1. Social capital and regional development: an introduction

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A SPATIAL PERSPECTIVE ON SOCIAL NETWORKS AND THEIR CONTENTS¹

Growth and development are not evenly spread across the world. In the pre-industrial era this fact was primarily explained by the supply and quality of arable land. With the emergence of the industrial revolution, other natural resources and the two other classic production factors, labor and capital, were added as spatial determinants of growth and development. In the late industrial era, the qualities of labor, human capital, was recognized as an additional determinant (Schultz 1961). After the breakthrough of the knowledge economy, the relations among and between economic and other societal agents, that is social capital, has become a new determinant of uneven spatial development.

Space is a concept of several complex dimensions. A fundamental starting point is considering a continuous space in which the influence of a factor (for example social capital) decreases continuously with distance on a linear or at an exponential rate. Early classics of the spatial science literature, like Von Thünen (1826), Weber (1909) and Palander (1935) are based on this approach.

The second step is recognizing that space is not continuous. There are barriers of different kinds: geographical, cultural, technical, economic, political, administrative and so on.

Accessibility to resources, like social capital for example, is affected by these discontinuities. Lösch's (1940) deductive theory and Christaller's (1933) inductive theory, which are both spatially reflected in hexagon-shaped spaces, are the classical expressions of these insights.

A third dimension of space is that it is not only discontinuous in a horizontal sense but also in a vertical sense. That is: space is hierarchical with discontinuous levels, with resources like social capital existing on each level as well as between the levels, contributing to the solidarity of the hierarchy. Hierarchical space is on the one hand a function of market thresholds and distance friction, Christaller's (1933) hierarchy of hexagons being the most well-known theoretical illustration. However, hierarchical

space is not only created by economic forces and their frictions, but by political-administrative powers as well.

Distance and Social Capital

Starting in the first dimension, human activities have a tendency to concentrate in space. One reason is that shorter distances between actors normally mean lower interaction costs than when longer distances are involved (Westlund 1999). Another reason is that agglomerations indicate a spatial concentration of potential economic and social 'co-actors', which implies a potential for better matching on all possible markets, leading to higher utility.

Just as human activities tend to concentrate in space, so do the outcomes of these activities: real capital, financial capital and human capital. Within agglomerations and between them, networks emerge for the distribution, exchange and use of these resources. A substantial proportion of these networks are in themselves real capital. Human networks make use of physical networks and the built environment, but human networks are in themselves intangible and non-material. These human networks and what is being distributed in them are the social capital.

A fundamental factor for the spatial allocation of social capital is thus the spatial distribution of people. Interaction costs and agglomeration benefits mean that actors' contacts with each other tend to be spatially concentrated in the functional regions in which they reside or work. However, the spatial distribution and extension of people's networks vary in density (number of links per node), quality (skills and capacity of the nodes), quantity (transmission capacity of the links), and durability for a number of reasons. Actors' qualities, capacities and resources, such as language capacity and other features of human capital, ethnicity, economic resources and so on influence the spatial extensions of their networks. Also, there are the costs connected to interaction over distance and the expected revenues of this interaction. Normally we may assume that no interaction occurs if costs (in a broad sense) exceed the perceived utility of the interaction.

The enormous decreases in interaction costs that have occurred since the industrial revolution have caused spatial extensions of people's social capital. However, as there still is a positive relation between distance and interaction costs, the density of social capital, defined as the number of links per node, generally decreases with distance. This is inversely connected to the quality and capacity aspects of social capital. As interaction costs increase with distance, the propensity to invest in the quality and capacity of a relationship decreases.

Another aspect of social networks is the weak vs. strong ties issue. Weak vs. strong ties/links usually refers to either the durability or the capacity of a tie/link, or both. These qualities are dependent on the investment and maintenance costs and on the expected revenues. It may be assumed that the positive relation between distance and interaction costs is reflected in the willingness to invest in and maintain ties, and that the number of ties that yield positive net revenues decreases with distance. Thus, there should be a general tendency for the durability of social relations to decrease with distance. In other words: maintaining a dense network of strong relations is (much) easier to accomplish at close proximity. However, following Johansson's contribution to this volume (Chapter 2), social networks have various characteristics and functions that influence their potential to bridge space. Specialized links in which the nodes have invested heavily might be sustainable over long distances, while links with low investment costs might be very temporary even within short distances. That is, strong ties over long distances are in general associated with higher costs regarding initial investment, usage and maintenance. Given that individuals' time and other resources are restricted, the number of strong ties that can be maintained at distance is limited. Also, it should be underscored that weak links may benefit from geographical proximity as well. Lacking heavy investments in shared norms and values, weak social links need frequent interaction to be durable. Frequent interaction, in turn, is facilitated by proximity.

