Social Capital: a Road Map of Theoretical and Empirical Contributions and Limitations

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Abstract

The general idea of social capital is that relationships matter. In this sense, trust, cooperation and reciprocity involved in these relationships can have a positive impact on the wealth of the society by reducing transaction costs, facilitating collective actions and lowering opportunistic behavior. This work sheds light on the different theoretical and empirical problems that a scholar is likely to face in dealing with social capital research and analysis. We propose a critical road map of the social capital theories and applications for a general audience, non-users included, with particular attention to the works of political and social economists. We provide a critical debate on the different definitions and measures produced, the theoretical frameworks developed and the empirical techniques adopted so far in the analysis of the impact of social capital on socio-economic outcomes. We turn to the limitations of these techniques and we suggest some basic strategies to reduce the magnitude of these limitations.

Keywords: Social Capital, Social Network, Trust, Structural Dimensions, Regional Economics, Poverty, Methodological Issues

JEL Classification: C18, E20, L14, O10, R11, Z13

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1. Introduction

In the last two decades the concept of social capital has been receiving increasing attention by scholars from different fields in the social sciences. In the broader view of social capital theory, the concept predicts that higher associational activities inside a community are able to foster a sense of civic engagement where cooperation, reciprocity and mutual trust are developed and used in order to solve collective action and asymmetric information problems. The term 'social capital' in its contemporary sense as norms and networks of cooperation, reciprocity and trust is unknown until the XX century. However, the idea that trust, associational activity and sense of reciprocity contribute to the economic wealth of the society has a long tradition in the history of sociological and economic thought.

For instance, Adam Smith (1776) sees networks and trade associations as the main channels for the transmission of a reputation for trustworthiness. Genovesi (1820) attributes the relative underdevelopment in Naples compared to other Italian states in the XVIII century to the lack of *fede pubblica*, that is, the lack of public trust or 'generalized trust' in contemporary terms. Through a more altruistic perspective compared to Adam Smith's conception of the 'invisible hand' and the self-oriented motivations behind it, Genovesi understands economic relationships as driven by a sense of reciprocal assistance and, hence, an exercise of virtue that fosters public trust and enhances trade, industry and socio-economic development (see Bruni et al. 2000).

The importance of associational life has also been pointed out by Alexis de Tocqueville (1832/1994) in his work on North American society. Highly impressed by the intensity of associational life, he argues that it represents one of the strengths of the American democracy and economy because it helps individuals build social bonds crucial for their well-being and organizational life. Emil Durkheim (1933) underlines how informal connections and interactions characterize the industrial period and distinguish it from a more rigid system of the division of labor well developed under feudalism. Marcel Mauss (1969), in developing the so called "theory of the gift", identifies in the exchange of "gifts" a system of mutual obligations between parties that goes beyond mere economic, sentimental or material exchange.

In a critical review of the conceptual history of social capital, Farr (2004) underlines that the term "social capital" was used for the first time in its modern sense by Lyda J. Hanifan in 1916. In an analysis of the rural West Virginia community, Hanifan refers to social capital as "goodwill, fellowship, mutual sympathy and social intercourse among a group of individuals and families" (Farr, 2004: 11). However, as John Field (2008) points out, there is a broad consensus that the contemporary significance of social capital derives from the 1980s and 1990s and more precisely from the work of social scientists including Pierre Bourdieu, James Coleman and Robert Putnam.

The paper aspires to provide a road map of the contemporary use of social capital. The objective is to draw attention to its theoretical and empirical contributions and limitations and thus highlight its potential to address long-standing questions regarding social relationships and the crucial role they play in the economy. The paper is organized as follows: section 2 provides the different definitions of social capital in the late 20th century; section 3 discusses various measures of social capital that explicate its structural dimensions to evaluate its contribution to development and welfare; section 4 is dedicated to the sceptics and scepticism around social capital and its theoretical and empirical limitations; and section 5 concludes.

2. Social Capital and its Definitions

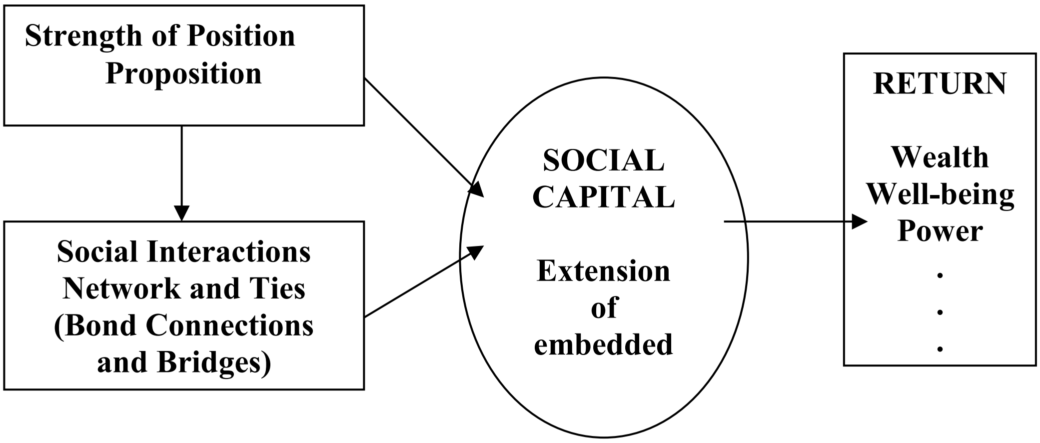
While numerous definitions of social capital are promoted in the literature, in our road map we concentrate on those we consider relevant for economic purposes and that refer to a common basic idea: the value of social networks.

