bridge different cultural and institutional settings. Physical and spatial proximity does not automatically lead to certain kinds of social interaction. Regarding (innovation) co-operation, "social capital" has not only to be shaped by trust, norms, shared values etc. of the own system, but by the knowledge of the institutional routines and behaviours of other systems, and by the knowledge of how to manage inter-institutional interaction as well. In a common European market, this knowledge is not only relevant for policy-makers and regional planners, but especially for SMEs with their generally limited absorptive capacities.



Source: Koschatzky 2000, p. 442

Fig. 3: Innovation cooperation between Baden and Alsace

Conclusions

It can be concluded from the theoretical reflections in sections 1 and 2 that "social capital" is a somehow fuzzy and 'difficult' concept. From a macro point of view it is more clear than from the viewpoint of the micro level, which allows to look at the diversity of individuals and their social behaviours. In innovation systems and systemic interaction relationships, many agents with different behaviours, attitudes, interests and objectives are interacting. An area of conflict exists between the inertia of social behaviours (routines, institutional fabric) developed over a long period of time and the need to continuously adapt and improve social behaviours at the individual and the group level. As the Slovenian example (and many other examples) show, this is a longsome and difficult process. Even an economic shock does not automatically lead to common understandings and joint interests (contrary to the assumed genesis of innovative milieux as a result of economic crisis).

The Baden-Alsace example makes clear that social capital must be more than the sum of regionally acquirable social competencies; it can be enhanced by inter-institutional and thus inter-regional exchange. As the development paths of many (regional, national, corporate) innovation systems show, there is only a limited scope for external impulses on "social capital" formation. Norms and social competencies develop 'internally' (at the individual or the group level) and require an openness for learning and change.

Regarding policy implications it can be concluded that only limited opportunities exist for direct intervention. Social competencies and behaviours cannot by influenced by policy measures in the short run. Possible action fields are more related to indirect measures like the improvement of basic conditions for learning and for gathering experiences in social interaction. The stimulation of network building, the promotion of key persons as network moderators and the production of success stories (simple words but difficult to manage) might contribute to the objective of increasing the social capital stock of regions and to make use of this social capital for innovation and regional development.

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EDWARD J. MALECKI

NETWORKS, KNOWLEDGE AND CAPITAL: THE ROLE OF HARD AND SOFT NETWORKS IN REGIONAL DEVELOPMENT

Regional development continues to be a puzzle for scholars and policymakers. Convergence among regions in income and other measures of development, which had become more common during the 1980s, shifted back to divergence and greater gaps between rich and poor regions during the 1990s. The answer cannot simply be that market-based policies are less equitable but more efficient, that they do less for development but more for growth. Less favoured regions have always presented special challenges, and this is only more the case in an increasing laisser-faire (or neoliberal) world.

As Landabaso notes in his introduction, 'building social capital, developing effective regional governance institutions and policies and the ability to form and nourish appropriate networks among regional stakeholders, are all necessary conditions for a sustained and sustainable development path in less favoured regions'. Moreover, conventional economic theory and policy practice generally have underestimated the influence these intangibles may have on regional growth and development prospects.

What is missing in some places but is present in others? Is it simply social capital, institutions, policies and networks? Even if so, do these emerge simultaneously, or is each ingredient dependent on the prior development of another? Are there other conditions, missing in Landabaso's list, necessary for development, such as absorptive capacity? This paper will argue that it is networks that provide access to knowledge, and it is networks that are the mechanisms by which social capital and other forms of capital are generated, reinforced and sustained.

Cumulative Advantage and Development in Peripheral Places

It must be acknowledged that a great deal of regional development is cumulative. Cumulative advantages keep 'successful' places ahead of other places, continuing to attract high-skill migrants and mobile professionals. The complex 'maze' suggested by Begg (1999), through which the local capacity for innovation and learning influences urban performance, echoes the call for 'learning regions' put forth by Lundvall and Johnson (1994), Florida (1995), Asheim and Cooke (1999), Boekema et al. (2000), and others, and for regional and local innovation systems (Braczyk et al. 1998; de la Mothe and Paquet 1998). Economists prefer to explain cumulative advantages as

the outcomes of 'path-dependency'. But paths can be chosen and investments made, with results dependent on not only those choices and investments but also on time.

A useful way to understand the process of cumulative competence creation is suggested by Foss (1996), who describes this as a meso-level process. That is, higher-order capabilities are generated neither at the firm level nor at the national level, but within interactions among firms. These are non-proprietary and intangible assets shared among a group of firms, such as those in the same region. The skills that utilize these shared assets comprise relation-specific skills that derive from the interaction rather than from mere proximity. Higher-order capabilities may reside in markets, industries, regions or nations. Knowledge externalities and nontraded interdependencies may be national but not industry-specific, or both industry—and nation-specific. The difficulty for less-developed regions is that it takes time to build up higher-order capabilities, which are immobile and non-purchasable. They are, then, a form of sticky asset localized in the region. The most developed regions contain regional systems of capabilities with absorptive capacity to continue to learn new capabilities.

Networks play into this process in two ways: through hard infrastructural links to other places and through a web of networks of individuals, firms and public and private institutions. Both types of networks must be simultaneously inward—and outward-oriented (Malecki 2002). Links within the community should be primarily soft or interpersonal in nature, while those with other places will need to rely on hard links of transport and telecommunication networks, which enable soft, interpersonal contacts to be made.

International corporations are the 'network flagships' of global production networks (Ernst 2002; Henderson et al. 2002). And these global networks can create 'a virtuous circle of international knowledge diffusion' as international firms rely on local suppliers and their specific knowledge (Ernst 2002). Thus the global competition for investment has in fact a strong basis: a region is likely to benefit from such investment. However, it is increasingly difficult for peripheral regions to attract investment from international firms, which are increasingly dependent on airports and telecommunication networks that are concentrated in capitals and other major cities.

Peripheral and rural regions tend to share several characteristics. They have low population density or are relatively poor, they are specialized, they are economically conservative, and they are sluggish in adjusting to changing market signals which results in low salvage value of the specialized assets of rural areas (Hite 1997). Note that Hite does not list peripherality or distance from urban markets or core regions, although these are often seen as major disadvantages of peripheral areas. The 'rural penalty' stems from lower population densities, the distance of rural communities from urban centers, and economic specialization in sectors other than information—or knowledge-intensive ones (Parker et al. 1989). Eskelinen (1993) adds a demographic dimension to 'the rural problem': an aging population and selective outmigration of those residents with the highest human capital.

D'Arcy and Guissani (1996) remind us that 'there is no obvious first best approach to local economic development' and each locality will depend on local institutions, priorities, and relationships' (p. 171). Local priorities reflect local culture, but within the larger context of the need to attract investment and the ever-growing threshold conditions demanded by global firms. Peripheral and rural regions face larger challenges, since they are less likely to attract large investors than are major urban regions. Endogenous or bottom-up strategies take as their starting point the lack of competitiveness for external (exogenous) investment, particularly knowledge-oriented investment. In such cases, however, regions must attract and keep their talented people—and attract back those who leave for education and work—on whom endogenous development depends. Although endogenous development theories have not been prominent since

the 1970s and 1980s, they are among the building blocks of territorial innovation models (Moulaert and Sekia 2003).

However, if we turn to look at social, rather than economic, phenomena, we observe readily that not all rural communities are equally burdened by the 'rural penalty'. Much of the rural disadvantage derives from the obvious handicap, relative to urban areas, in access to suppliers and customers, information, and labor (Vaessen and Wever 1993). The rural penalty may be exacerbated by falling transport costs and scale economies, both of which reinforce urban agglomeration (Hite 1997). But these phenomena assume that falling transport (and perhaps communication) costs benefit urban areas more than rural areas. Indeed, it was once believed and is still asserted that the least dense and most remote areas may benefit most from telecommunications (Parker et al. 1989). Many dismiss the distance factor entirely, citing the fact that telecommunications has effectively eliminated distance and remoteness (Cairncross 1997; Parker et al. 1989: 34-35). However, a part of the 'rural penalty' that persists is the continuing concentration of the newest and most advanced technology in large cities, combined with the presence of large corporations whose demand for telecommunications technology ensures that they will not be deprived in the near future. Despite the unquestionable benefit to rural areas from communications technology, technological change is unrelenting and favors urban areas first and most (Richardson and Gillespie 2000).

Capital Accumulation—Social and Otherwise

The cumulative nature of development reflects a number of investments which, once made, endure with lasting benefit. Cappellin (2003) provides a comprehensive overview of the kinds of non-financial capital, or intellectual capital, at work within a region: human capital, innovation capital, process capital, and relational capital. Knowledge or intellectual capital may be internal to the firm (a form of 'human capital'); internal to the organization but outside the individual employees (thus 'structural capital' which may be distinguished into 'innovation capital' and 'process capital'; or external to the firm (or 'relational capital') (p. 319).

Cappellin (2003) summarizes the daunting challenge for applying the endogenous development paradigm to the case of the 'knowledge economy'. The crucial resources for the development of a 'learning region' are human capital, competencies, know-how, culture and knowledge, social capital and institutions and also physical capital.

Networks come in three types:

- *Ecology networks*, often indicated as agglomeration economies or as complex adaptive systems and characterized by strong interaction.
- *Community networks*, often indicated as social capital and based on the sense of identity and common belonging, an homogeneous culture, the sharing of common values . . . trust.
- *Strategy networks*, often defined as joint ventures or cooperative agreements between firms and other organisations (p. 309).

It is perhaps best, therefore, not to rely on social capital as the primary basis for development differences. There are several reasons for this. First, social capital is not an obvious process; most of the literature is based on circular arguments such as: A successful group succeeded because it had social capital, but the evidence that the group has social capital is its success (Sobel 2002: 146; Portes 1998). Second, social capital is not always positive or beneficial. Negative social capital results from the exclusion of outsiders, excess claims on group members, restrictions on individual freedoms, and downward leveling norms (Portes 1998). Anderson and Jack (2002) conclude that social capital is both 'glue', which forms the structure of networks, and at the same

time a 'lubricant', which facilitates the operation of networks. Finally, Cooke and Wills (1999) define social capital as a communal property involving civic engagement, associational membership, high trust, reliability and reciprocity in social networks. These attributes are impossible to identify from secondary data, although some effects might emerge as suitable proxies.

One solution is what Putnam (2000) refers to as social capital that is *bridging*, rather than bonding. Bridges built between groups provide information and other beneficial outcomes that benefit others in the network. Networks operate best within regions, as a large literature has demonstrated (Malecki and Tootle 1996; Storper 1997), but the most beneficial networks include bridges to other regions (Bunnell and Coe 2001; Oinas and Malecki 2002).

Links to the outside—what Flora and Flora (1993) call vertical links in contrast to horizontal links within a community—depend to a large degree on the presence of gatekeepers. Gatekeepers act as bridges between organizations, frequently translating across discipline-specific terminologies and organizational cultures. Gertler (2003) calls such people 'knowledge enablers' or boundary-spanning people. Gatekeepers or knowledge enablers are proactive in acquiring external information and, although they might use the information personally, they also pass it on to others in their organization or community for wider use (Falemo 1989). Gatekeepers select and filter information, but in a role that is rarely institutionalized or formal. In other words, some people simply become gatekeepers because their personalities and the networks formed from their experiences create opportunities for social interaction with development consequences.

Gatekeepers typically see their acquisition of information as part of a *quid pro quo*, whereby they are obligated to supply information in return, as a means of building or maintaining trust in counterparts in other organizations. In fact, gatekeepers only begin the process needed for knowledge creation, knowledge sharing and learning. Nonaka and Toyama (2003) see the organization as an organic configuration, transcending the boundaries of the firm to become part of supplier, customer, university, government, local communities, and competitor organizations.

Some gatekeepers function as 'community entrepreneurs' or 'social entrepreneurs' (Cromie et al. 1993; Johannisson and Nilsson 1989), who have the development of their local community as a goal. Community entrepreneurs use their extensive personal contacts to communicate across sectors, linking public and private sectors. Local growth in peripheral regions and small towns seems to depend on the outside contacts of these 'influentials', especially those in private business rather than government (McGranahan 1984, 1990; Sorensen and Epps 1996). They sort and evaluate information and share or diffuse it to the appropriate people, including small-firm owners and managers (Rosenfeld 1992). Somewhat less common are 'political entrepreneurs', or policymakers who encourage inter-firm communication and cooperation (Lorenz 1992). As local policies increasingly involve partnerships between public and private sector actors, gatekeepers are increasingly important as links between the two sectors. Universities may well contain the key actors who can perform gatekeeper functions, linking networks of global research with local demands and unarticulated needs (Goddard and Chatterton 1999).

Wolfe (2002) demonstrates that the literature on learning regions differs significantly between Europe and North America. In North America, formal institutions and research infrastructure comprise the principal mechanisms of development in successful regions—commonly called today *learning regions*. Government policies tend to strengthen institutions and infrastructure, which form the basis of national and regional innovation systems. The focus on institutions and their 'quality' in an aggregate sense, rather than on how they actually work to form links or bridges between people or actors, is the preferred style of World Bank efforts in many countries (Aron 2000).

Recently, the concept of infrastructure in North American research has expanded to include the built infrastructure (including amenities), as well as the degree of tolerance in the local

culture, which combine to attract and keep a 'creative class' of talented people (Florida 2002). Florida (2003) lists three reasons for the clustering of creative people: thick labor markets, diversity, and quality of place. Only the first of these falls under even an expanded view of agglomeration economies (Gordon and McCann 2000). As Oinas (2002) notes, we still do not understand agglomeration:

There may be a tendency to agglomerate, but this is not all that is going on in economies geographically. Furthermore, we are still not on clear ground concerning the specifics related to agglomeration. There is a long way to go to understand the causes and consequences of *what kinds of activities in what kinds of firms seek to agglomerate with what other actors, for what purpose, where, for how long, and at what stage of doing what* (66, emphasis in original).

The others—diversity and quality of place—are more difficult to assess and more difficult for policies to alter. Pages et al. (2003) summarize the features of state and local entrepreneurship policies in the USA:

- They focus on an entrepreneurial eco-system, going beyond financial capital, workforce, access to new technology and infrastructure to increase variety of players in the system, to build networks of reciprocal interaction, and to support the spread of criteria that reinforce entrepreneurship.
- They promote cultural change, mainly through education and training
- They serve aspiring entrepreneurs as individuals rather than as firms, focusing on soft networks in which people share information and learn from peers
- They provide services via new delivery mechanisms, such as through networks, consultants and service providers
- They attempt to focus on high-growth entrepreneurs, called 'gazelles', despite the fact that they can be identified only in hindsight.

These policies are incremental improvements on prior 'waves' of economic development strategies in the USA.

While institutions are not unimportant in Europe, social capital, interpersonal networks, and local culture are more central to a supportive environment for learning regions and entrepreneurship. In other words, Government policies tend to attempt to foster entrepreneurship, manage knowledge and promote local and regional development have confronted stiff opposition from market forces and agglomeration economies. Therefore, policies now are trying to manage knowledge: to generate 'a system of procedures and incentives to convert tacit and localised knowledge into explicit knowledge available to all companies and employees in a region by overcoming cognitive barriers' (Cappellin 2003: 307). This approach is more focused on process than on the mysterious and rather aggregate concept of spillovers that so dominates the North American literature. Howells (2003) reminds us that unintended, informal knowledge spillovers have been largely ignored. Similarly, it is difficult to document untraded interdependencies since they do not show up in conventional data.

In short, policies in Canada and the USA have tended to stress large-scale and impersonal activities. The few attempts to create European-style networks were mixed and short-lived, highly dependent on fragile financing and on the talents of one person (Sommers 1998). Indeed, the policy environment in the North America has shifted almost completely toward clusters, which are frequently misunderstood and defined with no knowledge of sectoral institutions or infrastructure (Austrian 2000).

The problem is that it is not an easy matter to become innovative and to develop absorptive capacity for continuous change and further innovation. Bougrain and Haudeville (2002) suggest that it the combination of internal R&D capacities, such as a design office, and active external

communication that represents absorptive capacity, which enhances the firm's ability to co-operate and to learn.

One suggestion, by Rosenfeld (1997), is to distinguish between networks and clusters, in which networks are a result of mature and animated clusters, not the source of a local production system. Clusters are systems, found in three types: working, latent, and potential. The ingredients of a working cluster are a daunting set: R&D capability, knowledge and skills, human resource development, proximity of suppliers, capital availability, access to specialized services, machine and tool builders, intensity of networking, social infrastructure, entrepreneurial energy, innovation, shared vision and leadership.

Cooke (2002) suggests that there are three key processes in successful development: learning, trust and social capital. These processes are both fundamentally local and are (in complex combination) the key to the privileged, strong or successful economies. Social capital is the ingredient that distinguishes between networks and clusters, and which make clusters more—and more important than—networks. Cooke adopts a view that combines Rosenfeld's working clusters with Porter's (1998) oft-ignored definition of clusters, which includes both regional institutions and firms that may be only loosely linked by untraded interdependencies. His preferred definition of a cluster is 'Geographically proximate firms in vertical and horizontal relationships involving a localized enterprise support infrastructure with a shared developmental vision for business growth, based on competition and cooperation in a specific market field' (Cooke 2002: 121). This definition goes well beyond mere co-location, and is difficult to identify in large-scale cross-sectional research. In all places, the popular cluster concept has been widely misapplied as merely the collection of sectors that have traded interaction, indicated by input-output linkages. Whether networks or clusters are the ideal is unimportant. The terminology is certain to change in the coming years.

Conclusions

Knowledge-oriented policies are needed both for firms and for regions (Cohendet and Meyer-Krahmer 2002). For firms, policies must help to build competencies, which determine the ways firms acquire, absorb and use knowledge. This is especially true for small firms that do little formal R&D. Knowledge-oriented policies for regions must be concerned with ensuring that the region and its actors participate in the co-development of knowledge at a global scale.

Networks of human interaction remain the basis of economic as well as social life. When networks are organic and systemic, rather than mechanistic and constructed for a specific purpose, social capital and trust are built, and learning takes place efficiently, which leads to further development along a path of sustainable development. Development based on networks, collective learning, and local and nonlocal interaction is cumulative because it is manifested in spin-offs. It is much easier, of course, for prosperous urban regions to demonstrate these processes. Peripheral and rural areas have less to offer prospective entrepreneurs, and it will always be the case, I believe, that endogenous or local resources and networks will have to be combined with networks to tap resources in distant locations.

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TECHNOLOGICAL CHANGE AND THE CHALLENGES FOR REGIONAL DEVELOPMENT: BUILDING 'SOCIAL CAPITAL' IN LESS-FAVOURED REGIONS

Introduction

Positivist interpretations of '*vision*', '*knowledge*' and '*social capital*' have contributed to a diverse range of public and academic discourse on complex and participatory social processes, concerning new approaches to national and regional policy-making over the last two decades. The use of the terms re-emerges partially as a response to the local and regional market consequences of increasingly fragmented and variable market economies. The re-emergence of 'social capital', in particular, is a direct response to this 'new economic' paradigm, calling for the rapid and flexible adaptation to adverse market conditions, and emphasizing high value-added products as the means to higher standards of living (Triglia, 2001:9).

This perspective, also understood as "new entrepreneurialism" (Harvey, 1989), consists of four aspects: creating jobs, expanding the local tax base, fostering small firm growth and attracting new forms of investment (Hall and Hubbard, 1998). It is associated with an increasing ideological view of the world economic order generally, which has also been specifically referred to as 'privatism'; 'privatism', though, should not be confused with 'privatization' (Squires, 1991).[1] The ideology of 'privatism' and the policies of 'privatization,' which have been adopted by national governments worldwide, constitute the transformation to entrepreneurial practices. Framed by these worldviews of global market dynamics, the consensus is that new and high quality products are contingent on *innovation*.

The positivist interpretations of the above terms into social and economic development, though, are often ambiguous because of their multiple meanings or elusive connotations. Furthermore, these positivist interpretations contribute to the social and economic visionary discourses of the

[1] Contrary to privatism, privatization is the regulatory policy that transfers the ownership of particular industries or public services from the government to the private entrepreneur. In other words, this could also be viewed as the 'marketization' of public services, which ensures quality through competition.

'European Project', for example, which rest on an understanding of the world through worldviews structured on scientific 'knowledge' and its use in the rationalization of social behaviour and its causal laws (Taylor, 1998).

Fred Polak (*cited in* Shipley, 2000: 228) first recognized the significance of the term 'vision' for the spatial conception of the 'European Project'. As a part of the process for creating the European Union, Polak argued that all choice-oriented behaviour is contingent upon the ability to produce a clear mental image of events yet to come (*ibid.*). In fact, the *Lisbon Strategy* (Rodrigues, 2003, Conceição et al, 2003) recognizes the challenges put forth by global economic activity and the increased inter-regional competitiveness and disparity that 'globalization' threatens to propagate if left unchecked. The strategy aims to make the EU "*the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion*" by 2010. The objective of this common 'vision' between Member States and the European Commission is to have the *Lisbon Strategy* serve as a benchmark for EU, national and regional policies through 'open methods of social participation' (i.e., participatory spatial planning processes). Central to the *Lisbon Strategy* is the recognition that various aspects of European research and innovation performance is continuously lagging in some areas of the EU, placing research and innovation policy (RTDI) at the top of the European policy agenda (EC, 2000, Edler, et al, 2003; Conceição et al, 2004). This follows the original reflection of Ruberti and Andre (1995), but represents the first serious attempt of European governments to raise science and innovation at the highest political level.

Political 'visions', such as the *Lisbon Strategy*, have been the subject of considerable research by Robert Shipley (2002), who elaborates upon 'visioning' as 'systems of visioning' or "thought-out programs of action" in order to provide an understanding of the underlying philosophy of the term 'vision' as well as the reasons why these "programs of action" fail to achieve their objectives. He first concludes in this most recent work that there is a lack of an underlying theory [of action] because every case has been designed as a step-by-step instructional guide together with general assumptions of the expected outcomes. Second, these 'visioning systems' are more promotional than an analytical discussion of the principles on which they are based; most of these 'systems' albeit proprietary.

As for the meaning of 'knowledge', Keith Smith (2000:4) also finds that the elusiveness of the concept is attributed to the "*very different implicit notions of knowledge*", which make it "*rhetorical rather than analytically useful*". 'Knowledge' is commonly distinguished through the concepts of 'codified' (disembodied) and 'tacit' (embodied) knowledge, but even this distinction is rather " hazy" according to Smith. Regardless of the term's elusiveness, Smith suggests that it normally aims to reduce uncertainty, offer an explanatory structure and/or transmit data in the form of practical guides—similarly suggested by Shipley (2000) of 'vision' statements since the late 1980s.

Inclusive of the 'visions' of social cohesion, competitiveness and sustainable economic growth in a leading knowledge-based economy, what challenges, then, are facing attempts at technology-based development and cooperation through regional policies that desire to stimulate localized learning, innovation and indigenous development within less-favoured regions (LFRs)? *How should 'knowledge' be properly linked to action*? The latter question by John Friedmann (1987) is central to discussing technological change and the challenges to regional development, and particularly encouraging 'social capital' in LFRs. For the purposes of this essay, 'social capital' can impact economic activity in different ways. Conceived as social networks, it can facilitate inclusive and participatory "arenas" for action just as well as contribute to individual opportunism and exclusion.

Critical Aspects of 'Social Capital' and 'Learning'

In order to begin to establish the critical mindset necessary for a theoretically sound discussion of 'social capital' and 'learning', one must first absolve of the medieval English philosopher Francis Bacon's renowned dictum: "*knowledge is power*", whereby one acquires the knowledge to empower oneself competitively with the potential to undertake unmet opportunities, for one that considers the potential inverse relationship. Michel Foucault turns Bacon's dictum on its head and claims, instead, that "*power is knowledge*", implying that those who already possess power will use the knowledge of others to maintain their competitive position. This inverse relationship between 'knowledge' and 'power' is clearly evident when discussed in terms of "*negative social capital*" (Portes, 1998: 15-18) and "*contingent learning*" (Slembeck, 1998) , which will be discussed throughout the remaining sections of this essay.

"Toward a Renewal of Regional Systems of Innovation, RSI"?

While much attention has been devoted to information and communication technologies, a more fundamental change at the start of the new millennium is the increasing importance of innovation for economic prosperity and the emergence of a 'learning society'. Innovation is a broad social and economic activity; it transcends any specific technology, even when revolutionary, and it is manifest through the attitudes and behaviours of individuals oriented towards the exploitation of value-added change.

To claim innovation as a broad social and economic activity, though, one first must have an understanding of the conditions for integrated 'learning' processes. This has led Conceição *et al.* (2003) and Conceição & Heitor (2003) to build on Lundvall & Johnson's (1994) 'learning economy' and to discuss the 'learning society' in terms of innovation and competence building with social cohesion. They view innovation as the key process that characterizes a 'knowledge' economy understood from a dynamic perspective, where competence is the foundation from which innovation emerges, and which allows many innovations to be enjoyed. In other words, 'learning' contributes both to the "generation" of innovations and to the "utilization" of innovations. Conceptually, the founding relationship between 'learning' and economic growth addresses skills improvement and the generation, diffusion, and usage of new ideas.

The inclusive "learning" ideal of the 'learning society', which entails a process of shared prosperity across the globe via local economic and social conditions, argues that it is crucial to understand the features of knowledge-induced growth in wealthy nations and regions, as well as the challenges and opportunities for late-industrialized nations and less-favoured regions. In order to comprehend these features of knowledge-induced growth, it is important to recognize the relative importance of *infrastructures* and *incentives*, while considering the increasing significance of *institutions* in the development of 'social capital'(Conceição, Heitor and Veloso, 2003). This is because "learning" societies will increasingly rely on "distributed knowledge bases", as a systematically coherent set of knowledge, maintained across an economically and/or socially integrated network of agents and institutions.