The fact that human beings are spatially sticky and the fact that spatial proximity positively influences both the frequency and the depth of social interaction, make norms and values spatially sticky as well. Shared norms and values may be stronger in strong ties, but social interactions in spatially concentrated weak links can also rely on shared norms and values. To a large degree these norms and values may originate from local cultures rather than from interactions within these ties. That is, space-bound norms and values may be an important force shaping social interactions in weak ties. Since norms and values may differ across space, they are another example of the impact of distance on social capital.

Borders, Barriers and Social Capital

In contrast to 'pure' distance, which stands in proportionate negative relation to the number, size and flows of social networks, borders and barriers cause disproportionate and discontinuous changes in the size and flows of networks. From the aspect of social capital, the main effect of these barriers is that they contribute to furthering links within the spatial/social area that they delimit, while they simultaneously make external links

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more costly or time-consuming. In short, barriers promote the emergence of bonding social capital but obstruct the emergence of bridging social capital.

Many barriers are man-made, but they have their origin in the way nature and distance form obstacles to human activities. By creating borders and barriers, network exchange and formation of common norms and values *within* the demarcation are facilitated, whereas the opposite holds for exchange *across* borders. This means that the construction of borders may improve internal social cohesion, and that building barriers and transforming continuous space into discontinuous space is a way to handle the problem of scarce resources.

A long-term general trend seems to be that economic-technical progress has decreased the importance of barriers and consequently that exchange over the barriers has increased. Investments in infrastructure and means of communications, education and political decisions are some of the factors that have contributed to this trend. In terms of social capital, this means that the conditions for building bridging social networks across spatial and other barriers have improved. However, the effects on the norm/value dimension of social capital are more unclear. On the one hand, increased exchange between formerly unconnected networks should lead to convergence of norms and values. On the other, the reduced impacts of barriers might facilitate the emergence of new social networks, based on norms and values that diverge from already existing ones. Thus, it is not self-evident that reduced spatial barriers lead to a convergence of social capitals at all levels.

Spatial Hierarchies and Social Capital

The market and political-administrative forces have not only divided space into 'side-by-side' units but also into hierarchies of levels that bear strong resemblances to the hierarchies of organizations. City blocks, a neighborhood or a countryside village are examples of local communities that are often considered to be the lowest level of the spatial hierarchy. Together, units of the lowest level form the next level, 'the place', in the form of a municipality, a town or a city. The next level (county, prefecture and so on) containing local communities and places is often some type of regional level. Regions together form a higher level, a state, which either is an independent country or forms part of a union on an even higher level.

Spatial hierarchies can also be discussed from the perspective of individuals. People often have different social networks with different kinds of social capital in the place where they live and work compared to places

further away. For example, local community networks are more likely to connect people from different backgrounds than professional associations that are organized on a national or continental basis. Moreover, there is a crucial difference between territorial-based social networks and non-territorial-based social networks. Although in both cases social networks are affected by spatial hierarchies, territorial-based social networks have a more pronounced spatial dimension than other social networks (Bærenholdt and Aarsæther 2002).

The social capital of spatial hierarchies can be analyzed from several aspects. One is the internal–external, or *bonding–bridging aspect*. The internal social capital of a town consists of local networks with values and norms that contribute to a common identity. This is often referred to as bonding social capital (Woolcock 1998; Putnam 2000). The external social capital of a town can, however, also be analyzed from a *horizontal–vertical aspect*, as it is composed of (horizontal) links to actors of other towns, and of (vertical) links to (a) neighborhoods and other units having a lower position in the spatial hierarchy and (b) the county capital and/or other units having a higher position in the spatial hierarchy. Woolcock (2001) has denominated these vertical links *linking social capital*.

A third, non-dichotomic aspect is the homogeneity of the social capital of different spatial levels. The social capital of local communities may vary considerably in homogeneity depending on their composition of various groups. Individual characteristics, such as education and social class, have a considerable effect on the social networks that a person connects to, and therefore on his/her social capital (McPherson et al. 2001). If people from different walks of life share the same local space, different social networks and different social capitals may be found in the same place. However, the social capital of the next spatial level is necessarily less homogeneous, since this level consists of a number of local communities, each with a number of various groups. Accordingly, the lowest homogeneity of social capital should be found when the whole world is included.

These three aspects are illustrated in Figure 1.1. A point that needs special attention is that the seemingly simple dichotomies of bonding–bridging (internal–external) and horizontal–vertical aspects of social capital in a non-spatial perspective suddenly becomes level-dependent and context-dependent in this multi-level perspective. From a local community perspective, links between different local communities within a place are bridging (external) links. However, from a place perspective, these are bonding links, contributing to a social capital with a certain degree of homogeneity. The same holds for the links between places, which from each place's perspective are bridging links, but from a higher level perspective (such as the region) are bonding links. This means that from a spatial

Source: Application of Westlund and Bolton (2003, Figure 2).

Figure 1.1 Spatial levels of social capital, horizontal and vertical links and schematic degree of homogeneity for internal and external social capital on each level

multi-level perspective, the division in bridging and bonding links is level-specific and not general.