Putnam sets the scene in the mid-1990s when he published his comparative study on the relationship between civic engagement, institutional performance and socio-economic development across Italian regions (Putnam et al. 1993). According to Putnam (2000: 19): "Whereas physical capital refers to physical objects and human capital refers to the properties of individuals, social capital refers to connections among individuals – social networks and the norms of reciprocity and trustworthiness that arise from them. In that sense social capital is closely related to what some have called "civic virtue." The difference is that "social capital" draws attention to the fact that civic virtue is most powerful when embedded in a network of reciprocal social relations.

Yet in Putnam's work, social capital remains a characteristic of the social organization of a community or country at the macro-social level. It is Coleman (1988: S98) who delves more into the relevance of networks and their structural effects on individual behavior. He considers that: "Social capital is defined by its function. It is not a single entity, but a variety of different entities, having two characteristics in common: they all consist of some aspect of a social structure, and they facilitate certain actions of individuals who are within the structure". Similar to Putnam, Coleman (1990) highlights that social capital indicates the resources, real or potential, gained from relationships. In other words, it is a public good, and as a public good, it depends on the willingness of the members of the community to avoid free riding. For this purpose, norms, trust, sanctions and values become important in sustaining this collective asset.

Lin (2001) argues that Coleman adopts a functional view that might be the result of a tautology: social capital is defined when and if it works. To this purpose he points out that if social capital may be defined operationally as resources embedded in social networks (or ties), accessed and used by its members, then two components have to be taken into account: social interactions and embedded resources. On the one hand, social capital represents resources embedded in social relationships rather than individuals; on the other hand, the access and use of such resources reside with the members. This implies that "ego must be cognitively aware of the presence of such resources in his relations and networks" (Lin 2001: 25). Only if this particular condition is satisfied, the individual can capitalize on such ties and resources. Additionally, Lin's work constitutes an attempt to conciliate a network approach with issues of social stratification. In his visual model of social capital (Figure 1) Lin poses a postulate based on the original position of the individual inside the network, the so-called "Strength of Position Proposition". It indicates that, considering a member of a network, the better the position of origin, the more likely it is that this member will have access to and make better use of social capital. For instance, an individual with better education or higher income might have better connections to achieve higher wealth, well-being and power compared to those who are less educated or have lower incomes. The initial position may represent an advantage in terms of quality of connections and reputation (better status).

Figure 1 General Schematic Visual Model of Social Capital

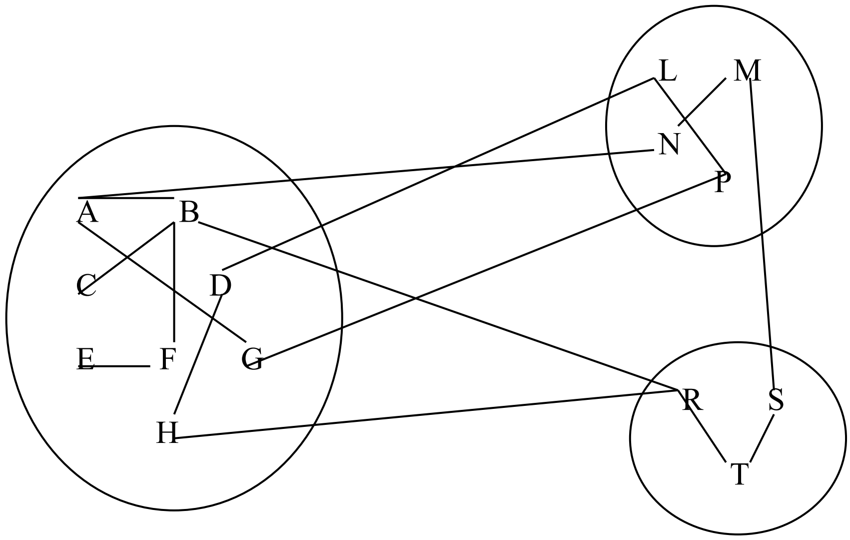


Source: Authors' elaboration of Lin (2001).