From this neoclassical economic point of view, infrastructure is related to the existing amount of labour, capital, and natural resources. The 'new growth' theories bring to stage other determinants, in particular human capital, and R&D expertise embodied in firms, universities, and laboratories. Thus, infrastructure will encompass, in addition to labour and capital, technology infrastructure, or technostructure. A consideration of the distinction between labour and capital on one hand, and technostructure on the other, enables a separate analysis of the roles played

by each of these aspects in the development path of a particular industry or region. The 'new growth' theories attempt to formalize the way in which these 'learning' mechanisms can impact on economic growth. *However, the interaction between sets of incentives and the technostruture of a particular region, industry, or nation fosters as well as hampers the patterns of knowledge accumulation and development*. Nevertheless, whilst it is clear that *incentives* and *infrastructure* greatly inform our understanding of the behaviour of firms, government policies and industrial trajectories, they do not tell the whole story about the differences across countries and regions. That is, both incentives and infrastructure provision are shaped by individual choice behaviour (i.e., opportunism as opposed to acts of mutual benefit) and mobility.

While it has been claimed by some researchers that regional variation exceeds that across nation-states, thereby justifying the need to regionally address national economic development issues, others find that regional policies aimed at particular regions have one main weakness: scale. Oughton, *et al.* (2002: 99) argue that regional variation exceeds that of the nation states, in favour of extending the analysis of national systems of innovation (NSIs) to the regional scale. Hommen and Doloreux (2003) maintain, however, that consistent attention has been given to technology and finance resources, but little attention has been directed to labour, its development and deployment, all of which are easily supplied inter-regionally. Moreover, labour mobility reinforces the need to not only recognize the positive and negative impacts on development, but to consider it, among other factors, as a condition of the following determinants of "*negative social capital*" and "*contingent learning*".

"Negative Social Capital"

James Coleman, Mark Granovetter and Alejandro Portes illustrate that the positive-functionalist interpretation of 'social capital' does not take full consideration of the complexity of "social-networks-and-mobility" literature (Portes, 1998:12-13). This is evident in the gender, ethnic and class relations-driven informal networks observed through the spatial division of labour and migration (e.g., immigrant entrepreneurship). Carlo Trigilia (2001) argues that a proper definition of 'social capital', in economic terms, must allow for both positive and negative networked forms of impact on local development. He describes how the '*social network*' perspective, which factors in kinship, ethnicity and class relations, is inclusive of stratified social and economic relations, whereas the '*cultural interpretation*' perspective is centred on a people's willingness to cooperate or a "civic virtue" as the result of shared values and trust. Unlike the "social network" perspective systematically studied by Bourdieu, Loury, Coleman and Granovetter, the "cultural interpretation", in well-known studies by Robert Putnam and Francis Fukuyama, leaves little room for the consideration of networks of *incivisme* (uncivicness) or, as Granovetter so rightly put it, the "strength of weak ties" or informal networks (*cited in* Portes, 1998:12). Triglia (2001) reemphasizes this point by describing at some length the potential for "criminal economies" (e.g., the Italian Mafia), political sub-cultures, parochialism, etc. In order to incorporate both of these perspectives into 'social capital', he suggests that it be understood as a "*network of social relations open to diverse outcomes from the economic point of view*" rather than "*understood generically as a willingness to cooperate based on a shared culture*".

'Contingent Learning'

Positivist-neoclassical economic assertions hold that in order for a market system to function well, the country or region must have "embedded" a set of social capabilities that allow it to

function. This presupposes that the "embedded" social capabilities are competent and that the agents act in the collective interests of the region or nation, within their inherited institutional framework or jurisdiction. In other words, the assumptions are founded on a non-opportunistic and rational human capacity. On the contrary however, one might consider the "conditions for learning and the limits imposed by these conditions instead", as suggested by Slembeck (2001:13). Slembeck draws from psychology's cognitive constraints in models of bounded rationality to enrich economic analysis, linking the cognition and behaviour of an individual to a particular situation "by some action that yields consequences which feed back to the individual" and so on until individual aspiration levels are satisfied for the purposes of theoretical equilibrium. Brown *et al.* (2001) extend this discussion on cognitive qualities in methodological inquiry to argue for an agent-centred as opposed to an institution-centred approach to the comparative study between cities, regions and nations of different cultures and economies. Their argument claims that "agents can and do challenge institutional structures", recognizing that "individuals are conscious beings that have the capacity to think, learn, act and interact". This does not deny an individual's ability to persuade, coerce, motivate and lead, whereby "institutions", manifest through social networks, can emerge from unintended human action. That is, to borrow from Partha Drasgrupta (2002: 30), "to identify 'social capital' with institutions *is* [italics added] a mistake: institutions emerge from networks, they are themselves not networks".

Brown *et al.* (2001) emphasize that the main difference between the two approaches is the issue of "autonomy". One could argue, then, that the terrain of 'social capital' discourse is rather a tenuous relationship between "autonomy" and its corollary "subsidiarty" (Amaral, 1998: 266)[2], than one solely founded on cooperative networks for community-wide benefit or "*civicness*". By addressing the issue of autonomy, Brown and coleagues treat institutions as "resource endowments, providing agents with physical, social and intellectual resources.

Compare this with Braczyk *et al* (eds., 1998: 12) who adopt the 'system concept' as the analytical framework for a regional comparative study of innovation. They claim that the 'system concept' requires no assumption that innovation systems always consist of closely linked actors or that they have clear-cut boundaries. Neither need it be anticipated that innovation systems consist of similar actors performing *comparable* [italic added] functions". This analytical assertion is seemingly contradictory to Brown *et al.* (2002: 275), who claim that "agents in the same industries in different jurisdictions characterized by rather different cultural and social traditions seem to respond to common economic imperatives using different instruments at their disposal." The problem here lies with the issue of scale and comparability. Where does one draw the boundaries? Where boundaries are acceptable, are the respective innovation systems comparable across the different industries for that jurisdiction? Instead, might one consider "*national-sectoral systems of innovation*" (Oosterwijk, 2003) and/or "*multi-level systems of innovation*" (Kaiser and Prange, 2003)?

As for the positivist neoclassical thinking noted earlier, competence is the foundation from which innovation emerges. Although, to what extent can a national economic development agenda, which is centred on regional systems of innovation and its embedded contingencies of 'competence building' and 'social capital', contribute to greater social cohesion as the result of interregional competition? In other words, to what extent is it safe to expect that a national economic development agenda, which is centred on competitive interregional systems of innovation

[2] "The principles of autonomy and subsidiarity imply the interpenetration of various entities that together constitute the State [governance] through the effective collaboration among all, and the participation of lower tiers in the mechanisms and decision-making processes of upper tiers in which they are integrated" (author's translation). See Amaral, 1998: 266-301 for elaboration.

initiatives, increases the chances of social cohesion and economic convergence for less-favoured regions?

Regardless, however, Braczyk *et al.* and Brown *et al.* both seem to agree that the social networks they describe are socially constructed, fluid, open and dynamic. The apparent shift from "embeddedness" to autonomy and an agent-centred methodological approach is explored by Cooke (2004, this volume) through four types of 'social capital'. Suffice to say that 'social capital' is the act of risk management between economic agents and institutions for political or economic purposes, which also is competitively expressed through a desire for autonomy, as opposed to one solely founded on cooperative networks for community-wide benefit.

Behaviour, Urbanization and Industrial Localization of Innovation Activity

The degree of local and regional development has a share of external factors impacting its capacity for qualified human resources and 'social capital', and the creation and diffusion of knowledge. These regional characteristics include the overall effects of population dynamics (i.e., rural-urban shift or urban agglomeration), and endogenous and foreign direct investment. While showing signs of some diffusion to other regions in the country (United Nations Secretariat, 2002), the strong urban orientation in Portugal, for example, persists. The significance of this seemingly growing propensity to agglomerate in urban areas, namely in the Lisbon and Porto Metropolitan Areas along the Portuguese coastal corridor, has its implications for the location decisions of Portuguese entrepreneurs and the national agglomeration of foreign direct investment. The spatial distribution of both forms of Portuguese investment has been discussed and illustrated in two separate studies (Guimarães, *et al.*, 2000; Figueiredo *et al.*, 2002), which are summarized below:

- Urbanization[3] economies far outweigh traditional industry specific localization[4] factors (e.g., labour and land costs); "*urban diversity economies, not industry localization, drives economic growth according to* [the] *'new economic geography'*". Whereby urbanization economies offset "information costs";[5]
- "Information costs" and available services to foreign investors, due to unfamiliar environment (local laws, customs, taxes, etc.), remain a key issue for agglomeration along the coastal corridor, followed by industry-level localization factors (e.g., percentage of skilled workforce); and
- "Informational cascading": despite comparable advantages in less urbanized neighbouring regions, firms continue to migrate to cities, imitating previous location decisions. Most entrepreneurs invest in their previous area of economic activity, apparently paying a premium to compete in their "*home*" territory; study shows that these "*home*" investors are willing to pay up to 3.4 times what could be paid out in wage costs elsewhere in the country (whether, the dense concentration of entrepreneurial investment is simply the tendency of Portuguese entrepreneurs to invest in their "*home*" territories, or their increased need in skilled labour *versus* the low-wage labour pools of peripheral regions is not clear).

Albeit, Portuguese peripheral regions provide no evidence that their less expensive labour costs have influenced location. The studies even suggest that public transport policy might influence

[3] The increase and development of urban services (e.g., housing, hotel, leisure, food and retail)

[4] The localization or the attraction of new economic activity to an area's existing cluster of economic concentration (local knowledge, skilled workforce, etc.); "specialization attracts more specialization"

[5] "Information costs" and agglomeration effects compensate for the lack of 'knowledge' about product and market conditions.

this finding in favour of the peripheral regions, since distance to peripheral cities remains an important factor. More importantly noted, however, is that the strong urban orientation, which is centred on the metropolitan areas of Lisbon and Porto, seemingly goes beyond the traditional explanations of localization and urbanization agglomeration economies to one of strong endogenous social networks. This is particularly apparent in explaining the behaviour of investors willing to pay up to 3.4 times what could be paid in wage costs elsewhere in the country. Both studies elude to but do not discuss the social networks behind these patterns of industrial localization (i.e., extend the discussion from the linear cause and effect explanations of neoclassical economics to the complex interdependencies of social networks embedded in areas of previous economic activity or previous location decisions); suffice to say that the authors of both studies claim urbanization agglomeration has driven the location of entrepreneurial investment, as opposed to industrial localization agglomeration economies.

One could draw from these studies the argument that *geography* and *institutions* matter! How to study 'social capital' in the context of these development patterns, though, is uncertain, particularly for imitative firm behaviour or norms, or where institutions have seemingly failed to provide the necessary endowments to encourage or minimize the risk economic agents would incur otherwise. Using 'social capital' in these circumstances must be exercised with some caution because its definition(s) tends to be elusive and generally interpreted with functionalist or causal links to economic growth, for instance. Although, due to 'social capital's' context specificity or the agent-centred contingencies discussed above (i.e., '*negative social capital*' and '*contingent learning*'), policy implications remain unclear and its measurement difficult; limit the study of 'social capital' to the rationalization of its positive effects is a mistake, or, at the very least, a misleading representation of the social construction of [new] technology or the innovation process. It also is apparent, then, that *history* matters. In the light of both organizational and technological innovation development, which comes first? The "debate on innovation surveys" raises a number of critical questions in this respect (Conceição and Heitor, 2003).

Measuring the 'Social Capital' of Innovation Activity

For Mónica Salazar and Adam Holbrook (2003), the critical questions concerning the debate on innovation surveys are structured according to five conceptual and methodological dichotomies that include issues centred on 'unit of [innovation] analysis', 'levels of novelty' or degree of innovativeness, '*potentially* innovative firms' as a third category response to innovation in developing countries (first and second being *innovative* and *non-innovative firms*), public *vs.* private sector innovation, and the social and geographic dimension of innovation. The authors provide an historical review of innovation surveys or questionnaires that begin with the conceptual framework for innovation indicators in 1988, which was revised a year later in Oslo, Norway (Oslo Manual), and contributed to the launch of the first European Community Innovation Survey (CIS) in 1991 and subsequent versions in 1997 and 2001.

Their main argument holds that the questionnaires based on the Oslo Manual use the systems of innovation approach, but they collect little information on the dynamic of such systems. The argument is discussed in accordance with the principles of the recently published *Bogatá Manual*, which is structured on a broader definition of innovation that includes organizational and technological innovation as well as its commercialization. The Bogatá Manual stands in direct opposition to the innovative firm focus of the Oslo Manual whereby surveys are more geared to the 'process of innovation', rather than solely aimed at quantifying the 'results of innovation' (e.g., the bias toward technology producing innovation).

Moreover, Salazar and Holbrook (2003: 11) direct some attention to the Canadian ISRN[6] survey, which, unlike traditional innovation surveys that aim to characterize innovation activities at the firm level, attempts to characterize networks of 'differential relationships' between local and non-local *agents* in a seemingly agent-centred approach. While CIS III accounts for the collaborative tendencies and organizational changes of firms, the authors find they are not investigated as activities directly linked to innovation, but potential correlations of innovative firm behaviour worthy of analysis. They point out the lack of location data useful to cluster studies, such as that of the Canadian ISRN survey, and the embedded social structures and social roles that determine the power of an individual in the workplace and, thereby, the type of innovation one participates in across different industry sectors and throughout different nations. Such is the potential 'gender-bias' of methodological approaches, for example, that do not undertake a gender-inclusive dimension in the measurement of innovation, concerning syntheses on collaborative *vs.* radical, individualistic innovative actions.

Conclusion

From this essay one may conclude that the study and understanding of non-innovative behaviour and/or innovation failures (i.e., *negative social capital*), which potentially add to the individual tacit knowledge that contributes to workplace productivity (i.e., *contingent learning*), is equally as important as the multi-dimensional considerations of innovation measurement methodologies. However, one must also conclude that an albeit exhaustive understanding of innovation goes beyond the firm focus of traditional innovation surveys to one inclusive of social and geographic as well as economic dimensions of an agent-centred approach. Methodological approaches, then, must understand the "object" of innovation surveys to be an investigation of the determinants of successful *and* non-successful innovation processes, as opposed to solely understanding these surveys as the measurement of the "results" of innovative actions (e.g., technology producing processes). The "subject" of such surveys is the differential relationships between local and non-local agents; and only in this way is it possible to appreciate the critical aspects of 'social capital' and 'learning' in innovation processes.

Moreover, there is no definitive answer(s) to the problem of achieving 'learning' societies. As in every situation where institutions are important, history and geography ought to be of equal or greater concern. Path dependence and increasing returns lead to self-reinforcing cycles, whereby events, often sporadic and serendipitous, define current patterns of development (good and bad). The good news is that if one understands the dynamics of institutional change through an agent-centred approach and the evolution in resource endowments, then one may also create conditions for desired future development.

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SOCIAL CAPITAL, EMBEDDEDNESS, AND REGIONAL INNOVATION

1. Introduction

In the UK, small and medium-sized enterprises (SMEs) now provide more employment and business turnover than large firms and public organisations together. This has profound regional scientific implications because, as is well known, less-favoured regions rely on larger employers and tend to lack abundant populations of SMEs and the appropriate economic business environments (Porter, Sacks & Warner, 2000). Furthermore, whereas large firms may operate with special departments to look after innovation, marketing and training needs, small firms lack these resources. This can be a barrier to expansion. However, by collaborating with other SMEs on certain business functions, or by sharing non-confidential knowledge, they can, together, overcome barriers caused by small size in a relatively costless manner. This is known as exploiting 'social capital'. This concept has begun to move from urban studies, where Jane Jacobs (1961) first articulated it, to sociology of education, where it was first used operationally in studies of pupil performance (Coleman, 1988; Schuller & Field, 1998), to regional political economy (Putnam, 1993), business studies (Nahapiet & Ghoshal, 1998), development studies (Woolcock, 1998), innovation studies (Fountain, 1998; Cooke & Wills, 1999) and policy studies (Inkeles, 2000). It has become, from scant origins, a protean concept for defining 'the missing ingredient' in successful practice that economics cannot explain. *Social capital is defined as the application or exercise of social norms of reciprocity, trust and exchange for political or economic purposes.* It is argued to be highly valuable in communities ranging from ethnic sub-communities to professional associations. But it came to prominence across the social sciences because of the rise to prominence of *network* structures in socio-economic life and theorisations of embeddedness that sought to restore the social dimension to economic analysis(Granovetter, 1992; Cooke & Morgan, 1993; 1998).

The first half of the paper reports the results of a large-scale survey, accompanied by a sample of face-to-face and telephone interviews, into the role of social capital in the economic performance of SMEs in the UK. The survey and interviews were undertaken to examine how firms engage in formal and informal partnerships based on mutual trust, exchanging favours, and, judging reliability, credibility and reputation as safeguards against opportunistic behaviour. The methodology selected was robust and innovative. It will be discussed in more detail in Section 3, but by giving a flavour of it here, it may be seen how important the regional and local dimensions were as inputs to the research design, but also how other, non-spatial categorisations, were equally important to the quest for social capital. The results of this exacting study of the role of

reciprocity, trust and favour exchange in business life complemented the Cooke and Wills (1999) study of social capital and public innovation programmes encouraging inter-firm networking, by looking at social capital in market-based or private rather than public enterprise support settings.

2. Theoretical Context

Social capital now has an extensive empirical and theoretical literature on which to draw. One of the most extensive reviews of the subject, by Woolcock (1998) drew important distinctions about social capital in relation to another social economy concept, that of *embeddedness* (Granovetter, 1985; Grabher, 1993). In theorising the results of our research projects, the ideas of 'relational embeddedness' (Granovetter, 1992) and 'firm capabilities' (Penrose, 1959; Teece & Pisano, 1998) have asserted themselves. Commentary is provided on the relevance of these concepts as appropriate in this text.

While Granovetter warned of the strength of weak ties and loose coupling over the weakness of strong ties between network contacts, Grabher warned similarly of the dangers of 'lock-in' of relationships caused by over-dependence on a too-narrow range of business or social contacts. Woolcock, following Evans (1995) took this further in arguing embeddedness itself, while important in providing initial support, including financial support for business development, needed complementing by *autonomy* for development beyond a highly circumscribed scale to be feasible. *Autonomy means exercising the social capital involved in non-local professional, industrial or social networks.* This evolution, from embeddedness to autonomy allows four key kinds of social capital to be exercised:

- Integrity—by activating reputational resources associated with membership of a professional association
- Integration—continued community benefits at low or no cost, deriving from embeddedness but activated through expressing autonomy
- Linkage—membership of local and non-local networks by virtue of assets deemed to be of consequence to the interests of these
- Synergy—Capabilities to link also to governance bodies, including government programmes and policies

Buying and selling proceed, albeit among economically 'significant others'. *Trust, especially of the reputational or goodwill kind, is the key form taken by relational embeddedness, and the consequent social capital contributes significantly to the dynamic capabilities of the firm.* Despite this, as we will show in the empirical sections of the paper, regular and long established network relationships among industry or professionally based SMEs consistently display *traded* interdependencies.

The Social Capital in Markets Survey

The survey was aimed at eliciting measurable responses on changes in SME performance by turnover, profitability, and employment during the 3 years prior to the survey[1]. Innovation performance was also measured over this period through standard measures, notably inquiry regarding SME introduction of products and processes new to the market, achievement of

[1] The 3-year interval was essentially a compromise between a period long enough for changes to be observed, and short enough for data to be readily available. It is appreciated that using just 2 observations may in some cases present a somewhat false picture (i.e. the possibility of comparing peaks and toughs), but this method was judged to be best compromise available within the constraints of the survey.

recognised quality standards (e.g. the ISO Series), and share of total sales of these new products and processes. Of central importance was a range of questions relating to *social capital*. These sought judgements from respondents, through use of the Likert scale, and other quantitative indicators, concerning formal and informal, associational, club or network membership. The geographical spread of these linkages was also investigated.

The survey was mailed to 3,600 SMEs, comprising 100 SMEs (defined as those with under 200 employees) for each of three administrative units within the twelve UK Standard Regions. Thee three administrative units (counties and unitary authorities) were defined in terms of high, medium and low competitiveness.

Ultimately 455 usable responses to the survey were received. This represents a response rate of just over 14%, when firms that have ceased trading or have otherwise been identified as not applicable to this research are removed from the equation[2]. This is in line with response rates experienced in other postal surveys of the general SME population (e.g. 13.2% of Brooksbank *et al*, 2001). Analysis of respondents detected no response bias with respect to location, firm size and sector of operation. Following the questionnaire survey, a programme of 40 interviews was undertaken between March and May 2002. These provided a qualitative investigation of the role of social capital, as perceived by SME owners and managers identified as representative and illustrative cases from the postal survey returns.

3. Some Key Findings

Innovation

It is clear that innovative firms are high users of social capital, though this need not mean that the social capital exploited is only local. Indeed it is arguable that it is less local than global, and rooted in obligational trust among professional peers (integrity) and networks (linkage) but fundamentally involving *pecuniary* transactions among trusted contractors or contractees. A comparable pattern of results to the ones described above were obtained when the *actual* number of new products and services (or product / service changes) brought to the market in recent years was investigated. Moreover, the actual and self-rated indicators of innovation were found to be positively and significantly associated, indicating consistency between the perceived (by the SME) and the observed (in the market place).

Business Growth

Analysis was also undertaken with respect to the other measures of successful SME performance, namely employment change between 1997 and 2000, change in turnover, and change in levels of gross profit[3], over the same period. In general, these results were less conclusive than those obtained for innovation. However, a clear trend observed was the general association of measures of SME growth (in terms of employment, turnover and also profit) with the use

[2] Volatility within the business stock is a well-documented problem for SME research (e.g. Storey, 1994). Firms may also have simply moved, become part of a larger organisation, or have grown above the limit of 200 employees organically. A significant proportion of recorded non-response is therefore almost certainly due to questionnaires failing to reach valid targets, despite recipients being encouraged to inform researchers if this was the case. It was decided that such firms would not be replaced within the sample, due to the adverse effect this would have on the make-up of the sample.

[3] Where the information was supplied, profit was calculated as a percentage of turnover for the two years in question. The later figure was then expressed as a ratio of the earlier one. Measures employment, turnover and profit were employed as it is widely documented that these goals are not necessary complimentary for SMEs, or indeed any firm (e.g. Storey, 1994).

of external contacts that are less locally based. Also noticeable is the importance of high trust relations with other firms and/or organisations as a *compensating* factor for certain internal resource shortfalls. Where this occurred it was found to be associated with profit growth, as calculated in note 2

Growth and innovation link

The association between the capacity to introduce new products and services (both actual numbers and self-rating) and measures of business growth were investigated, in order to gauge directly the divergence between 'growers' and 'innovators'. The correlations between growth and innovation, though generally positive, are very weak. This suggests that in practice treating SMEs as either growers or innovators is justified.

Regional Dimensions

As described earlier, the methodology of this study allowed for two distinct types of spatial analysis: one based around the high[4]/medium/low taxonomy, the other using the 12 standard statistical regions of the UK. This distinction is interesting in itself, looking at how relative economic performance within a region relates to the regional picture with respect to the UK as a whole. It is also warranted for methodological reasons—i.e. dividing the sample into three approximately equal tranches facilitates data robustness when compared to the 1:11 ratio of (say) London vs. not London. As such the high/medium/low approach allows comment on spatial subtleties within the overall social capital picture. A representation of this overall picture is shown by the index in Table 1.

As might be expected, a positive association was observed between firms' capacity to introduce new products, and the location of that firm in a 'high performing' area. Similarly, firms in low performing areas tended to have lower ratings of their capacity to introduce new products. Nevertheless, low performing areas, even in lower performing regions, have innovative SMEs. With respect to social capital variables, the following significant results were obtained with respect to firms in high performing areas. The social capital employed by these tended to be:-

- Less 'social', more 'professional' in group and association membership
- Less locally focused in the contact involved
- High-trust' relations are more important for business performance
- Inter-firm collaboration is rated most beneficial in high performance areas

These results suggest that firms in less favoured localities may become 'locked-in' to a restricted and inward-looking group of contacts and linkages. That is, such firms may possess *integrity*, but be lacking in *autonomy*. Furthermore, 'high trust' and 'inter-firm collaboration' also suggest a better 'quality' of business relationship as found in higher performing areas. In other words relational embeddedness is allowing social capital to be built up to compensate somewhat for weak capabilities.

Turning to the 'macro' picture, the twelve standard regions of the UK were examined in order to see if any differences emerged. There was no clear pattern, although the rather surprising result was obtained of firms in the South East of England having on average a lower self-rating for their capacity to introduce new products and services. This may be something linked to the industrial structure of the region (i.e. more service firms, fewer manufacturing ones), but it should

[4] These are defined as the highest ranked Unitary Authority districts within each of the 12 regions, from the competitiveness index described above, i.e. such that each region is represented by one high one medium and one low district.

Table 1:

Social Capital and Regional Competitiveness

Social Capital * Rank	Region	Competitiveness Rank
1	South East	2
2=	London	1
2=	East Midlands	5
4	East	4
5	West Midlands	6
6	Northern Ireland	9
7	Scotland	7
8	Wales	11
9	North East	12
10	South West	3
11	North West	8
12	Yorkshire and the Humber	10

* An index composed from a range of indicators, focusing on the importance of *business* information gathered by firms outside of routine 'arm's length exchange' contact.

also be pointed that this result was not observed for London. However both score highly on our composite measure of social capital.

Thus the results presented above indicate some correlation between use of social capital, and regional economic performance, albeit not a clear-cut one. This is an area warranting further investigation, both using the present data set, and within future research.