Another problem is connected to the measurement of social capital on various spatial levels. A common measure of social capital is an individual's answer on international survey questions on whether they trust other individuals. A single statement like that can be aggregated for any desired spatial level. However, as argued in Westlund and Adam (2010) and as also pointed out in Xiong and Pu's contribution to this book (Chapter 15), in the transnational values surveys it is not clear which spatial level the

respondents refer to when they answer whether they trust others or not. Thus, the trust measure is not as uncomplicated as it may seem.

Other measures of social capital are still more complicated to transpose between spatial levels. Dense social networks are often considered as evidence of a place's 'strong' social capital. However, dense (bonding) local networks do not give any information about the quantity and quality of the networks at a regional level. The same holds in the opposite direction. Thus, aggregating or disaggregating measures collected at one level might be completely misleading at other levels.

WHAT IS REGIONAL DEVELOPMENT?

The regional development field has been characterized by a few noteworthy wedges between otherwise fairly likeminded researchers in terms of starting points for their analyses. These disagreements may be tentatively categorized into occurring along two margins: first, the proper definition (for example spatial boundaries) of a region; and second, the theoretical underpinnings and empirical operationalization of the 'development' concept.

These two issues – definitions of 'region' and of 'development' – are certainly related, since the definition of a region should adapt to what is meant by development. The above discussion hints that different regional hierarchies imply different discontinuities in space. For instance, analyses of inequality and effects of local urban deprivation (for example Williams and Williams 2011) or of phenomena involving knowledge exchange (Larsson 2014) may require disaggregated theories and empirics. Such phenomena are driven by social interaction and face-to-face contact, and their effects are likely to depreciate with space much faster than, for example, input–output linkages maintained by physical infrastructure that keep business networks together. What constitutes a region – 'any territorial aggregation [. . .] which partake[s] of a common developmental trajectory' (Scott and Storper 1992, p. 7) – differs depending on which process is to be analyzed, not to mention data availability. Apart from these issues, the conception of a region has different implications for the degree of homogeneity, for example through the proportion of bonding to bridging links, as noted in the previous section, and as illustrated in Figure 1.1.

In the literature on 'development' more broadly, the national level rather than the region has received most attention (Scott and Storper 2007). The analysis of *regional* development advanced slowly but gradually from post-Great Depression analyses of lagging regions, to post-World War II analyses of how to redistribute growth from leading regions,

in order to develop regions that had not managed to keep up with the mass production system (Scott and Storper 1992). More recently, urban and regional researchers have gravitated towards disaggregated analyses using micro data, which have made it possible to answer questions about causality and microfoundations in fundamentally new ways (Strange 2009). The social capital field may have much to learn from this development, and as pointed out by Putnam (2001), micro data and experimental work are needed as complements to aggregate numbers. The scope for analyzing bonding–bridging relations across spatial scales could also benefit from such a development. It should further be noted that our conception of development changes over time – and with type of development. A case in point is the changing focus from agriculture, to production of manufactures, to today’s analyses of knowledge-content and business services (Westlund 2006).

Key to our understanding is that regional development should be conceptualized as increased utility for its residents (Partridge and Rickman 2003), and that social capital contributes to *both* utility and economic outcomes, including income levels (see also the following section). Further, in addition to these private gains, social capital is subject to demonstrable externalities, and is diffused in both formal and informal settings (Putnam 2001). These dimensions, pecuniary and non-pecuniary effects on the one hand, and geographically bounded non-rivalry on the other, which diffuse in different ways, urge the researcher to carefully answer the questions: *what kind of regional development* are we interested in, and what are the spatial (that is regional) dimensions of its diffusion?

There is at present no agreed-upon definition of regional development, and empirical work has traditionally been dominated by measurement economic in nature. The inherent problem is that welfare in and of itself cannot be measured (Partridge and Rickman 2003), and that the proxies used in the literature are inexact and often endogenous. Some of the most common approaches include the analysis of regions’ incomes or value added, relative to some notion of a region’s functional size, such as its total population (for example Gennaioli et al. 2013).

The use of economic measures, say income per capita, to indicate development is complicated by endogeneity and by people’s decisions to move between regions based on factors unrelated to income. The pioneering works by Rosen (1979) and Roback (1982) demonstrated that the assumption that local amenities affected only local land prices was deficient. Instead, in a spatial equilibrium framework, high wages may indicate that there is something wrong about a place in terms of amenities, which for the purposes of this text may be thought of as any place-specific attribute that affects house prices. Cases in point include higher wages demanded to

compensate for pollution, or an acceptance of lower wages due to strong social capital ties. This is an effect of including local amenities in the indirect utility function; migrants decide their location based on utility, of which income is a mere component, and place-specific factors unrelated to income may be important for utility. Such a framework can even predict a net *negative* relationship between productive social capital and local income levels, illustrating how wages are perilous as measures of regional development.