Becker (1974) theoretically formalizes social interactions and status positions and the ways they affect economic behavior. Part of his analysis focuses on the role of social resources. In the simplest scenario we can easily imagine a family and a family income which is the sum of the income of its members. This family income might be considered as a family (social) resource that will be distributed among its members. If one of the members, *k*, is hit by a negative shock that reduces *k'*s endowment, then a larger amount of social resource is likely to be transferred to *k*, who will thus be fully insured against the shock. What is interesting in the model proposed by Becker is that the budget constraint of the head of the family is the result of the total family income and not only of his own income. In doing so Becker (1974: 1077) says that "the head automatically internalizes the external effects of his actions on other family members". The term 'automatically' is synonymous with 'voluntarily'. In other words, the head of the family voluntarily internalizes his external actions for the benefit of the family, which also represents his own benefits. This framework can be extended to a larger network with more interactions and agents.

However, according to Granovetter (1985), Becker's economic approach invariably abstracts away from the historical and structural embeddedness of social relations: once we know individuals' social class, everything else in behavior is 'automatic' in response to unquestionable, external social rules. More importantly, Granovetter (1973) formalizes the concept of the strength of weak ties. A community is likely to be made up of different social circles: family, friends, colleagues and so on. According to Granovetter, members of the same circle are characterized by strong ties and are likely to share similar, if not identical, information. If an individual wants to have access to multiple and broader sources of information he needs to establish links with members of different social circles outside his own. Individuals having different types of connections can count on a more diversified social endowment. In Figure 2 we depict three different circles with different members belonging to each of the circle. The arrows identify the connections between two or more members. The connections between two members belonging to the same circle (e.g. C-B or L-P or T-S) represent bonding connections (or strong ties) while connections between two or more different circles (e.g. R-B R-H or M-S or A-N) represent bridges (or weak ties). Let's assume that M is interested in a particular job position. If the direct contact N does not possess this information but he knows someone else who does, let's say A, then A represents for M an indirect tie and he will be part of M's social capital. This is counter to Coleman's assumption that the gains from social capital depend solely on network closure, and is consistent with Burt's view on the benefits that derive from the brokerage position of individuals and the existence of structural holes (Eloire 2015).

Figure 2 Diagram of Bridging VS Bonding Connections



Although all the previous definitions describe the concept from different perspectives, they present a common view: it is the interactions between members of networks that make possible the production and maintenance of this social asset. Pierre Bourdieu (1980, 1983/1986) recognizes the importance of networks and the structural aspects of social capital. He underlines that: "Social capital is the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance and recognition" (1983/1986: 248). However, Bourdieu was critical of network approaches in sociology that adopted the principle of rational choice to explain individual behavior.[1] In his view, this reduces the analysis to the intersubjective relations that take place within networks, ignoring the influence of the broader historical and social context within which individuals and networks are embedded and which are defined by conditions of domination and social struggle. Contemporary research on social networks in economics continues to apply the principle of rational choice to explain the behavior of networks and their members (cf. Odabaş and Adaman 2014).

Some of the approaches mentioned above explicitly adhere to rational choice assumptions. Bourdieu re-conceptualizes capital and uses his novel notions of field and habitus to analyze

[1] According to some authors (e.g., Fine 2010; Christoforou 2013), Bourdieu's perception of social capital was discarded in the literature because of his opposition to rational choice theory that maintains dominance in economics and in the social sciences in general.

human behavior. He argues that individuals are shaped by objective social structures called fields that are determined by the configuration of the diverse forms of capital – economic, cultural, social and symbolic capital – and make for the 'rules of the game'.[2] Within the social space, there exists a set of relatively, autonomous, multiple and diverse fields associated with distinct forms of capital, like the field of economic production or the field of cultural production (science, art). There is also the *field of power*, in which agents who belong to the dominant classes of different fields (that is, those who possess a sufficient amount of one kind of capital, especially cultural capital and economic capital) participate in the struggles for questioning and imposing the principle of social differentiation in the global social space (that is, for changing the relative value or exchange rate between the different forms of capital). Individuals internalize these structures in a less than conscious way and form the habitus, that is, those dispositions that enable them to develop a 'sense of the game' and apply the strategies and interests that are more fruitful in respective fields. This is what makes practices and perceptions of practices appear *'sensible'* (*'reasonable'*), *legitimate*, *natural*, *inevitable* and *universal* without questioning the structures of domination and power (symbolic violence and misrecognition). At the same time, the *indeterminacy*, *uncertainty* and *plurality* of fields and principles of social differentiation (monetary, cultural, ethnic, religious, gender, national) leaves room for reflection and change in the habitus and thus in the field that shapes it (cf. Bourdieu 1977, 1984, 2005).

This means that, in all fields, agents are not driven solely by the deliberate, calculative and individualist considerations implied by rational choice theory. And in all sectors of the economy, both economic and symbolic dimensions combine to determine the (trans)formation of behaviors and structures (Jourdain 2015). Thus for Bourdieu networks and social capital must be studied within the context of the power relations and social struggles that define the field and social space. The analysis of individuals' social capital endowment is not restricted to the links and nodes that connect individuals within the network, or the configuration of the various capital resources, mainly economic and cultural, exchanged among members. It must be coupled with an analysis of the specific field and social space within which individuals develop.

