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Clusters: Towards a Network-  
Based Conception of Social  
Resources**

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**Economic Geography  
Research Group**

**Working Paper Series  
No. 02.08**

# **SOCIAL CAPITAL OF ECONOMIC CLUSTERS: TOWARDS A NETWORK-BASED CONCEPTION OF SOCIAL RESOURCES**

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## **ABSTRACT**

**To grasp the critical role of socio-cultural factors for regional economic development, several concepts have been developed, including that of ‘social capital’. This notion usually refers to norms, values, networks, reciprocity or trust which are held in a community and can lead to positive social and economic outcomes. Despite its popularity as a fashionable concept in the literature, the exact meaning of social capital is far from clear. This article criticises the dominant conceptions of social capital in economic geography and regional studies and aims to place the debate in a different perspective. It argues for an alternative understanding of social capital defined as resources embedded in social networks which can be accessed or are used for actions. The potential to overcome the current weaknesses in the literature is illustrated through discussing social capital of economic clusters.**

**Key words: Social capital, social networks, social resources, clusters, relational economic geography, knowledge spillovers**

## **INTRODUCTION: SOCIAL CAPITAL AND REGIONAL ECONOMIC DEVELOPMENT**

The socio-cultural embeddedness of economic life has become a prominent topic in economic geography, which has been highlighted by new terms such as the ‘cultural turn’ (Barnes 2001) and the ‘relational turn’ (Bathelt and Glückler 2003; Boggs and Rantisi 2003). To grasp the critical role of socio-cultural factors for regional economic development, several ideas and concepts have been developed, including that of ‘social capital’. This broad concept usually refers to norms, values, networks, reciprocity or trust which are held in a community and can lead to positive social and economic outcomes. Inspired by the seminal work of Putnam (2000; 1993) on regional

economic development in Italy and the decline of community in the USA, social capital has grown in prominence in economic geography and regional studies (e.g. Cohen and Fields 1999; Cooke et al. 2005; Fromhold-Eisebith 2004; Mohan and Mohan 2002). Also, within economics and development studies several authors have hailed social capital as the ‘missing link’ (Grootaert 1998), which goes beyond traditional forms of economic capital (e.g. Dasgupta and Serageldin 2000; Francois 2002; Isham et al. 2002).

Several scholars have emphasised that the geographical dimension of social capital is crucial. Importantly, it has been argued that social capital can generate regional externalities (e.g. Iyer *et al.* 2005). In the current era of a knowledge-based economy, the role of social capital for regional innovation and local knowledge externalities in particular has been highlighted (Capello and Faggian 2005; Fromhold-Eisebith 2004; Maskell 2000; Tura and Harmaakorpi 2005).<sup>1</sup> This is connected to the debate on local knowledge spillovers in economic agglomerations (see e.g. Döring and Schnellenbach 2006). Related to this, theories of economic clusters integrate social capital and link it to economic prosperity (Porter 1998, 227; Staber 2007).

Despite the popularity of this notion, the exact meaning of social capital in economic geography and regional studies is far from clear. Although this line of literature has been useful in underscoring the critical role of relational assets, it seems that in the predominant conceptualisations social capital is a catch-all notion involving different sorts of social concepts. This has led to a confusing debate, where the exact role of specific socio-cultural dimensions remains nebulous.

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<sup>1</sup> Capello and Faggian (2005) used a different terminology referring to ‘relational capital’.

This article criticises the dominant understanding of social capital in economic geography and regional studies and aims to place the debate in an alternative perspective by arguing for a different conceptualisation. It is maintained that if the catch-all concept is reconfigured, several conceptual problems can be avoided and the causal mechanisms involved better understood.

The paper proceeds as follows. First, the proclaimed causal effects of social capital will be critically reviewed. Afterwards, four conceptual weaknesses in the existing literature on social capital will be identified. Third, an alternative actor- and network-based conception of social capital will be presented, which has been recently developed in sociology but has not been exploited within economic geography and regional studies. It will be demonstrated that this is able to overcome the conceptual problems in the current literature. Fourth, it will be shown how social capital can be conceptualised and operationalised at the macro-level. This will be illustrated by developing a promising understanding of social capital of economic clusters.