Lee (2010) has pointed out that if consumption variety is a luxury good, then locally higher wages may be explained by high-ability workers self-selecting to areas with amenities that they appreciate, for one reason or the other. Similarly, different levels of strength of social capital are likely to give rise to rather unpredictable migration. Imagine, for instance, what the presence, or lack, of strong interpersonal networks could mean for a person's welfare (and hence location decisions), independent of income. Such networks may also make the person economically better off, for instance by improving division of labor or making him or her more innovative. In this sense, social capital may be seen as an aspect of a region's amenity bundle, but also as part of its production function. Westlund and Bolton (2003) formalize this relationship as *place surplus*, which is conceived as a component of general consumer surplus. This line of argument clearly holds that there can be development without increasing incomes or value added, since interpersonal networks in and of themselves may be a source of utility.

Another problem with income as basis for an analysis of development is produced by the convention of using per capita formulations, which are more problematic on the levels of regions compared to nations due to migration. Particularly in the short run, outflows of population of below per capita incomes, or including students or young people new to the labor market will increase a region's per capita wage. A naive interpretation of per capita income as a development measure can then lead to the conclusion that outflows of people are actually positive, that unemployment is not a problem of development so long as the unemployed can be induced to move to a different region, and so on. These issues imply that economic indicators often can seem to be at odds with each other. For instance, Partridge and Rickman (2003) note that Connecticut, while having the highest per capita income in 1999, also had the slowest job growth of the 1990s.

The problem translates to population-based measures since people may move between regions for very different reasons. Individuals in different parts of the income and skill distributions also move for different reasons, since their moving decisions are determined by pecuniary and

non-pecuniary costs and benefits, the appreciation of which varies between income groups (Lee 2010). Labor migration, from this perspective, is more relevant as a measure of utility for high-skilled workers, since these have greater scope to incur the costs of their amenity consumption through higher house prices (Partridge and Rickman 2003).

Taken together, the above implies that neither population nor most conceivable economic measures such as income or value added per capita are strictly exogenous. There is also a large part of the spectrum of what we normally mean by *development* that is not covered by such measures.

Existing analyses of regional development have tended to exclude factors such as well-being, sustainability and health concerns as attributes of development. In the 1960s and 1970s, the development debates sparked discussion of alternative ways forward, including different forms of community-level approaches and different ways of assessing social cohesion (Pike et al. 2007). This development seems to have coincided in time with movements towards heterodox approaches to understanding development more generally, such as subjective well-being approaches or the ‘capabilities’ approach of Amartya Sen (1999), arguing that development should be understood as freedom through choices of capabilities that individuals have effective access to and reason to value.

Such alternative measures are both conceptually and analytically enriching, which may be grasped by considering the relationship between social capital and well-being. Strong social capital may of course directly cause greater well-being, but at the same time there is also a strong relationship between well-being and good governance, itself tightly linked with social capital. It is further the case that strengthened social capital works *jointly* to improve the economic performance of companies and employee satisfaction (Helliwell 2006).

Social capital and sustainability is another growing field of the literature, and another field complementing economic analysis. This development is predictable, given the importance of social capital for rationing of resources, people’s collaborations over resource management, and the importance of norms and bonds for a sustainable development (Pretty 2003).

It is nevertheless important to maintain stringency in definitions. Sustainability of resources, civil society, policy instruments and redistribution, among many other dimensions, may require different ‘principles for sustainable regeneration’, in the words of Pike et al. (2006) and, ideally, these concepts are aggregated in a holistic view of regional development.

One reason for the resurgence of the social capital literature over the past few decades lies precisely in allowing researchers a broad repertoire of tools for understanding and operationalizing alternative forms of

‘development’, such as social cohesion, well-being and inequality, including the analysis of ‘marginal’ groups such as youths and immigrants.

Broadly speaking, the objective of a unit of analysis is to internalize activity with respect to some definition of development, and knowing the type of development and underlying mechanisms is integral in delineating the size of the interaction arena. Certainly, an analysis of the effects of social capital on pollution (not to mention greenhouse gas emissions) would seem to require entirely different units of analysis compared to analyses of well-being in networks of friends.

This issue is a symptom of the sometimes simultaneous effects of social capital on the personal, the local, and the global. These multidirectional effects of social capital do create challenges for the researcher trying to ‘internalize’ any one of them. Since social capital has simultaneous effects on economic outcomes, on well-being, on sustainability and so on, it is important to analyze properly defined regions, using measures appropriate for the problem at hand.

Generally speaking, higher knowledge-intensity relative to pure information (Andersson and Beckmann 2009) and elements of persuasion (McCloskey and Klammer 1995) quickly decreases the size of the interaction arena or pertinent region. In a few extreme cases, a proper ‘region’ may be only the size of a few blocks, such as is the case with Arzaghi and Henderson’s (2008) analysis of the advertising industry on Manhattan. In short, the interaction arena is ideally a product of *both* the type of development under scrutiny *as well as* the type of interaction (including its knowledge content) analyzed.