3. Measuring Social Capital and its Structural Dimensions

Since the work of Putnam et al. (1993), several measures of social capital and empirical works have been produced. The most common and popular approaches to measuring social capital can be grouped into three categories: census of groups and membership in various organizations (formal and informal); the use of survey data on the level of various types of trust (interpersonal and institutional); behaviors and norms of political participation and civic engagement (e.g., voting, newspaper readership, paying taxes, not bribing, crime rate, blood donation) (cf. Narayan and Cassidy 2001). Some authors argue that these indicators have problems. For instance, voluntary organizations have diverse objectives. Special-interest groups that engage in lobbying or rent-seeking strategies aim at serving particularized interests which imposes costs on non-members by excluding them from access to their

[2] According to Bourdieu (1983/1986): economic capital is accumulated labor, appropriated at a private basis by agents or groups, convertible into money, and institutionalized as property rights; cultural capital includes long-lasting dispositions of mind and body, cultural goods (books, instruments, machines) and educational qualifications; social capital refers to network relations and social obligations that entitles group members to a kind of credit, be it economic, cultural or social; and finally symbolic capital is legitimate capital, collectively recognized credit, which legitimizes the ownership and distribution of the other forms of capital.

resources or even on members by limiting their access to resources held by non-members. Notably most authors evidence that the effectiveness of voluntary organizations in serving generalized interests and social welfare is conditioned on the broader institutional context and governance structures, the shared values and identities, within which they are embedded. For example, clientelistic networks thrive when governments are not impartial, transparent and accountable. Also measures of trust drawn from public opinion or social attitudes surveys do not provide a clear view of what trust is especially in cross-country comparisons. Moreover, it is often argued that trust and associational activity should not be confounded under the label of social capital because trust could be considered as an input or output to association and participation. Finally, civic behavior indicators capture aspects of collective and solidaristic behavior in a rather indirect way that creates considerable confusion regarding what social capital is and what its outcome is.

In our view, the crucial element missing from all these indicators is an orderly treatment of the structural dimensions of social capital. According to Uphoff (1999) the structural dimensions of social capital refer to a variety of networks that contribute to cooperation and more specifically to mutually beneficial collective actions. Indeed, social networks can be considered as a powerful mean to spread information and knowledge at lower transaction costs and uncertainty (Grootaert 2001; Sabatini 2006). For instance, if we consider the industrial district arena, social networks involving workers of different firms may act as a powerful mean to foster information, trust and knowledge (Saxenian 1996).

The structural dimensions of social capital enable us to construct an indicator that on the one hand addresses the role of trust and on the other makes explicit reference to various aspects of network relations, that is, the links between individuals and the resources exchanged among them. In particular, such an indicator would satisfy the trust-cooperation complex of Paldam (2000), whereby trust and cooperation are two interlinked elements as expressed by the relationship:

$$\textit{Trust} \Leftrightarrow \textit{ease of voluntary cooperation} \pm e$$

Where: *e* is a small error; and the *ease of voluntary cooperation* indicates the ability of individuals to work together; *trust* indicates the trust among the individuals involved in the process of cooperation. The trust-cooperation complex implies that the structural dimension of social capital plays a fundamental role in the construction of the measure.

More importantly, the structural dimensions of social capital refer to the network analyses mentioned in the previous section. Different types of connections among group members diversely affect the structural dimensions of social capital. Bourdieu’s approach is more consistent with an analysis that looks into the relations and resources that connect individuals within a network in conjunction with the wider social environment that determine individuals’ social position and power. Granovetter stresses the strengths of weak ties and thus adds the gains that individuals obtain by participating in open networks and creating bridges across groups. To our knowledge the social capital literature has so far identified three main dimensions: bonding, bridging and linking social capital. In particular, *bonding social capital* refers to the strong ties that develop *within* groups, most often between individuals who have similar interests and are familiar with each other, on the basis of values of reciprocity and particularized trust. A common example is found in relationships between family members and relatives, and captured by indicators that assess the importance and strength of kinship ties (e.g., Sabatini 2006). *Bridging social capital* indicates the links that develop *across* groups. It relies less on interpersonal relations as individuals often identify with one another as members of a broader community on the basis of values of solidarity and generalized trust. Thus it represents the strength of weak ties discussed earlier and grants individuals access to resources that are available from different groups. Finally, *linking social capital* brings together social groups with individuals and groups at the policy-making level or in positions of power, giving them further access to the resources held by powerful groups. Hence, unlike the first two dimensions, the linking one represents a vertical relationship.