### **CAUSAL EFFECTS OF SOCIAL CAPITAL?**

Social capital tends to be treated as a panacea for successful regional economic development. The dominant view is that 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 2000, 111). Also on the regional level, social capital is said to positively affect inter-firm co-ordination, learning and knowledge

sharing (Fromhold-Eisebith 2004). Prominently, Putnam *et al.* (1993) argue that different levels of social capital in Italian regions causally effected socioeconomic development. However, often positive effects of social capital are asserted but not rigorously empirically verified. For instance, Garnsey and Hefferman (2005) emphasise the positive effects of social capital for firms and clusters in terms of learning and knowledge sharing but do not directly investigate the respective mechanisms.

Studies which actually aim to empirically investigate the effects of social capital on regional economic development portray a somewhat inconsistent picture. On the one hand, several studies present a positive association between social capital and regional economic development (Beugelsdijk and Van Schaik 2005a; Callois and Aubert 2007; Helliwell and Putnam 2000). On the other hand, other studies do not find a clear positive relationship: Peri (2004) finds only rather weak statistical evidence that social capital fostered economic success in Italian provinces. Also Cooke *et al.* (2005) find only weak evidence of a link between regional social capital and regional competitiveness; only social capital on firm level showed strong effects on innovation. Hauser *et al.* (2007) and Beugelsdijk and Van Schaik (2005b) illustrate that not all dimensions of social capital exhibit explanatory power and some dimensions do not have a positive relationship with innovation or economic growth. The study by Schneider *et al.* (2000) shows that social capital indicators do not have a clear positive effect on growth of European regions; trust even has a negative effect, whereas traditional economic factors are the most important determinants of growth.

Furthermore, many studies in modern growth economics have applied regression models based on the national scale with similar, conflicting results on the effects of social capital (see for instance Sabatini (2007) for a detailed discussion).

There are several severe problems in this set of literature in terms of measurement and causal reasoning: one problem is that different data sources, sampling designs and question wording makes a comparison between the studies problematic; also the empirical indicators are often too indirect and do not satisfactorily grasp the phenomena (Sabatini 2007). Moreover, growth regressions have been heavily criticised for methodological shortcomings such as omitted control variables, neglected parameter heterogeneity across spatial units and unresolved causality versus correlation arguments (Durlauf 2002; Durlauf and Fafchamps 2005).

However, this paper argues that there is a more fundamental reason why existing studies do not provide a clear picture about the causal effects of social capital on regional economic development: conceptual problems with the very notion of social capital itself. As I will outline in the following section, there are serious conceptual shortcomings in the literature, which inhibit clarity of the causal role of social capital.

## **CRITIQUE OF THE EXISTING ACCOUNTS**

Despite its popularity, the social capital literature has been criticised by several authors (e.g. Kadushin 2004; Schuller et al. 2005). In this section I focus on four main conceptual problems of the dominant understanding of

social capital in economic geography and regional studies: I criticise the fuzzy conceptualisation, problems of causality, the lack of understanding of actor-driven social processes and the widespread assumption of cohesive communities.

**Fuzzy concept** – Social capital seems to be a catch-all notion referring to a wide range of non-economic social factors, which are said to be beneficial for successful economic development (Taylor and Leonard 2002). In their seminal work, Putnam *et al.* (1993, 167) define social capital as those “features of social organisation, such as trust, norms, and networks, that can improve the efficiency of society by facilitating coordinated actions”.<sup>2</sup> This broad understanding of social capital has influenced research on social capital in economics, economic geography and regional studies.<sup>3</sup> For example, Iyer *et al.* (2005, 1016) state that “social capital, in essence, is the institutions, relationships, attitudes and values governing interactions amongst people and contributing to economic and social development” (see also Cooke *et al.* 2005; Staber 2007). Others also apply a broad definition but focus more on *social networks* and *norms* like reciprocity. For instance, according to Woolcock (2001, 13), social capital “refers to the norms and networks that facilitate collective action” (see also Schuller *et al.* 2005). Furthermore, other conceptions of social capital emphasise *trust* or *civic engagement* in a

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<sup>2</sup> In his recent work Putnam uses a more network-based approach of social capital; he defined it as “connections among individuals – social networks and the norms of reciprocity and trustworthiness that arise from them“ (Putnam 2000, 19). Yet he still uses social trust (and a mixture of many other indicators such as membership of associations, honesty and morality, turnout in elections, visiting friends etc.) as a proxy for social capital.