THE ROLE OF SOCIAL CAPITAL FOR REGIONAL DEVELOPMENT²

Most definitions of social capital have in common that they consider it as a two-sided concept with on the one hand social networks at various levels and between various actors, and on the other hand norms, values, attitudes and so on, being distributed in the social networks. In line with Putnam’s (1993) path-breaking study, social capital was originally seen as a feature of only the civil society, which, however, had an impact also on economic conditions. With the expansion of social capital research in a large number of disciplines, it has been recognized that social networks and trust and other norms and values that are being distributed in these networks, that is social capital, is a feature of all sectors of society (Westlund 2006).

Thus, the concept of social capital has developed and has been broadened from solely being considered as social networks and norms/values of

the civil/civic society, to corresponding features of all societal sectors. This broadening of the concept means that social capital has become a factor of much more direct impact and importance for regions' development than Putnam's (1993) civic society variables indicated. In particular, the social capital of the business sector and its actors, and their relationships to actors of other sectors, should have a powerful influence on regional development (Westlund and Adam 2010). Also the norms and values of government and its networks to other actors are factors that exert important impacts on the performance of regions. This multi-sectoral role of social capital in regional development has not dominated the social capital literature, but it is increasingly being recognized.

Has social capital always been of equal importance for regional development or does its importance vary with political and economic structure? Omori (2001) pointed out that certain elements of social capital, such as personal trust, can be considered an inferior substitute for markets and formal institutions in developing economies. In a similar fashion, Guiso et al. (2004) in a study of Italy found that the impact of social capital was stronger in regions where legal enforcement was weaker and also among people with lower education. On the other hand, Westlund (2006) argued that the manufacturing-industrial era, characterized by standardized production (sometimes called 'Fordism') brought a lower need for social capital among the workers in production. Compared with the former craft production, industrialization thus demanded less social capital: 'The assembly line – the archetypical symbol for manufacturing industrialism – required few social skills of its workers, not even a common language' (Westlund 2006, p. 93). He compares this with the current knowledge economy, which requires abilities to collaborate, build and act in networks and even to have certain values and attitudes.

Over time, innovation has become a process involving more and more actors. In the knowledge economy, innovation can be divided into a number of phases from basic research, development, testing, licensing, marketing and sales to final use, each of them requiring a certain partner, for example for financing. Comparing the age of industrialization with the knowledge economy, the two periods differ substantially in the number of actors involved, in the number of links between them, and in the amount of knowledge and information being distributed between the actors.

Following Johansson (2005), it can be assumed that knowledge transfers take place through two types of processes:

deliberate, formalized transaction-links, agreements, networks and other club-like arrangements among firms and between firms and other actors;

unintended knowledge spillovers among firms or between firms and other actors, caused by non-formalized interactions.

In both these two types of processes, social links and the norms and values connected to them play an important role (Maskell 2000). The reason is that good social relationships facilitate knowledge transfers while lack of relationships or bad relationships do not.

Regions have different prerequisites to deal with this situation. Diversified metropolitan regions consist of a number of co-located sectoral clusters that often do not have more in common than their co-location, access to the same regional infrastructure and certain regional markets. Apart from that, each cluster has its own links, those external to the firm but internal to the cluster, and those between the clustered firms and the rest of the world. The relationships of each cluster are formed in accordance with the stages of innovation, types of production, positions in the product life cycles and so on. In this way a metropolitan region can accommodate competitive clusters in both expanding and declining sectors.

Small regions often contain clusters too, but with few exceptions there is only one cluster. Regardless of the sector of the cluster – expanding or declining – the small regions' development is highly dependent on the quality of the cluster's social relations. Well-functioning internal and external social relations facilitate the acquisition of knowledge and information about changes in demand, new methods and so on, as well as access to credit. Smaller regions are in general more vulnerable and more dependent on good relationships between all relevant regional actors (Eliasson et al. 2013).

An early interpretation of Putnam (1993) was that social capital was an entirely 'good' phenomenon and that lack of social capital caused lack of development. However, the ensuing debate showed many examples of social capital of various groups and agencies that could not be considered as good from society's point of view (Portes and Landolt 1996; Portes 1998). Instead, society and its sectors – as well as places, regions and other spatial units – can be considered as arenas with competing actors, of which the dominating actor dominates the social capital (Westlund 2006). A place or a region lodges not only one uniform social capital but a number of partly disparate, partly competing social capitals, formed, carried and reproduced by various groups in that place or region. These group-based social capitals have more or less common denominators, which form the base for the necessary bridging links between them that make cohesion and joint action possible. An implication of this 'competing social capitals' perspective is that the concept of social capital not only includes positive features of society as it was originally interpreted, but also elements

with more or less negative impacts from a societal point of view. Very few agents and networks represent a really ‘dark side’ of social capital, but among all the other agents, networks and values there are some who are more beneficial to regional development than others. Also, if some of the competing networks can find common denominators and reasons to interact, this might be crucial for regional development. This can be exemplified with the connections between the actors of academia and actors of other societal sectors, which are highlighted in the theories of innovation systems, ‘Mode 2’ and triple-helix, and which are empirically analyzed in Ljunggren’s contribution to this book (Chapter 19).