Social Capital at the Micro-economic Level

We have seen how social capital operates differentially according to spatial, professional and business networks in which firms are involved. It has been noted that knowledge-intensive businesses are more engaged in social capital relations than average, though such networks are by no means confined to regional or local scales. Further, it was shown that *innovative* firms of whatever sectoral background are also higher users of social capital and reveal better growth performance than non-innovators. Finally, we showed that firms in less-favoured regions are high users of social capital, even though that does not necessarily transform into high performance, except if they are innovative. So it seems that traditionally defined social capital may not, in itself, be as much of a 'missing ingredient' in development as, for example, Humphrey & Schmitz (1999) hypothesised. However, it is also not inconsistent with high performance, innovative or knowledge intensive SME characteristics and may exert positive effects on these categories.

However, as the analysis has developed, it will be recalled, we have sought to clarify the meaning of 'social capital' in light of what we discovered about SME practice in general. We now wish to specify *business* social capital for SMEs in terms of it being 'a predominant feature of market interaction in which SMEs trade seriously with a relatively small network of others whose reputation they trust as reliable, giving rise to a pronounced condition of exploiting *traded interdependencies*.' We say '*predominant*' because not only is it imaginable that an SME will not have such network partners, we found a few cases that seemed to be fall into that category,

	'Spot-trading'	Formal Contract	Informal Contract	Project
Low Social Capital	*InterTimber*	*Holywell Yarns*		
Vulnerable Soc.Cap.	*Neumann Exhibitions*	*Roger Dimmock*	*Beavers Recruitment*	*United Automation*
Infrequent, High Trust				*Green Point Films*
Frequent, Traded S.C.		*Wansbeck Insurance*	*Barchem Construction*	

Fig. 1: Forms of Social Capital and Typical Trading Relations of Selected SMEs

but they were a minority. It is also the case, of course, that SMEs trade with large enterprises and not only other SMEs.

In that case, the relationship is inevitably one of dominance and dependence, and for better or worse SMEs remain doing business with large enterprises, even when trust has been breached, because of the perceived and actual positive trade-off from the large-scale contracts such business relations typically entail. Finally, SMEs also have relations with customers that are not firms, and, as we shall see, some of these may have a network type of structure. In order to tease out some of these distinctive types of regular, repeat, trust-based, traded interdependencies the figure that follows (Fig. 1) has been derived. The derivation is both conceptual (in the first instance) and iterated by reference to the interviews conducted with a representative sample of respondents to the postal questionnaire firm survey.

It is now important to explain the entries made in Fig. 1 in relation to nine empirical cases derived from forty interviews with SMEs reporting high, moderate and low social capital. This is done, first, by explanation of the categories in the schema. It will be recalled that we argue most business social capital involves trading rather than gift relations or barter. With reference to the row categories, the first, 'low social capital' reflects the fact that some SMEs have few local, professional, or social networks. Social capital plays a minimum role in their business practice. They are individualistic traders whose key personnel spend a substantial amount of time seeking 'arm's length exchange' deals, agreements or contracts. They are seldom involved in 'project work', with its connotations of stable return partnering with trusted others.

The second row captures the more frequently encountered situation where an SME regularly exploits social capital with a network of 'significant others' among which is (usually) one large enterprise to which it supplies valued services, on which it is heavily dependent, and which may breach both trust and contractual agreements, effectively without sanction. This is because the cost of legal action to gain redress is outweighed by the value of continued supply chain business with the transgressor. As we shall see, despite the perils of such relationships, SMEs in this category cover a wide range of transactional types, tend to prosper, and, above all, learn rapidly about risk-management and risk-spreading in particular. Moreover, while such SMEs may supply global large enterprises, and thus in a sense, export their services, such transactions are often quite localised. This refines the commonly made observation that SMEs that perform best operate in export markets (see, e.g. Storey, 1994) since it shows that these can be accessed locally in many instances.

The third row captures the relatively rare (at least in our samples) phenomenon among SMEs of possessing a substantial network of professionally specialised contacts, which is called upon or mobilised relatively infrequently, though for contractually sizeable time-periods. This type

of social capital is strong, it is capable of being activated after lengthy periods of quiescence, and it depends on critical mass. Thus, despite recent work that argues relationships of this kind are increasing because of the greater incidence of 'externalisation' of service or other production to teams or networks of specialists (see, e.g. Grabher, 2002, and *Regional Studies*, 2002), among the UK-wide, regionally varied sample we drew, it is unusual. Classic cases are, 'new economy' SMEs, such as dedicated biotechnology firms (DBFs) that coalesce for a specific, advanced research and commercialisation project. This will typically nowadays involve such varied, technically specific firm skills as combinatorial chemistry, gene sequencing, molecular biology, proteomics and bioinformatics. The case we found was the London film company that produced the commercially distributed film of Emma Freud's novel 'Hideous Kinky'.

Finally, there is the category in which SMEs depend to a large extent on social capital of many kinds, cultural, professional, business-related in order to trade efficiently. The extreme case of this, which is detailed below, is an SME whose market consists largely of the circle of friends of the company's husband and wife directors. The firm is prosperous, operating in luxury markets, refurbishing property in London but based 110 kilometres to the west, where many City of London financiers have their main home or a second one. The firm's market is almost exclusively focused on contracts in London and the Wiltshire/Berkshire area. Somewhat less dependent on 'cultural' social capital of the latter kind, our second 'frequent, traded social capital' example is a heavy user of business contacts in a localised market area. An informal network of 'helpful neighbours', 'borrows' information on the understanding that it will be paid back with reciprocal knowledge if needed, or splits commission remuneration where a transaction requires superior computer software. Such SMEs do not perceive each other as 'competition'; rather it is the large firms in the same sector that are so perceived.

The columns in Fig 1 reflect four distinct types of transaction. The first is 'spot-trading' typical of stock or commodity markets where impersonal trades are habitually conducted. The second refers to the most typical transactional relations where a formal, legally enforceable contract is signed between traders. It is the apotheosis of Sako's (1992) 'contractual trust'. This may be a one-off or single contract, or repeated many times, but it is the fundamental institutional form of securing supplier and customer satisfaction, and the most common 'business-to business' relationship, present implicitly also in most 'business-to-consumer' trades. Third, is the 'informal contract' transaction, in which SMEs have social capital networks with members of which they do business without necessarily going through the legal processes of drawing up and signing contracts. But this does not mean that remuneration from such deals is not paid. A good example would be that described in the previous paragraph regarding shared commission in exchange for accessing superior assets from a business network contact. Finally, the 'project' category is included because it differs from normal contracts in being time-expired, always one-off, and complex in that many contracts, for example, up to eighty of varying lengths and qualities in the case of our film company, have to be made.

Now, in brief, the cases we have called upon illustrate the varying kinds of weak or strong social capital and the variation in types of agreement more clearly than our earlier statistical generalisations, but without the wide generalisability the larger data set obviously provides. We shall contrast their existential business modes along the rows of Fig. 1.

- 'Spot Traders'—*InterTimber* is literally a 'spot trader', a timber agent buying and selling timber in a variety of markets according to prevailing market conditions and prices. Eastern Europe became a key buying source and the UK the key market outlet. While 'tending to do its own thing', the firm gets valuable pricing information from membership of the local branch of the Timber Trade Federation. *InterTimber* uses 'studied trust' (Sabel, 1992) to operate in a low trust environment. In other words, it has developed a reputation for payment for goods

that is unusually reliable, particularly for East European markets. *Holywell Yarns* is a textiles merchant and agent with only two non-local competitors. Most customers are UK-based Asian firms, relations are 'purely commercial' but contractual although a 'sourced' sale (i.e. not from stock) might be made at the 'spot price' to earn Sako's (1992) 'goodwill trust'. Bad debts are a problem and risk assessment and insurance important.

It is notable that as almost classic traders, both these low social capital examples tend to understand the economic advantages of trust, and disadvantages of its opposite, rather well, and use it as a resource in their business activities. The way they use it is as a kind of discount, by paying 'on the nail' or selling 'at cost' to keep a new customer.

- 'Vulnerable social capital' firms depend on one or a few large firm customers and are vulnerable because agreements can be revoked, changed or broken. *Neumann Exhibitions* designs trade fair sets for IT corporates like Seagate and Adobe, co-located in the M4 Corridor. Cyclical markets mean contracts are short-term, and marketing and exhibition budgets first to be cut in a downturn. So this firm is 'constantly trying not to give customers a reason to change suppliers'. *Roger Dimmock* began as an IT recruitment agency but through trust building, became a supplier of IT services to City of London finance companies. The firm has a few large-scale and long-term contracts with such clients. The owner is a member of the City's 'Liverymen Guild' and Arsenal F.C.'s business network, each of which assists contact development. This is the least 'vulnerable' of the present example SMEs. *Beavers Recruitment* is a truck-drivers recruitment agency. It is heavily dependent on traded social capital because of 'over-dependence' on a single large logistics customer. Fluctuation in demand means Beavers has to lay off requests for drivers on to a group of some twenty-five other small agencies in Swindon (M4 Corridor). Shortages of drivers means the firm has to look after distantly recruited drivers, and sometimes families, by finding them housing. However, the firm suffered a Ł30,000 loss recently when a new manager at the client firm refused to pay an outstanding bill for Christmas working. *Beavers* learnt to diversify its client base without losing its key customer. *United Automation* is an automotive electronics firm that seeks positions in supply chains of firms like Ford and Jaguar on a project-by-project basis.

The common position of each firm in the 'vulnerable social capital' category is that each is dependent on maintaining good relations with key large firm customers, which necessitates 'pandering' to the whims of the existing client base and being proactive in a multitude of ways in seeking to broaden that client base. Social capital of the traded variety is prominent among the strategies deployed and in a variety of ways ranging from 'clubs' to accepting 'breach of contract'.

- *Green Point Films* is an infrequent user of high trust relationships established over a thirty-year period. Typically, a project is initiated by this kind of SME, and high-risk development work is undertaken for no income to take a project to the stage where discussions can begin with a commissioning editor or film producer/distributor. The firm has two modes of operation; first, as an independent production company, involving up to eighty people, including actors, writers, catering, lighting, editing and construction staff, and, second, as a post-production firm expert in special effects, graphics and editing. The firm often operates on a 'guerrilla' basis, taking on projects, managing and delivering them, based on payment of salary but with no production rights. Location in central London is crucial to access networks of critical mass scale. Commissioning firms seek 'name' projects. Accordingly, film firms deal with actors' agents, scriptwriters' agents, and so on. 'Good agents can be invaluable—for cast, crew, directors, writers, etc, as is our good reputation with them.'
- Finally, two firms in the 'frequently traded social capital' category are *Wansbeck Insurance*, a firm that is highly dependent on a network of small, locally-based insurance companies

with which co-operation is frequent, often in competition with large insurance firms, and *Barchem*, a luxury property refurbishing firm, dependent largely upon a 'circle of friends' for commissions. The monthly dinner party is the main source of contracts ranging from installing or refurbishing swimming pools to restoring old houses or reconditioning or converting old industrial property. A local network of sub-contractors completes the work. Informal collaboration with competitors occurs in response to new systems, ranging from new construction taxation regimes or the directive on *Construction Design Management* to new software—'you just chat on the phone to your competitors, united against the 'common enemy' as it were'.

We may conclude this section of the paper by saying that for firms that are substantially involved in relational embeddedness either have significant dynamic capabilities or if they have a weak surrounding local economy they build inter-firm relational embeddedness to gain social capital and enhance weak capabilities.

4. Regional Social Capital Policy: Networks of Innovators

Social Capital and SME Competitiveness

In this study, firms in innovation network programmes (EU & domestic) in Denmark, Ireland and Wales were the subject of research. Firms in each country were asked a battery of questions about improvements in business performance which CEOs (the target respondents) ascribed to involvement in *collaborative* innovation-promotion programmes of European Union and domestic origin. The range of variables was extensive and has been condensed into three macro-variables with indications of what these represent in parentheses. Few firms ascribed any decrease in performance to programme-involvement but variation in performance improvement was considerable with some country-specific patterning, as demonstrated in Table 2. It is rather striking that few variables yield values referring to more than half of SMEs. This means that a good portion of respondent firms ascribed performance gains to extra-programme effects. On knowledge-exploitation, domestic programmes are twice as beneficial overall as EU programmes, though for Ireland that assessment is reversed. The relatively high valuation by SMEs in Wales of domestic programmes is probably influenced by the perceived popularity of local schemes tailored to meeting individual firm needs but implying greater than anticipated *informal* inter-firm networking This is less likely in Denmark where networking programmes have been a pronounced feature of SME industry policy in the 1990s and may reflect better 'absorptive capacity' (Cohen and Levinthal, 1989) towards exploiting social capital in network programmes of both kinds.

Programme Effectiveness in Aiding Innovation

It is worth noting that, when asked their main rationale or priorities for seeking engagement in public enterprise support programmes for enhancing innovation through collaboration, the main motivation was not to improve innovation but to grow the business or, in Ireland, enhance skills in the firm. As may be seen from Table 3 which provides data on the proportion of respondents ranking seven indicators (each containing 3-7 sub-indicators) as a 'primary objective' for programme involvement, Danish SMEs engaging in domestic innovation support schemes are the only ones motivated more (marginally) by innovation than business growth or skills. Welsh SMEs clearly perceive business growth as a strong motivator for involvement in both kinds of programmes, no doubt echoing the youthfulness and small average size of the SMEs concerned

Table 2:

Percentage of Respondent SMEs Ascribing Performance Gains to EU and Domestic Collaborative Innovation Promotion Programmes (Likert scale 4-5)

Indicator (%)	*European Union Programmes*			*Domestic Programmes*		
	Denmark (N=20)	Ireland (N=19)	Wales (N=17)	Denmark (N=20)	Ireland (N=19)	Wales (N=17)
Knowledge Exploitation (IPR applications and Patents)	22	17	13	40	10	50
Innovation (Product, Process Organizational)	55	47	40	47	10	62
Business Performance (Turnover, Employment, Market Share, Productivity Exports, Profit)	41	52	38	17	30	78

(mean set-up date 1989; mean establishment size 33 employees). They are also clearly motivated to access R&D from partners in programmes, discernibly more so than their comparators but not where the 'innovation' indicator is concerned. Skills development is more a domestic programme motivation in the case of Welsh SMEs. Danish firms have relatively modest motivations on all indicators, though less so for some benefits from domestic programmes, notably innovation, business growth and skills. R&D gains are anticipated more from EU than domestic schemes with markets and finance being ranked very highly by relatively few Danish SMEs. Irish SMEs have, predictably, higher expectations of EU than domestic programmes but rank skills as the greatest motivation for involvement in both. The high valuation of human capital may suggest Irish SMEs suffer from labour market competition from larger inward investors in IT and electronics. In general, of course, secondary ranking of innovation and skills (means to the end of business growth) is also consistent with an indirect pursuit of growth as the primary goal. Thus SMEs, even innovative ones could be said to place innovation *per se* lower than survival, an eminently understandable position to take.

Table 3:

Percentage of Firms Ranking Priorities for Programme Involvement

Programmes	*European Union*			*Domestic*		
	Denmark (N=20)	Ireland (N=19)	Wales (N=17)	Denmark (N=20)	Ireland (N=19)	Wales (N=17)
Rationale	(% Ranking Indicator 'Primary Objective')					
Innovation	31	40	40	57	35	38
Services Access	20	39	27	29	40	23
R&D	31	46	53	19	34	41
Markets	19	28	20	24	17	17
Finance	29	41	41	27	12	41
Skills	30	68	37	50	65	50
Business Growth	35	60	60	54	48	69

Source: SME Innovation Network Survey, 1997-98

Value to SMEs of Formal and Informal Networking

The key theoretical question posed in this paper is whether or not creating social capital through promoting inter-firm collaboration and networking for innovation is perceived to be important to SME performance in the programmes and something they will develop in future. It is worth noting that the data in the following tables refer to smaller numbers of firms than the total respondents, hence the Danish 'domestic' column refers to eight 'strong preferences' evenly distributed. Few firms responding to the survey had experience of networking prior to successful engagement in programmes. The data in Table 4 report data on firms expressing a 'strong' or 'very strong' preference (Likert scale 4 and 5) for the benefits of networking as a consequence of involvement in a collaborative innovation programme.

Table

Strong Preferences for Future Networking by SMEs

Programmes	*European Union*			*Domestic*		
	Denmark (N=20)	Ireland (N=19)	Wales (N=17)	Denmark (N=20)	Ireland (N=19)	Wales (N=17)
Preferred Link	(% of SMEs Expressing Likert 4-5 Preference)					
SME Formal	19	42	27	25	2	46
Large Firm Formal	31	24	27	25	0	46
SME Informal	0	24	27	25	12	31
Large Firm Formal	12	12	13	25	0	15

Source: SME Innovation Networks Survey, 1997-98

Once again it is clear that Irish SMEs have little desire to continue network relations within Ireland, but show more enthusiasm for *linkage* outside, especially in formal (i.e. contractual) partnership with other SMEs. Indeed, on balance, there is a general preference for formal over informal linkage, informal connections to large firms being least attractive. Danish firms have a low preference for linkage with other SMEs, preferring links to large firms, especially formalised, presumably supply-chain linkages in the vertical rather than horizontal dimension. True to type, Welsh SMEs express the strongest preferences of all for domestically-focused formal links to large firms and other SMEs, further underlining their *embeddedness* characteristics. Nevertheless, a little under a third expressed strong preference for *linkage* to outside networks too.

The developmental tendencies among innovative SMEs therefore can be summarised as taking the following form. Most responding SMEs were, at the outset, not engaged in networks designed to assist enhancement of their innovative potential. A strong step towards development occurred with their successful engagement in public programmes for innovation promotion through collaboration. In the Danish and Irish cases, more business performance and innovation gain derived from *linkage* to foreign networks but Danish knowledge-exploitation (e.g. patenting) was enhanced more by domestic project engagement. Wales is different, scoring highest on everything in relation to domestic rather than EU programmes, revealing greater *embeddedness* than the others.

Hence, we may conclude from the foregoing data and discussion that there is wide variation among our countries in the relative valuation of international over domestic innovation support programmes. In Ireland, domestic programmes are consistently perceived as less attractive for SME innovation support than those managed by the European Union. They provide less knowledge exploitation, innovation and business performance gains than the international programmes, lower

levels of goals achievement and lower commercial and programme impact. Wales diverges from this picture on every count; better performance profiles, better goals achievement and better programme, though lower commercial, impact. In Denmark domestic programmes give better knowledge-exploitation performance. However, EU programmes are better for innovation and business performance, give better satisfaction ratings but lower programme impact and are only superior for impact on know-how improvement. So we have three distinct 'trajectories' at the country level, Ireland with SMEs developing *linkage* with external networks, Wales deepening its indigenous *embeddedness* to a greater extent and Denmark looking for *linkage* on know-how and innovation improvement.

5. Conclusions

This paper has explored the role of social capital in SME performance, a new area of investigation for regional scientists. In some respects our results are surprising, in other respects less so. In these concluding remarks we shall focus on two surprising results and two that are less so, trying to summarise our understanding of the reasons why these results should be so. The first surprising result is that use of social capital by SMEs is, effectively, *ubiquitous.* Theory from other fields referred to in the introduction, suggests that in other fields it is somewhat spatially variable in its actual incidence, occurring with respect to school performance by social class, religion or ethnicity. Even in development studies it is shown to be possessed more by some ethnic groups or minorities more than others. This view is what JK Galbraith called 'conventional wisdom'. But our research suggest, at least for SMEs in the UK, that all firms practice some degree of social capital exploitation in order to be able to conduct business effectively, indeed to conduct it at all. So our surprising result, obvious when stated but not so obvious at the outset, is that ubiquitous social capital is deployed in different ways and to different degrees dependent on the kind of transaction convention or market (e.g. film versus timber) in which the SME finds itself. Surprisingly, against Putnam (1993) we also found higher than average relational embeddedness and social capital interactions in least well-performing areas.

The second surprise finding, one that is to some extent the obverse of the first, is that so little of the social capital, which SMEs use in various ways, and to varying degrees, takes *non-monetary* form. That is, everything (more or less) has its price—we called it *pecuniary* social capital. Friends do not expect a business to barter; they expect to pay for a service or product, and not necessarily at a discount. Business contacts may have a problem accommodating a particular order on their custom software, but if they go to a trusted 'competitor' for help, they expect to share the commission. Social capital in the world of the real economy is a kind of entry-ticket to doing business. Those without it cannot function, those who take the care to foster it can at least function, and then it is a case of which kind of social capital to deploy in specific circumstances to secure a deal, keep a customer or enlarge a client base. Breaches of trust may have to be 'taken on the chin' by SMEs where more powerful clients display 'treacherous' behaviour. This is also part of the social capital scene, constituting *negative* social capital that has to be guarded against, either by ceasing to do business with treacherous customers or suppliers and broadcasting the bad news to the networks, or at least by paying for risk assessment and/or insurance. As we saw, litigation against a large 'opponent' can be a Pyrrhic victory, and one that many SMEs may gauge to be a course not worth embarking upon.

Now, two conclusions that are less surprising, though still containing some puzzling elements. First is a strongly spatial point, though not quite as expected. It is also 'conventional wisdom' that some regions (often metropolitan) are more 'entrepreneurial' and SMEs perform better according

to normal performance criteria. It is also thought they may be more competitive, individualistic, pioneering, more knowledge-intensive, or whatever. While our results do not necessarily undermine the first part of that conclusion, they seem to be devastating for the second part. For, according to our results, not only are the most competitive *regions* the most pronounced exploiters of social capital, but also good-performance areas in all types of region contain innovative firms that are high social capital users, both locally and globally. So the extra entrepreneurship of the strongest performing regions is, at the SME level, a matter of density to some considerable extent. Finally, a correlate of finding high social capital in less favoured areas is low general usage of enterprise support services that are, usually, well-provided in precisely such areas.

The second study answered that to some extent showing that innovative SMEs at least, either do not value domestic innovation support programmes as compared with better funded, more sophisticated European ones, or they like them because they get, as a small elite group, a lot of policy attention. Wales, otherwise a less-favoured part of the UK showed the latter characteristic particularly strongly, displaying a stronger appetite for structural embedding through *synergy* with domestic policy rather as a camel might upon sighting an oasis in the desert.

Our conclusions are that policies that aim to build up social capital for SMEs through encouraging and incentivising collaboration and networking, produce results whereby significant portions of the surveyed SME population ascribe improvements to business performance, innovation and knowledge exploitation to the newly-formed social capital. Of particular importance to this process are the promotion of *linkage* to networks outside the home-base, the existence of *synergy* whereby SMEs have close links to programme executives and the formation of *integration* by embedding firms more firmly in indigenous SME networks. In the policy-focused research, the role of *integrity* was underdeployed because of the importance of synergy with government initiatives. In the market analysis in the first part, which explored the developmental trajectory of SMEs in the absence of *synergy*, independent of public policy support, showed successful high performance SMEs to be heavily engaged in social capital but really markets to be actualised as forms of *pecuniary* social capital.

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STUART ROSENFELD

THE SOCIAL IMPERATIVES OF CLUSTERS

Introduction

Companies choose to cluster because they realize that being near others that are like them yields economies of scale, or "externalities" and that these externalities are significant market advantages. Clusters produce two classes of advantages: " hard" externalities based on traded interdependencies and "soft" externalities based on un-traded interdependencies. While the former is more easily measured and the basis for many of the early cluster-based economic development formulations, there is good reason to believe that in today's economy the latter may be the stronger force for clustering.

Companies want knowledge and information that goes beyond what they can get in their libraries, Internet, and telecommunications. Clusters represent a mediating environment that supports inter-firm relationships and higher levels of un-traded interdependencies, i.e., social capital. In clusters with high levels of social capital, knowledge and innovation is transferred much more readily. Tacit information and knowledge about new technologies, markets, or services is gleaned from personal friendships among managers and entrepreneurs and collaborative business arrangements. Knowledge flows or "leaks" unintentionally and "technologies spread to smaller companies, for example, "through swapping of employees within a common pool of skilled and technical labor developed around the region's core technology."[1] The ability to draw on these social networks helps companies make more informed decisions about investments, services, and suppliers. This paper summarizes

1. a few research studies that assess the value companies place on social capital and un-traded interdependencies;
2. the value of cluster associations as structures for social capital and as sources of intelligence; and
3. concerns about exclusionary forms of associative behavior.

Valuing information

Although the reduced transaction costs that result from the relative ease of trading and entering into joint activities with nearby firms is assumed to be the primary reason for clustering,

[1] Peter B. Doeringer and David G. Terkla, "Business Strategy and Cross-Industry Clusters," *Economic Development Quarterly* 9 (August 1995) 225-237.

proximity to sources of applied knowledge and innovation has been found to be equally important to companies. In fact, many place greater value on informal trading of information and knowledge locally than they do on formal business transactions. Unlike formal business trades, however, information trades work best in a social environment that supports reciprocation. It is based on at least a modicum of trust, and the more proprietary and related to a particular market advantage the information is, the stronger the necessary levels of trust. Since companies operate in a competitive environment, they want to hold on to their comparative advantages. Only when they see greater advantage in unity, cooperation, or reciprocation do they share knowledge.

Much of the research on social capital was conducted in the early 1990s when many nations and regions were promoting multi-firm business networks as a competitive strategy. It is important to note that *both* cluster *and* network programs have been predicated on building social capital and encouraging collaboration among firms.