These dimensions are not mutually exclusive and have a differential impact on the socio-economic dynamics of society. For instance, in the case of bonding social capital strong in-group connections can help members deal with socio-economic problems like poverty through the pooling and exchange of resources. However, when these networks are exclusive and closed, individuals are less likely to escape poverty, because access to extra material and social resources possessed by other groups (for instance, information about job posts) is reduced, if not denied. Moreover, the strong reciprocity and particularized trust operating among group members can foster corruption (Harris 2007; Sabatini 2009). Such conditions can have detrimental effects on socio-economic development: even if they help the poor 'get by' it is less likely that they will allow them to 'get ahead'. This implies the need for bridging social capital that will grant members access to a broader pool of resources and promote generalized trust between communities.

The importance of the balance between bonding and bridging social capital is clearly explained in the dynamic of the so called *social capital and poverty transition mechanism* designed by Woolcock and Narayan (2000). This mechanism is described in Figure 3 and follows different phases that are inter-correlated to one another in the following order:

(A) Poor village individuals (for ex. women) with no material collateral receive loans or help thanks to their membership in a small peer group. This helps them to start or to expand a small business and therefore to improve their families' welfare.
(B) Because of the limited extension and resources (material and non-material) of any given group, the return will reach a maximum after which it will start to decrease.
(C) This happens especially when the group exclusively relies on endowments deriving from bonding social capital.
(D) Moreover, long-term members of the group might find (especially in the case of group-based credit programs) that obligations and commitments with their co-members represent serious obstacles for further advancement, especially for the more ambitious.
(E) In order to escape from this *bonding trap,* members try to build a more diversified network, creating ties with members belonging to other groups. This increases the level of bridging social capital and, therefore, raises economic opportunities.

The broader socio-economic outcomes of these conditions are developed by Woolcock (1998). He proposes a model of social capital based on two dimensions, integration and linkage, interacting with one another. He defines "Integration" as a process that develops intra-community ties. The more intensive the social ties and generalized trust within a given community are, the higher is the endowment of this form of social capital. On the other hand, he defines "Linkage" as the extra-community networks, in other words, the bridges that can be built between two or more different communities. Woolcock identifies four cases (Figure

4). The first case combines high integration and low linkage. This occurs when trust is mainly present among family members or blood relatives and is absent across different groups, hampering widespread cooperation and development. Such a situation has been called by Edward Banfield (1958) 'amoral familism' to explain the underdevelopment of Southern Italy. The second case identifies with the absence of both integration and linkage and is called 'amoral individualism'. This is an extreme case in which members are isolated from all forms of bonding and bridging ties with dismal prospects for personal and collective development. The third case is characterized by the presence of high linkage and low integration that Woolcock calls 'anomie'. Here individuals have the freedom and opportunity to participate in a wide range of activities but without a stable community base able to provide guidance, support and identity (e.g. urban setting and modernization). Finally, the last case is the best possible scenario where both integration and linkage are combined and therefore strong and weak ties together increase social opportunities for development.

Figure 4 Linkage and Integration

			INTEGRATION (Embeddedness: Intra-community ties)	
			High	*Low*
MICRO LEVEL (Bottom-up development dilemmas)	LINKAGE (Autonomy: Extra-community networks)	*High*	Social opportunity	Anomie
		Low	Amoral familism	Amoral individualism
			SYNERGY (Embeddedness: State-society relations)	
			High	*Low*
MACRO LEVEL (Top-down development dilemmas)	ORGANISATIONAL INTEGRITY (Autonomy: Corporate coherence and capacity)	*High*	Cooperation, accountability, flexibility (Developmental states)	Inefficiency, ineffectiveness (Weak states)
		Low	Predation, corruption (Rogue states)	Anarchy (Collapsed states)

Source: Authors' elaboration of Woolcock (1998).

Therefore, what is important is not how much social capital you have, but what kind of social capital you have and how these types combine to confront socio-economic problems. As Woolcock and Narayan (2000) underline, one of the main challenges is to identify conditions that help communities of the poor to have better access to bridging social capital without undermining their valuable stock of bonding social capital. However, it becomes evident that people starting with a higher endowment of material and social resources, are more likely to diversify their social capital between bonding and bridging ties. This is consistent with Lin's proposition of the strength of position as well as Bourdieu's approach regarding individuals' capital endowments in the field and in the social space.

Under these circumstances groups can reach out to linking social capital, that is, vertical connections with policy-making bodies and generally people in power that will allow them to tap into external resources. For example, NGOs operating in developing countries might do extensive use of these kinds of links to obtain essential information for delivering a better social service to the local community and for advocating in favor of the interests of the community at the policy level. However, it must be noted that these relationships might not always be beneficial to society and this depends highly on the context of governance structures. Sometimes an NGO might need to make a tacit contract with the local authority according to which the service provided by the organization should not be in conflict with the authority's policy (Jamal 2009). Generally, it has been argued that non-democratic countries foster favoritism and nepotism, which lead to the dominance of clientelistic networks and particularized trust. This reduces citizens' trust toward public institutions, furthering widespread corruption. And these tendencies become all the more difficult to reverse when countries have a history of internal and external conflicts, foreign intervention, and autocratic governments. This is why Woolcock (1998) adds the need to establish a developmental state that will provide the legal and institutional framework for supporting networks of bonding and bridging ties and spreading their benefits across society.