The conventional way to view factors that are supposed to contribute to regional development is ‘the more, the better’. More natural resources are better than less, more capital is better than less, and more labor is better than less. The early interpretations of the role of social capital followed this approach. Putnam (1993) interpreted the causes of the backwardness of the Italian south as a result of lack of social capital, among other factors. In contrast, the social capital of the more prosperous northern Italy was considered stronger and thus better. It seems easy to find empirics that confirm this perspective: more trust in other people is better than less, the more participation in altruistic civil sector organizations (Putnam-type), the better for society. But is this really correct? Is it possible to simplify such a multifaceted and complicated concept as social capital to a measure on a linear minimum–maximum scale? Or should social capital instead be looked upon as a concept that summarizes a large number of opposites whose connection to regional development can be described by an exponential U-curve?

There are many arguments to support that actors’ trust in most people (as the survey question mainly is formulated) is positive for the development of a region, but it is another thing to say that trust is always good and should be maximized. All people should not be trusted. There is definitely a need also for distrust. A certain balance between individuals’ trust and distrust is probably optimum for regional development.

A similar approach can be taken to a number of aspects of social capital. *Diversity* has been highlighted as a main component for successful regional development (Florida 2002). There are many examples of how lack of economic and intellectual diversity has led to regional stagnation. However, diversity that develops to the point at which people no longer understand each other’s behavior can easily transform to contradictions and antagonism and then the positive effects of diversity disappear. In this case too, a certain balance between diversity and uniformity – or expressed in other terms: between heterogeneity and homogeneity – should be optimum from a regional development perspective.

A connected problem is the 'vintage composition' of social capital (Westlund and Bolton 2003). It can be argued that in order to support regional economic growth, the social capital of a region must be renewed and correspond to changes in the business and production structure of a region (Westlund 2009). However, even if this is true, it does not mean that all 'old' social capital is obsolete. The social capital of a region consists not only of newly formed networks, norms and values, but is also formed by the region's history. These 'old' components of the social capital contribute to a certain stability of networks and values, without which regional cohesion would be threatened. It is reasonable to assume that the optimum social capital for regional development in this respect consists of an optimum combination of various vintages.

Still another example of that the optimum social capital for regional development is found on a scale between two opposites is the spatial extensions of various social networks. There is a comprehensive collection of literature on bonding vs. bridging social capital (sometimes also in terms of internal vs. external social capital). It has sometimes been claimed that bonding social capital is negative for regional development whereas bridging social capital is positive (Beugelsdijk and Smulders 2004; Knudsen et al. 2007). The arguments presented are that bonding social capital prevents inflows of new people, new ideas or innovation in general.

The results supporting the view that bonding social capital seems to be negative for regional development are based on certain measures of 'bonding', for example the strength of organizations that bring only likeminded people together. However, an alternative conclusion to these results could be that the balance between bonding and bridging in these cases is not optimal from a regional development point of view. If there is too much bonding social capital it probably has the abovementioned negative effects on a region. A total lack of bridging social capital would mean that the region would not have any social connections with the outside world. What could then be the consequences of *too much* bridging social capital? The answer is probably that the cohesion between the actors of the region and its organizations would decline, which eventually would result in dissolution of the region as an economic, cultural or administrative unit. Without the glue that bonding social capital forms among the actors of a region, the region would not be able to exist. Thus, the question is not 'bonding or bridging social capital?' but 'what is the optimum balance of bonding and bridging social capital?'

THE CONTENTS OF THIS BOOK

This introductory chapter is followed by a chapter by Börje Johansson that sets the stage for the book. Johansson considers a role of social capital in spatial economics and network theory, treating social capital as a 'spatial public good'. Particularly, a conflict between the self-interest emphasized in economics links and the cohesiveness and collectiveness related to social capital is investigated. Social capital is presented as a means to improve the efficiency of social exchange and the presentation clarifies the links between social capital and the transaction costs of economic networks. A key conclusion is that the sources of agglomeration economies have social capital characteristics in the sense that it facilitates the development of innovation links in order to internalize knowledge.

The remainder of the book is divided into four parts. The first part, 'Aspects of entrepreneurship', is with its seven chapters also the largest part. This is no coincidence. Entrepreneurship in the form of starting up new firms is in itself resulting in an innovation, the new firm, and entrepreneurship is increasingly being considered as a main key to regional development (Fritsch 2013; Glaeser et al. 2015). Also, entrepreneurial action in other types of organizations, as organizations of the public and the civil sectors, and social entrepreneurship, are more and more being recognized as drivers of regional development in Europe (Haugh 2005; Karlsson 2012; Westlund 2011).