Surveys of companies' proclivity to network and reasons for doing so were conducted in the United Kingdom, the northwestern region of the United States, and Australia's New South Wales. In all three places, survey research found that learning and access to knowledge outranked the " harder" activities such as joint production or marketing in reasons for entering into networks. In the U.S., a private foundation supported the development of four regional "cluster associations," two in wood products, one in engineering, and one in crafts. In each case, the prospective members of the association placed a much higher value on "access to information and learning" than they did on " hard" networks that would produce new products or markets (Table 1). In the less populated regions of the U.S. where these associations formed, relationships among firms had been weak. Prior to the intervention of the associations, companies had few venues for discussing business issues with peers. The pre-initiative survey was reinforced by similar findings in "post-initiative" surveys. They did in fact gain more informally than through joint activities. In Australia (Table 2), the results were not quite as strongly expressed, but sharing know-how outranked every other reason for taking part in a networking arrangement. In the United Kingdom, collaborative learning far outranked any other factor in importance of network participation (Table 3).

Other academic research found that individual friendships among employees within industries leads to the word of mouth exchange of technical information in clusters. A study of specialty steel found that over a year 85 percent of engineers were asked for technical information by colleagues in other firms, and that one in five was asked more than ten times. In some cases, purely personal objectives overruled economic concerns but more often the information helped the recipient without weakening the competitive position of the employer of the source.[2]

It is important to note that a recent research study found monetary relationships among firms *stronger* than non-monetary knowledge-based relationships, although it addressed the issue in a different way. The study asked firms whether social capital leads to greater innovativeness[3] And found that most social capital results from monetary exchanges and that innovators tend to have more external sources of knowledge (to the cluster).

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[2] Stephen Schrader, "Informal technology transfer between firms: Cooperation through information trading," *Research Policy* 20 (1991) 153:170.

[3] Philip Cooke and Nick Clifton, "Social Capital and Small and Medium Enterprise Performance in the United Kingdom, to be published in P. Nijkamp, R. Stogh, and H. deGroot, *Entrepreneurship in the Modern Space Economy* (Dordrecht, Kluwer, 2003).

Table 1

Survey of members of four business associations in Minnesota and Washington states, 1995

Reason for joining network	Very High	High	Very Low/Low
Access to Information	44%	39%	17%
Learning	31%	48%	21%
Joint product development	16%	31%	53%
Joint marketing	23%	31%	46%
Improving quality	15%	45%	40%

Source: Stuart Rosenfeld, *Research Policy* 25(1996) 247:263

Table 2

Survey of Firms' Reasons for Joining Network in New South Wales, Australia, 1995

Reason for joining network	Percent
Share know how	16.7
Joint tendering opportunities	13.9
Share training programs/costs	9.7
Enter overseas markets	9.0
Increase market share/sales	7.6

Source: Fulop & Kelly, *Survey of Industry: Network Initiatives in NSW, Final Report*, University of Western Sydney, 1995.

Table 3

Survey of Relative Value of Participating in a Network in the United Kingdom, 1998

Output of Network	Index of Relative Importance
Collaborative learning	0.74
Process development	0.48
Joint marketing, sales, or distribution	0.44
Purchasing/subcontracting relations	0.36
Product development	0.28
Technology transfer	0.24

Source: Robert Huggins, *Business network policies and economic development*, Pontypridd, UK, 1998.

Building a Social Infrastructure

Most cluster practitioners believe that a successful cluster requires that the companies have some formal organizational structure. Over the past few years, the centerpiece of nearly every consultant-driven cluster strategy has been the "cluster council," or "cluster association." This emphasis on organizational frameworks emerged because (a) planners and economic developers have come to acknowledge the benefits of local exchanges of information and knowledge and (b) most societies lack the socioeconomic structure to support efficient and extensive exchanges.

The importance of economy-oriented social structures is not new. A tight social fabric was considered fundamental to the functioning of the classical Italian industrial districts. Sebastiano Brusco[4] noted that "local know-how is passed on by doing things and seeing how other people do things through informal chit-chat" and workplace knowledge is rooted in places where "people are linked by the bonds of shared history or values...and where codes of behaviour, lifestyles, employment patterns and expectations are inextricably implicated in productive activity." Associations exist in Italian industrial districts. In fact, the earliest information about inter-firm collaboration from Emilia Romagna was transmitted by the National Confederation of Artisans, a trade association representing nearly all of the region's small and mid-sized enterprises. But the social structure in northern Italy is embedded in the community and the associations appear to be valued more for their collective services than their contributions to social capital.

The informal industry-focused atmosphere described by Brusco, however, has become far less common in modern industrialized regions, existing only in a limited number of places. Silicon valley has such social attributes. So does central North Carolina and northeastern Mississippi. Regional associations were not necessary for them to develop strong furniture clusters. But most of the large modern regions that are adopting cluster-based strategies have become much more diversified over time, labor has become much more mobile, and communities have become more heterogeneous. People living in new urban centers have too little shared history and culture to form bonds that can support the exchange of production-based knowledge. Further, as work becomes more knowledge based, the functions and skills become less transparent to the community at large. As a result, most regions use clusters to build a "diversified specialization" strategy, claiming multiple and generic clusters that include a large percent of the region's workforce.

Therefore regions that want to build economic development policies around clusters believe that they need to create the social environments that encourage the associative behaviors within each "cluster" that Brusco describes in Italian industrial districts. It is the rare regional cluster-based plan that does not call for an organization to represent its region's clusters. In many parts of the world, membership organizations now are expected to represent the collective interests and even demonstrate the very existence of clusters. Clusters that have either organized themselves into some type of membership-based association or that use existing associative venues to actively promote learning and networking, plans claim, will be more effective in acquiring external economies. Membership associations are expected to add value to clusters in a variety of ways. They can:

1. deliver "real" services at reduced costs to members, as northern Italy's National Confederation of Artisans (CNA) does for small companies, allowing them to focus on core competencies.
2. influence political decisions—the primary function of most American associations.
3. provide access to knowledge and networking opportunities through conferences and other events that give members a venue to meet and connect.
4. facilitate networking, a primary purpose of many of the organizations formed under the U.S. network programs of the early 1990s, some of which evolved into cluster associations.
5. conduct research or planning for members. They can help them identify market opportunities or address common problems.

Three types of cluster-specific organizations have evolved in the United States. The first is intended to give a cluster an identity and presence and provide a forum for identifying common needs and lobbying for more supportive public policies. The state of Mississippi formed CIT.MS to represent its small but vital communications and information technology cluster.

[4] Sebastiano Brusco, "Global Systems and Local Systems," International Seminar on Local Systems of Small Firms and Job Creation, Paris: Organization for Economic Cooperation and Development, June 1995.

The second is mainly a vehicle to deliver real services to groups of firms more efficiently. The new men's sock testing lab and the industry-wide e-commerce website established by the Hosiery Technology Center in the Catawba Valley of North Carolina give companies access to markets, advice, and sophisticated equipment that no single one of them would have been able to obtain alone.

The third type represents a class of employees within an industry—generally a professional or labor organization with local chapters. This gives employees the opportunity to exchange information about employment and their professions. The exchange of knowledge in the optics and imaging cluster around Rochester, New York occurs through professional associations.

Most regional cluster plans support the first type, trying to form a new organization that gives the cluster its identity and provide a means to initiate and organize "demand-driven cluster initiatives." The biggest danger in building cluster associations is that they become confused with the cluster itself and not just an element of a larger cluster-based strategy. Measures of success of the cluster association, such as membership or grants received, are mistaken for measures of success of the cluster. Cluster activities are defined exclusively by the actions of the association. Moreover, they are believed to be dependent on a broker or facilitator.

The "Green Book," an analysis of cluster activities, claims that 89 percent of all cluster initiatives have a facilitator to manage the activity, most of which do this at least part time and have an office. The majority of the initiatives surveyed were financed by government and a third were led by government. Less that one in five was financed by industry. Advocates forget that neither "membership" in an organization nor cooperation is required to be part of the cluster. For decades, many clusters developed and thrived without a single representative association. "Free riders" are important members of the clusters. Simply by virtue of geography, they are able to realize all of the non-exclusive external economies that accrue to members of cluster associations.

The Potential Weaknesses of Social Capital

Two restrictive characteristics of social capital can reduce its value to a cluster: membership limitations and insularity, or lock-in.

The social capital that serves a cluster does not automatically benefit all firms, people, and places equally. A report from the Organization for Economic Cooperation and Development hypothesizes that "the increasing importance of individual learning within the knowledge based economy produces new forms of social inequalities, through the intensification of the disadvantages experienced by those denied access to learning opportunities."[5] The Aspen Institute noted that cluster-based initiatives aimed at low-income populations are defined "not simply by absence of resources but by the absence of marketplace relationships that can create opportunities of value to both participants and employers."[6]

Associations may have exclusionary guidelines. Some limit membership (although most do not). Some meet in places not easily accessible to everyone, or they may operate internally as a "club" in which some insiders gain access to tacit knowledge while others do not. Tightly controlled associations can act as "gated communities" where those not considered part of the "business community" operate at a distinct disadvantage.

[5] OECD, *Innovative Clusters: Drivers of Innovation Systems*, Paris: Organization for Economic Cooperation and Development, 2001.

[6] Peggy Clark and Steven L. Dawson, *Jobs and the Urban Poor: Privately Initiated Sectoral Programs*, Washington, DC: The Aspen Institute. 1995.

Social capital also aids or inhibits an individual's employment and advancement opportunities. Employment, promotions, and deal making are all very dependent on interpersonal relationships and word-of-mouth communications. Most employers, especially in small companies, rely on referrals and recommendations from people they trust rather than taking the time to sift through the massive information available in job banks or employment services.[7] Channels through which information about economic opportunities flow are constricted in places where social and business connections are weak.

People in communities or neighborhoods that are not home to key producers, suppliers, or services and are not part of the current labor market are unlikely to know of new job opportunities in the cluster. In "Photonic Valley," a name given the optical cluster in northeastern Massachusetts, older residents are likely to be employed in low skilled jobs such as janitorial services for the high-tech industries in the surrounding area. In Florida's Palm Beach County, which uses a cluster analysis to frame economic development, existing programs serving low-income residents are not linked to clusters and therefore the residents were unprepared to take advantage of opportunities afforded by tight labor markets.[8] Without guides and incentives, employers are unlikely to find their ways into these communities for training or recruitment. And lacking intermediaries that can relate to both firms in the clusters and communities to serve as guides and make connections, the community or neighborhood will derive little benefit from the cluster. Effective intermediaries can help develop the "bridging relationships that cross social, cultural, and geographic boundaries". These are more difficult to form and sustain than bonding relationships but ultimately they are more useful because they expose participants to new knowledge, potential partners, and employers/employees.

A second danger is regional insularity and parochialism. Poorer and socially isolated regions and populations too often have insufficient access to benchmark practices, innovations, markets, and jobs outside of their region or neighboring regions. While social capital is the medium that transports information and accelerates imitation *inside* a cluster, competitiveness is highly dependent on new information and ideas *outside* the cluster. The most successful clusters have lead firms or associations that either attract or are part of global networks and markets and that employ people who are active in international professional associations and maintain extensive personal networks. These firms regularly benchmark themselves against the best practices anywhere in the world. Because the knowledge comes from a diverse set of sources, the wider the managers cast the net, the more likely a prize, i.e., innovations that can be applied locally, will be caught.

Summary

It is clear that the social attributes of clusters are vital to their success and that companies value the knowledge and learning associated with inter-firm relationships. Social capital often proves to be the difference in competitiveness of clusters that are "overachievers"[9] and those that are "underachievers" which exist but lack synergy. The major economic policy issue facing those designing cluster-based development strategy is evaluating the need and devising the best role for the public sector in creating a social structure for the cluster. And the major social issue is

[7] Robert Reich, *The Future of Success: Working and Living in the New Economy*. (New York: Vintage Books, 2000).

[8] Foster-Bey, John, Stuart Rosenfeld, Paul Pryde, and Vance Gragg, *Linking Low-Income People to Economic Opportunity in Palm Beach County*. Final Report to the John D. and Catherine T. MacArthur Foundation. Washington, DC: The Urban Institute, 1999.

[9] *Overachievers: Business Clusters that Work*. Carrboro, North Carolina: Regional Technology Strategies, Inc.,1996

taking some responsibility for ensuring that social capital is fairly distributed and accessible. The former generally takes the form of cluster associations but must refrain from limiting clusters by membership. Clusters are defined by access to external economies, not by meetings or events. The latter are enhanced by intermediaries that can bridge cultural and social boundaries and find connections that benefit both those who have resources and those who do not. Inclusion of all segments of the region's community in the cluster ensures that the potential of wealth creation is fully realized, without pockets of poverty and unemployment that can undermine the region's progress.

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SOCIAL CAPITAL AND CLUSTERS OF ENTERPRISES: SOME ESSENTIAL QUESTIONS

The topic of social capital has been tackled by the OECD in the past years, from different points of view and with different approaches in relation to the directorate involved. The OECD LEED Programme started looking at the role of social capital in cluster development early in the nineties and organised in 1999 an international Conference in Mexico entitled «Local Economic Development: Social Capital and Productive Networks». The conferences organised in 2001 and 2002 with the French government at La Villette, Paris further raised questions about social capital as a cluster ingredient. Moreover, the series of seminars organised in 2001 and 2002 in transition economies entitled «Clusters as Motors for Growth and Innovation» all put forward the central role of trust, collaboration and social-civic exchange as keys to cluster development. These events contributed in analysing the role and impact of social capital as an instrument of cluster policy with specific interest in transition economies. All these events made clear that social capital can play a critical role in the performance of enterprises and their clusters.

Other OECD work carried out on the field of social capital is the one led by the Education directorate, which organised a series of studies to measure social capital. The adopted methodology consists in analysing 8 main issues on social capital to assess the performance of OECD countries in association life, networks, civic and political participation. The publication "The Well Being of Nations: the Role of Human and Social Capital" (2001) helps clarify the concepts of human and social capital and evaluates their impact on economic growth and well-being. Through the Centre for Educational Research and Innovation (CERI), further work on social capital, education and social cohesion is planned. Increasing attention is being given to the "social capital" of trust relationships, values and networks as critical to sustainable economic development, social cohesion, and individual well-being. The challenge is to clarify how human and social capital are best developed, how they interact and complement each other, and how education fits into these complex equations. There is a lively policy demand for analysis and policy orientations for fostering human and social capital within a diverse set of communities—in economics, social and community development, health and crime, as well as in education and training. OECD's CERI is working to improve the measurement of social capital and engage in a burgeoning policy debate.

Within the Directorate for Employment, Labour and Social Affairs, work has been developed in the field of social capital and migration. The conference on "Social Capital and Migrations" held in Montreal, Canada in November 2003 gathered together policy makers, experts and NGOs to raise awareness on this topic and enhance the current studies. Furthermore the LEED Secretariat

was invited to give its view on the role of social capital in local development and social innovation in the conference organised by the European Commission in October 2002 on "Social and Human Capital in the Knowledge Society: Policy Implications".

This paper aims to launch the debate on the role of social capital in shaping inter-firms relations within local clusters and in contributing to the identity of clusters. Two main questions will be raised. First, does social capital impact on cluster performance? And second, what are the implications for policy makers? This paper links literature on social capital with the work done by the OECD LEED Programme on clusters of enterprises since 1999. Further research with case studies started in 2003 and a publication on the subject will be released in 2004 as a follow up to the East West Cluster Conference in October 2002.

Does social capital impact on cluster performance?

Definitions of social capital and clusters

Considering side by side the definitions of social capital and of clusters, is the first step towards understanding what links the two concepts and realising how deeply intermingled they are.

Social capital has become a common term in recent OECD work in the field of social economy. The publication entitled The Non-Profit Sector in a Changing Economy (2003) released by the OECD LEED Programme, refers to social capital as 'the collective value of all social networks and the inclinations that arise from these networks to do things for each other'. Another definition is the one provided by the publication The Well Being of Nations (OECD, 2001) as 'networks together with shared norms, values and understandings that facilitate co-operation within and among groups'. The main interest in studying social capital from the economic and social points of view is that relations among individuals can represent a positive resource for the economy and society.

According to Robert Putman (2001): 'the central idea of social capital is that networks and associated norms of reciprocity have value'. One question that immediately arises from this definition is what kind of value does social capital give rise to? The World Bank put the focus on the social dimensions and defines social capital as 'institutions, relationships, networks and norms that shape the quality and the quantity of a society's interactions. Social capital is not just the sum of the institutions that underpin a society—it is the glue that holds them together'. There is one important step to take from studying social capital from a sociological and civic perspective, to the economic and firm level. Research has been done to understand the impact of social capital on economic growth. Many of these studies are done at the macro-economic level. Few studies assess the impact on the performance of firms.

Rafael Gomez in an OECD research paper produced for the Mexico conference in 1999 treats social capital as a resource which is less tangible than physical capital but which is productive, because it facilitates the completion of certain objectives: 'social capital is composed of social resources that provide useful 'capital' for individuals'. These individuals are involved in entrepreneurial activities at local level and « social capital it is one resource available in neighbourhoods where self-employed live ». Evidence from Gomez and others suggests social capital might play an important role for inter-firm relations at local level and it could thus be instrumental for clusters of firms.

Local clusters are defined as geographically concentrated firms of different sizes, horizontally and/ or vertically linked and operating in the same line of business (OECD 2000). Given the

economic importance of clusters, they were recognised as dynamic tools for economic development and for upgrading of international competitiveness of national industry. In recent years, marketing and attraction efforts have shared the stage with retention and small-business development initiatives. Moreover, efforts to support an area's economic-based industrial clusters have taken centre stage in many communities.

Clusters can be very diverse but involve particular relationships among firms, thus the strong interest in understanding the part that social capital (social interactions producing an added value) play among these inter-firm relationships. Clusters occur only when there is a sufficient number of firms, sharing common needs, attracting resources and services that wouldn't be available to an isolated firm. By putting in common some of their functions (suppliers and buyers networks, training, human resources, marketing, exportation, research) the firms achieve economies of scale and of scope that a small enterprise alone couldn't reach. Clusters often have external reputation and renown that firms alone can not achieve. They have a common identity outside, and a specific way of functioning inside the cluster.

Based on publicised clusters, the shared publication of LEED and the Kiel Institute of World Economics entitled Innovation Clusters and Interregional Competition (2001) classify the leader OECD countries in the field of clusters as following:

By cluster number: UK (168 clusters), USA (153 clusters), France (96 clusters) and Italy (72 clusters).

By share of employment (descendent ranking): Canada, USA, UK, Italy, Denmark, Germany and France.

Clusters have been the subject of extensive research. When we look at the features of clusters in detail, social interaction is very present in all basic characteristics of cluster building:

In some leading OECD countries growth theorists and empirical studies showed that innovation is fundamental to long term growth. Innovation in clusters is based on collaboration, proximity and networks and spurs through a process of mutual learning, emulation, positive role models, and personal contacts. Local clusters are places of exchange among firms and much of this exchange is of a social nature.

Firms in clusters benefit from lower transaction costs due in some cases to personalised negotiations, fewer bureaucratic procedures, lower information costs stemming from local and personal information flows, better co-ordination because of direct contacts and often trust-based relations among economic agents. All these elements directly enter in the definition of social capital. But does it mean that social capital is a necessary ingredient to cluster building?

How to measure the degree of social capital in a cluster?

Neither a systematic evaluation, nor an international comparison of cluster policies has been undertaken yet. Difficulties arise first in evaluating the existing degree of social capital within a cluster. The lack of data and problems of definitions are major impediments to grasping the significance of social capital as an ingredient of cluster development. Second, problems appear when defining and limiting the boundaries of clusters. Clusters are often entities in flux, and difficult to delimit. Third, measuring the impact that social capital has on the performance of firms and of clusters is a complex exercise which has to take into account many other factors that impact on cluster performance. All these reasons make the subject of «social capital and clusters» complex and quite difficult to approach.

Some studies have already started making the interface between the social capital literature and the literature on agglomeration economies, in order to assess the role of social capital in

local labour markets, neighbourhoods or as in this paper, clusters. The sources of development of social capital are multiple as defined by the OECD study (p. 45): 1) Family, 2) School, 3) Local community, 4) Firms, 5) Civil Society, 6) Public sector institutions, 7) Gender 8) Ethnicity. Many of these sources of social capital are also central elements in clusters formation and development: firms, family links, education, community, women's networks, ethnically related groups, public, private and non-governmental institutions.

It is important to underline that studying the link between social capital and cluster performance does not mean asserting that social capital is a positive value per se for clusters. The multitude of factors influencing cluster performance and the examples of successful clusters with limited social exchanges also call for caution not to overemphasise the role of social capital in cluster formation.

Measuring social capital usually mixes comparative, quantitative and qualitative data. The World Bank considers that how you measure social capital is how you define it, and the work of the World Bank is focused on social capital as a tool for fighting poverty. Consequently, in order to measure social capital in clusters it is first necessary to determine the factors that express the level of social capital in these entrepreneurial networks.

Among these factors one can quote: associational membership, use of informal networks in business transactions, participation in advisory or mentoring programmes, use of communication media (letters, phones, Internet), belonging to a school or university network, voluntarily activities, degree of trust in institutions, willingness to work and collaborate with other companies and the feeling of belonging to a specific entity. Clusters experiences show that going through the same institute or university is a source of both social capital formation and cluster development. Research is needed to make the link between the presence of these factors in clusters and cluster performance.

Linking social capital and clusters shouldn't lead to excessively value the role of social capital in cluster expansion. There are contradictory conclusions about the origin of external economies in clusters. Krugman (1994) asserts that economies of scale captured through market size are drivers of cluster growth. According to Stuart Rosenfeld (2002) 'some external economies are driven purely by the size of the market created by the scale of business and jobs opportunities and not by trust based relationship or organisational membership commonly termed social capital'. For other authors like Storper (1999) trust and conventions are critical.

They are some unintentional externalises and other 'soft' external economies that do depend on relations, connection, communication or knowledge. Social capital can be a resource for clusters producing positive externalities for firms. However, Putman (2000) compares Silicon Valley and Route 128 and notes that two different types of clusters, one with horizontal and university based links among entrepreneurs and the second one with more traditional hierarchical and professional relations have two different types of social interactions. Performance seems to be independent of nature of these social interrelations among entrepreneurs. These conclusions show the complexity of the issue and call for deeper analyses. There is no one model of social capital and no one type of impact on cluster performance.

Do clusters with high levels of social capital perform better?

The policy interest in clusters is driven by research showing that firms can achieve increased efficiency and competitive advantage through cluster formation. This can translate into economic advantage for the localities and regions concerned.

According to the World Bank, social capital has been identified as an integral component of social and economic development at both macro and micro level. Putman (1995), Helliwell (1996) and Fukuyama (1995) have found that regional measures of social capital correlate positively with various indices of economic performance. These studies at the macro economic level showed that greater social capital translates into improved economic performance. Putman's research showed that the areas with a lower level of social capital have lower economic performances. These conclusions have nevertheless been contradicted by research done in the UK, Denmark and Wales, which shows the complexity of the social capital notion applied to regional economic performance because of many other variables, and will be discussed further.

At a micro level, Rafael Gomez (1999) showed that social capital can improve a self-employed person's productivity, increase labour market earnings and produce knowledge spill-overs. Martin Paldam and Gert Tinggaard Svendsen (2000) argue that social capital can be important for production in three ways: 1) as a factor of production putting in parallel physical and human capital 2) as a determinant of transaction costs 3) as a determinant of monitoring costs. According to the economic rationale, entrepreneurs would make the rational choice to maximise their personal profit by deciding to interact and invest in social relations. There is also an interest in social capital as a facilitator for financing firms in clusters. Entrepreneurs linked by social relations will be more likely to put in common financial resources or to seek credits jointly. This is of particular importance for small and medium sized enterprises, which face the challenge of finding creation and expansion capital.

Furthermore, social capital represents one of the key promotion instruments of clusters. Social capital is considered to be the element that improves the framework conditions for business activities in general. Amongst others, social capital encourages associative activities among the business community, fosters links between university or research institutions and the private sector, attract investment to cluster activities through local development agencies (real estate, consulting, training, mentoring), offers direct financial support to clustering firms, and finally it encourages linkages among companies, industries, firms and supporting institutions.

The results of the extensive research conducted in Denmark, Ireland and Wales (2002) showed that social capital is consistent with high performance, innovation and knowledge intensity.

The research led by Philip Cooke and Nick Clifton looked at government programmes promoting collaboration among SMEs with the objective of improving the capacity to innovate, through increasing social capital (by supporting networking among SMEs). According to Philip Cooke and Nick Clifton 'social capital in the world of real economy is a kind of entry ticket to doing business'.

Several concrete effects of social capital on enterprises within clusters have been identified. For instance social capital helps to lower transaction and information costs, it also reduces the bureaucratic processes, it facilitates the coordination among the enterprises based on trust, it boosts the knowledge spill-over throughout the region, and it promotes a higher productivity of self employed due to the competitive environment. Factor conditions such as human, natural, social and capital resources, physical and administrative infrastructure, as well as a context of rivalry appear as the dominant basis of current cluster competitiveness (Van der Linde, 2003).

Nevertheless, it does not appear to be a necessary condition. The results showed that the most competitive regions in the United Kingdom are indeed the most pronounced users of social capital, but areas that perform worst in all regions also rely on a different type of social capital, rooted in local culture. Firms with a greater innovation capacity tend to also show higher trust in collaborators, exchange information outside the normal commercial links, rate higher external information, develop strategic contacts and consider co-operation as more beneficial than other SMEs. However, from a cluster perspective it appears that these highly innovative SMEs who

perform well are global rather than local in their contacts. They are less locally focused on the social and professional contacts they develop. Hence, innovative SMEs are high users of social capital but not necessarily of local social capital. So far, policies seem to have had only moderate impact on competitive success of clusters (Enright, 2000)

Analysing the role of social capital in clusters helps in sizing a very important feature of clusters: social capital seems to be an important factor of innovation and improved performance. But this is true when the business is less locally focused and more internationally oriented. Contrary to the findings at macro economic level, social capital is also highly valued in less well performing areas, but is not a sufficient variable to lead to improved economic performance.