<sup>3</sup> The less problematic roots of social capital by Coleman (1988) and Bourdieu (1986) have received hardly any attention. Due to limited space, the advantages and also serious limitations of these approaches cannot be discussed here (see e.g. Field 2003, chapter 1).

community (Beugelsdijk and Van Schaik 2005a; Francois 2002; Schneider et al. 2000), following the emphasis on these issues in Putnam's (2000; 1993) work. And some apply an ever broader view to define social capital as "the values and beliefs that citizens share in their everyday dealings and which give meaning and provide design for all sorts of rules" (Maskell 2000, 111).

So where does this leave us? The discourse on social capital has undoubtedly been important in highlighting the significance of relational social factors for economic development beyond undersocialised views of atomistic economic actors (Schuller *et al.* 2005). However, the following problems significantly reduce its usefulness: first, when social capital is defined so broadly that it seems to cover any social phenomenon which could have potential effects on social and economic outcomes (e.g. norms, values, trust, institutions, civicness), it lacks specificity and substance. When the term is treated as an undifferentiated mixture of multiple independent social dimensions, causal mechanisms of specific dimensions will remain nebulous (Hauser *et al.* 2007). Second, certain definitions tend to be non-equivalent and highlight different dimensions (e.g. some focus on trust, others on networks or institutions, and yet others on civic engagement). This as such would not necessarily cause concern if (a) the different sub-dimensions of social capital were explicitly distinguished from one another, and (b) a convincing argument of the usefulness of an umbrella notion of social capital were presented. However, there seems to be a problematic tendency that social capital is posited as *one* phenomenon, whereas in fact it involves *multiple* meanings, which usually is not made explicit and therefore confuses the debate. Consequently, social capital tends to be a 'fuzzy concept' (Markusen

2003); social capitalists may think that they refer to one and the same phenomenon whereas in fact they refer to different phenomena. Understandably, these two uncomfortable problems have led to commentaries which express frustration (e.g. Fine 2002).

**Risk of tautologies and focus on positive outcomes** – The prevalent functional definition of social capital, stating that it leads to beneficial outcomes, involves the risk of *tautological* statements: “It leads to positive outcomes, such as economic development and less crime, and its existence is inferred from the same outcomes” (Portes 1998, 19). Thus often outcome variables and the underlying causal variables are not satisfactorily differentiated and possible alternative causal factors are not controlled for (Portes 2000). As Portes rightly points out, this problem is highly common in prevalent views of seeing social capital as a property of collectivities such as communities, regions or nations (inspired by the work on ‘civicness’ by Putnam, 1993; 2000). This does not mean that conceptions of collective social capital are not feasible in principle, but such an endeavour would have to be more careful in separating causes and effects (Portes, 1998, 21). In this context, one underlying problem seems to be that the literature on social capital tends to emphasise and assume positive outcomes without considering potential negative effects (the ‘dark side’ of social capital, e.g. Field 2003, chapter 3).

**Lack of understanding of actor-driven social processes** – Social capital in economic geography and regional studies is typically considered as a *collective or even public good*; in particular, trust, shared values/norms and civicness are treated as a property of collectivities such as communities,

regions or nation states. This analytical leap from the individual to the collectivity has led to several conceptual shortcomings (DeFilippis 2002; Portes 2000). In this tradition social capital “becomes merely another trendy term to employ or deploy in the broad context of improving or building social integration and solidarity” (Lin 2002, 26). This has led to a lack of understanding of social processes. For example, in the tradition of Putnam the causal link between civic engagement (like participation in voluntary organisations) and beneficial economic or political outcomes is usually presented as a ‘black-box’ without investigating the specific social mechanisms in play (Bebbington and Perreault 1999; Hadjimichalis 2006; Mohan and Mohan 2002). Also Porter’s (1998) work on economic clusters emphasises the role of social networks and social capital for clusters, but does not go on to rigorously theorise and empirically investigate specific mechanisms (see Martin and Sunley 2003, 16-17). A major reason for this shortcoming seems the lack of understanding of individual actors. Social mechanisms are typically driven by lower-level actors (Mayntz 2004). Typical socio-cultural issues of social capital such as trust, norms, values or reciprocity are best understood from the individual actors’ point of view. Hence, a focus solely on collective properties and collectivities is usually not able to shed light on socio-cultural processes.