In this section's first chapter, Bosma, Schutjens and Volker analyze the complex relation between social entrepreneurship and local social capital, more specifically social cohesion (trust and belonging) and collective efficacy (belief that others will intervene for the common good) at the level of neighborhoods. They outline two contrasting views from the literature, namely an 'institutional void' view that predicts social entrepreneurship to be strong in social capital deprived neighborhoods, and an 'institutional support' view, that predicts that there will be more social entrepreneurs where the local social capital is strong. The authors urge more research and data collection on these topics, and present evidence that the level of collective efficacy appears to be more closely connected to social entrepreneurship.

Fritsch and Wyrwich spell out the implications for social capital researchers regarding the long spatio-temporal persistence of regional entrepreneurship rates observed in many developed countries. The observation that a dynamic process like entrepreneurship can be 'spatially sticky' has fascinated researchers in this field for some time. Using rich historical data from Germany before and after reunification, they demonstrate a long-lasting local culture of entrepreneurship that survives disruptive changes.

The authors discuss different culture-based reasons for the patterns, and suggest future avenues for policy and social capital research.

Arenius and Franzén analyze the effects of social capital in the context of women's entrepreneurship, specifically through a comprehensive review of relevant recent research. They conclude that the amount of research on this topic is fairly limited, particularly in top journals, and also that most articles are focused on comparing women to men. The authors suggest studies of women's building, maintenance and discontinuation of networks as interesting paths forward.

The importance of networks and connectedness in entrepreneurship is further analyzed in Feldman and Zoller's contribution, which examines the effect of regional stewardship, offered by so-called dealmakers. The authors show a strong link to local entrepreneurship. They demonstrate that strong presence of dealmakers is a better predictor of entrepreneurial success than the number of local entrepreneurs. The authors further urge the importance of analyses of network structure for regional entrepreneurship.

Andersson, Larsson and Wernberg outline a framework for analyzing social capital transactions in regions of varying density. Specifically, the literature on agglomeration economies is examined through a social capital, or network, framework. The authors argue that the study of theories of local social interactions offers a rich framework for the study of social capital in cities. This way of looking at social capital is in stark contrast to, for example, the study of civic organizations which appear more important in sparser areas. The authors conclude with an empirical example of local social interactions in entrepreneurship.

Setiawan, Irawati and Rutten analyze social capital links and immigrant entrepreneurship. The authors use interviews with Indonesian migrant entrepreneurs in the UK to demonstrate how bonding and bridging social capital play different roles in the start-up and development phases of a business. The entrepreneurs benefit from being embedded in their ethnic communities (bonding), but increasingly may need to acquire bridging links outside these communities in order to grow their businesses. The study indicates a crucial role of material conditions, including education and the business' legal status, in shaping the social capital of immigrant entrepreneurs.

In the final chapter of this section, Roskrug, Poot and King use data from New Zealand to assess differences between the native born and immigrants in the ways in which social capital is associated with entrepreneurship. Their results show a positive partial correlation between some proxies of social capital and the prevalence of entrepreneurship in the community, but it is not possible to say whether this correlation is causal.

However, the fact that volunteering is an activity positively associated with entrepreneurship is in line with the finding that entrepreneurship is multidimensional and that the different types of entrepreneurship may reinforce each other.

The next section of the book, 'Measurement and regional performance', contains contributions that discuss in depth the issue of measuring regional social capital. Further, all contain alternative conceptions of social capital in development processes, including income convergence and different conceptions of social cohesion.

Ferragina outlines theory-based regional measures of different dimensions of social capital in European regions, namely informal social networks, formal social networks and social trust. Using these dimensions, European regions may be aggregated into a smaller number of clusters. The author shows how most countries have regions in different clusters, urging the importance of comparative regional analysis. Only four EU countries – Austria, Greece, Ireland and Sweden – are 'homogenous' in the sense that all of their regions belong to the same cluster.

From a North American perspective, Thompson and Slaper demonstrate how rich US data may be used to develop practical metrics that correspond to different theoretical considerations of social capital. The chapter outlines a large number of conceivable metrics and carries out an empirical analysis of their effect on economic performance. The authors show how very large numbers of variables may be grouped into smaller clusters of variables, and demonstrate how such principal components may be applied for a detailed analysis of local social capital and its effects.

Peiró-Palomino and Tortosa-Ausina consider the role of social capital in bringing about income convergence in European regions. The chapter contains a discussion of empirical methodologies and different forms of operationalization of convergence. The authors then demonstrate how income convergence seems to hold true at the level of countries but not regions. The authors show evidence consistent with an important role for local social capital in explaining this regional polarization.