Social capital seems a significant variable for SMEs and clusters because it produces untraded benefits. Formal and/or informal partnerships, networks and cluster based initiatives where mutual trust, credibility, reputation and the exchange of personal favours can contribute to the SMEs profitability, turnover and innovation rate.

Social capital can have a negative impact on clusters

However, analysing social capital in a cluster can also reveal negative features. One negative aspect of social capital is that people lacking the right connections are not integrated in the local labour market. This can mean for clusters: exclusion of outsiders, limited mobility, poor socio-economic advancement and lack of adaptability to change. Furthermore, some clusters in transitions economies can host a negative social capital as sometimes their closed networks lack of transparency and apply illegal methods. Woolcock (2002) considers that strong ties can lock firms into a situation of blocked development process and stagnation.

Beyond the ability to adapt to change, which is crucial to entrepreneurial innovation, looking at clusters through the social capital lenses allows also to reflect on the question of equity in clusters. The publication Just Clusters by Stuart Rosenfeld (2002) looks at clusters from the original perspective of socio-economic equity. Rosenfeld notes that clusters development in a given area can transform a neighbourhood, raise the prices of property, lead to protecting the local community from outsiders, exclude people who don't have the 'right' connections and impact especially on low or middle income people. As Portes and Landolt (1996) put it: 'the downside of social capital is that the same strong ties which are needed for people to act together, can also exclude non members such as the poor'. Despite the lack of data and the limits to measuring a moving reality, analysing the role of social capital in clusters attracts attention on an extra ingredient of entrepreneurship development: after 'knowledge' and 'know how', 'know-who' is also a central notion.

What are the policy implications?

Can social capital be built in clusters?

Research showed that social capital is difficult to construct, as research on local clusters showed that clusters are difficult to create. Studies on local clusters such as those done by Porter, showed that top-down policies aiming to build clusters from scratch are often unsuccessful and that public authorities should refrain from trying to create clusters (Bologna Charter 1999). Rather, public intervention should play a catalyst role, supporting existing or emerging clusters. That is to say that clusters stem from particular historic, cultural and social roots.

Research on social capital has often led to the same types of conclusions: Putman (1993) insisted on the pre-condition of a non-hierarchical social organisation, Fukuyama (1995) on decentralised governments and Evans (1996) on competent public administration as explanations of strong levels of social capital in some regions and localities. Clusters and social capital are both deeply related to the local context and this local culture is at the origin of individual experiences such the Italian industrial clusters where social ties and business ties are interacting in a particular way. Nevertheless, other empirical studies showed that supporting social capital through promoting business networks can have a positive impact on the performance of firms. Wales, for instance, sought to create supplier clubs and business networks to compensate for the lack of spontaneous networks, and this with a positive response. More and more studies point the positive economic impact of social capital on enterprises. Hence rather that asking whether social capital can be created in clusters, a more relevant question is: what kind of social capital do policy makers want to promote and can one type of social capital be transformed in a different type?

Social capital and impact on clusters in remote areas

Studies show diverse results on the significance of social capital in cluster formation and development in remote and rural areas. Indeed, some studies, such Worlds Apart by Cynthia Duncan (1999), show that in poor rural communities there is a lack of trust among people and, as a consequence, less interaction among individuals and entrepreneurs. This reduced social capital might explain the difficulties of cluster development in remote areas. However, there are other significant elements that lack in underdeveloped areas and which impact on cluster development, such as the lack of demand and suppliers' proximity to networks, poor education and the lack of training institutions. Social capital might take different forms. Strong family ties due to a difficult socio-economic context are forms of social capital but do not favour exchanges outside a close knit community and hinder cluster development in remote areas. Encouraging trust, networking and co-operation in such zones can lead to cluster formation and improved local economic performance.

Clusters in transition economies and (re)constructing social capital

Transition economies today face a paradoxical situation. They need, on the one hand, to rebuild social capital—in parallel with the civil society—at the level of associations, networks and foundations. They need to rebuild trust in administrations and public institutions. On the other hand, they need to control or canalise the existing social capital that feeds informal networks, personal connections, family ties, black market and mafia organisations.

Despite national differences, all five cluster seminars organised by the LEED Programme of the OECD during 2001 and 2002 in Slovenia, Slovakia, Poland, the Czech Republic and Hungary showed a common main obstacle to cluster development. This obstacle is the mistrust and difficulty for entrepreneurs to consider co-operation among firms and fair collaboration with competitors. This difficulty often arises due to a lack of trust in public institutions, law, administration and in other entrepreneurs, inherited from years of often forced co-operation during the socialist and communist period. Martin Paldam and Gert Tinggaard Svendsen (2000) consider that 'when a country has to be rebuilt, social capital is crucial. Many studies of the 70 years of the Soviet Union give the impression of a system that went unusually far in destroying social capital, as all non party social structures and private, independent initiatives were ruthlessly eliminated. People thoroughly learned to trust nobody'. The authors consider that social capital is the glue that holds together society. The slow path of transition in post communist countries is, according to them, due to this lack of social capital.

Paradoxically, it is also the development of negative social capital, parallel networks and black market exchanges that hinder the development of transition economies. Robert Putman stressed in his studies that the building of social capital is a very slow process, enforced by people themselves. Policies can act in order to accelerate this slow process. It is nevertheless important to research further how public authorities can act in order to avoid becoming counter productive and leave enough space for self-enforcement.

What should policy recommendations take into account?

Designing policies targeting social capital in clusters seems a risky process because social capital is a self-enforcing, cultural and long-term process. It can also be a negative variable that leads to immobility, exclusion and limitation of economic reforms. But it is also a variable among others, which in a specific environment can improve cluster performance. Moreover, from a social point of view supporting social capital can become an objective in itself, therefore policy makers should carefully evaluate its place in cluster policies.

Networking

Philip Cooke and David Willis consider that policies dealing with SME innovation should look together at clusters, networks and social capital: 'Innovation enhances SMEs competitiveness, networks are repositories of innovation knowledge for SMEs and synergetic social capital can be employed by public policies to stimulate linkage'. The research on Denmark, Ireland and Wales showed that policies that supported the construction of social capital through networking activities, with the objective of improving SMEs' performance, produced results. The SME population that was surveyed showed improved business performance. Integration, synergy and linkages were the key words that emerged from this research.

Beyond these positive results the research also showed that social capital for innovative firms was not necessarily a 'local' element but, on the contrary, often a global feature and what mattered were the linkages built outside the local SMEs' networks. Clusters perform better not because of high levels of social capital but because of strong international scope. These findings are important for cluster policies as they underline the relationship between social capital and the internationalisation of business activities.

Institutions

To evaluate the role of social capital in cluster development, one common practice is to measure the number of associations, networks, private, public and non-governmental organisations that exist. Studies on social capital are, in this case, useful for policy makers in order to help them determine what institutions may play a crucial role in cluster development. Social capital means communicating across professional boundaries, exchanging with universities and educational institutions. This places public-private-NGO partnerships at the core of cluster policy. Concrete measures targeting social capital can involve: support voluntarily activities, capacity building, education and networks, partnerships, professional cluster consultants and business support centres.

Policy recommendations should nevertheless take into account the self-enforcing and bottom-up dimensions that are common to both social capital and clusters. As Martin Paldam and Gert Tinggaard Svendsen (2000) write 'Governments and international organisations are third parties. They may aim at increasing social capital, but their interference might do more harm than good to social capital'.

OECD Policy recommendations on clusters and social capital

The latest OECD studies on social capital and clusters have identified a series of recommendations that should be carried out in order to foster social capital within clusters. First, framework conditions conducive to enterprise development in general and cluster development in particular (regulation, infrastructure, real estate, barriers to associative activity) should be created by local governments. This would facilitate the exchanges between and among enterprises, local governments and the private sector. Following this recommendation, the support of local public-private partnerships is implicitly advised to open a direct line of communication in the region. The private sector should be actively involved in the social and economic development of the cluster.

On the other hand, social linkages are suggested to assist in the identification of market failures and opportunities. Thus, a close evaluation of the market and the strengthening of the social capital are essential to enhance enterprises' performance according to best practices. However policy makers should keep in mind that each cluster has a different environment and therefore each one requires different policy implications.

For an enterprise, to become part of an international cluster learning network is a major asset that will foster a more competitive environment and will positively affect the market. The social process should take place to promote technologic advances and development. Clusters should play the key role of intermediaries as builders of social capital within the economic region and both, public-private partnerships and social capital must not be forgotten if local economic development should take place.

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OECD LEED Programme: www.oecd.org/els/LEED

OECD Education Directorate: www.oecd.org/edu/humansocialcap

OECD Centre for Educational Research and Innovation (CERI): www.oecd.org/edu/ceri

OECD Ministerial Conference on SMEs (Bologna Charter): www.oecd-istanbul.sme2004.org

BJØRN T. ASHEIM

THE LEARNING FIRM IN THE LEARNING REGION: INNOVATING THROUGH COOPERATION AND SOCIAL CAPITAL BUILDING

Introduction: Post-Fordism as learning economies

Social capital can be rooted in civicness as well as be a result of organisational and institutional innovations, the latter being most relevant in this context, as it can be build, while the former type only can be build on. The promotion of cooperation emphasises the importance of organisational (social) and institutional innovations, primarily through the formation of learning organisations. Learning organisations must be based on strong involvement of workers within firms (micro-level) as well as on bottom-up, interactive based innovation systems at the regional level and beyond (macro-level). This could, together with other necessary organisational and institutional innovations at different administrative levels from the local to the supra-national contribute to the formation of «learning regions» (Asheim 1996). In the promotion of such innovation supportive learning organisations the inter-linking of cooperative partnerships ranging from work organisations inside firms to different sectors of society understood as development coalitions can be of strategic importance in order to exploit "the benefits of learning based competitiveness" (Amin and Thrift 1995a, 11, Asheim 2001, Ennals and Gustavsen 1999).

Lundvall and Johnson use the concept of «learning economy» when referring to the contemporary post-Fordist economy dominated by the ICT-related (information, computer and telecommunication) techno-economic paradigm in combination with flexible production methods and reflexive work organisations (i.e. learning organisations and functional flexible workers) (Lundvall and Johnson 1994). In addition the learning economy is firmly based on «innovation as a crucial means of competition» (Lundvall and Johnson 1994, 26). Lundvall argues that the concept of a learning economy can be used in two interconnected ways; partly as a theoretical perspective on the economy, and partly as a reference to a specific historical period (i.e. the globalising learning economy (Lundvall and Borras 1999)) in which knowledge and learning has attained an increasing importance in the economy, and, thus, is requiring a new theoretical framework for it to be analysed (Lundvall 1996). In this chapter the use of the concept of a learning economy will imply an understanding of a qualitative change in the development of capitalist economies represented by the transition from Fordism to post-Fordism as well as by globalisation as a transformative force.

Background: Alternative models of capitalism

Soskice (1999) refers to liberal market economies in contrast to what he calls coordinated market economies. These two alternative, and competing, models of the organisation of the market economy could, furthermore, be placed within the context of the globalising world economy, which also is characterised by two (partly) contradictory tendencies. On the one hand we can identify the *neo-Fordist* development path, originating as the new international division of labour in the 1970s, of world-wide sourcing based on the principle of *comparative advantage* of relative lowest input costs (i.e. the best access to, and most efficient use of, "natural" production factors, including labour), and enabled by developments in transportation and communication technologies, and further stimulated by liberalisation and de-regulation of international trade and financial markets. On the other hand we have the *post-Fordist* development path of the learning economy, in which global competition is based on the far more dynamic principle of *competitive advantage*, resting on "making more productive use of inputs, which requires continual innovation" (Porter 1998, 78) promoted by supporting regulatory and institutional frameworks. This implies that competitive advantage is based on exploiting unique competencies and resources, i.e. a firm or a region/nation competes on the basis of what they have which is unique in relation to their competitors. In this way innovation plays a central role in attaining and sustaining competitive advantage. The coordinated market economies could typically be associated with the post-Fordist development path, while in the liberal market economies it is possible to identify both tendencies depending on what sectors (i.e. high tech/capital intensive vs low tech/labour intensive) we are looking at.

Soskice argues that different national institutional frameworks support different forms of economic activity, i.e. that coordinated market economies have their competitive advantage in diversified quality production, while liberal market economies are most competitive in industries characterised by radical innovative activities. In a comparison between coordinated market economies such as Sweden, Germany and Switzerland on the one hand, and liberal ones such as the US on the other, he found that the coordinated economies performed best in the production of "relatively complex products, involving complex production processes and after sales-service in well-established industries" (e.g. the machine tool industry), and that the US performed best in industries producing complex systemic product such as IT and defence technology and advanced financial and producer services, where the importance of scientific based knowledge from national innovation systems based on the linear model is significant (Soskice 1999, 113-114). To complement the picture of the American economy we should add the lower end of the industries (i.e. the low tech/labour intensive ones), where the existence of unskilled workers in low paid jobs, in addition to the individual consequences of poverty and level of living problems in general, also creates aggregate, structural problems for this part of the American economy, being exposed to global competition from low cost countries. Porter points out that American firms "suffer from poorly trained employees who lack essential skills to assimilate modern techniques ... (and) ... are often not committed to their profession and partly because their company is not committed to them" (Porter 1990, 528), and also Lazonick emphasises that "without this committment of the organization to the individual, one could not expect the committment of the individual to the organization" (Lazonick 1994, 21).

Thus, the institutional competitive advantage of the coordinated market economies seems to be found within a further development and upgrading of existing industries and technological trajectories (e.g. manufacturing industries), which are characterised by the interactive innovation model, and where long-term cooperation between workers and firms as well as between firms and between firms and the knowledge infrastructure is of strategic importance to promote technological development through interactive learning.

Contemporary context: Coordinated market economies as learning economies

The learning economies of the Nordic countries are paradigmatic exapmles of Soskice's coordinated market economies. The strategic role played by cooperation in a learning economy is underlined by the understanding of interactive learning as a fundamental aspect of the process of innovation (Asheim 1996). What this broader understanding of innovation as a social, non-linear and interactive learning process means, is a change in the evaluation of the importance and role played by socio-cultural and institutional structures in regional development from being looked upon as mere reminiscences from pre-capitalist civil societies (although still productive), to be viewed as necessary prerequisites for regions in order to be innovative and competitive in a post-Fordist learning economy. Thus, if these observations are correct, this represents—as indicated above—new "forces" in the promotion of technological development in capitalist economies, implying a modification of the overall importance of competition between individual capitals. Of course, the fundamental forces in a capitalist mode of production constituting the technological dynamism are still caused by the contradictions of the capital-capital relationship. However, Lazonick argues, referring to Porter's empirical evidence (Porter 1990), that "domestic cooperation rather than domestic competition is the key determinant of global competitive advantage. For a domestic industry to attain and sustain global competitive advantage requires continuous innovation, which in turn requires domestic cooperation" (Lazonick 1993, 4). Cooke (1994) supports this view, emphasising that "the co-operative approach is not infrequently the only solution to intractable problems posed by globalization, lean production or flexibilisation" (Cooke 1994, 32).

When talking about the importance of non-economic factors for the performance of an economy we are, thus, referring to socio-cultural (i.e. institutional) as well as political-institutional (i.e. organisational) structures, which incorporate historical and territorial dimensions. In more recent writings within economic sociology the concept of *social* capital has come into use. Social capital represents an extension of the "capital" concept from the classical conomists use of *physical* capital (i.e. assets that generate income) and the neo-classical economics introduction of *human* capital, focusing on the importance of education and training of the labour force, to capture the role *social* and *cultural* aspects in a broad sense are playing in influencing economic performance by "encompassing the norms and networks facilitating collective action for mutual benefit" (Woolcock 1998, 155). Social capital can depend on the level of "civicness" in the civil society as well as on the degree of formal organisation in the public sphere. According to Putnam, social capital means "features of social organization, such as networks, norms, and trust, that facilitate action and cooperation for mutual benefit" (Putnam 1993, 35-36). As such, social capital can be viewed as a structural property of larger groups (Woolcock 1998), as it is a common value to several people, and also represents a set of expectations, obligations, and social norms which govern the behaviour of individuals in society (Greve 1999), or what in other contexts is called "institutional thickness" (Amin and Thrift 1995b).

Porter emphasises that the reproduction and development of competitive advantage requires continual innovation, which in a learning economy is conceptualised as a contextualised interactive learning process, promoted by clustering, networking and inter-firm co-operation. This new and alternative conceptualisation of innovation as an interactive learning process means an extension of the range of branches, firm-sizes and regions that can be viewed as innovative, also to include traditional, non R&D-intensive brances, often constituted by SMEs and located in peripheral regions. Following Porter, this implies that it is possible in all branches and sectors to find productive and innovative firms enjoying competitive advantages on the global markets. This could explain the seemingly paradoxical situation of low tech industries (e.g. the furniture industry)

flourishing and reproducing their international competitive advantage in high cost countries such as Denmark, Germany and Italy, which all can be described as coordinated market economies. In addition, according to Freeman and Perez (1986), it is important to remember that the diffusion (exploitation/utilisation) of knowledge is not dependent on techno-economic subsystems, but on the socio-institutional framework. Thus, in order to generate economic growth and increased employment, as a basis for achieving social cohesion, focus must be on the absorption and diffusion capacity of societies, which points to the importance of non-economic factors such as culture (social capital and trust) and politics (e.g. educational policies securing a well educated population through an equal, free of cost and proximate access to high quality educational facilities) for economic performance, through improving the potentials for (regional) learning and knowledge creation in a society. Thus, this theoretical perspective even broaden the scope for a policy of strong competition for post-Fordist learning economies (Storper and Walker 1989), i.e. competition building on innovation and differentiation strategies, in contrast to weak competition based on price competition.

Micro-level learning organisation: The learning firm as a development coalition

Hudson in his criticism of the concept of learning regions questions the impact of the growth of "new and enriching and empowering forms of work" as a result of the increased importance of knowledge and learning (Hudson 1999, 60). Referring to what he sees as "necessary and possible" in a capitalist economy he will not in general accept the tendency towards a reduction in the relative significance of "the alienated and deskilled mass worker" (Hudson 1999, 60). However, partly Hudson's frame of reference is the Anglo-American liberal market economy, and partly changes in work organisation away from such working conditions have been underway since the 1940s and 50s starting with the studies by the socio-technical school of organisational theory, which also is a forerunner for today's research on development coalitions. In their work, Lundvall and Johnson argue that "the firm's capability to learn reflects the way it is organised. The movement away from tall hierarchies with vertical flows of information towards more flat organisations with horizontal flows of information is one aspect of the learning economy" (Lundvall and Johnson 1994, 39).

This is in line with Scandinavian experiences,[1] based on the socio-technical approach to organisation theory, which have shown that flat and egalitarian organisations have the best prerequisites of being flexible and learning organisations, and that industrial relations characterised by strong involvement of functional flexible, central workers is important in order to have a working "learning organisation" (Asheim 1996). Such organisations will also result in well functioning industrial relations, where all the employees (i.e. the (skilled) workers as well as the managers) will have a certain degree of loyalty towards the firm. All experience shows that "the process of continous improvement through interactive learning and problem-solving, a process that was pioneered by Japanese firms, presupposes a workforce that feels actively committed to the firm" (Morgan 1997, 494). Brusco—with special referance to the industrial districts of Emilia-Romagna—points to the dominating model of production in the districts "that was able to be efficient and thus competitive on world markets, in which efficiency and the ability to innovate were achieved through high levels of worker participation and were accompanied by working

[1] Referred to as, for example, "Kalmarism" in contrast to "Fordism", "Neo-Taylorism" and "Toyotism" in the international academic literature (Leborgne and Lipietz 1992).

conditions that were acceptable" (Brusco 1996, 149). Thus, Brusco et al. (1996) maintain that the «experience in Emilia-Romagna has demonstrated that competitiveness on global markets is not a contradiction to high labour cost, high incomes and a fair distribution of income; on the contrary, we would claim that a fair income distribution is a necessary condition (although not sufficient) for consensus, and consensus and participation are an indispensable prerequisite for economic success» (Brusco et al. 1996, 35).

However, co-operation has to be based on broad participation in order to have a significant and lasting effect on innovativeness and competitiveness, i.e. all workers in a firm have to be involved in the continuous improvement work within a learning organisation aiming at increased productivity and quality specifically and contributing to enterprise development in general. In this way collective learning stands in contrast to individual learning, where the improved skills are sold and purchased on the labour market at a given price (Lazonick and O'Sullivan 1996, Storper 1997). According to Lazonick and O'Sullivan, innovation processes of the innovative firm in the advanced knowledge based society are characterized by such collective learning, which depends on business enterprises creating social organisations (e.g. learning organisations and networks) enabling col- lective learning to take place (Lazonick and O'Sullivan 1996). Thus, in learning economies the firm, conceptualised as a learning organisation based on broad participation, could still be considered the basic unit of production organisation, which is in contrast to development tendencies observed in the media industries as well as in other of the so called "new industries", where *projects* rather than firms are becoming the dominant mode of organisation (Grabher 2000, Sennett 1998).

This could open the possibilities for not only negotiated involvement at the firm or sectoral level combined with external flexibility, but also for the combination of negotiated involvement at the societal level and external flexibility, which, according to Leborgne and Lipietz (1992), is incompatible in the long run.[2] In general, Porter points out that «labor-management relationships are particularly significant in many industries because they are so central to the ability of firms to improve and innovate» (Porter 1990, 109). Thus, it could be argued that the Norwegian society is characterised by a culture in which cooperation is both recognised and attributed value to as an important part of the social capital, which could serve as an example of the positive consequences this can have for firms with respect to loyalty, flexibility and general positive attitudes towards work at the micro level as well as to the social regulation of the labour market at the macro level. The presence of social capital in the form of a strong tradition of cooperation adds to the high level of human capital of the work force in a synergetic way, and represents an international competitive advantage (not still fully exploited, according to Porter), not the least because it implies a next to immediate implementation of decesions, since they have been taken in consensus oriented learning organisations based on broad participation. This organised form of bringing the society inside the firm through learning organisations based on broad participation, and supported by labour market legislation as well as a strong tradition of co-operation between the labour market organisations, is in many aspects the opposite way of achieving a fusion of the economy with the rest of society (Piore and Sabel 1984) than the industrial district model, in which the firm is embedded in spatial structures of social relations. These contrasting models of contextualising the firm also reflect the alternative interpretations of social capital, i.e. as rooted in the "civicness"

[2] Leborgne and Lipietz (1992) disagrees in the possibilities of combining involvement and flexibility. They argue that "collective involvement and flexibility are incompatible", because "external rigidity of the labor market (is) associated with negotiated involvement of the workers" (Leborgne and Lipietz 1992, 339). However, partly the authors reduce flexibility to only be a question of numerical flexibility, and neglect the possibility of functional flexibility, and partly, given the presence of functional flexible, central workers in the organisation, there exists a potential trade-off between influence and loyalty.

of communities (industrial district) or as formal organisations on the system level of societies (development coalition).

Firms of the learning economy are basically «learning organisations». They choose organisational modes such as inter-firm networking and intra-firm horizontal communication patterns in order to enhance learning capabilites (Lundvall and Johnson 1994). Such enterprise development is based on what Lazonick and O'Sullivan (1996) call the innovative firm. An innovative business enterprise does not take an achieved competitive advantage as given, as it can be eliminated through imitation. Thus, it must be continually reproduced through innovation. However, the innovation process has to be based on collective learning inside the business enterprise as well as on networks of cooperating firms to give the firm a possibility of deve- loping their specific competitive advantage over competing enterprises.

A strong and broad involvement within an organisation will make it easier to use and diffuse informal or "tacit", non-R&D based, knowledge, which in a "learning economy" has a more central role to play in securing continuous innovation. "Transactions" with "tacit" knowledge within and between networking organisations require trust, which is easier to establish and reproduce in flat organisations than in hierarchical ones. In a study of successful intra-firm reorganisation of SMEs in Baden-Württemberg Herrigel reports that one company "set out to constitute "trusting" relations among all actors within the firm, regardless of role or position in the organization, which were informed by mutual respect. It discouraged thinking in terms of hierarchy and status and made all information about the company available to everyone within it" (Herrigel 1996, 46). In organisations characterised by an authoritarian management style the attitude of the employees will often be to keep "the relevant information to themselves" (You and Wilkinson 1994, 270).

Macro-level learning organisation: The learning region as a development coalition

In the perspective of the new understanding of innovation as culturally and institutionally contextualised, strategic parts of learning processes emerges as a localised, and not a placeless, process, and, thus, constitute important parts of the knowledge base and infrastructure of firms and regions, which points to the role of historical trajectories. This view is supported by Porter, who argues that "competitive advantage is created and sustained through a highly localised process" (Porter 1990, 19). Localised learning is not only based on tacit knowledge, as we argue that contextual knowledge also is constituted by "sticky", codified knowledge. This refers to "disembodied" knowledge and know-how which are not embodied in machinery, but are the result of positive externalities of the innovation process, and generally based on a high level of individual skill and experience, collective technical culture and a well developed institutional framework, which are highly immobile in geographical terms (de Castro and Jensen-Butler 1993), and, thus, can represent important context conditions of regional clusters with a potentially favourable impact on their innovativeness and competitiveness. Such "disembodied" knowledge is often constituted by a combination of place-specific experience based, tacit knowledge and competence, artisan skills and R&D-based knowledge (Asheim 1999).