**Assumption of cohesive communities not appropriate** – Another critical aspect of the established views of social capital in economic geography and regional studies is the widespread assumption that *strong ties* and *dense, cohesive communities* are a requirement for social capital. For example, Western *et al.* (2005, 1097) state that “[a] high level of social capital is seen

in situations where there are cohesive networks of considerable density and where interactions are governed by norms of trust and reciprocity". As Grabher (2006, 165) rightly remarks, economic geography invariably "turned networks into a shorthand for enduring, trust-based ties" and thus neglected other social phenomena. In particular, studies which stress the important instrumental role of weak ties (Granovetter 1973) or structural holes (Burt 1992) for actors are overlooked (see also Tura and Harmaakorpi 2005, 1118); this research shows that connections beyond cohesive groups can be critical for instance for being exposed to a diversity of knowledge, which can positively influence innovativeness.<sup>4</sup> Thus if we want social capital to refer to social factors that can have beneficial outcomes, then we have to go beyond strong ties and cohesive communities.

## **AN ACTOR-BASED CONCEPTION OF SOCIAL NETWORKS AND SOCIAL RESOURCES**

Given these limitations, in this section an alternative conception of social capital is presented. Economic geography and regional studies have largely neglected the actor-centred and network-based conceptualisations of social capital that have been developed recently in sociology (Burt 2005; Flap 2002; Flap and Völker 2005; Lin 2002; PRI 2005; Van der Gaag and Snijders 2003).<sup>5</sup> As I will show, these accounts have the capacity to overcome the

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<sup>4</sup> It has to be mentioned that a few papers such as Cooke et al. (2005) actually address weak ties and non-local linkages.

<sup>5</sup> Granted, in regional studies Callois and Aubert (2007) and Tura and Harmaakorpi (2005) have also mentioned Lin's (2002) definition. However, Callois and Aubert (2007) do not

problems outlined above. According to a network-based approach, one can define social capital as *resources embedded in social networks which can be potentially accessed or are actually used by individuals for actions* (adapted from Lin 2002, 24-25).<sup>6</sup> That is, social capital is about the resources actors are able to mobilise through relationships for certain activities. The focus can be either on in principle accessible resources or on resources actually used in practice. Can such an approach overcome the four limitations of the current literature as criticised in the previous section?

First, it is important to note that collective properties such as trust, institutions, norms or values are not part of the definition of social capital itself. Rather they are external factors which can influence or might be an effect of social capital (Lin 2008, 26; Tura and Harmaakorpi 2005); for example the activation of resources can be governed by such collective factors. Hence, an important clarification of such an approach is that social capital thus defined is distinguished from collective assets such as trust or norms. Also, social networks themselves do not represent social capital, since social capital refers to the *resources* embedded in social networks. This is much more specific, differentiates between social phenomena that are part and not part of social capital and thus overcomes the first limitation of social capital being a fuzzy concept as criticised above.

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elaborate on the definition and their crude indicators do not directly measure 'resources embedded in social networks'). Tura and Harmaakorpi (2005) emphasise the resource aspect of social capital but do not systematically investigate social capital of collectivities and also seem to neglect spatial scales beyond the local. Also, recent literature on local labour markets has applied a more satisfying individual and network-based conception of social capital (e.g. Gray *et al.* 2007).

<sup>6</sup> Although network-based definitions differ slightly, the literature agrees that both social networks *and* the resources gained through these networks are critical.

Second, the above definition enables a careful differentiation between causal variables and resulting functional effects. To avoid the danger of tautological statements and an unjustified focus on positive outcomes, it is important to distinguish the sources and consequences of social capital. Hence, a viable conceptual framework of social capital has to differentiate between different *stages of the causal chain* (see e.g. Lin 2002, 243-247; PRI 2005, 6).