The next section, 'Aspects of regional development', contains critical overviews of social capital's impacts on regional development in the form of health, rural development in Europe, and various aspects of regional development in China.

Eriksson and Emmelin investigate potential links between local social capital and health promotion. They demonstrate strong support, empirically and theoretically, for an effect of place-specific social capital on health. They nevertheless consider the importance of different attributes of social capital, such as potentially detrimental effects of strong bonding links. The promotion of social capital for improved health may for

instance be confounded by adverse effects of overly strong bonding links. The authors further indicate that wide engagement seems crucial in mobilizing local development initiatives.

Christoforou and Pisani analyze rural development in southern European regions, demonstrating important insights from the EU-funded LEADER projects. The authors urge that the understanding of local networks and partnerships is key to the success of such projects. For instance, it appears crucial to distinguish between different aspects of social capital, including bonding, bridging and linking aspects. In conclusion, the authors recommend evaluations that emphasize processes and not merely outcomes, and in-depth analyses of non-economic indicators of development.

Xiong and Pu provide a critical review of 37 studies of social capital and regional development in China. Although many of the studies argue that social capital is positively associated with economic growth, empirical evidence also suggests that not all regions benefit from social capital equally and that some elements of social capital exert negative impacts. However, the authors say, many studies suffer from a few drawbacks. When social capital is measured by trust, scholars should be cautious about the distinction between generalized trust and particular trust. Similarly, certain social organizations represent rent-seeking groups that fail to enhance general trust and certain organizations might spread negative externalities. Most importantly, very few of the studies seem to be aware of endogeneity problems. The authors conclude that since China has a shortage of bridging social capital, certain institutional arrangements are needed to prevent selfish behavior when social capital is being mobilized.

The concluding section, 'Governance, strategies and planning', gives examples of the importance of the role of social capital for understanding, measuring and improving regional governance and planning. Voluntary associations, collaboration in cluster building, Habermas's communicative action theory, and universities' social capital are keywords in this discussion.

Kobayashi and Hatori contribute with an analysis of social capital in Japanese regions. The authors argue that the Japanese case is of high general interest, among other things because of its ageing population and large number of depopulating regions. They outline ways of analyzing the success of voluntary associations in depopulated regions and suggest that regional social capital is an important piece of this development puzzle.

Johannisson, Ramírez Pasillas and Lindberg conceptualize and operationalize the potential of social capital in the making of sustainable strategies for individual firms and localized clusters that build global competitiveness based on interfirm collaboration. Clusters represent an

intermediate level of analysis between individual firms and national economies where a system's development potential may be associated as much with individual firms as with their relatedness and their general socio-cultural embedding. In such a setting the social capital that a cluster contains becomes highly important. The chapter also discusses implications for business practice and policy-making.

The chapter by Bolton demonstrates how Jürgen Habermas's ideas are relevant to the theory of social capital in the context of regional planning. Bolton puts emphasis on Habermas's concepts of the lifeworld, normative and communicative action, and compares this conception of social capital to some economists' theories of individual investment in social capital, arguing that regional planning can benefit by drawing on both sets of ideas.

The theory of regional innovation systems stresses the collaboration between universities, private companies and government. In the last chapter, Ljunggren investigates researchers' role in regional development and the social capital of higher education institutions (HEIs), as production-oriented views of development are taken over by knowledge-oriented views. The chapter analyzes collaboration between HEIs and the public and private spheres in Sweden. The effects of HEIs' internal and external social capital are detailed and analyzed. Specifically, the chapter describes how different levels (the individual, departmental and central levels, respectively) affect and build the HEIs' external social capital.

To sum up, much has happened since Putnam (1993) presented some simple correlations on civic activities and regional performance in Italy. As reflected in this book, the role of social capital in regional development is a multifaceted topic which is being studied all over the world, using various methods, and in and across all societal fields. This book gives an overview of this rapidly expanding research area.

Many issues on social capital and regional development remain to be developed and studied. A common obstacle for further empirical research seems to be lack of statistical measures of many of the basic elements of social capital. So far, most of the social capital research that has not used aggregate measures of trust and organizational activity has had to collect its own data. Can this shortage of data be solved? In our opinion, it is highly probable that the increasing amounts of 'Big Data' soon will make their foray into social capital research and provide detailed, spatial measures of social networks, norms and values to an extent that we can hardly dream about. The regional science field more generally has entered 'the age of disaggregation' (cf. Strange 2009), and we see good reasons for the analysis of regional social capital to head down a similar path.

This book has presented the positions of research on social capital and

regional development a quarter-century after Putnam's pioneering work. We are certain that the coming 25 years will feature continued progress and challenges in these very exciting fields of research!

NOTES

1. This section is based on Westlund et al. (2010), Rutten et al. (2010), Westlund (1999) and Westlund and Bolton (2003).
2. This section is partly based on Westlund (2009).

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