Following this line of reasoning it could be argued that the combination of contextual disembodied knowledge and "untraded interdependencies", i.e. «a structured set of technological externalities which can be a collective asset of groups of firms/industries within countries/regions» and which represent country—or region-specific «context conditions» of fundamental importance to the innovative process (Dosi 1988, 226), can constitute the material basis for the competitive advantage of regions in the globalising learning economy, even if their industrial structure is dominated by more traditional, low to medium high tech branches found in for example the small Scandinavian countries as well as in districts in the Third Italy. As pointed out earlier, global competition in post-Fordist learning economies is based on the principle of competitive advantage, referring to the productive use of new combinations of localised and unique, contingent

resources, which is often the product of specific historical technological trajectories as well as socio-institutional settings in regions and nations. According to Porter, "the building of a "home base" within a nation, or within a region of a nation, represents the organizational foundation for global competitive advantage" (as referred in Lazonick 1993, 2).

In this context it is important to emphasise that "whilst knowledge in the form of embodied technical progress can be exported independently of social institutions, such knowledge in its disembodied form cannot be absorbed independently of such institutions" (de Castro and Jensen-Butler 1993, 3). The rationale behind promoting regional endogenous development is precisely "to use ... social organization to generate innovation and economic development" (Lazonick and O'Sullivan 1995, 4).

The concept of "learning regions" has been applied in at least three different contexts. The concept was first introduced by economic geographers in 1995/1996 (Florida 1995, Asheim 1996), when they used it to emphasise the role played by cooperation and collective learning in regional clusters and networks in order to promote the innovativeness and competitiveness of firms and regions in the globalising learning economy (Asheim 1997). This approach was clearly inspired by the rapid economic development in the "Third Italy", which drew the attention towards the importance of co-operation between SMEs in industrial districts and between firms and local authorities at the regional level in achieving international competitiveness (Asheim 1996).

The second approach expressing (more indirectly) the idea of learning regions originates from the writings of new evolutionary and institutional economics on the knowledge and learning based economy, arguing that "regional production systems, industrial districts and technological districts are becoming increasingly important" (Lundvall 1992, 3), and also from Porter's (1998) view of the strategic importance of cluster.

The third approach, which conceptualises learning regions as regionally based development coalitions, has lately been applied by representatives of the socio-technical school of organisational theory taking their knowledge of how to form intra—and inter-firm learning organisations based on broad participation out of the firm context and using it to establish learning organisations at the regional level (i.e. learning regions) (Ennals and Gustavsen 1999).

All three approaches underline the important role of innovation in a post-Fordist learning economy, which highlights the significance of building and using social capital in order to foster cooperation and to promote the principle of broad participation in intra—and inter-firm networks as well as at the regional level. However, while the economic geographic/evolutionary economics approach is strong on the innovation dimension, the action research approach of the socio-technical school has mainly focused on the organisational principle of broad participation. Thus, it is an important task to merge these approaches in order to obtain a coherent model or policy framework for formulations of partnership-based development strategies in order to achieve economic growth, employment generation as well as social cohesion, as expressed by the idea of the 'learning firm' in a 'learning region'. In this way the approaches of action oriented organisational theory and theories of innovation as institutionally and territorially contextualised interactive learning processes from economic geography/evolutionary economics is combined.

Conclusion: Social capital and alternative capitalism

As argued in the chapter, the emphasis on interactive learning points to the importance of cooperation, which reminds us of the significance of non-market and non-economic factors, such as social capital, trust and institutions, for the economic performance of regions and nations (Putnam 1993). Consequently, the question of how social capital and trust can be fostered within firms,

between firms in networks and by public-private partnership at the regional level in order to promote increased cooperation as a source of competitive advantage of regions, is very important from a policy perspective. According to Lazonick (1991), "history shows that the driving force of successful capitalist development is not the perfection of the market mechanism but the building of organizational capabilities" (Lazonick 1991, 8). However, our discussion in this chapter has shown that the necessary requirements of a learning based strategy of endogenous regional development concerning socio-cultural and socio-economic structures are to be found in relatively well-off regions, and the sufficient techno-economic and political insitutional structures only in relatively developed countries, and more often in coordinated than in liberal market economies. Thus, it is important to keep in mind that such a strategy cannot be applied across the board without some form of public intervention as well as public-private co-operation, stimulating cluster creation and network formation through the building up of social capital on a regional basis.

Finally, contrary to addressing the structural limits to learning in liberal capitalist economies (Hudson 1999), the focus should be on the new possibilities in a learning economy of the coordinated type of creating context conditions supporting a plus sum game generating endogenous regional development in some regions without distorting the growth potentials of other regions (Lundvall 1996). Concerning the structural limits to learning, these are—within a capitalist economy—basically caused by a policy of weak competition. Thus, a policy of strong competition, building on innovation and differentiation strategies in networks of large and small firms on the basis of interactive, localised learning and continual innovation in industrial and territorial clusters, has considerable potential for learning and knowledge creation, as it provides the best material context for an innovation based learning economy, and, as such, represents the most dynamic, long-term growth oriented kind of capitalism (i.e. coordinated market economies) which can achieve development *in* as well as *of* regions.

In this context it is important not to have a pre-deterministic view of the development paths of capitalist societies. The examples of national and regional development in the paper, clearly show that the coordinated market economies in Norway and the Third Italy is rather different from, and represent other "windows of opportunities" than, the neo-liberal, uncoordinated ones of Britain and USA in the 1980s. This points to the duality of agency and structure in societal development, which has to be taken into account when evaluating the prospects of a strategy for the formation of learning firms and systems in learning regions based on development coalitions, and the possible, resulting "worlds of production" (Storper and Salais 1997).

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PAOLO PASIMENI

SOCIAL CAPITAL, CULTURE AND INNOVATION: A DIFFERENT PERSPECTIVE

The notion of social capital

The notion of Social Capital is more and more at the core of the economic debate. The reason for such a prominence is twofold.

First of all, social capital is being recognised as an important factor affecting economic performance; much of the differences in trends of economic development among countries or regions are considered to depend, to some extent, on social capital. Just like other forms of capital (physical, financial, human) it facilitates productive activities, contributes to economic growth, at both microeconomic level (with its ability to improve market functioning) and macroeconomic level (affecting the global organisation of production). To some extent, it has become a concept for defining 'the missing ingredient' in successful practice that economics cannot explain (Cooke and Clifton 2002 in Landabaso et al. 2004). It is seen as a relevant, collective and strategic asset for innovation, an economic resource and an important factor of production.

The second aspect is that there is no complete and widespread agreement about its concept and definition. Economists, sociologists, political scientists and anthropologists have attempted to define it, each one focussing on some aspects or characteristics of this relatively new, fascinating and powerful analytical tool. Moreover, many difficulties arise when we try to measure it or to exactly determine its direct effects on the economy. Even if it is recognised as a very relevant economic asset, it is not likely to be quantified and handled as an arithmetic data. Nevertheless it counts. And its relevance and influence on innovation is well known.

All these issues, evidently, make the debate more and more animated. In this chapter the concept of social capital will be analysed, trying to encompass different visions from different disciplines, but then focussing on its effect in the economy, and in particular on the innovative capacity of a country.

The methodological idea underlying this work is that it seems not convenient to analyse a sociological and anthropological concept starting from the economists' principles of rational action driven by purely economic purposes, scarce resources, and maximising utility. In a classic and pioneer work on social capital, J.Coleman (1988) explains his approach by saying: "(the aim) is to import the economists' principle of rational action for use in the analysis of social systems proper". The approach used here will be the opposite: to review and summarise what has been studied about the concept of social capital, from sociologists, anthropologists, political scientists and economists, to then analyse its effect in the economic sphere, being aware that most of the

relevance of social capital for innovation is not likely to be quantified and handled as an arithmetic data.

Social capital is mainly a non-economic concept, which has economic as well as non-economic outcomes. Both are extremely relevant in the analysis of the innovative capacity of a system. "Much of what is relevant to social capital is tacit and relational, defying easy measurement or codification. Individual attitudes (e.g. trust) or behaviour (e.g. joining organisations and voting) provide proxy measures of social capital, but these measures should not be confused with the underlying concept" (OECD 2001).

Definitions

Many definitions of social capital have been given. Some have identified it with social features and attitudes like trust, others have focused on shared norms driving people behaviours, and others have considered its materialisation in social networks.

According to Coleman (1988) "Social capital is defined by its function. It is not a single entity but a variety of different entities, with two elements in common: they all consist of some aspect of social structures, and they facilitate certain actions of actors (whether persons or corporate actors) within the structure. Like other forms of capital, social capital is productive (...). Like physical capital and human capital, social capital is not completely fungible but may be specific to certain activities".

Robert Putnam (1993) in his well known work on the functioning of democracy in Italy, highlighted the role of social capital in explaining the different level of economic development between the north and the south, defining it as: "features of social organization, such as trust, norms, and networks that can improve the efficiency of society by facilitating coordinated actions" (Putnam, 1993: 167). Putnam identifies social capital with those horizontal associations among people that affect the productivity of the community. These associations include "networks of civic engagement" and social norms.

Serageldin and Grootaert (2000) considered the last view as the narrowest, and the Coleman's one more comprehensive, since it "captures not only social structures at large, but the ensemble of norms governing interpersonal behaviour". And they present a third more encompassing view that "includes the social and political environment that enables norms to develop and shapes social structure. (...) this view encompasses formalised institutional relationships and structures, such as governments, political regimes, and the rule of law, court systems and civil and political liberties".

The OECD (2001) gives the following definition of social capital: "networks together with shared norms, values and understandings that facilitate co-operation within or among groups". "Social capital is likely to have positive economic, social and personal benefits based on a wide range of empirical studies in a number of countries". "Social capital is built up by social groups ranging from the family to the nation. Families are primary building blocks for social capital. Schools and institutions of learning can also sustain social capital... as can local communities and firms".

Maskell (2001) considers that "the contemporary process of globalization has dramatically enhanced the economic importance of what a diverse group of current scholars has called social capital. Social capital refers to the values and beliefs that citizens share in their everyday dealings and which give meaning and provide design for all sorts of rules. Social capital is accumulated within the community through processes of interaction and learning.

Norms, codes, trust, solidarity and other vital elements of social capital can be built and reinforced when sharing a common goal or a mutual fate even in the most hierarchical economic

structures imaginable, like the globally operating multidivisional corporation, and not just when people mingle, organize and achieve with peers in their spare time".

Partha Dasgupta (2002) highlights that even though it has a powerful, intuitive appeal; it has proven hard to track as an economic good. Among other things, it is fiendishly difficult to measure. This isn't because of a recognised paucity of data, but because we don't quite know what we should be measuring. Comprising different types of relationships and engagements, the components of social capital are many and varied and, in many instances, intangible.

"In all these accounts, the engagements that rely on what is called social capital occur somewhere between the individual and the State: they are conducted within informal institutions. When applied to horizontal networks, social capital is identified with the workings of civil society". "Social capital is most usefully viewed as a system of interpersonal networks".

From the regional development point of view (Landabaso et al. 2003), social capital has been seen as "collective capacity of key socio-economic players in the region (e.g. individuals, companies, authorities, research centres, business support agencies, etc.) to form and effectively use networks or other forms of cooperation on the basis of shared value system, norms and institutions (e.g. trust and reciprocity) in order to enable and accelerate the process of regional learning".

According to Kevin Morgan (2004), "social capital is a relational infrastructure for collective action which requires trust, voice, reciprocity and a disposition to collaborate for mutually beneficial ends". "Building social capital (a relational infrastructure for collective learning) takes time, patience, resources and mutual understanding. The assumptive worlds of business, universities and regional government for example, are all very different and genuine partnerships are not built overnight".

The sum of the different points of view, and the overall knowledge developed about the subject, make now possible to summarise some specific features. In most of the definitions of social capital we find common features:

- they talk about the elements of social capital, like norms, values, voice, codes, understandings, feelings of trust, solidarity and reciprocity;
- and about its functions: social relationships, interactions, organisational capacity, coordination, cooperation, networking;
- they browse in the social, psychological, cultural and political spheres, for a concept that produces economic outcomes (together with non-economic outcomes) and affect economic performances;
- finally, all these definitions imply that this social capital has positive externalities in the economic sphere. These studies assert that a relevant "stock" or "amount" of social capital facilitates productive activities and have positive economic effects, and that discovering, fostering and creating social capital will be an important task for public policies.

As presented above, the focus of this chapter will be the effects social capital has in the economic sphere, with special regard to the capacity it has (or not) to foster innovation. More in detail, the common features highlighted above, extracted by a general outlook of some definitions, seem to be important starting points for the analysis, except the last one. Many "stocks" or "amounts" of social capital exist and they can reinforce positive or negative trends already present in the context. The main idea of this work is to consider social capital as a vox media, not necessarily having positive effects, but having relevant effects in any case.

The innovation process

Innovation theories and policies were born to face with the difficulties of understanding the technological change as a driver of growth. They are now being developed to face with the problem of better understanding all the interrelated and unpredictable changes that drive economic development of nations, in all policy areas.

One of the pioneers, who tried to define the concept of innovation, was J.Schumpeter (1934). According to him, innovation can be considered: "the introduction of a new product or a qualitative change in an existing product, a process innovation new to an industry, the opening of a new market, the development of new sources of supply for raw materials or other inputs, changes in industrial organisation".

The definition provided by the European Commission seems to be more comprehensive: "the renewal and enlargement of the range of products and services and the associated markets; the establishment of new methods of production, supply and distribution; the introduction of changes in management, work organization, and the working conditions and skills of the workforce" (COM (1995) 688)

This definition of innovation expresses the spaciousness of this concept, by clearly defining the different fields of action of an innovative activity:

— new or better products;
— new or better services;
— new markets;
— new methods of production;
— new methods of supply;
— new methods of distribution;
— new methods of management;
— new methods of organisation;
— changes in working conditions;
— changes in the skills of the workforce.

In a still wider conception, innovation can be seen as any change, which allows an organisation to do more and/or better, and its successful exploitation.

In a broader view, the innovative capacity of a nation appears to be strictly related and interdependent with its culture. Culture being the environment of the ideas allowing a continuous generation of a widespread innovative capacity and innovative capacity being one engine that changes and drives ways of thinking and ways of doing of people.

This broad and social conception of an innovation process contrasts with a narrow, technical and economy-centric vision, in the sense that the economic measurable output of an innovation is to be considered just one of the several benefits that it can give to the society. Innovation is still widely perceived in its technological dimension, but non-technological innovation is often more important, since it allows a more rapid generation of socio-economic benefits. In fact, it takes many forms, apart from technological innovation. There is innovation through new business models and new ways of organising work, innovation in design and in marketing. Innovation can also consist of finding new uses and new markets for existing products and services. It emerges where the market offers incentives to introduce new products and production methods, and where people are willing to take risks and experiment with new ideas. In addition, human, social, organisational, political and cultural aspects of innovation can really generate structural changes in the societies, contributing to the development of a widespread innovative capacity. Technology is to be seen as just a means, often an excellent means, in the service of people and societies.

Innovation is an interactive process. It must come up from the dynamic of interactions between all the elements of the system: individuals, organisations and the operating environment. The functions and the activities at the core of the innovation process can be different, but there must be always an intense set of interactions allowing the flow of knowledge between individuals, in order to create opportunities to develop innovative ideas.

The innovation process is an incremental and cumulative one. If the main element is knowledge, then the proprieties of the processes of knowledge creation, diffusion and use must be extended to the innovation process (R.Nelson, S.Winter, 1982). The ways knowledge is created, transferred and used determine the functioning of the system, thus its capacity to promote and exploit innovation.

It is also and mainly a social process, in which social interactions among the individuals, the shared norms, values and beliefs composing the local culture, can strongly influence the intensity of change and the generation of innovative opportunities, as well as the capacity to obtain socio-economic benefit from them. Social capital is a relevant factor to deal with, since it can affect innovation policies, due to its strong potential for making such a policy work better, or also, in some cases, for hindering it.

It is a sector-specific process. Patterns of innovation differ a lot depending on sectors. Some sectors are more innovative than others. The Innovative Performances of sectors depend on different factors, for some of them knowledge creation is the main engine, for others diffusion of knowledge is it [1]. (EC Innovation Scoreboard, 2004; Malerba, 2002)

The innovation process certainly is a context-specific process. Every country must find its own way, its own route towards innovation. Local peculiarities and characteristics always determine the setting up of an innovation culture and system, and impede to simply apply models developed elsewhere. Policy makers cannot just copy best practice and expect them to work, it's necessary to suit specific national or regional conditions and objectives, needs and interest. "The best model of innovation does not exist" (Lundvall, 1992).

But, in the end, the process of development of an innovative capacity within a country is first of all a cultural one. Many authors stress the importance of a general, wide, positive environment conductive to innovation, and then it is necessary to focus on the building elements of such a necessary environment. Culture seems to be one of these elements. It has to do basically with the general set of values, beliefs, knowledge, attitudes and ideas which form a widespread common understanding and ways of thinking. These generally accepted ways of thinking serve as a yardstick for the acceptance or the refusal of the social models proposed to the people. At the very beginning of the innovation process there are the individuals. Individuals also are the main recipients of the innovation process. An individual's attitudes, values, ideals, and beliefs are greatly influenced by the culture in which he or she lives. That's the reason why any innovation policy assumes the form, and thus the complexity, of a tentative social change, with all the consequences that this implies (slow, difficult, complex, path dependent, influenced by history, by geographical conditions, etc...). Culture is the main asset to promote innovation. The cultural features of a society have the power to direct people's minds towards objectives, they can, in some

[1] Patterns of innovation differ a lot depending on Sectors, besides Regions and Countries. Some sectors are more innovative than others. The Innovative Performances of sectors depend on different factors. By using 2 groups of Innovative Performance Indicators (K Creation & K Diffusion), the 2004 EC Innovation Scoreboard shows that:

High and medium-high technology manufacturing sectors innovate through Knowledge Creation

(Public R&D expenditure %GDP; Business expenditures on R&D %GDP; EPO high-tech patents applications; USTPO high-tech patents granted; EPO patents applications; USTPO patents granted)

Service and low-tech manufacturing sectors innovate through Diffusion of Knowledge

(SMEs innovating in-house %all SMEs; SMEs involved in innovation cooperation; Innovation expenditures %turnover; share of SMEs that use non-technical change).

way, shift social preferences from a model to another, they make some values and ideals more or less appealing than others, to people that then will try to pursue them by means of their actions. This is the process by which culture determines social actions and then economic trends.

The effects of social capital on the economy

Many authors have tried to explain the positive effects that social capital has as an economic resource. Its "positive externalities" are widely recognised as facilitators for economic activities and for innovation in particular.

Those who identify it with social features and attitudes like trust, highlight its utility in economic negotiations, like the so-called "reputation effects" in the game theory. Social capital can reduce transaction costs, such as search and information costs, bargaining and decision-making costs, contracting and control costs (Maskell 2001). Those who consider social networks as the materialisation of social capital, highlight that these social features have the capacity to overcome and to some extent prevent from asymmetric information, reducing in any case the information costs. It facilitates coordinated actions (Putnam 1993), and also facilitates cooperation within or among groups, by reducing bureaucratic procedures (OECD 2001).

As a matter of example, in the case of the well-known prisoner's dilemma, the existence of strong links, trust and solidarity between the actors can completely change the logic of the model. The dilemma of the prisoners is that, whatever the other does, for each is better to confess than to remain silent and help the other. The outcome obtained when both confess is worse for each than the outcome they would have obtained by both refusing to confess. A conclusion is that the game shows a conflict between individual and group rationality. A group whose members pursue rational self-interests may in the end obtain worse results than a group whose members act contrary to rational self-interest.

How would social capital affect this game?

In the case of two actors with strong links, and paths of cooperation, sharing trust and reciprocal solidarity, the most likely solution would be the cooperation between them. And this solution is the one giving better outcomes for both, than confessing. This is a manifestation of the effect social capital can have in facilitating a cooperative attitude between economic actors.

In the innovation policies theory, the capacity to foster cooperation among economic actors has been the most considered aspect, giving room to strong support and consideration to the relevance of social capital for innovation.

"Social capital enables firms to improve their innovative capability and conduct business transactions without much fuss and has, therefore, substantial implications for economic performance" (Maskell 2001). "It enhances and accelerates a process of exchange and creation of knowledge and innovation" (Landry et al 2000). Due to its role of facilitator of cooperative activities, it has been assigned a great importance in the process of knowledge diffusion and exploitation as well as in the learning process. Hence it is increasingly the focus of innovation theories.

A different perspective

The theories about social capital have been mainly developed between the USA and the European Nordic countries. In particular, the role of social capital in innovation policies has been deeply analysed and discussed by Scandinavian, Dutch and British scholars, producing strong

support to the thesis that considers it as a necessary condition for the well functioning of an economic system.

It should be noted that many forms of social capital exist and that the effects it has can be very different. Some scholars have already noted (Coleman 1988) that some well organised, structured and efficient groups can act, and actually act, to pursue criminal ends. They all are formed and based on systems of shared norms, beliefs, understandings, values, kept together by the strong interaction, networking, in some way solidarity among members, and acting in a cooperative and coordinated way. Of course, this kind of organisations does not have positive externalities, and cannot be seen as positive in fostering innovation. Mafia groups, for instance, act this way, and we would not say that they generate positive effects[2].

But it is not only the social capital existing in criminal groups or organisation, which suggests the thesis of a social capital having several different potential effects. If we analyse some customs and practices of societies in southern Europe, we can observe how social networks, interactions, cooperation and solidarity, prevalently in small villages, more in isolated ones, act as a social protection and support for less wealthy people, allowing them to reach better living standards, and avoiding many potential conflicts.

Some have started to recognise that forms of social capital are evident also in less developed regions and countries. In these contexts more or less informal networks often exist, playing a relevant role in the economic and social life, tacitly gluing people around shared value systems, norms and beliefs. And it is true that strong social relationships in these contexts often make up the inefficiencies of the public sector, generating and consolidating important "invisible" networks that help local people to reach better conditions than what could be expected. This is the case of many communities in many regions of the world.

In south Mediterranean countries, there are more evident features that prove the existence of social capital. In some cases we can even observe forms of social capital with direct and explicit economic effects. In the Islamic religion there are two practices called *Sadaqa* and *Zakat*. *Sadaqa* is the charity to an Islamic cause, or also the charity to the poor. *Zakat* is an obligatory duty and one of the five pillars of Islam. The word means both 'purification' and 'growth'. Technically, it means to purify one's possession of wealth by distributing a prescribed amount to the poor, the indigent, the slaves or captives, and the wayfarer. Since one of the most important principles of Islam is that all things belong to God, and that wealth is therefore held by human beings in trust, one's possessions are purified by setting aside a proportion for those in need, and, like the pruning of plants, this cutting back balances and encourages new growth. *Zakat* is the amount of money that every adult, mentally stable, free, and financially able Muslim, male and female, has to pay to support specific categories people. According to the Islamic religion, *Zakat* functions as a social security for all. Those who have enough money today pay for what they have. If they need money tomorrow they will get what is necessary to help them live decently. Economically, *Zakat* can be seen as a sort of general redistributive policy, by means of which every person should give the 2,5% of his net annual benefit to support poorer people. The direct economic effect of such a cultural and religious belief is manifest. The payer pays his dues as an act of worship, a token of submission and an acknowledgment of gratitude to God. The receiver receives it as a grant, as a favour for which he is thankful to God. From this, another important concept of the Islam derives, that of *Kanaa*: the idea of being satisfied whatever one person has, or better said, the awareness that "I will be satisfied for what God will decide to give me" and at the same time that "God will give me what I will need to be satisfied".

[2] "The concept of harm and the function relating its amount to the activity level are familiar to economists from their many discussions of activities causing external diseconomies. From this perspective criminal activities are an important subset of the class of activities that cause diseconomies" (Becker 1968).

Sadaqa and most of all *Zakat* appear to be clear indicators of the existence of social capital, in this context. *Kanaa* can be seen as reinforced and fostered by the general presence of social capital, and directly by the practices of *Sadaqa* and *Zakat*. It may be just one of their possible outcomes, like many others features of societies.

The economic effect of such a social structure can be proved and, to some extent, measured by analysing and comparing some indicators. The process of developing such a social protection mechanism, due to interaction, networking, sharing values and attitudes, like an informal, social protection, parallel to the one provided by the state, allows lower income people to reach better living standards, than expected. If we consider the GINI index as a measure of the inequality in the income distribution of a country, we can observe that south Mediterranean countries represent a group of countries who:

—first of all, have a sort of homogeneity in their GINI values;

—then, compared to other countries of the world with similar levels of per capita income, have considerably lower values, i.e. have a more equal economic structure than the average.

In this analysis, within the group of south Mediterranean countries we have considered the so-called Mediterranean Partner Countries, by the European Union International Co-operation policy, namely: Morocco, Algeria, Tunisia, Egypt, Jordan, Lebanon, Syria, and Palestine, and also Turkey, which in fact has a status of Associated Countries, but for the purpose of the analysis, shares a lot of significant features with the MPC *strictu sensu*.

In order to realize a coherent comparison, the MPC were analysed jointly with other countries of the world having the same levels of per capita income. Actually, based of the last UNDP data available, we analysed the world ranking of GDP per capita at purchasing power parity. Within the group of MPC, we find the highest value for Tunisia, with 7.161 US$ per capita at ppp, while the lowest is 3.576 for Syria. The countries with a GDP per capita at ppp comprised in this range have been considered in the analysis. They are: Brazil, Colombia, Dominican Republic, Ecuador, El Salvador, Guatemala, Panama, Paraguay, Peru, Uruguay and Venezuela, in Latin America, China, Iran, Philippines and Thailand, in Asia, and Kazakhstan, Romania, Bulgaria and Ukraine, as former communist countries.