In post-Putnamian research in Italy, a number of studies have focused on the construction of composite indicators that take account of the different structural dimensions of social capital. In some cases findings confirm the typical North-South divide in Italy that Putnam used to explain the relatively superior social, institutional and developmental performance in the North; others challenge this conclusion in view of stark differences observed among regions *within* the Northern and Southern parts. Indicatively, to analyze cross-regional social capital and socio-economic performance, Sabatini (2009) constructs a composite social capital indicator. Based on data from the national statistical office (ISTAT) he uses a principal components analysis to construct five different composite measures, most of them based on structural dimensions. Not surprisingly, he finds that the measure indicating bonding relationships (family social capital) is quite high in the Southern regions. On the other hand, indicators of bridging social capital and density of voluntary associations show higher values in the Northern regions. Similar to Nuzzo (2006), statistical evidence further shows differences among regions within the North and South. For instance, in the South the region Abruzzo presents the lowest bonding social capital value while the region Sardegna the highest bridging social capital and voluntary organizations value. In the Centre and in the North the regions Piemonte and Lazio show very low political participation. The latter shows also a 'deficit' of bridging social capital and voluntary organizations.

More recent studies by Franceschetti et al. (2014) and Pisani (2014) examine social capital in relation to EU-funded projects for rural development and conduct surveys in five Italian regions. They focus on the two main typologies of social capital (structural and cognitive-normative) and design a series of indicators that reflect social capital's multiple dimensions: 1. local context; 2. actors of the network; 3. horizontal structure of the network; 4. transparency and accountability; 5. reputational power; 6. trust and reciprocity among the actors; 7. institutional trust; 8. quality of the network; 9. quality of the participation; 10. common values; and 11. conflicts. Given the institutional peculiarities of the organization considered, the analysis of social capital is combined with a set of indicators to assess the dimensions of good governance at the local level (1. decisional processes; 2. efficiency and effectiveness; 3. organizational capacity; 4. vertical structure). Findings here challenge Putnam's deterministic North-South distinction, which conceals the influence of context-specific factors at the local level. Local factors differentially affect participation and development and reveal a stock of social capital in the South that raises its potential to overcome its 'familist' tradition.

These measures can be combined with a field analysis à la Bourdieu in order to explain context-specific features of social capital. Yet methodologies that derive from Bourdieu's analysis have been less frequently used in the social capital literature. The tradition is mainly sustained by French scholars in the social sciences who apply these techniques to unravel in certain fields the sources and effects of the distribution of capitals, including social capital. A recent attempt has been made to familiarize economists with these methods to shed light on the social dimensions of economic behavior (see Christoforou and Lainé 2014; Lebaron 2015). We return to these methodologies in the next section to discuss their basic features and explain why they merit our attention.

4. What about the Sceptics?

Despite the increasing number of works on social capital, some economists are still sceptical about its meaning and its role in development. Arrow (1999) considers that 'capital' is something 'alienable' and its ownership cannot be transferred from one person to another. Therefore, even though social resources are important for development it is difficult to consider them as some kind of capital that can be owned by individuals as part of their asset portfolio[3]. Ben Fine points to a number of other reasons why social capital should be rejected altogether. Firstly, the definition of social capital is still elusive with lots of confusion among scholars in their efforts to distinguish what it is from what it does. Secondly, rather than seeking for a standard and precise measure, scholars attempt to *randomly* include variables in the hope of receiving the expected outcomes. Not only does this make the measure unreliable, but it also has a backward effect on the reliability of the notion of social capital itself. Thirdly, social capital seems to have become the cure for every dysfunctional aspect of society. Indeed "social capital has a gargantuan appetite. It explains everything from individuals to society, the sick, the poor, the criminal, the corrupt... schooling, democracy and governance *and so on*" (Fine 2002: 1). Apart from that, Fine is concerned about the strategic role that the economic discipline has been playing inside the social sciences in the last 20 years. In his view, the notion of social capital has been used by economists in order to colonize the rest of the social science disciplines (Fine 2010).

Furthermore, many authors have been critical of the communitarian view to social capital that is present in the Putnamian tradition (e.g., Woolcock and Narayan 2000). This equates social capital with local organizations and holds that they are inherently and indiscriminately beneficial to the community. But such a view misses the existence of groups that socially exclude, discriminate and thus reduce welfare and cohesion. Some authors describe social capital as a double-edged sword. Social capital can represent a valuable asset for well-being. However, exclusive strong ties and a strict sense of obligation might be at a certain point a cost without related benefits for the community. Thus cooperation among members of a certain group does not necessarily imply that the goal is the benefit of the common good (Portes 1998; Woolcock and Narayan 2000; Field 2008). For instance, while group members (insiders) can benefit from common resources, the outsider might be excluded, creating an environment of general distrust.