Elaborating on this, I argue that one has to understand the following steps:

(a) *Mechanisms of the formation of networks*: what factors guide the formation of social network connections between people (including the change of network relations over time)? Here previous socio-economic positions, norms and institutional arrangements, the homophily principle or spatial proximity can play an important role. For a discussion of various mechanism of network evolution see Glückler (2007).

(b) *Maintenance of network relations*: the question whether network relations are dissolved or maintained over time may depend on the perceived usefulness of the relationships; also other factors such as institutional changes or geographical mobility might be relevant. Social capital theory provides an argument that formation and maintenance represents (conscious or unconscious) 'investment' in social relationships with expected returns in the future (Flap and Völker 2005).

(c) *Which resources can in principle be or are actually transmitted through these networks?* Here it is useful to differentiate between two aspects (Lin 2008): one perspective looks at the potential pool of resources that are embedded in the respective social networks and that can in principle be accessed ('*accessed social capital*'). Another perspective focuses on the

actual use of resources accessed through the network for actions (*'mobilised social capital'*). Structural features of networks (e.g. density) and structural position in the network (e.g. being close to a 'structural hole', Burt 1992) can influence access and mobilisation to social capital. One important dimension is the issue of *multiplex network relations*: network relations which were formed in one sphere of life (e.g. in a golf club) can lead to access and mobilisation of resources in another sphere of life (e.g. in business) (Ettlinger 2003).

(d) What are the *effects*? What are the 'returns' of social capital in terms of personal, social and economic outcomes? Here the role of resource transmissions for certain substantive outcome variables has to be clarified. To do this, one has to work with specific theories in the respective domain. A concrete example would be the insight that access to a diversity of knowledge is positively associated with innovativeness (e.g. Burt 2005, chapter 2; Rodan and Galunic 2004).

Third, this approach focuses on the way actors use social resources for their practices. This actor-centred approach enables an understanding of social processes (as discussed above) and overcomes the second limitation.

Fourth, from the definition of social capital it should be clear that this understanding of social capital does not presuppose dense, cohesive communities or strong ties. Rather, it is an empirical question whether certain properties of network structures or relations influence the transmission of resources.

Overall, social capital defined as resources embedded in social networks which can be potentially accessed or are actually used in actions avoids the

fuzziness of previous accounts. This research perspective also offers new possibilities of measuring social capital such as the position generator or the resource generator (see e.g. Franke 2005; Van der Gaag and Snijders 2003), which have not been exploited by economic geography and regional studies. However, it is a contentious issue whether the metaphor of '*capital*' in the concept of social capital is meaningful. Some critics propose to abandon the notion of capital (e.g. Arrow 2000) or replace social by other terms such as 'networked resources' (Kadushin 2004, 88). A major critique is the fact that 'investment' and 'return' are often unconscious and not intended by the actors: social relations are often built up for non-economic reasons (e.g. people simply enjoy spending time with each other in a non-instrumental fashion), and sometimes actors benefit from social resources without actively striving for it (e.g. people receive job-information without actively seeking it out, see McDonald and Elder 2006). Others defend the capital metaphor emphasising that 'investment' in relations always requires time and effort (even if it is not instrumentally motivated by expected benefits in the future), and that the unexpected 'returns' can be called the 'invisible hand of social capital' (Lin 2000, 791). Whilst these are important terminological issues, this debate does not fundamentally affect the idea and model presented in this paper. Irrespective of whether we want to call it 'social capital' or 'networked resources', the idea that actors access and use resources through network relations remains important.

## **SOCIAL CAPITAL AT THE MACRO-LEVEL ILLUSTRATED BY ECONOMIC CLUSTERS**

A network- and resource-based conception of social capital can be applied easily at a micro-level perspective of individuals. But how can we shift the unit of analysis to collectivities such as organisations, economic clusters or regions? How can we ascribe social capital at the macro-level, emphasising the social aspect of interactions and networks but without falling into conceptual traps? This issue is far from trivial and the “conceptual departure requires, however, more care and theoretical refinement than that displayed so far” (Portes 1998, 21). In this section I shall first argue that the recently proposed ideas by Lin (2008) are useful for the discussion of social capital of collectivities. Second, I will illustrate the potential of this account for economic geography and regional studies by discussing the social capital of economic clusters.