The indicators used in the analysis of the inequalities in the economic structure of these countries are:

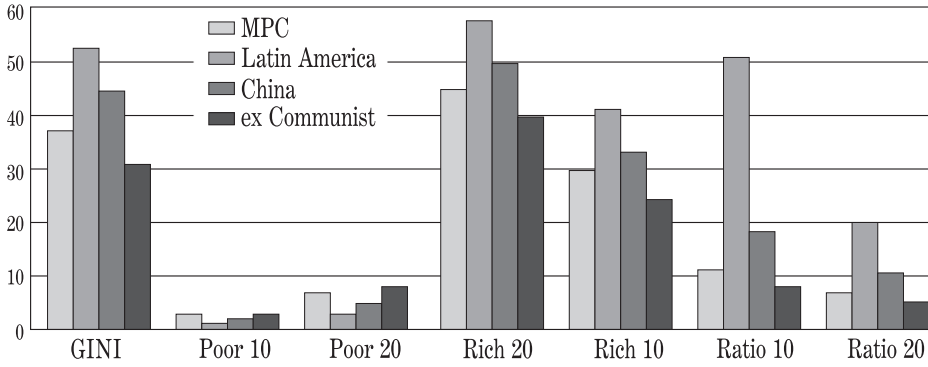
— the GINI index, which measures the degree of inequality in the distribution of income in a country. The index is calculated from the Lorenz curve. It is the ratio of the area between a country's Lorenz curve and the 45 degree helping line to the entire triangular area under the 45 degree line. The GINI index measures the extent to which the distribution of income among individuals or households within an economy deviates from a perfectly equal distribution. The more nearly equal a country's income distribution, the closer its Lorenz curve to the 45 degree line and the lower its Gini index. The more unequal a country's income distribution, the farther its Lorenz curve from the 45 degree line and the higher its Gini index. A Gini index of "0" represents perfect equality, while an index of "100" implies perfect inequality.
— the contribution to the total consumption of a country, made by the poorest 10% of the population, the poorest 20%, the richest 20% and the richest 10%,
— the ratio of the 10% richest to the 10% poorest, and the one of the 20% richest to the poorest.

As expected, by taking into account what previously argued about the presence of strong social capital in MPC, this group of countries has a significantly lower GINI index than other countries in the world with similar levels of GDP per capita, the poorest fraction of the population contribute in a higher quantity to the total consumption, and consequently the ratios of 10% and 20% are lower. Only the former communist countries, due to the heritage of the particular

economic structure they had during decades, show similar levels of inequalities and in some cases also lower than those of MPC.

In particular, we can observe that the MPC with the highest GINI index is Turkey, with 40,0%, which is significantly lower that the lowest value for Latin American countries, Ecuador, with 43,7%. MPCs have values comprised between 34,4% (Egypt) and 40,0%. Latin America countries have values comprised between 43,7% and 59,3% of Brasil. China has 44,7%, Iran 43,0%, Thailand 43,2% and Philippines 46,1%. Former communist countries have 29,0% for Ukraine, 30,3% for Romania, 31,9% for Bulgaria and 32,3% for Kazakhstan.

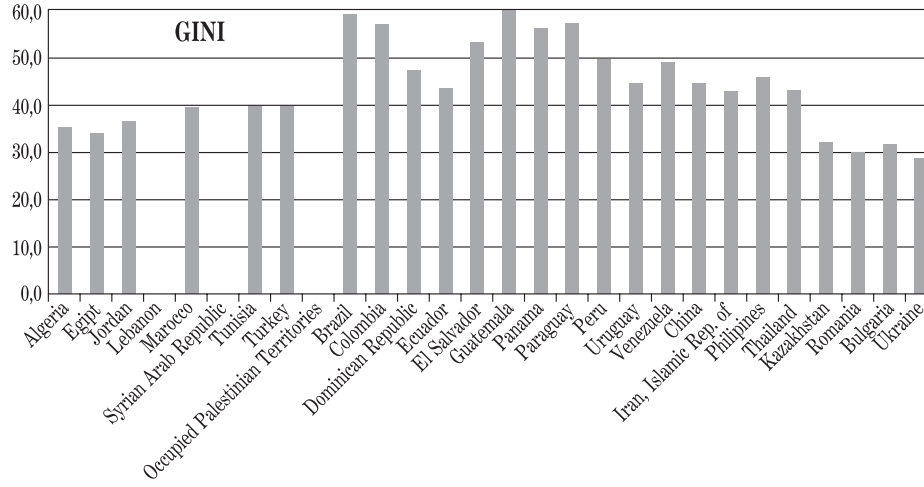
Grouping countries into 4 main categories (Mediterranean Partner Countries, Latin America, China, and ex Communist Countries), we find these figures:



Source: UNDP (2005).

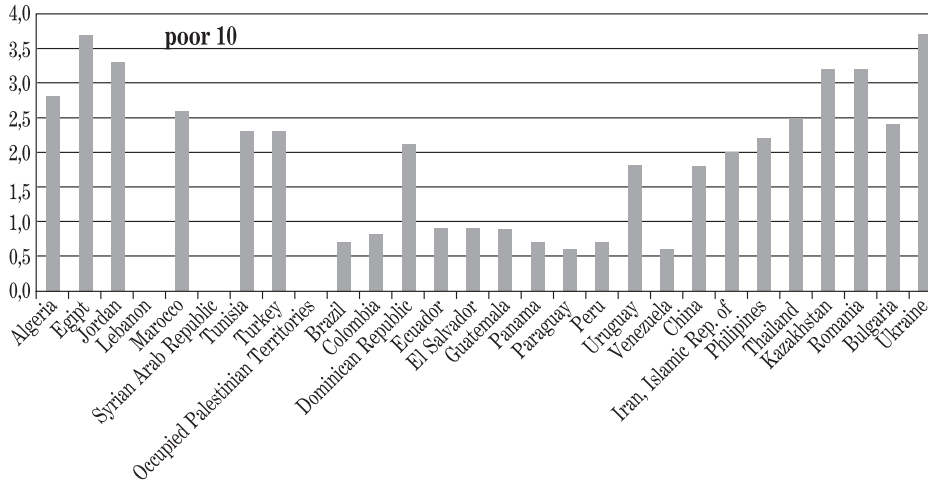
Fig. 1: Inequality measures for main groups of countries

And, more in detail, values for each country are the following:



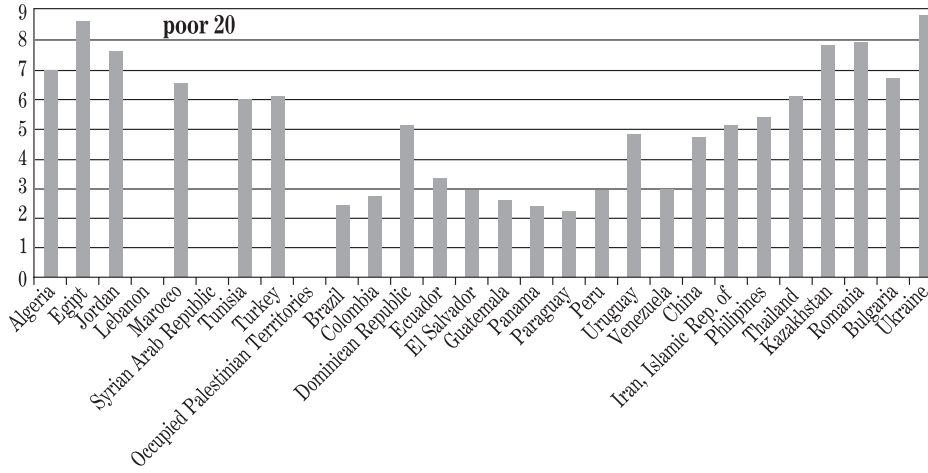
Source: UNDP (2005).

Fig. 2: GINI index for country



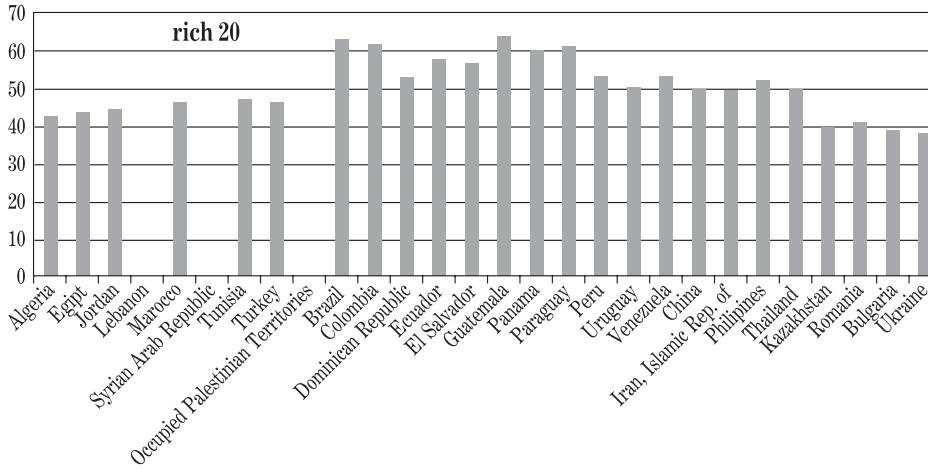
Source: UNDP (2005).

Fig. 3: Share of the total consumption by the poorest 10% of the population in each country



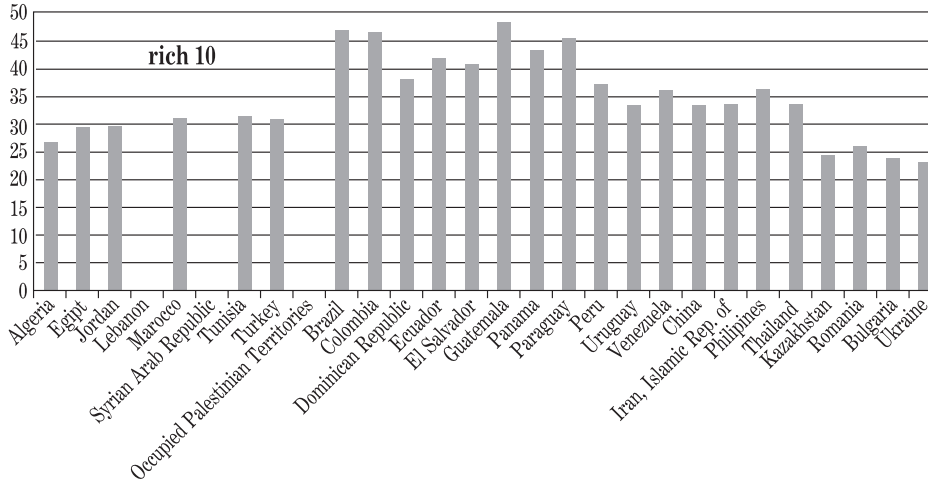
Source: UNDP (2005).

Fig. 4: Share of the total consumption by the poorest 20% of the population in each country



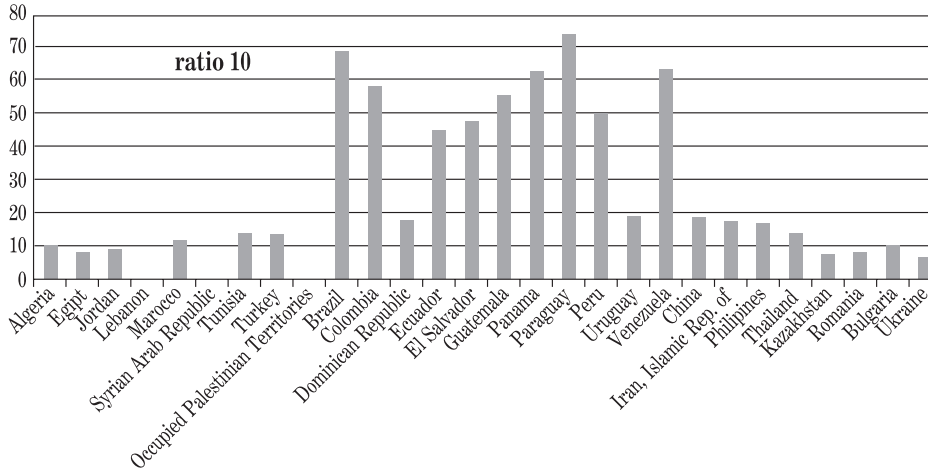
Source: UNDP (2005).

Fig. 5: Share of the total consumption made by the richest 20% of the population in each country



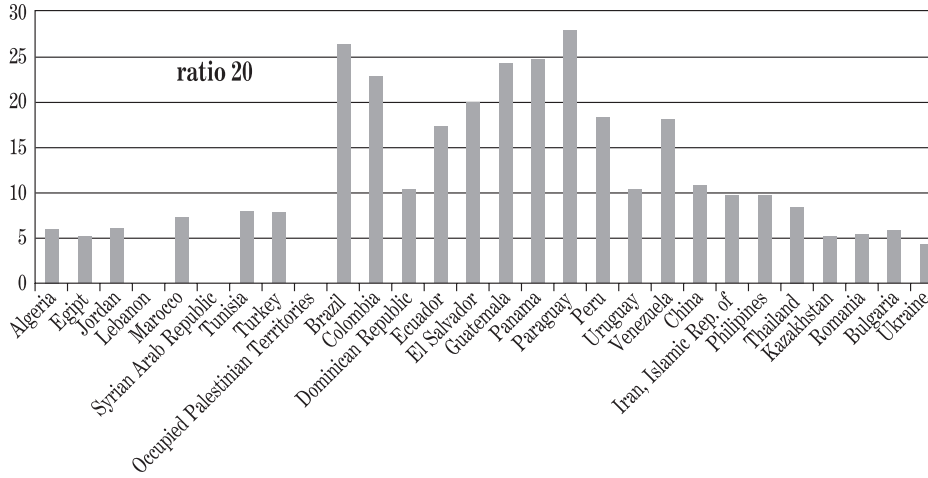
Source: UNDP (2005).

Fig. 6: Share of the total consumption made by the richest 10% of the population in each country



Source: UNDP (2005).

Fig. 7: Ratio of the 10% richest to the 10% poorest, for each country



Source: UNDP (2005).

Fig. 8: Ratio of the 10% richest to the 20% poorest, for each country

These data seem to be consistent with the hypothesis of the existence of social capital in MPCs that allows the less wealthy part of the population to reach higher living standards than expected, like, for instance, in other parts of the world.

Social Capital and Innovation

Once we accept that social capital has evident, positive effects in the equality level of the economy, we can ask how it affects the innovative capacity of a country. Can we say, as many scholars argue, that social capital promotes innovation? Can we say that this happens in all the contexts? Can we differentiate its effects? If, for example, MPCs show high levels of social capital, why don't they show the same high innovative capacity?

If, on the one hand, social capital contributes to increase the equality level of the economy, on the other, and under some particular cultural circumstances, it could be negatively related to what we consider to be important and useful for innovation. In many cases, those social relationships and strong networks acting as an informal social protection could also obstacle the development of an entrepreneurial initiative. Social capital has a positive effect on innovation when, due to the intense relationships and interactions between people, there is an increased possibility and opportunity to generate new ideas, develop them and try to turn them into an entrepreneurial activity to produce socio-economic benefit. By the contrary, in such a context there may be a strong and shared common concern about anything that could change the status quo, more than a stimulus to change.

So, how to deal with such a "negative" social capital?

Some might say that it is another form of it, and try to define a "positive" social capital, supporting innovation and being very relevant to the innovation policies implementation, opposing to a "negative" social capital, hindering social and economic initiatives and innovation.

The point is that even if social capital is an important factor affecting innovation and economic and social development, it is always a product and a part itself of the culture of a nation or region. It has much more to do with culture than with economy, but it determines the economic performances of a system. The main idea of this paper is that his relationship with innovation is strict, but not always positive.

It marks the intensity of the trend, not the direction.

In an innovation-oriented system, the presence of social capital reinforces the trend, allows a more efficient and easier coordination of efforts, fosters cooperation, organises and in some way regulates competition, and improves knowledge sharing. When an innovation system does not exist or does not function, the general tendency is to maintain the status quo, and a strong social capital will reinforce this tendency, making more and more difficult to promote change in such a context.

The reverse of the coin is that in such a scheme, where interrelations and links among people, families, and groups are longstanding, powerful and indisputable, and it is impossible to fall down and be abandoned, on the other hand it is also difficult to impulse great changes or improvements, i.e. to innovate. Resistance to change is enormously reinforced by the overall set of shared norms, customs, values, beliefs and common understandings.

The role for public policies

In this case, as well as in the case of most innovative countries, mainly northern European ones, there is a strong relationship between social capital and innovation performance. The common aspect is that social capital determines the intensity of the trend. Where a system of innovation exists, and the society has a clear orientation towards innovation, entrepreneurship, cultural, social, economic change, the existence of social capital reinforces this tendency. This is the case of the need for public policies to foster, create, discover and invest in social capital. But when the

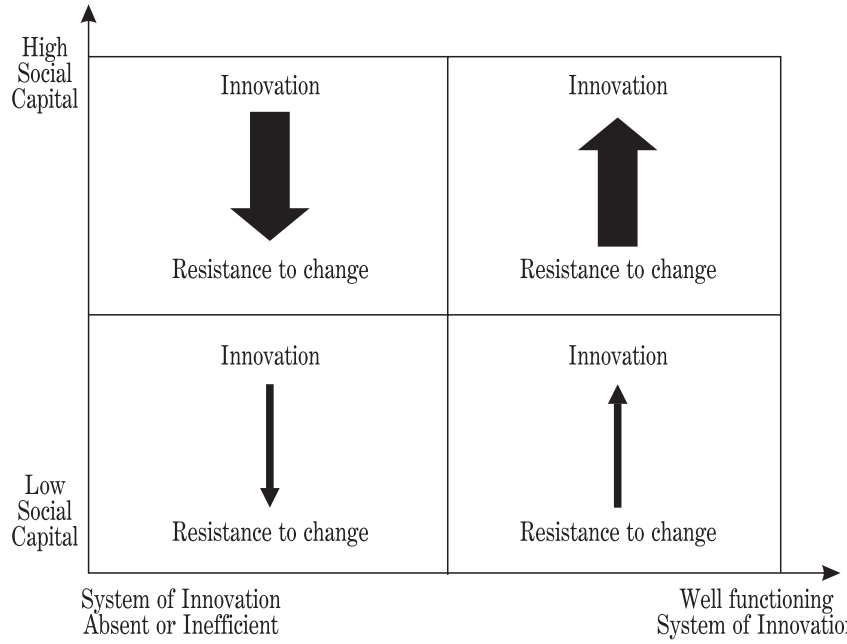


Fig. 9: The Relationship between Social Capital and Innovation

general trend in the society is static, conservative, and oriented towards the maintenance of the status quo, the presence of social capital reinforces the resistance to change, by directly hindering any change or by diminishing incentives to change. Thus public policies that aim at promoting economic development through innovation should direct their efforts towards the discovering, and fostering of the enabling conditions and specific elements of a system of innovation, more than towards building social capital. Where social capital does exist, it must be first of all recognised, analysed in its overall effects, and then used, being aware of its nature of *vox media*.

With this in mind, we can perfectly see how peculiar and specific the innovation process is in any social system, local, regional, or national, depending on specific cultural characteristics. The history, the territory, the institutions count in creating cultural specific characteristics of any social system. It is intuitive then, that the process of influencing the cultural settings of a society is a very slow one. Slow to create and diffuse new accepted values, objectives, models, and slow to put aside deep-seated cultural constraints. These cultural differences are also important factors determining unequal paths of innovation among countries and regions.

Public policies that take into account the fundamental cultural dimension and peculiarities, should aim at:

— Creating a general common understanding of innovation as a "good value" to be pursued in the everyday activities.
— Fostering a feeling of trust among the population, on the one hand, and towards public institutions, on the other hand, both being necessary to create a positive environment in which actors will operate.
— Creating a vision: an administration able to "emanate good values" and to demonstrate its commitment in pursuing them will gain an impressive amount of consideration, trust and respect by its citizens. Such a long, complex, slow, and delicate process of developing an innovative capacity in a country requires a strong political commitment and has a long time scale. In authoritarian political systems, the difficulty lies in the necessity to change

the structure of the political organisation itself. This implies an extraordinary effort and willingness to give up maintaining the total control, in favour of democratic reforms. In the democratic systems, the typical difficulty is the gap between the timescale of the politicians (often short-term, in the view of the next elections), and the long term and intangible nature of a process of social change. It is not possible and useless to plan an innovation strategy for a short period and expect it to produce visible and sound results in few years. That's why only if there is a bi-partisan agreement on the strategic comparative advantage that innovation can represent for the future of a nation, then a long-term innovation policy can be implemented with a constant and committed effort.

— Defining common goals, appealing for the whole community, to be achieved through a collective commitment, and propose and promote social behaviours conductive to those goals' achievement. "Most people are not (nor do they seek to become) policy wonks or technocrats. Most yearn for an overarching picture of what we are trying to achieve, one that provides a framework for placing specific ideas, assessing specific past accomplishments, and planning for the future. We seek vision that inspires, compels, and gives meaning to our endeavours and sacrifices, to life" (Etzioni 2001).
— Proposing a mid-term programme with realistic expected results to be pursued by the community, in order to engage people in a common effort, trying to foster social cooperation, which in turn will generate the economic one. The administration should document the strategy, promote the evaluation of the public activities' performances and make them more transparent to citizens.
— Investing and attracting investments in social soft infrastructures.
— Being attractive, for people as well as for capitals. Much of the competition among nations, regions and cities too, nowadays, is about the ability to attract the best human capital. If human capital is more and more recognised as the main source of value for the economic process, and certainly for the establishment of an innovative capacity, it is clear that having the best brains is equivalent to having the best potential. But if the possibilities for the mobility of people increase, then it is no more possible to think to retain them (and in any case it would be counterproductive), it is necessary to attract them, by offering better conditions for life and work. The focus of international competition now is on those conditions.
— Having political stability, clear and respected regulations, democratic conditions for people. Within an authoritarian society, people cannot experience the same freedoms they can have in other part of the world; this will inevitably push them to go away, and certainly would not attract anyone from outside the county. A democratic, open system, without a stable, respected and serious regulatory system, would be likely to attract the wrong actors: speculators and incumbents having open country for corruption.
— Being proactive: the state is the first actor; it must give the impulse to the economic system, trying to avoid a sort of cannibalisation of the economy. The public sector itself has a large weight in the economy, especially in Mediterranean countries. Government spending is able to promote some activities, instead of others, through a double effect of directly financing strategic areas and attract private investments in those areas. Then, through taxation policy, the state can determine economic incentives for innovative activities. For example, it makes big difference if we shift more "from income taxes, which penalise the efficient to property taxes, which demand you earn on the wealth under your custody", trying to reduce inefficient ownership (Rajan & Zingales, 2004). Finally, regulations have to correct distortions, to guarantee basic economic rights and most of all by playing an active role in promoting objectives.

— Promoting coordination and coherence in the policy mix. Innovation policies are actually implemented through all the other policy areas too. Innovation policies are strictly related and interdependent with policies about competition, infrastructures, information and mass media, taxation, education, employment, environment, IPRs, research and trade. What is really decisive is the coherence, the coordination and the synergies in public policies. There is a need for a coherent, coordinated and most of all long term oriented approach across all policy areas.
— Developing and improving the ability to intervene. Governance becomes then decisive in the setting up of innovation policies. Good governance is a necessary condition for effective innovation policies. The quality of policy making makes the difference in the adoption and in the implementation of the strategy. The state, at any level, local, regional or national, must have the necessary ability and competence to intervene, if not its intervention can distort the aim of innovation policies. Some authors have clearly demonstrated that a frequent reason of failure of innovation policies was not to be sought in its conception nor in its design, but just in the last step: the "delivery" step. The gap between the "power to decide" and the "power to transform" is often a cause of failure for well-designed innovation policies. Kevin Morgan (2004) claims that: "The world of policy delivery, where policies and programmes are supposed to be implemented, has always been a domain of 'low politics', while policy design is the opposite, a domain of 'high politics', two domains which are radically different in terms of status, culture and power. This division of labour between design and delivery within the state is the political analogue of the Taylorist division between conception and execution within the firm, and both are equally debilitating". If policy makers are not adequately prepared and able to deal with such a complex set of policies, they become part of the problem instead of solving it. They could resist to the change or drive it in a wrong direction.

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"THE OSTUNI CONSENSUS"

Today, we are faced with challenges for business and community capacity-building. Between 2^{nd} and 5^{th} of July 2003 a group of distinguished researchers, policy makers and managers gathered in Ostuni, Italy, to discuss the importance of social capital in promoting competitiveness in less favoured regions. The debate relates to a widely recognised need to rethink traditional redistributive regional policies. Generative growth not solely relying on investments in tangible infrastructures is the aim. This responds to the Lisbon Strategy by highlighting intellectual and social capital as key elements of 'soft' regional infrastructure. The participants reached a consensus on the role of social capital in the development of less favoured regions. The key areas of agreement forming the 'Ostuni consensus' are the following.

First, it was agreed social capital is especially relevant for regional development. In this context social capital is a market-based social exercise based on trust, shared norms and institutions. Second, it facilitates cooperation within and among groups as well as enlarges a capacity for collective action leading to mutual benefits. Third, it improves collective processes of learning and constitutes a key element of knowledge creation, diffusion and transfer—all processes critical for innovation and competitiveness. Finally, social capital cements value-based networks stimulating successful regional clusters as well as regional innovation strategies and policies. The issue is especially important for the less-favoured regions that have weak social capital and little understanding of science and knowledge, yet face fundamental economic, technological and social change.