[3] However, Uzzi (1997) shows that embeddedness made by two agents can be transferred to a third agent. In a way, this is like transferring the ownership of social capital.

In the previous section we discussed how clientelistic linkages between state authorities and local organizations particularly in non-democratic societies can adversely influence institutional and interpersonal trust with detrimental effects on participation, development and welfare. An emblematic expression of the negative side of social capital is the Italian Mafia (Gambetta 2000; Sciarrone 2002; Field 2008). In an analysis of social capital and Mafia, Sciarrone (2002: 11) recalls the words of Antonio Calderone, State's witness, who explained: "the Mafioso is like a spider. He builds webs of friendships, of acquaintances, of obligations". Actually, the network built by the Mafia takes advantage of the 'strength of the weak ties'. The Mafioso's success is based on the tight ties built locally through which he creates a system of loyalties and obligations. At the same time, he creates bridges with external groups and among dissimilar networks and in this way extends his connections outside their initial circle, increasing the Mafia's influence in society. Historically this type of network has emerged because of the lack of credible and effective law enforcement. This alternative 'community governance' implies inclusion and exclusion mechanisms simultaneously. Notice that its members apparently call this organization "Cosa nostra" which means that "the Thing is ours, not yours". According to Gambetta (2000), this mechanism has increased even more the level of general and institutional distrust among citizens where the Mafia intensively operates. An extensive analysis of the 'dark side' of social capital is presented by two articles featured in the present symposium: one is by Mel Evans with a more theoretical treatment of the problem; the other is by Eleonora Lollo with a case study from the Italian context.

The multi-dimensional and contextual nature of social capital poses difficulties in empirical research that investigates its interrelationship with socio-economic outcomes such as income, poverty, crime rate, health and so on. In economics cross section regression analysis and econometric techniques represent one of the main and most popular methodologies used so far. The reasons why this standard practice has been dominating empirical papers are at least two. Firstly, the use of survey-questionnaires allows social scientists to capture different aspects of individual respondents' life, habits and social conditions that might affect various aspects of their well-being. Secondly, opinions and perceptions about attitudes, codes of conducts, norms, values and trust are not likely to change dramatically on a yearly basis as they depend on cultural and social institutions that are rigid and inertial. The idea is to include socio-economic variables in the model specification in order to capture what pure economic models leave aside (Contini 2010).

However, there are drawbacks in this type of research. Durlauf and Fafchamps (2004) identify some of the main problems which are common in the empirical literature of social capital. Firstly, the lack of appropriate data and a well-established theoretical framework may somehow reduce the consistency of the analysis leaving a lot of room for interpretation. Secondly, individual-level analyses do not always provide good indicators of the aggregate effects of and returns to social capital. For instance, when individuals seek and achieve employment through informal networks the individual returns to social capital that accrue to members might exceed social returns and therefore generate unequal outcomes by reinforcing the insider-outsider system. Thirdly, problems of exchangeability may arise when choosing control variables and the model is not correctly specified. In some cases, observations and specific models are not comparable across different contexts, that is to say, they work only for the specific study at hand, making it difficult to deduct any 'general' regression specifications and results that would be useful for analysing other cases. Fourthly, the model may suffer from parameter heterogeneity. This is linked to exchangeability problems, so in cross-country analyses some variables can explain the relationship only relative to some countries and not to others. Parameter heterogeneity implies that by slightly changing the control variables or the items included in the sample, the coefficients become statistically insignificant and the analysis lacks robustness (Hineline 2008; Sala-i-Martin 1997).[4] Fifthly, empirical models that try to explain the effect of social capital on economic outcomes might suffer from reverse causality problems: does social capital enhance growth or is it the other way round? Finally, there can be omitted variables bias leading to endogeneity problems. For example, Helliwell and Putnam (1995) have been criticized for not including the geographical location of Italian regions in their regression (Durlauf and Fafchamps 2004; Lyon 2005).

Some of these problems are common in regression analysis and can be remedied by applying certain techniques that have also been used in the empirical literature of social capital. Briefly, these techniques suggest the use of: instrumental variables; geographical and demographical variables; lagged variables of human capital and social capital; and country or regional fixed effects to mitigate the problem of model uncertainty by potentially capturing the effect of omitted variables that lie in institutions like democracy, human rights system and legal enforcement. Additionally, other social science disciplines, like sociology and political science, can be consulted to: improve our understanding of the relationship between different variables and elucidate the hypotheses to be tested; or unravel the various aspects of social capital and create more accurate indicators, data and variables to be included in regressions, like the composite indicators mentioned in Section 3.