**Social capital of collectivities** – To avoid conceptual problems, I aim for consistency with the micro-level approach in terms of the actor-based focus on networks and resources. In this light, a *collectivity* can be regarded as a social network which consists of actors (members) who can potentially bring their resources to bear and relationships between them. The resources embedded in those relationships among members which can be potentially accessed or are actually mobilised for activities of the collectivity are called ‘*internal social capital*’ of the collectivity (Lin 2008). Internal social capital depends on the existence, structure and quality of relationships among the members as well as on the amount and quality of the resources (e.g. diversity) embedded in those relationships.

Furthermore, individual members of the collectivity can have social relationships to other actors outside of the collectivity. The resources that individual members of the collectivity can potentially access or actually mobilise through such external relationships are called '*external social capital*'. It depends on the extent, structure and quality of external social relationships and on the amount and quality of the resources embedded in such relationships. In this context key actors called 'gatekeepers' who are able to acquire external resources and distribute it to other members can be crucial.

To summarise, the social capital of a collectivity is the resources embedded in internal and external social networks which can be potentially accessed or are actually mobilised for actions of members of the collectivity.

**Economic clusters** – The usefulness of social capital is dependent on a specific context, which Tura and Harmaakorpi (2005, 1117) call 'field-specificity of social capital': resources acquired through social networks which are highly useful in one field of activity (e.g. for academic work) can be useless for other fields (e.g. for business entrepreneurship). Therefore, for applications of the social capital concept in substantive topic areas it seems useful to focus on specific types of resources that are useful for specific contexts. This focus should be grounded in sound theoretical reasons. In advanced economies, which are often dubbed knowledge-based economies, *knowledge* is regarded as the key resource for understanding economic clusters and regional economic development (Malmberg and Maskell 2002). Thus in a discussion of social capital of *economic clusters* it seems reasonable

to concentrate on knowledge interactions in networks.<sup>7</sup> Consequently, in this perspective the social capital of an economic cluster is the *knowledge the members of the cluster are able to potentially access or actually mobilise for work activities through internal and external social networks*. There are multiple levels of collectivities, which complicates the situation.<sup>8</sup> First, *organisations* (firms or non-firm organisations such as research institutions) can be regarded as the members of an economic cluster; they represent the focal unit of analysis for looking at internal and external networks. However, since the pre-theoretic intuition of social capital is centred on ‘soft’ socio-cultural factors, an investigation of social mechanisms has to go beyond organisations. Therefore, second, to shed light on social capital we have to open the ‘black-box’ of organisations to investigate social processes at the level of *individuals* as members of organisations. Consequently, the social capital of the economic cluster depends on the extent to which *individuals in cluster organisations are able to acquire work-related knowledge from individuals in other cluster organisations as well as from individuals in organisations outside of the cluster*. On the one hand, this clearly depends on the number, structure and quality of social relationships between individuals across cluster organisations; on the other hand, it depends on the number, structure and quality of social relationships between individuals in cluster organisations and other individuals located outside of the cluster. This ability of individuals to acquire social resources can be shaped by institutionalised or

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<sup>7</sup> Clearly, also other resources could in principle be included (e.g. borrowing of technical equipment).

<sup>8</sup> This addresses the statement that “[w]e need to be much more attentive to the multiple levels at which networks coexist” (Grabher and Powell 2005, xxiii).

*formal relationships* between organisations (e.g. strategic alliances or R&D co-operations). But it is critical to emphasise that formal relationships between organisations only lead to social capital if personal contacts are formed and maintained which enable the acquisition of resources; non-personal knowledge flows between organisations through formal relationships (e.g. formal agreements to share databases) do not represent social capital.

In the cluster literature it has become fashionable to speak of '*local buzz and global pipelines*' (Bathelt *et al.* 2004). There seems to be an agreement in the recent literature that both local knowledge networks and the ability to absorb external knowledge are important for economic performance. However, there is a lack of understanding of specific social mechanisms involved, and there is a great need to substantiate how and why different types of proximities matter (Boschma 2005; Gertler 2004). Here our framework outlined in the previous section can prove productive: a deep understanding of the causal mechanism requires an investigation of (a) the formation of networks, (b) the maintenance of network relations, (c) knowledge transmitted within these networks and (d) the effects for the economic cluster.