Until now, evidence from research and pilot policy actions such as RIS (Regional Innovation Strategies) suggests public policy can contribute to social capital building. Nevertheless, social capital building requires a shift from a traditional top-down approach towards a more open form of governance involving all relevant stakeholders. The fruits of such partnerships should reach all policy fields relevant for economic, scientific and social development (an integrated approach) and acknowledge the desirability of a long-term action horizon (a strategic approach). Evidence points to the fact that specific indirect policy measures are most effective in social capital promotion. Experience of some of the EU funded regional innovation programmes (e.g. RIS and Innovative Actions) proved that regions themselves have a particular interest in measures designed to support cooperation between SMEs (networking and clustering activities) as well as improving cooperation between regional R&D institutions, especially Universities, and local companies, hence enhancing regional innovation systems.

Research on the role of social capital in regional development is a relatively new field of study and experimentation. Thus, operationalising social capital for policy action requires a major research effort and innovative pilot projects at the micro level of analysis responsive to different regional and policy contexts. Such an initiative has the potential to explain better the conditions in which good quality social capital emerges. This allows the proposal of a set of quantitative and

qualitative indicators to measure social capital for policy evaluation purposes. It will also help to identify the appropriate level, be it local, regional, national or international, for coordinating different policies for enhancing social capital in the enlarged EU of '25'.

This initiative will contribute to raising awareness of social capital's importance among decision makers and help to introduce it to the policy agenda. Participants of the conference intend to further strengthen cooperation in future to reach the goals agreed upon in this document.

MIKEL LANDABASO

POST SCRIPTUM TO THE VOLUME*

Most economists, when confronted in the field to the challenge of designing policies to promote economic development, would acknowledge the difficulty of the task due to the complexity and multifaceted character of the developmental process. Except for those few that can calm their ignorance with standard recepies drawing from orthodox sources, which they tend to apply indiscriminately at any period of time, the great majority of us tend to emphasize this or that aspect of the process and thus consciously focus our analysis on just a few inter-connected economic problems around which we advice our political masters on policy options and priorities. Our advice tends to be tentative in nature and varies substantially from one place to the other. Most of the times we are aware of the limitations of our efforts and we feel somehow frustrated by our inability to apprehend the problem in its wholeness and provide a satisfactory response which will "solve it".

This is why some of us have always secretly envied and also wondered when listening to orthodox recipes if exclusively calling for more labour market flexibility, de-regulation, and lower salaries to attract foreign investment, in regions with high levels of unemployment and underdeveloped social security systems, with no control over macroeconomic policy tools, was the best we could do in terms of policy options (Landabaso, 2001). We suppose that a number of planners in better-off regions have also felt something similar when faced with the persistence of acute socio-economic and environmental problems in deprived communities and declining urban centers within economies that are doing remarkably well measured by most of the commonly used economic growth indicators.

On second thought, we asked ourselves if in reality these orthodox recipes were not indirectly and simply asking the unemployed to emigrate, explaining of course that in time the adjustment mechanisms of the market will provide and development will eventually take place in those regions they are invited to leave behind. In fact, they say, after some unavoidable adjustments these regions will star catching-up faster, overcoming others more advanced in the development race, thus promoting overall convergence and placing them in the ranking where they belong given their comparative advantage. The "curves" will nicely cross each other again in the appropriate spot and it will only be a matter of time and patience. Some development economists would have a harder time accepting this act of economic faith. They might be unable to silence the echoes in their heads from pioneers of regional development economics like Myrdal or Hirschman, or even impatient ones like Keynes, who in their rather pessimistic dissent implied that "curves" may run wild opening up ever widening disparities among regions through "absolute" disadvantage and that time is only a relative concept for those that can afford waiting.

* The responsibility for the accuracy of the analysis and for the judgements expressed lies with the author alone; this document does not constitute a policy position of the EU Commission.

The short term consequence of the above is to replicate the exodus of hundred of thousands of Greek, Italian, Spanish and Portuguese workers, coming from the less favored regions of these countries, during the 50s, 60s and early 70s to find low skilled-low paid jobs in the affluent regions of northern and central Europe. An exodus which is being replicated nowadays by armies of "polish plumbers", Rumanian agricultural workers, and others from the former eastern block, as well as hundreds of thousands Latin-Americans, not to speak of those young Africans risking their lives over the ocean in fragile "Cayucos"[1]. They are all fleeing not so much from poverty as lack of opportunity and expectations in their regions of origin. The great majority are ready to sacrifice themselves so that at least their next generation, profiting from the economic dynamism, universal education and comprehensive social security systems provided in these more developed regions, could eventually join the middle classes and have the economic opportunity that was denied to their parents in their regions of origin[2].

In Europe we see that the limits to workers mobility in a European Union with an unfinished internal market which speaks more than twenty different languages with over two hundred regions in twenty-seven countries is very different from a more transparent and fairly homogeneous market, institutional and cultural framework in the U.S., where most of these orthodox recepies come from.

No one can deny the advantages of a more flexible labour market, in particular in those advanced economies which work with the safety nets of low unemployment and developed social security systems. In these regions people may be able to choose to emigrate in search for better job opportunities, enrich themselves by exposure to multicultural experiences or take chances with their present jobs by trying more promising avenues. Moreover the economic adaptation to an ever changing market demand fuelled by an accelerated process of "creative destruction" will be much facilitated by this flexibility and, in the end, it will probably help limit and minimize its social costs. This might be particularly relevant for an increasingly global market for the "talent" of highly educated people, as Richard Florida has so aptly put it[3].

But the price paid by most of those forced to emigrate in terms of changing culture, disarray due to the breaking of family and community ties, lose of identity, isolation and plain human distress is difficult to measure in economic terms but quite palpable and understandable for those that have gone through it. And we are not referring here to a vision of some kind of egalitarian race to occupy an endless frontier in which each one strives as all the others solely through its entrepreneurial spirit and hard work, replicating some sort of exodus to the new found land.

As economist we have also to consider the deserted underdeveloped regions left behind and deprived of their younger and more entrepreneurial people or of those latent economic capacities left unexploited. Here history and geography matter, even if they are quite difficult to fit as such in the neoclassical growth function.

Nowadays, with a new Rio Grande in the making over the Mediterranean sea and the U.S. free trade agreement with its neighbours (including thousand of kilometres of high gates

[1] Spain has been the highest recipient of emigrants over the last four years in the EU25. It reached in 2003 its historical record of net migration into the country with a 2,1% of total population annual change. (Spain—National Strategic Reference Framework 2007-13, Second draft, pp.23).

[2] The fact is that nowadays for many less favoured countries of emigrants origin outside the European Union, emigrants financial transfers back home have overtaken in volume and economic importance foreign direct investment by multinational companies (e.g. Ecuador).

[3] Following a recent Study by BEPA (Draft, R. Liddle 2006, pp.5) in the EU 15 workforce, in 2005 just over 40% was employed in "knowledge based" sectors (high to medium tech manufacturing and knowledge based services) ranging from 54% in Sweden to 32% in Spain. They point out that "at least half of the existing jobs demand a high level of cognitive and/or personal skill". Over the last decade in the EU 15 the knowledge and service economy has grown at 24% over the last decade, outstripping the rest of the economy at less than 6%.

which allow trade but not people to pass), these issues will come more and more to the fore of the economic and political debate. By 2010 natural growth is expected to be negative in the European Union. Positive population change will then completely rely on net migration (EU Commission, Third Cohesion Report, 2000). In the U.S. Hispanic emigrants form its southern neighbours have experimented a nearly 40% growth during the 1990s and are quite radically altering the demographic mix, in a number of Southern states in particular[4].

In short, one of the public policy dilemmas for many governments comes down to two key questions. On the one hand, either they help exploit underutilised economic resources in backward regions by proactively building capacities—creating competitive advantage—in order to maximize national economic potential to its full or they are likely to face a suboptimal and unbalanced geographical distribution of economic activity in their territories which misses out latent economic opportunities. On the other hand, either they help underdeveloped regions and countries develop or they are doomed to confront higher unwanted emigration pressures which can create all sort of political tensions if, as it is the case today, adequate integration efforts do not keep pace. The dilemma is even more complex since the European Union can not afford not having emigrants to sustain increasingly expensive health and pension bills of an ageing population[5]. Even in this latter case it seems reasonable to try to provide new economic opportunity in less favoured regions in order to avoid the excessive concentration of the emigrants flux into just a few big conurbations within each country which further exacerbates congestion and further geographical concentration of economic activity[6].

One might think out of developmental considerations that a more geographical balanced distribution of economic activity throughout the territory might militate in favour of overall economic competitiveness and, among others, more social cohesion by helping people work where they choose to live, preserving communities and a rich regional diversity that counts positively in an economy driven more and more by innovation. Such an approach may eventually help liberate latent energies and unblock economic potential where they are currently most underutilized and needed, not to speak of diminishing environmental problems and external diseconomies in central regions and urban centers (e.g. price of housing, traffic congestion, and environmental problems in the main European capital cities).

One simple interesting argument that militates in favour of this consideration revolves around the nature of the 'new knowledge based economy' in the making, with intelligence (exploited in the form of research, technological development and innovation) as the key raw material of economic activity and regional competitiveness. Luckily enough, and in contrast with the type of raw materials on which past industrial revolutions depended on, intelligence is the one economic resource that has been distributed evenly throughout geography. Therefore it might be safe to assume that regional differences will progressively rest in the future on the way this intelligence is valorised or left idle. In other words regional differences will depend more and more on regions having the infrastructures and policies to effectively exploit this intelligence in the form of innovation and which are capable of attracting more talent from elsewhere and regions that do not, but nevertheless posses the raw material required in a latent form. The so-called 'digital

[4] In California, for example, 31% of a total population of 33 million is from a Hispanic origin (El Pais, 1st September 2000). They were forecasted to become the first ethnic minority of the country by 2005.

[5] BEPA (R. Liddle 2006) "By 2030 age-related public expenditure on pensions, health and long term care is forecast to rise from 18% of DGP at present to over 20%".

[6] Foreign population in Spain is currently estimated at over 2,5 million, overwhelmingly concentrated in just three regions: Madrid, Cataluña and Valencia (Spain—national Strategic Reference Framework 2007-13, Second draft).

divide[7]' and similar other new 'technology-related divides' we will soon be hearing about are the off-springs of this situation.

Alternatively, one might think out of enlightened self-interest, and after all selfishness is a widely acclaimed economic rational behaviour, that we will all be better off if we help develop those that need it most where they are in order to prevent unwanted social, economic and political problems in our own (developed) countries and regions. More so if we consider that the progressively interdependent economy we work in is not a zero sum game. On the contrary, as for example European regional policy has demonstrated, those that engage in a solidarity effort to help others stand on their (economic) feet through enlightened self interest do get value for their money in time through increased, more stable and diversified demand for equipment, know how and a market for higher value added products for which they have a consolidated competitive advantage.

So the key question becomes can we do something (else) about underdevelopment? And who and how should it be done? Directly connected to the last question there is another fundamental question for us; is there any sense in developing public action in the form of regional policy? The underlying assumption within what we called above economic orthodoxy implied that public action in other realms of economic life away from macroeconomic policy management, health, education, some public physical infrastructures and, eventually, pre-competitive research, might not only be inefficient but even negative to the objectives it was set to achieve, notably through 'crowding-out' of private investment and other undesired macro-economic effects of eventual budget deficits[8]. In other words doing nothing was better than doing something, in the form of industrial or regional policy, since the invisible hand (whoever hand it was) was always better than what an intelligent (collective) mind could do. Possibly because economic intelligence and collective—that is public—might have been considered as a contradiction in terms.

Thus planners and politicians in particular, have often been left with very few alternatives. They are told to pursue an orthodox economic policy which is better left in the hands of a small group of high level economists (do not touch it if you do not understand it), often sitting in national ministries, reputed international consultancies, or even better, independent organizations such as central banks (the least you touch it the better) usually located in the capital cities and leading financial centers of central regions. Monetary and fiscal policies have therefore concentrated all the public attention/debate and the role of the public sector in these fields is widely acknowledged and well established (and circumscribed).

And quite rightly so, because a reasonably healthy macro-economic framework, inflation under control and lower interest rates in particular, is a necessary condition for any regional or industrial policy to succeed, even if the later can, in turn, contribute to achieving the former objectives.

The real issue here is about the 'sufficient conditions': what else to do once we have got the macroeconomic picture right? In a time when inflationary pressures seem to be under control and budget deficits have greatly diminished or even turned into surplus, is there anything else that can be done through public intervention in the promotion of economic development? That is, the issue is not to oppose macro-economic policies and meso-economic policies (regional policy) as excluding alternatives. The problem arises when all public economic policy and governmental role (of all the layers of the multi-governance society/economy in which we live in) is constrained exclusively

[7] 'Digital Divide' refers to the differences in access, skills and connectivity to Information technology and the Internet among different income groups. According to recent data, in the U.S. "80% of households with an income of $75.000 or above have computers, compared to 16% of households earning from $10.000 to $15.000. 47% of white households have computers, compared to 23% of African-Amercian and 26 of Hispanic households (Gore & Lieberman, 2000, pp. 69).

[8] Interestingly enough some of the most radical "orthodox" would not even agree to this list, last items in particular, and still see quite natural to support huge (very public) defence expenditures.

to the first type of policies and the second are discarded. In this way, many of their possible synergetic effects through a coordinated and complementary effort are, at best, not maximized, and at worst, simply lost.

Moreover, our problem increases when our political masters look for proven standard economic development recipes (non-contested economically or politically) that are easy and fast (within their political cycle) to implement. An inward investment policy, based on subsidies or tax rebates, to attract foreign multinational companies which can create a significant number of clearly identifiable new jobs 'the day after tomorrow' and bring new technology with them is a good example of what it is meant by the latter. Unfortunately the scarcity of this type of foreign direct investment opportunities for Europe's less favoured regions is making policy makers to look for more complex and difficult to implement policy options.

Finally, the really big problem starts when the 'two- handed' economists that we are come with the news that there are no recipes and that the tentative solutions are long and never easy. Because even though there might be good practice in this or that region, in promoting innovative business environments through clusters, technology parks or successful university-industry networks for example, it always has to be adapted to the particular socio-economic conditions and business culture of each specific region; a challenging and risky task. All this usually tends to confirm the politician's suspicion that the only real serious economists (and economic policy options) are the ones they just met talking about the manipulation of interest/exchange rates, money printing or taxes with a clear-cut advice on a x% increase/decrease of such and such monetary or fiscal variable. No wonder why someone called it the dismal science.

This book tries to shed some light into this discussion by exploring a very elusive concept: social capital and its significance for regional development through innovation. This book is not about discussing the characteristics of new regional innovation policy or assessing regional experiences in this field, which can be found elsewhere in other works of those that contribute to this volume, among many others.

In a nutshell, the argument goes as follows: we need a new regional development policy mainly driven by the promotion of innovation which is based on strong public-private partnerships with inclusive planning and implementation processes which are based on a shared vision for the region.

In order to be able to argue for a new regional innovation policy, we must first identify in which way this policy, with new objectives, instruments and forms of implementation, differ from traditional industrial practices and policies. It is therefore important to try to analyse the latter in a (self-)critical way and leave aside all ideological preconceptions in order to go beyond the quasireligious debate about the legitimacy of intervention by the public sector in the economy. In this book we do not explore which are those new objectives, planning processes and policy tools but it is still worthwhile to summarize why traditional regional policies do not respond adequately to developmental needs in less favoured regions, since this analysis leads us to the need for better understanding the concept of social capital.

The old industrial policies have been vulnerable to criticism from the point of view of their cost-effectiveness, having often been based on several of the following (the list is not exhaustive) (Landabaso, M. and Mouton, B, 2005):

- Selecting and positively discriminating in favour of a few winners (businesses, sectors or technologies) by means of public grants from the national/regional public authorities, awarded on the basis of administrative decisions made by officials and/or politicians without adequate entrepreneurial or technological know-how and in the absence of a long term strategic approach and insufficient analysis and consultation with other key economic actors in the region.

- Excessive reliance on direct individual subsidies rather than the establishment of financial engineering instruments and the provision of collective services to groups of firms (e.g. technology centers and clusters). Moreover entrepreneurship promotion has often been neglected in favour of more short term economic "success" of old established businesses. In this sense, big industry in traditional sectors has often received more attention than home grown SMEs, including newly created ones in new promising sectors.
- Protecting domestic industry from international competition with artificial barriers, often nontariff barriers that provided a breathing space that was only occasionally used to lay the foundations for sustained growth in the sector concerned, by actively identifying and reinforcing new factors for regional competitiveness.
- Concentrating efforts on attracting direct foreign investment from big multinational companies using tax policy in competition with other regions rather than attracting talent and promoting bottom-up endogenous growth in SMEs. Almost all regional development agencies in Europe have placed great emphasis and money on attracting foreign investments, which have been found to be highly volatile, sometimes bringing more problems when they are withdrawn than benefits when they arrive. This is particularly the case if they are branch plants with no or little R&D and technological internal capacity based on exploiting low labour costs and there are no active accompanying measures to "root" the investments in the region, which requires more than offering low wages and taxes.
- Horizontal, automatic and non discriminatory public aid schemes intended to reduce business costs temporarily without substantially changing firms' strategic behaviour. In addition, they have in certain cases created clientelistic business networks that tend to become self-perpetuating and generate a market of specialised consultancy on public aid.
- Even on the business side, the excessively bureaucratic nature of the application procedures and the time taken to evaluate applications and grant aid have caused businesses to regard aid more as rebates on the cost of investments they would have made anyway rather than as real incentives to make high-risk investments they would not have made without aid. In other words, the principle of the "additionality" of public aid has often not been applied because of an implementation procedure that is badly designed regarding the identification of actors' needs, the provision of information, the evaluation and the time taken to grant aid.

These policies have also been criticised because of the short-term nature and the limited anticyclical and local impact of some of them, which has detracted from their legitimacy as instruments of economic regulation and is partly responsible for the idea held by some that they simply distort the market.

To contribute to a progressive modernisation and diversification of the regional productive fabric, new regional development policies based on innovation promotion must be considered not as a lesser evil or as a miracle cure but rather as stable, inclusive and incremental policies, taking into account interrelated historical, economic, cultural and sociological aspects, including business culture and existing public institutions in a given region. By their very nature the effects of these policies take time, which makes these policies difficult to appreciate at the time of their conception and make them hard to sell politically. It is also important to realise that such policies work better with emerging businesses and new sectors, including services, than with traditional industrial businesses undergoing reconversion. Sometimes, what have been called policies to promote industry in fact have been social conversion policies with an exclusively redistributive accent, designed more to compensate negatively affected groups in the short term than to promote economic development of territories in the long term. In this sense, it is critically important to distinguish from the very beginning socially oriented cohesion policy with a redistributive nature from economic development-growth related policies based on innovation promotion which

aim at tapping underutilised resources and provide new economic opportunity. The new regional development policies based on innovation that we propose are much more about "learning to fish" and making the "cake" grow (allocation) before cutting it in pieces to those that need it more (redistribution) or simply providing them with fish. It is about empowerment by helping regions help themselves, not charity, and creating value so that there is more to redistribute afterwards if necessary. It is also helping regions reach their full potential whatever their level rather than establishing a standard goal for all.

In the context of the less-developed regions, these traditional policies face another difficulty, the so-called innovation paradox (Oughton, Landabaso and Morgan, 2001). The innovation paradox refers to the apparent contradiction between the comparatively greater need to invest in innovation in the less developed regions and their relatively smaller capacity, compared with more developed regions, to absorb public funds earmarked for the promotion of innovation. That is to say that the more a region needs innovation to maintain and improve the competitive position of its businesses in an increasingly globalised economy, the more difficult it is to invest effectively and to absorb public funds to promote innovation in this regions. In other words, one might expect that once the need (the innovation gap) is acknowledged/identified and the possibility exists, through public means, to respond to it, such regions would have a greater capacity to absorb such resources, since they are starting at a very low level ("with everything still to be done"). However, experience shows that these regions have serious difficulties in absorbing the public money available. The main reason for this apparent paradox is not that public funds are not available in the less-favoured regions. The explanation lies instead in the nature of the regional innovation system and the institutional capacity and organisation of these regions. This is precisely where the concept of social capital enters the picture.

In this book some economists simply set to explore to what extent this concept of social capital might be useful in understanding developmental processes and to what extent it can be operationalised so as to contribute to better and more effective regional policies.

The debate and the research efforts focused around the concept and role of social capital in economic development have been growing in importance quantitatively and qualitatively over the last few years and this trend is still far from finished. It seems that professional economists and academics alike are progressively acknowledging the complexity of the developmental process and the importance of interrelations among the economy and geography, polity and sociology in explaining it. That is geography, history, culture and most importantly, the way in which regional key players learn to interact among themselves matter. We believe that the latter possibly hide the secret ingredient, social capital, that better explains why some societies in particular territories shoot ahead while others are left behind in the developmental race, even in the presence of similar endowments of those factors that have been traditionally considered by economists key to economic development efforts.

The most important long term keys to economic development are not the availability of strategic raw materials, proximity to central markets, transport /logistics axis or providential foreign investment. No one really knows how the virtuous circle of higher productivity and better quality jobs is sparked and maintained. We do know that increasing investment capacities and open markets, better educated human capital, enhanced attractiveness for foreign direct investment, new technology based companies, an entrepreneurial business culture, etc. etc... can not explain by themselves regional economic development. Neither does Richard Florida's famous 3Ts (Technology, Talent and Tolerance) which very elegantly and intelligently capture essential parts of the complexity of knowledge driven economic development. In fact we are not very sure to be able to distinguish which of the above are inputs or outputs of process of economic development.

In our view the importance of trying to further explore and clarify the concept and role of social capital stems precisely from the fact that we have come to believe that the single most important ingredient for economic development in a given region in the long run is precisely the way in which regional actors are organised and their willingness and ability to cooperate in order to contribute to the creation of competitive advantage (over and above their capacity to exploit "inherited" comparative advantage individually). That is, the capacity of key regional players to interact, share a vision and jointly commit efforts and resources is of paramount importance for the development prospect of a region. It has to be clear that we are talking here about interactions driven by shared interests and enlightened self-interest rather than simply goodwill and social consciousness. Trust and cooperation nurtured by the prospects of gains by every participant in a non zero game.

The regions which are able to develop the institutions and policies which promote these trust and interest-based interactions through public-private partnerships and across the governance ladder are likely to be successful in developing a process of sustained and sustainable growth. It follows that public policy should provide the funds and legitimacy to unite these players in joint efforts which build upon formal and informal cooperation networks of variable geometry, duration and type. This could take the form of projects which allow for experimentation outside traditional policy making processes as opportunities for the pooling of resources, ideas and commitment from different regional players. Results from forward looking experiences of this type in the European Union since the early 1990s such as some of the Regional Innovation Strategies and the ensuing Innovative Actions Programs as well as the LEADER and URBAN programmes can testify of the relevance and successes of such an approach.

This is why the study of social capital is not simply a fashionable topic for far-removed from reality academics, but an important and difficult factor to be taken into account in designing regional development policies. And the more difficult its comprehension and measuring are, the more important is the research efforts to understand and use the concept for policy objectives.

There was quite a general agreement, among all the contributors to this book on the prominent role social capital may have in innovation policies and also on its impact on economic performances through the type, quality and quantity of social interactions and the institutions that facilitate them in a given region. All these elements are relevant topics for study and research, which deserve, in our opinion, further and deeper analysis, in an effort to better understand the basis of a regional system of innovation, and more generally of a 21st Century *Buon Governo* (Good Government). This is why we decided to go ahead with the publication of these reflections which developed after some of us first met in Ostuni to discuss these issues. We believe they are still very much in the forefront of economic debate on regional development policy and are likely to stay for a long while.

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POST SCRIPTUM TO THE VOLUME

The Volume—*Europe—Reflections on Social Capital, Innovations and Regional Development*—has a great brainstorming potential. The potential of diagnostic brainstorming—outlining different interpretations of regional development in Europe. The potential of prospective brainstorming—outlining different models of regional policies in Europe.

The Volume is a challenge to our intellectual capacity to analyze the emerging Megaspace of the European Union of 21st century—300 regions and 500 million of inhabitants. This rich differentiated and potentially dynamic megaspace creates demand for pluralistic approaches both in the interpretations of the experiences of the past and in the formulation of regional policies for the Future.

We have to develop a creative process of "cohabitation" of the different interpretations of regional development and different designs of regional policies. This does not mean that the European Union should not develop a regional policy in the scale of the Union. It means only that this policy must incorporate different approaches following the different regional realities in the spectrum of European space.

The reality of the 300 regions of the European Union of the 21st century is creating two dilemmas:

— *primo*—monistic versus pluralistic interpretations
— *secundo*—path dependency versus path creativity

Let me suggest to consider the organization of a grand conference—*The European Megaspace of the 21st Century—Monistic versus pluralistic interpretations*. The present volume should be seen as an intellectually and pragmatically stimulating introduction to this conference.

Let me propose the following definition of the megaspace. A megaspace is a grand geographical area representing a big demographic, political, economic, scientific, cultural and military potential recognized very clearly in the global scale. The megaspace is a regionally differentiated area with no barriers limiting the free flows of persons, commodities, information and capital.

Megaspace is an area having a comprehensive and valid statistical documentation creating an empirical foundation for the inquiry into the nature and dynamics of the internal spatial differentiations of the megaspace. The megaspace is a phenomenon of a higher order in relation to classical macrospaces – countries – mezzospaces – regions and microspaces – localities.

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First, it was agreed social capital is especially relevant for regional development. In this context social capital is a market-based social exercise based on trust, shared norms and institutions. Second, it facilitates cooperation within and among groups as well as enlarges a capacity for collective action leading to mutual benefits. Third, it improves collective processes of learning and constitutes a key element of knowledge creation, diffusion and transfer—all processes critical for innovation and competitiveness. Finally, social capital cements value-based networks stimulating successful regional clusters as well as regional innovation strategies and policies. The issue is especially important for the less-favoured regions that have weak social capital and little understanding of science and knowledge, yet face fundamental economic, technological and social change.

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