However, social science disciplines beyond economics can provide more than better hypotheses and indicators for conducting econometric analyses. In particular, Bourdieu sets the scene for a research programme which connects the social sciences including economics and proposes concepts and measures of social capital that take into account its structural aspects and its contextual nature. As we discuss in Section 3, Bourdieu combines quantitative and qualitative analyses to assess social capital at both the individual and collective level, that is, to unravel the capital resources that individuals have access to given the connections they have within the network, as well as the positions they hold within the field and the social space. Notably, in his French article ‘Notes Provisoires’ (1980), which offers a short exposition of his perception of social capital, he develops two hypotheses related to: i) the *interdependence* of social capital with the other forms of capital, namely economic and cultural, which implies that social relationships are never entirely independent of social structures and the distribution of the various forms of capital; and ii) its *multiplier effects*, so that two individuals with the same amount of economic and/or cultural capital will have differential gains if one has more social capital than the other (Eloire 2015).

Bourdieu’s framework, summarized in the triptych capital-field-habitus, derives from empirical research he conducted in numerous fields, including the housing market, the arts, science and so on. For this purpose, he used so-called Geometric Data Analysis (GDA) methods in conjunction with Social Network Analyses. The latter enables the researcher to delineate the different aspects of network interactions among individuals by distinguishing: the number of links and nodes; the degree of network closure and ‘structural holes’; the flow of resources among members; and the characteristics of hierarchical structures and vertical relations. These are combined with results from GDA methods in order to shed light on

[4] In cross section regression analyses with aggregate data the selection of the sample might crucially affect policy implications. For example, it has been found that the negative relationship between ethnolinguistic diversity and growth is significant only for Sub-Saharan Africa (Easterly and Levine 1997; Brock and Durlauf 2001). The main question then is whether grouping countries such as US and Japan with developing countries in the same sample is an advisable strategy for general policy implication.

relational aspects of the field and social space that affect individual behavior. Bourdieu had turned to these methods in the 1960s after being disappointed with regression and statistical techniques. Even though to this day these methods are being used by French social scientists versed in the Bourdieusian tradition to study social phenomena, they have received limited attention in the empirical literature on social capital. In sum, GDA presents a number of advantages: i) it provides an in-depth multidimensional description of a large set of interconnected variables reflecting the complexities and dynamics of the real economy; ii) it constitutes a tool suitable for applying an interdisciplinary perspective, where various theoretical resources are employed to make sense of statistical data and results, through appropriate geometric modelling and socio-economic interpretation; iii) it allows researchers to construct a consistent and more realistic representation of both variables and individuals, beyond the usual deductive representations of markets derived from instrumental 'fit-and-test' empirical practice; iv) it connects statistics to more qualitative observations; v) it promotes a kind of theorization on the basis of a large amount of diverse empirical investigations in a more inductive fashion (Lebaron 2015).

There are other mixed methods approaches adopted in the analysis of social capital (see, for instance, Jones and Woolcock 2007), which study the ways that social and political factors outside the individual affect behavior. However, the alternative methods suggested above take the analysis a step further by not focusing only on changes in individual behaviour *given* the context within which it is embedded. Their objective is to study the transformation of social structures and how this affects and is affected by individuals' behavior. In other words, they attempt to incorporate the dynamics of the interaction between agency and structure and the role that social capital and networks play in this process as the mediators between agents and structures.

Our conclusion is that regression and statistical analyses remain important in providing essential tools for hypothesis testing and parameter estimation that produce useful insights on the interrelationships between various social variables. They even feature as part of methods that combine qualitative and quantitative research. But it is also pertinent to expand our toolkit and consult alternative methods from the social sciences to obtain a more realistic and holistic purview to human behavior and relations. Ultimately, the aim is to seek a strong theoretical basis that embraces the reality of social interactions and networks – the complexity of social capital and its multi-dimensional and contextual characteristics – rather than chipping them off to fit the requirements of a 'sound' regression analysis.

5. Conclusions

In this work we try to provide a road map of some of the theories and applications that the literature has proposed so far on the concept of social capital. This concept has attracted the attention of many scholars in different social science disciplines. On the one hand, this has created opportunities for some to try to develop a theoretical framework. On the other hand, this has induced others to face empirical limitations in testing this theoretical framework. We mention some of these limitations and we suggest simple ways to mitigate their magnitude.

We believe that these constraints should not discourage further study on social capital. Instead, they should stimulate and enrich the debate under a theoretical and applied perspective. From the socio-economic perspective there is a widespread perception that we are just at the beginning and probably inside a dark room where theoretical and empirical frameworks are not clearly developed yet.

In the last decade, alternative techniques have been employed including, but not restricted to, structural equation modelling (Sabatini 2009), network analyses (Siegel 2009; Garcia-Amado 2012), game theory (Poulsen and Svendsen 2005; Antoci et al. 2011) and behavioral economic analysis (Bowles and Gintis 2002). We should continue to explore the richness of conceptions and methods offered by other social science disciplines and by authors that contributed to contemporary perceptions of social capital such as Bourdieu. In any case, due to the complex and dynamic nature of notions such as social capital, caution and prudence are always required in defining concepts, deciding which variable could constitute a reasonable proxy, and presenting empirical findings.

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