This can help to explain the emergence of economic clusters, but does not necessarily have to, since for instance other types of agglomeration economies might be responsible for the formation of clusters. Also, as Sorenson (2003) argued, local social networks of entrepreneurs can be an important reason for the reproduction of clusters. Concerning the spatial dimension, it is important to consider the increasing importance of the

internet, which transformed ‘community’ and social capital and made them less dependent on physical space (Wellman 2001).

Furthermore, our framework can contribute to the issue of which *type of knowledge externalities* is present. Here we have to examine whether knowledge transmissions result from relations to individuals working in the same industry (localisation economies), in other industries (Jacobs externalities) or from a local agglomeration of non-firm actors such as universities or consumers (urbanisation economies). This is also connected to the question of the micro-foundations of ‘related/unrelated variety’ (Frenken *et al.* 2007).

## **CONCLUDING REMARKS**

This paper argued that there are several conceptual shortcomings in the current literature on social capital in economic geography and regional studies, which reduces clarity in terms of causal mechanisms. Social capital tends to be a fuzzy concept with multiple meanings, and it involves problems of causality (tautological statements and a neglect of potentially negative outcomes). Furthermore, there is a lack of actor-focus and therefore a lack of understanding of social processes, and the widespread presupposition of strong ties and cohesive communities is not warranted. I showed that an alternative understanding of social capital defined as resources embedded in social networks which can be potentially accessed or are actually used by individuals for actions is able to overcome some of the limitations of the previous literature. A thorough understanding of social mechanisms requires

an investigation of the formation and maintenance of social networks, an investigation of the resources that can be or are actually transmitted in these networks, and a comprehension of the effects of these resource flows on social and economic outcomes.

Thereafter I discussed how this alternative understanding of social capital can be used to characterise social capital of collectivities (e.g. organisations) at the macro-level. Here I showed that a differentiation between internal social capital (resources mobilised through relationships between members of the collectivity) and external social capital (resources mobilised through relationships between members of the collectivity and actors outside of the collectivity) is useful. Then I illustrated this with the example of economic clusters: the social capital of the economic cluster depends upon the extent to which individuals in cluster organisations are able to potentially access or actually use work-related knowledge from individuals in other cluster organisations as well as from individuals in organisations outside of the cluster.

In the current literature the notion of social capital is used in a number of ways. Given different strands of literature on this topic it is difficult to arrive at an agreement about its conceptualisation. One possible way forward would be to explore more specific sub-dimensions of social capital which are theoretically focused and more easier to operationalise as pioneered for instance by Cooke *et al.* (2005) and Hauser *et al.* (2007). But to follow this path would hollow out the notion of social capital, since it would remain a vague umbrella-term. However, if the aim is to go beyond the superficial statement that ‘social factors matter’, the approach presented in this paper is a

promising way forward. This paper argues that such a conception has the potential to put the question of social capital of economic clusters in a new perspective. Internal and external social capital of economic clusters offers a new way of characterisation with alternative perspectives for operationalisation and investigation of causal mechanisms.<sup>9</sup> In contrast to existing approaches, this understanding of social capital enables conceptual clarity in separating social concepts which actually represent social capital and social concepts and mechanisms which are causes or effects. This also relates neatly, and is able to contribute to, the ongoing discussions on ‘local buzz and global pipelines’ and the types of knowledge externalities.

Some commentators have questioned whether the capital metaphor is meaningful since in the case of social capital ‘investment’ and ‘return’ are not always consciously instrumental. But irrespective of the terminological question whether we want to call it ‘social capital’ or for instance ‘networked resources’, the fundamental idea that actors can access and use resources through network relations remains fruitful and offers promising perspectives.

### **Acknowledgements**

I am grateful to Karenjit Clare, Mia Gray and Will Harvey for helpful comments on previous versions of this paper.

The research was funded by a Gates Cambridge Scholarship.

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<sup>9</sup> This paper focused on a conceptual discussion and due to limited space did not elaborate on detailed aspects of measuring social capital. Clearly, the conceptual focus on individuals requires intelligent research designs and sampling techniques in the case of large collectivities such as economic clusters.

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